

University of Waterloo



### **About This Report**

## About Your Engagement Indicators Report

Engagement Indicators (EIs) provide a useful summary of the detailed information contained in your students' NSSE responses. By combining responses to related NSSE questions, each EI offers valuable information about a distinct aspect of student engagement. Ten indicators, based on three to eight survey questions each (a total of 47 survey questions), are organized into four broad themes as shown at right.

Theme	Engagement Indicator
	Higher-Order Learning
Academic Challenge	Reflective & Integrative Learning
	Learning Strategies
	Quantitative Reasoning
Lograing with Boors	Collaborative Learning
Learning with Peers	Discussions with Diverse Others
Experiences with Faculty	Student-Faculty Interaction
Experiences with rucuity	Effective Teaching Practices
Campana Faninana ant	Quality of Interactions
Campus Environment	Supportive Environment

### **Report Sections**

Overview (p. 3)

Displays how average EI scores for your students compare with those of students at your comparison group institutions.

Theme Reports (pp. 4-13)

Detailed views of EI scores within the four themes for your students and those at comparison group institutions. Three views offer varied insights into your EI scores:

#### Mean Comparisons

Straightforward comparisons of average scores between your students and those at comparison group institutions, with tests of significance and effect sizes (see below).

#### Score Distributions

Box-and-whisker charts show the variation in scores within your institution and comparison groups.

#### Performance on Indicator Items

Responses to each item in a given EI are summarized for your institution and comparison groups.

Comparisons with High-Performing Institutions (p. 15) Comparisons of your students' average scores on each EI with those of students at institutions whose average scores were in the top 50% and top 10% of 2019 and 2020 participating institutions.

Detailed Statistics (pp. 16-19)

Detailed information about EI score means, distributions, and tests of statistical significance.

### **Interpreting Comparisons**

Mean comparisons report both statistical significance and effect size. Effect size indicates the practical importance of an observed difference. For EI comparisons, NSSE research has concluded that an effect size of about .1 may be considered small, .3 medium, and .5 large (Rocconi & Gonyea, 2018). Comparisons with an effect size of at least .3 in magnitude (before rounding) are highlighted in the Overview (p. 3).

Els vary more among students within an institution than between institutions, like many experiences and outcomes in higher education. As a result, focusing attention on average scores alone amounts to examining the tip of the iceberg. It's equally important to understand how student engagement varies within your institution. Score distributions indicate how El scores vary among your students and those in your comparison groups. The Report Builder and your Major Field Report (both to be released in the fall) offer valuable perspectives on internal variation and help you investigate your students' engagement in depth.

#### **How Engagement Indicators are Computed**

Each EI is scored on a 60-point scale. To produce an indicator score, the response set for each item is converted to a 60-point scale (e.g., Never = 0; Sometimes = 20; Often = 40; Very often = 60), and the rescaled items are averaged. Thus a score of zero means a student responded at the bottom of the scale for every item in the EI, while a score of 60 indicates responses at the top of the scale on every item.

For more information on EIs and their psychometric properties, refer to the NSSE website: nsse.indiana.edu

Rocconi, L.M., & Gonyea, R.M. (2018). Contextualizing effect sizes in the National Survey of Student Engagement: An empirical analysis. *Research & Practice in Assessment,* 13 (Summer/Fall), pp. 22-38.



# Overview University of Waterloo

### **Engagement Indicators: Overview**

**Engagement Indicator** 

**Higher-Order Learning** 

Engagement Indicators are summary measures based on sets of NSSE questions examining key dimensions of student engagement. The ten indicators are organized within four broad themes: Academic Challenge, Learning with Peers, Experiences with Faculty, and Campus Environment. The tables below compare average scores for your students with those in your comparison groups.

Your first-year students

compared with

U15

Δ

Your first-year students

compared with

**ON Universities** 

Your first-year students

compared with

U6

Use the following key:

**First-Year Students** 

Theme

- **Your students' average** was significantly higher (p < .05) with an effect size at least .3 in magnitude.
- $\triangle$  Your students' average was significantly higher (p < .05) with an effect size less than .3 in magnitude.
- -- No significant difference.
- $\nabla$  Your students' average was significantly lower (p < .05) with an effect size less than .3 in magnitude.
- **Vour students' average** was significantly lower (p < .05) with an effect size at least .3 in magnitude.

	0			
Academic	Reflective & Integrative Learning	$\nabla$	$\nabla$	$\nabla$
Challenge	Learning Strategies	$\nabla$	$\nabla$	$\nabla$
	Quantitative Reasoning	Δ	Δ	Δ
Learning with	Collaborative Learning	Δ	Δ	Δ
Peers	Discussions with Diverse Others	Δ	Δ	Δ
Experiences	Student-Faculty Interaction	Δ	Δ	Δ
with Faculty	Effective Teaching Practices	Δ	Δ	Δ
Campus	Quality of Interactions			Δ
Environment	Supportive Environment	Δ		Δ
eniors		Your seniors compared with	Your seniors compared with	Your seniors compared with
Theme	Engagement Indicator	U15	ON Universities	U6
	Higher-Order Learning		$\nabla$	$\nabla$
Academic	Reflective & Integrative Learning	$\nabla$	•	•
Challenge	Learning Strategies	$\nabla$	$\nabla$	$\nabla$
	Quantitative Reasoning	Δ	Δ	Δ
Learning with	Collaborative Learning			
Peers	Discussions with Diverse Others		$\nabla$	$\nabla$
Experiences	Student-Faculty Interaction		$\nabla$	$\nabla$
with Faculty	Effective Teaching Practices			
Campus	Quality of Interactions			Δ
Environment	Supportive Environment	$\nabla$	$\nabla$	



# Academic Challenge University of Waterloo

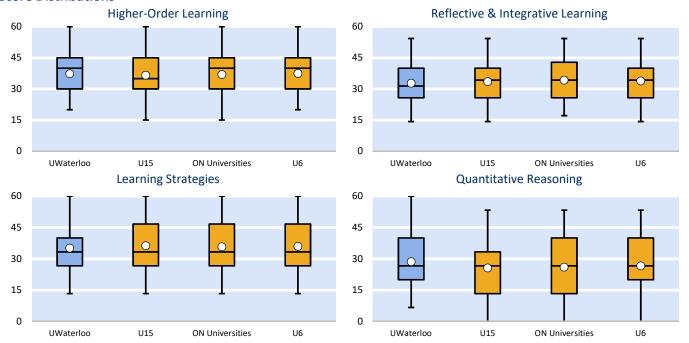
### **Academic Challenge: First-year students**

Challenging intellectual and creative work is central to student learning and collegiate quality. Colleges and universities promote student learning by challenging and supporting them to engage in various forms of deep learning. Four Engagement Indicators are part of this theme: *Higher-Order Learning, Reflective & Integrative Learning, Learning Strategies*, and *Quantitative Reasoning*. Below and on the next page are three views of your results alongside those of your comparison groups.

Mean Comparisons		Your first-year students compared with					
	UWaterloo	U15	ON Universities	U6			
Engagement Indicator	Mean	Effect Mean size	Effect Mean size	Effect Mean size			
	37.3	36.7 ** .05	36.9 .03	37.501			
Higher-Order Learning	37.3	30.7 *** .03	56.9 .05	57.501			
Reflective & Integrative Learning	32.8	33.5 ***06	34.2 ***12	33.9 ***09			
Learning Strategies	35.2	36.3 ***08	35.7 *04	35.9 **06			
Quantitative Reasoning	28.6	25.6 *** .20	26.0 *** .17	26.6 *** .14			

Notes: Results weighted by institution-reported sex and enrollment status (and institution size for comparison groups); Effect size: Mean difference divided by pooled standard deviation; Symbols on the Overview page are based on effect size and p before rounding; \*p < .05, \*\*p < .01, \*\*\*p < .001 (2-tailed).

#### **Score Distributions**



Notes: 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 represents the mean score. Refer to Detailed Statistics for your institution's sample sizes.



## Academic Challenge University of Waterloo

## **Academic Challenge: First-year students (continued)**

#### **Performance on Indicator Items**

The table below displays how your students responded to each EI item, and the difference, in percentage points, between your students and those of your comparison group. Blue bars indicate how much higher your institution's percentage is from that of the comparison group. Dark red bars indicate how much lower your institution's percentage is from that of the comparison group.

		Percentage point	difference <sup>a</sup> between you	r FY students and
Higher-Order Learning	UWaterloo	U15	ON Universities	U6
Percentage responding "Very much" or "Quite a bit" about how much coursework emphasized	%			
4b. Applying facts, theories, or methods to practical problems or new situations	77	+4	+5	+2
4c. Analyzing an idea, experience, or line of reasoning in depth by examining its parts	70	+2	+3	+1
4d. Evaluating a point of view, decision, or information source	57	-2	-4	-3
4e. Forming a new idea or understanding from various pieces of information	65	+2	+1	+0
Reflective & Integrative Learning				
Percentage of students who responded that they "Very often" or "Often"				
2a. Combined ideas from different courses when completing assignments	53	+1	∳ -1	+1
2b. Connected your learning to societal problems or issues	41	-7	-8	-7
2c. Included diverse perspectives (political, religious, racial/ethnic, gender, etc.) in course discussions or assignments	35	-3	-9	-5
2d. Examined the strengths and weaknesses of your own views on a topic or issue	56	+0	-2	-1
2e. Tried to better understand someone else's views by imagining how an issue looks from his or her perspective	63	-2	-3	-2
2f. Learned something that changed the way you understand an issue or concept	67	-2	-1	-2
2g. Connected ideas from your courses to your prior experiences and knowledge	76	-3	-2	-3
Learning Strategies				
Percentage of students who responded that they "Very often" or "Often"				
9a. Identified key information from reading assignments	69	-3	-3	-3
9b. Reviewed your notes after class	53	-2	-1	-1
9c. Summarized what you learned in class or from course materials	58	-2	-1	-2
Quantitative Reasoning				
Percentage of students who responded that they "Very often" or "Often"				
6a. Reached conclusions based on your own analysis of numerical information (numbers, graphs, statistics, etc.)	56	+9	+9	+7
6b. Used numerical information to examine a real-world problem or issue (unemployment, climate change, public health, etc.)	41	+6	+4	+3
6c. Evaluated what others have concluded from numerical information	43	+7	+6	+5

a. Percentage point difference = Institution percentage—Comparison group percentage. Because results are rounded to whole numbers, differences of less than 1 point may or may not display a bar. Small, but nonzero differences may be represented as +0 or -0.



# Academic Challenge University of Waterloo

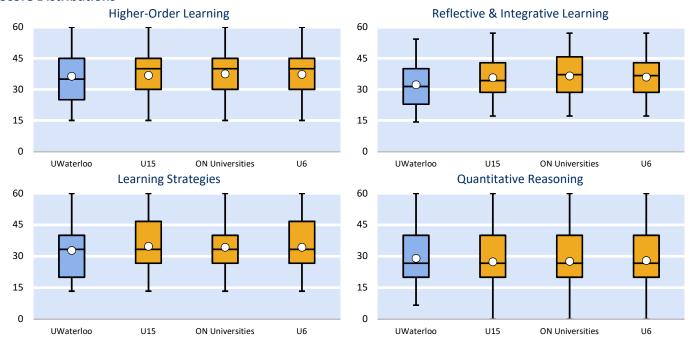
### **Academic Challenge: Seniors**

Challenging intellectual and creative work is central to student learning and collegiate quality. Colleges and universities promote student learning by challenging and supporting them to engage in various forms of deep learning. Four Engagement Indicators are part of this theme: *Higher-Order Learning, Reflective & Integrative Learning, Learning Strategies*, and *Quantitative Reasoning*. Below and on the next page are three views of your results alongside those of your comparison groups.

lean Comparisons		Your seniors compared with					
	UWaterloo	U15	ON Universities	U6			
Engagement Indicator	Mean	Effect Mean size	Effect Mean size	Effect Mean size			
Higher-Order Learning	36.3	36.804	37.5 ***09	37.3 **07			
Reflective & Integrative Learning	32.3	35.6 ***28	36.5 ***35	35.9 ***30			
Learning Strategies	32.8	34.7 ***14	34.3 ***11	34.3 ***11			
Quantitative Reasoning	29.0	27.4 *** .11	27.6 *** .09	27.9 ** .07			

Notes: Results weighted by institution-reported sex and enrollment status (and institution size for comparison groups); Effect size: Mean difference divided by pooled standard deviation; Symbols on the Overview page are based on effect size and p before rounding; \*p < .05, \*\*p < .01, \*\*\*p < .001 (2-tailed).

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# Academic Challenge University of Waterloo

## **Academic Challenge: Seniors (continued)**

#### **Performance on Indicator Items**

The table below displays how your students responded to each EI item, and the difference, in percentage points, between your students and those of your comparison group. Blue bars indicate how much higher your institution's percentage is from that of the comparison group. Dark red bars indicate how much lower your institution's percentage is from that of the comparison group.

		Percentage poi	int difference <sup>a</sup> between ye	en your seniors and	
Higher-Order Learning	UWaterloo	U15	ON Universities	U6	
Percentage responding "Very much" or "Quite a bit" about how much coursework emphasized	%				
4b. Applying facts, theories, or methods to practical problems or new situations	74	+1	+1	+1	
4c. Analyzing an idea, experience, or line of reasoning in depth by examining its parts	69	+0	-0	-1	
4d. Evaluating a point of view, decision, or information source	57	-5	-7	-6	
4e. Forming a new idea or understanding from various pieces of information	61	-3	-5	-4	
Reflective & Integrative Learning					
Percentage of students who responded that they "Very often" or "Often"					
2a. Combined ideas from different courses when completing assignments	56	-9	-11	-10	
2b. Connected your learning to societal problems or issues	42	-14	-16	-14	
2c. Included diverse perspectives (political, religious, racial/ethnic, gender, etc.) in course discussions or assignments	32	-11	-16	-13	
2d. Examined the strengths and weaknesses of your own views on a topic or issue	52	-6	-8	-7	
2e. Tried to better understand someone else's views by imagining how an issue looks from his or her perspective	62	-6	-8	-7	
2f. Learned something that changed the way you understand an issue or concept	65	-7	-7	-7	
2g. Connected ideas from your courses to your prior experiences and knowledge	75	-5	-6	-5	
Learning Strategies					
Percentage of students who responded that they "Very often" or "Often"					
9a. Identified key information from reading assignments	67	-5	-6	-5	
9b. Reviewed your notes after class	44	-5	-3	-3	
9c. Summarized what you learned in class or from course materials	52	-5	-3	-4	
Quantitative Reasoning					
Percentage of students who responded that they "Very often" or "Often"					
6a. Reached conclusions based on your own analysis of numerical information (numbers, graphs, statistics, etc.)	57	+7	+7	+6	
6b. Used numerical information to examine a real-world problem or issue (unemployment, climate change, public health, etc.)	41	+3	+2	+2	
6c. Evaluated what others have concluded from numerical information	44	+1	+1	ļ -0	

a. Percentage point difference = Institution percentage - Comparison group percentage. Because results are rounded to whole numbers, differences of less than 1 point may or may not display a bar. Small, but nonzero differences may be represented as +0 or -0.



## **Learning with Peers University of Waterloo**

ON Universities

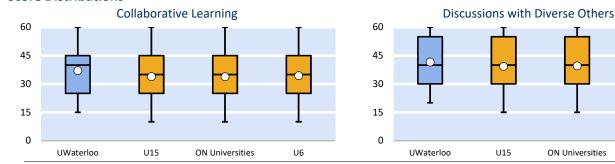
## **Learning with Peers: First-year students**

Collaborating with others in mastering difficult material and developing interpersonal and social competence prepare students to deal with complex, unscripted problems they will encounter during and after college. Two Engagement Indicators make up this theme: Collaborative Learning and Discussions with Diverse Others. Below are three views of your results alongside those of your comparison groups.

Aean Comparisons			Your	first-year student:	s compared v	vith	
	UWaterloo	U15		ON Universities		U	5
		L	Effect		Effect		Effect
Engagement Indicator	Mean	Mean	size	Mean	size	Mean	size
Collaborative Learning	37.0	33.9 ***	.22	33.8 ***	.23	34.4 ***	.18
Discussions with Diverse Others	41.5	39.3 ***	.15	39.5 ***	.13	40.2 ***	.08

Notes: Results weighted by institution-reported sex and enrollment status (and institution size for comparison groups); Effect size: Mean difference divided by pooled standard deviation; Symbols on the Overview page are based on effect size and p before rounding; \*p < .05, \*\*p < .01, \*\*\*p < .001 (2-tailed).

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		Percentage point difference $^{\it a}$ between your FY students and			
Collaborative Learning	UWaterloo	U15	5 ON Universit	ties U6	
Percentage of students who responded that they "Very often" or "Often"	%				
1e. Asked another student to help you understand course material	65	+8	+9	+6	
1f. Explained course material to one or more students	67	+8	+6	+5	
1g. Prepared for exams by discussing or working through course material with other students	61	+6	+5	+4	
1h. Worked with other students on course projects or assignments	63	+6	+8	+7	
Discussions with Diverse Others					
Percentage of students who responded that they "Very often" or "Often" had discussions with					
8a. People of a race or ethnicity other than your own	78	+4	+4	+2	
8b. People from an economic background other than your own	73	+5	+4	+3	
8c. People with religious beliefs other than your own	75	+8	+5	+4	
8d. People with political views other than your own	61	+2	+3	+3	

a. Percentage point difference = Institution percentage - Comparison group percentage. Because results are rounded to whole numbers, differences of less than 1 point may or may not display a bar. Small, but nonzero differences may be represented as +0 or -0.



# Learning with Peers University of Waterloo

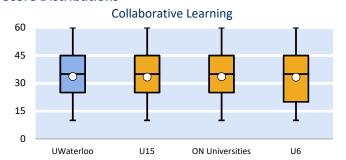
### **Learning with Peers: Seniors**

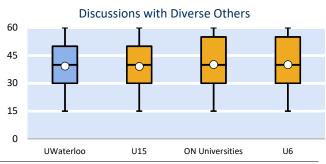
Collaborating with others in mastering difficult material and developing interpersonal and social competence prepare students to deal with complex, unscripted problems they will encounter during and after college. Two Engagement Indicators make up this theme: *Collaborative Learning* and *Discussions with Diverse Others*. Below are three views of your results alongside those of your comparison groups.

Mean Comparisons				Your seniors cor	mpared with			
	UWaterloo	U15		ON Universities		l	U6	
			Effect		Effect		Effect	
Engagement Indicator	Mean	Mean	size	Mean	size	Mean	size	
Collaborative Learning	33.7	33.4	.02	33.6	.01	33.3	.03	
Discussions with Diverse Others	39.3	39.1	.01	40.2 *	06	40.1 *	05	

Notes: Results weighted by institution-reported sex and enrollment status (and institution size for comparison groups); Effect size: Mean difference divided by pooled standard deviation; Symbols on the Overview page are based on effect size and p before rounding; \*p < .05, \*\*p < .01, \*\*\*p < .001 (2-tailed).

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		Percentage point difference <sup>a</sup> between your seniors and				
Collaborative Learning	UWaterloo	U1	15	ON Uni	versities	U6
Percentage of students who responded that they "Very often" or "Often"	%					
1e. Asked another student to help you understand course material	50	+4		+4	1	+4
1f. Explained course material to one or more students	57	(	-1		-2	-2
1g. Prepared for exams by discussing or working through course material with other students	52	+2		+2		+3
1h. Worked with other students on course projects or assignments	66	(	-1		-1	+1
Discussions with Diverse Others						
Percentage of students who responded that they "Very often" or "Often" had discussions with						
8a. People of a race or ethnicity other than your own	76	+1		ļ	-1	-2
8b. People from an economic background other than your own	68		-0		-3	-2
8c. People with religious beliefs other than your own	70	+3		I	-1	-1
8d. People with political views other than your own	54		-3		-5	-3

a. Percentage point difference = Institution percentage—Comparison group percentage. Because results are rounded to whole numbers, differences of less than 1 point may or may not display a bar. Small, but nonzero differences may be represented as +0 or -0.



## Experiences with Faculty University of Waterloo

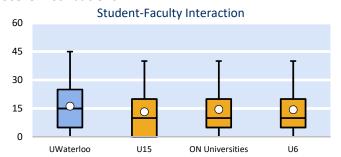
## **Experiences with Faculty: First-year students**

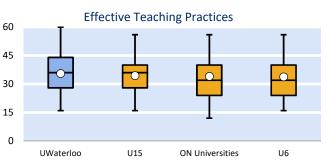
Students learn firsthand how experts think about and solve problems by interacting with faculty members inside and outside of instructional settings. As a result, faculty become role models, mentors, and guides for lifelong learning. In addition, effective teaching requires that faculty deliver course material and provide feedback in student-centered ways. Two Engagement Indicators investigate this theme: *Student-Faculty Interaction* and *Effective Teaching Practices*. Below are three views of your results alongside those of your comparison groups.

lean Comparisons		Your first-year students compared with				
	UWaterloo	U15 Effect	ON Universities  Effect	<b>U6</b> <i>Effect</i>		
Engagement Indicator	Mean	Mean size	Mean size	Mean size		
Student-Faculty Interaction	16.2	13.3 *** .22	14.5 *** .12	14.3 *** .13		
Effective Teaching Practices	35.5	34.4 *** .09	34.0 *** .12	33.7 *** .15		

Notes: Results weighted by institution-reported sex and enrollment status (and institution size for comparison groups); Effect size: Mean difference divided by pooled standard deviation; Symbols on the Overview page are based on effect size and p before rounding; \*p < .05, \*\*p < .01, \*\*\*p < .01 (2-tailed).

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		Percentage point difference <sup>a</sup> between your FY students and			
Student-Faculty Interaction	UWaterloo	U15	ON Universities	U6	
Percentage of students who responded that they "Very often" or "Often"	%				
3a. Talked about career plans with a faculty member	23	+5	+2	+3	
3b. Worked w/faculty on activities other than coursework (committees, student groups, etc.)	16	+5	+3	+3	
3c. Discussed course topics, ideas, or concepts with a faculty member outside of class	24	+5	+3	+3	
3d. Discussed your academic performance with a faculty member	19	+4	+1	+2	
Effective Teaching Practices					
Percentage responding "Very much" or "Quite a bit" about how much instructors have					
5a. Clearly explained course goals and requirements	75	+1	+4	+4	
5b. Taught course sessions in an organized way	72	+0	+4	+3	
5c. Used examples or illustrations to explain difficult points	76	+1	+5	+3	
5d. Provided feedback on a draft or work in progress	44	+3	+2	+4	
5e. Provided prompt and detailed feedback on tests or completed assignments	50	+7	+7	+8	

a. Percentage point difference = Institution percentage—Comparison group percentage. Because results are rounded to whole numbers, differences of less than 1 point may or may not display a bar. Small, but nonzero differences may be represented as +0 or -0.



## Experiences with Faculty University of Waterloo

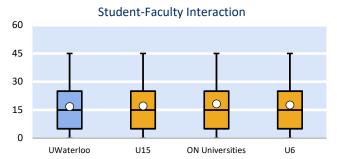
### **Experiences with Faculty: Seniors**

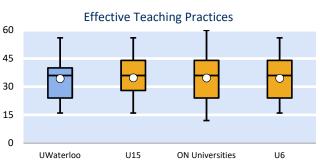
Students learn firsthand how experts think about and solve problems by interacting with faculty members inside and outside of instructional settings. As a result, faculty become role models, mentors, and guides for lifelong learning. In addition, effective teaching requires that faculty deliver course material and provide feedback in student-centered ways. Two Engagement Indicators investigate this theme: *Student-Faculty Interaction* and *Effective Teaching Practices*. Below are three views of your results alongside those of your comparison groups.

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	UWaterloo	-	U15	ON Univ	ON Universities		U6	
			Effect		Effect		Effect	
Engagement Indicator	Mean	Mean	size	Mean	size	Mean	size	
Student-Faculty Interaction	16.7	17.0	02	18.2 ***	10	17.6 *	06	
Effective Teaching Practices	34.3	34.7	03	34.6	03	34.5	01	

Notes: Results weighted by institution-reported sex and enrollment status (and institution size for comparison groups); Effect size: Mean difference divided by pooled standard deviation; Symbols on the Overview page are based on effect size and p before rounding; \*p < .05, \*\*p < .01, \*\*\*p < .01 (2-tailed).

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		Perc	entage poi	nt difference	<sup>a</sup> between y	our seniors	and
Student-Faculty Interaction	UWaterloo	U	15	ON Uni	versities	ι	16
Percentage of students who responded that they "Very often" or "Often"	%						
3a. Talked about career plans with a faculty member	23		-1		-4		-2
3b. Worked w/faculty on activities other than coursework (committees, student groups, etc.)	20	+1	l	+0	)	+1	
3c. Discussed course topics, ideas, or concepts with a faculty member outside of class	24	+0			-1		-1
3d. Discussed your academic performance with a faculty member	17	+0			-4		-2
Effective Teaching Practices							
Percentage responding "Very much" or "Quite a bit" about how much instructors have							
5a. Clearly explained course goals and requirements	74	(	-1	+1		+0	
5b. Taught course sessions in an organized way	70		-2	+0	)		-1
5c. Used examples or illustrations to explain difficult points	73		-1	+2		+0	
5d. Provided feedback on a draft or work in progress	41		-3		-5		-4
5e. Provided prompt and detailed feedback on tests or completed assignments	49	+2		+1	)	+2	

a. Percentage point difference = Institution percentage—Comparison group percentage. Because results are rounded to whole numbers, differences of less than 1 point may or may not display a bar. Small, but nonzero differences may be represented as +0 or -0.



# Campus Environment University of Waterloo

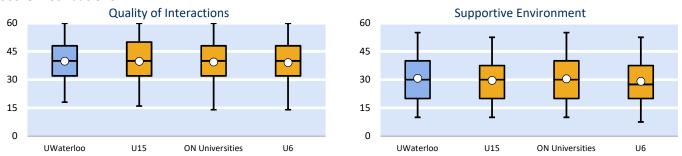
### **Campus Environment: First-year students**

Students benefit and are more satisfied in supportive settings that cultivate positive relationships among students, faculty, and staff. Two Engagement Indicators investigate this theme: *Quality of Interactions* and *Supportive Environment*. Below are three views of your results alongside those of your comparison groups.

Mean Comparisons			Your	first-year stude	nts compared v	vith	U6							
	UWaterloo	U1	15	ON Un	iversities	U	6							
			Effect		Effect		Effect							
Engagement Indicator	Mean	Mean	size	Mean	size	Mean	size							
Quality of Interactions	39.8	39.7	.01	39.4	.03	39.0 **	.06							
Supportive Environment	30.8	29.6 ***	.09	30.5	.02	29.2 ***	.12							

Notes: Results weighted by institution-reported sex and enrollment status (and institution size for comparison groups); Effect size: Mean difference divided by pooled standard deviation; Symbols on the Overview page are based on effect size and p before rounding; \*p < .05, \*\*p < .01, \*\*\*p < .001 (2-tailed).

#### **Score Distributions**



Notes: 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 represents the mean score. Refer to Detailed Statistics for your institution's sample sizes.

### **Performance on Indicator Items**

The table below displays how your students responded to each EI item, and the difference, in percentage points, between your students and those of your comparison group. Blue bars indicate how much higher your institution's percentage is from that of the comparison group. Dark red bars indicate how much lower your institution's percentage is from that of the comparison group.

		Percent	tage point	difference <sup>a</sup> between your FY students and				
Quality of Interactions	UWaterloo	U1	15	ON Uni	versities		U6	
Percentage rating their interactions a 6 or 7 (on a scale from 1="Poor" to 7="Excellent") with	%						_	
13a. Students	53		-0	+2		+2	1	
13b. Academic advisors	37	Į į	-2	I	-2	+0		
13c. Faculty	41	+1		+2	1	+3	1	
13d. Student services staff (career services, student activities, housing, etc.)	38	(	-1		-1	+1	)	
13e. Other administrative staff and offices (registrar, financial aid, etc.)	36		-2		-1	+0		
Supportive Environment								
Percentage responding "Very much" or "Quite a bit" about how much the institution emphasized								
14b. Providing support to help students succeed academically	70	+7		+6		+8		
14c. Using learning support services (tutoring services, writing center, etc.)	66	+6		+3		+4		
14d. Encouraging contact among students from diff. backgrounds (soc., racial/eth., relig., etc.)	49	+2		+0		+3	1	
14e. Providing opportunities to be involved socially	55	l (	-3		-3		-1	
14f. Providing support for your overall well-being (recreation, health care, counseling, etc.)	61	+7		+4	l	+10		
14g. Helping you manage your non-academic responsibilities (work, family, etc.)	36	+7		+4		+7		
14h. Attending campus activities and events (performing arts, athletic events, etc.)	44	ı	-4		-5		-2	
14i. Attending events that address important social, economic, or political issues	36	į į	-2		-3	+0		

a. Percentage point difference = Institution percentage—Comparison group percentage. Because results are rounded to whole numbers, differences of less than 1 point may or may not display a bar. Small, but nonzero differences may be represented as +0 or -0.



# Campus Environment University of Waterloo

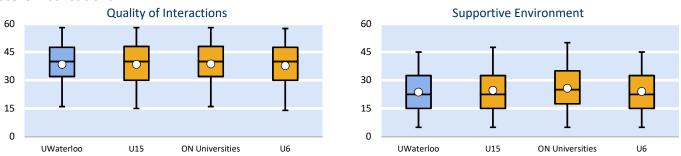
### **Campus Environment: Seniors**

Students benefit and are more satisfied in supportive settings that cultivate positive relationships among students, faculty, and staff. Two Engagement Indicators investigate this theme: *Quality of Interactions* and *Supportive Environment*. Below are three views of your results alongside those of your comparison groups.

Mean Comparisons				Your seniors com	pared with		
	UWaterloo	U	15	ON Univ	ersities/	ı	J6
			Effect		Effect		Effect
Engagement Indicator	Mean	Mean	size	Mean	size	Mean	size
Quality of Interactions	38.5	38.4	.00	38.7	02	37.7 *	.06
Supportive Environment	23.8	24.7 **	07	25.8 ***	15	24.1	02

Notes: Results weighted by institution-reported sex and enrollment status (and institution size for comparison groups); Effect size: Mean difference divided by pooled standard deviation; Symbols on the Overview page are based on effect size and p before rounding; \*p < .05, \*\*p < .01, \*\*\*p < .001 (2-tailed).

#### **Score Distributions**



Notes: 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 represents the mean score. Refer to Detailed Statistics for your institution's sample sizes.

### **Performance on Indicator Items**

The table below displays how your students responded to each EI item, and the difference, in percentage points, between your students and those of your comparison group. Blue bars indicate how much higher your institution's percentage is from that of the comparison group. Dark red bars indicate how much lower your institution's percentage is from that of the comparison group.

		Percei	ntage poin	t difference <sup>a</sup>	between y	our seniors	and
Quality of Interactions	UWaterloo	U15	5	ON Unive	ersities	ι	J <b>6</b>
Percentage rating their interactions a 6 or 7 (on a scale from 1="Poor" to 7="Excellent") with	%						
13a. Students	50	l E	-3	Į.	-4		-2
13b. Academic advisors	36	+2		ŧ	-1	+3	
13c. Faculty	39	(	-3		-3		-1
13d. Student services staff (career services, student activities, housing, etc.)	30	( )	-3		-4		-1
13e. Other administrative staff and offices (registrar, financial aid, etc.)	33		-0	ŧ	-0	+2	)
Supportive Environment				'			
Percentage responding "Very much" or "Quite a bit" about how much the institution emphasized							
14b. Providing support to help students succeed academically	50	+1			-2	+3	)
14c. Using learning support services (tutoring services, writing center, etc.)	44	+1			-5		-0
14d. Encouraging contact among students from diff. backgrounds (soc., racial/eth., relig., etc.)	34	(	-1		-5		-1
14e. Providing opportunities to be involved socially	41		-9		-10		-7
14f. Providing support for your overall well-being (recreation, health care, counseling, etc.)	40	(	-1	Į.	-4	+3	1
14g. Helping you manage your non-academic responsibilities (work, family, etc.)	18	+0		- (	-2	+1	)
14h. Attending campus activities and events (performing arts, athletic events, etc.)	26		-11		-11		-8
14i. Attending events that address important social, economic, or political issues	23		-6		-7		-4

a. Percentage point difference = Institution percentage - Comparison group percentage. Because results are rounded to whole numbers, differences of less than 1 point may or may not display a bar. Small, but nonzero differences may be represented as +0 or -0.

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## Comparisons with High-Performing Institutions University of Waterloo

### Comparisons with Top 50% and Top 10% Institutions

While NSSE's policy is not to rank institutions (see **go.iu.edu/NSSE-PnP**), the results below are designed to compare the engagement of your students with those attending two groups of institutions identified by NSSE a for their high average levels of student engagement:

- (a) institutions with average scores placing them in the top 50% of all 2019 and 2020 NSSE institutions, and
- (b) institutions with average scores placing them in the top 10% of all 2019 and 2020 NSSE institutions.

While the average scores for most institutions are below the mean for the top 50% or top 10%, your institution may show areas of distinction where your average student was as engaged as (or even more engaged than) the typical student at high-performing institutions. A check mark  $(\checkmark)$  signifies those comparisons where your average score was at least comparable to that of the high-performing group. However, the presence of a check mark does not necessarily mean that your institution was a member of that group.

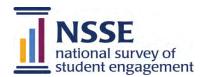
It should be noted that most of the variability in student engagement is within, not between, institutions. Even "high-performing" institutions have students with engagement levels below the average for all institutions.

irst-Year	Students			Your first-year stude	ents compared witl	h				
		UWaterloo	NSSE T	op 50%	NSSE T	op 10%				
Theme	Engagement Indicator	Mean	Mean	Effect size ✓	Mean	Effect size	$\checkmark$			
	Higher-Order Learning	37.3	39.3 ***	16	41.4 ***	32				
Academic	Reflective and Integrative Learning	32.8	36.7 ***	33	39.0 ***	53				
Challenge	Learning Strategies	35.2	39.9 ***	35	42.3 ***	51				
	Quantitative Reasoning	28.6	29.4 ***	05	31.4 ***	18				
Learning	Collaborative Learning	37.0	35.2 ***	.13 ✓	37.4	03	✓			
with Peers	Discussions with Diverse Others	41.5	41.5	.01 ✓	43.6 ***	14				
Experiences	Student-Faculty Interaction	16.2	24.5 ***	56	28.1 ***	77				
with Faculty	Effective Teaching Practices	35.5	40.5 ***	38	42.3 ***	48				
Campus	Quality of Interactions	39.8	45.2 ***	48	47.2 ***	63				
Environment	Supportive Environment	30.8	37.9 ***	54	40.0 ***	72				
Seniors				Your seniors o	Your seniors compared with					
		UWaterloo	NSSE T	op 50%	NSSE T	op 10%				
Theme	Engagement Indicator	Mean	Mean	Effect size ✓	Mean	Effect size	$\checkmark$			
	Higher-Order Learning	36.3	41.7 ***	40	43.2 ***	52				
Academic	Reflective and Integrative Learning	32.3	39.8 ***	62	41.8 ***	79				
Challenge	Learning Strategies	32.8	40.7 ***	55	42.7 ***	68				
	Quantitative Reasoning	29.0	31.4 ***	15	33.4 ***	27				
Learning	Collaborative Learning	33.7	35.9 ***	16	38.4 ***	34				
with Peers	Discussions with Diverse Others	39.3	42.1 ***	18	43.8 ***	29				
Experiences	Student-Faculty Interaction	16.7	29.7 ***	82	33.2 ***	-1.05				
with Faculty	Effective Teaching Practices	34.3	41.8 ***	55	43.7 ***	71				
Campus	Quality of Interactions	38.5	45.2 ***	58	47.4 ***	74				
Environment	Supportive Environment	23.8	34.6 ***	78	36.8 ***	93				

Notes: Results weighted by institution-reported sex and enrollment status (and institution size for comparison groups); Effect size: Mean difference divided by the pooled standard deviation; \*p < .05, \*\*p < .01, \*\*\*p < .01, \*\*\*p < .001 (2-tailed).

a. Precision-weighted means (produced by Hierarchical Linear Modeling) were used to determine the top 50% and top 10% institutions for each Engagement Indicator from all NSSE 2019 and 2020 institutions, separately by class. Using this method, Engagement Indicator scores of institutions with relatively large standard errors were adjusted toward the mean of all students, while those with smaller standard errors received smaller corrections. As a result, schools with less stable data—even those with high average scores—may not be 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 institutional results and our policy against ranking institutions.

b. Check marks are assigned to comparisons that are either significant and positive, or non-significant with an effect size > -.10.



# Detailed Statistics<sup>a</sup> University of Waterloo

## **Detailed Statistics: First-Year Students**

	Mea	n statisti	cs		Perce	ntile <sup>d</sup> scc	ores		Со	mparison	results	
_		SD <sup>b</sup>	SE <sup>c</sup>						Deg. of freedom <sup>e</sup>	Mean	s: f	Effect
Academic Challenge	Mean	SD	SE	5th	25th	50th	75th	95th	Jreeaom *	diff.	Sig. <sup>f</sup>	size <sup>g</sup>
Higher-Order Learning												
UWaterloo (N = 3434)	37.3	12.5	.21	20	30	40	45	60				
U15	36.7	12.3	.06	15	30	35	45	60	3,993	.6	.004	.050
ON Universities	36.9	13.0	.06	15	30	40	45	60	3,983	.0	.104	.030
U6	37.5	12.9	.00	20	30	40	45	60	4,788	2	.506	012
Top 50%	39.3	13.1	.09	20	30	40	50	60	3,530	-2.0	.000	012
Top 10%	39.3 41.4	12.8	.03	20	35	40	50	60	3,931	-2.0 -4.1	.000	133
Reflective & Integrative Learning UWaterloo (N = 3579)	g 32.8	11.7	.20	14	26	31	40	54				
U15	33.5	11.7	.05	14	26	34	40	54	52,728	7	.000	064
ON Universities	34.2	11.8	.05	17	26	34	43	54	54,472	-1.4	.000	123
U6	33.9	11.8	.03	14	26	34	40	54	24,767	-1.4 -1.1	.000	093
Top 50%	36.7	11.8	.08	17	29	37	46	57	265,853	-3.9	.000	332
Top 10%	39.0	11.7	.06	20	31	40	49	60	44,764	-6.2	.000	528
Learning Strategies												
UWaterloo $(N = 3377)$	35.2	13.4	.23	13	27	33	40	60				
U15	36.3	13.7	.07	13	27	33	47	60	3,938	-1.1	.000	080
ON Universities	35.7	13.6	.06	13	27	33	47	60	49,064	6	.018	042
U6	35.9	13.6	.10	13	27	33	47	60	22,309	8	.002	058
Top 50%	39.9	13.7	.03	20	33	40	53	60	231,034	-4.7	.000	346
Top 10%	42.3	14.1	.06	20	33	40	53	60	3,896	-7.1	.000	508
Quantitative Reasoning												
UWaterloo $(N = 3400)$	28.6	14.6	.25	7	20	27	40	60				
U15	25.6	15.0	.07	0	13	27	33	53	48,021	3.0	.000	.202
ON Universities	26.0	15.2	.07	0	13	27	40	53	49,815	2.6	.000	.171
U6	26.6	15.0	.11	0	20	27	40	53	22,667	2.0	.000	.135
Top 50%	29.4	15.2	.03	7	20	27	40	60	3,486	8	.001	055
Top 10%	31.4	15.3	.06	7	20	33	40	60	3,820	-2.8	.000	182
Learning with Peers												
Collaborative Learning												
UWaterloo ( $N = 3685$ )	37.0	13.7	.23	15	25	40	45	60				
U15	33.9	14.3	.06	10	25	35	45	60	4,263	3.1	.000	.221
ON Universities	33.8	14.3	.06	10	25	35	45	60	4,252	3.2	.000	.226
U6	34.4	14.3	.09	10	25	35	45	60	5,074	2.6	.000	.184
Top 50%	35.2	13.7	.02	15	25	35	45	60	341,426	1.8	.000	.134
Top 10%	37.4	13.5	.05	15	30	40	45	60	75,176	4	.081	029
Discussions with Diverse Others												
UWaterloo (N = 3379)	41.5	15.2	.26	20	30	40	55	60				
U15	39.3	15.5	.07	15	30	40	55	60	47,553	2.3	.000	.146
ON Universities	39.5	15.7	.07	15	30	40	55 55	60	49,377	2.0	.000	.129
U6	40.2	15.7	.07	15	30	40	55	60	22,467	1.3	.000	.085
Top 50%		15.3	.03	20	30	40	55 55	60		1.3	.706	
	41.5	14.5		20	35	45	55 60		303,225		.000	.007
Top 10%	43.6	14.3	.06	20	33	43	OU	60	3,718	-2.1	.000	142



# Detailed Statistics<sup>a</sup> University of Waterloo

### **Detailed Statistics: First-Year Students**

Mea	n statisti	CS		Perce	ntile <sup>d</sup> sco	ores		Co	mparison	results	
								Deg. of	Mean		Effect
Mean	SD <sup>b</sup>	SE <sup>c</sup>	5th	25th	50th	75th	95th	freedom <sup>e</sup>	diff.	Sig. <sup>T</sup>	size <sup>g</sup>
16.2	14.6	.25	0	5	15	25	45				
13.3	13.4	.06	0	0	10	20	40	3,918	3.0	.000	.219
14.5	14.0	.06	0	5	10	20	40	3,942	1.7	.000	.122
14.3	14.0	.10	0	5	10	20	40	4,628	1.9	.000	.135
24.5	14.7	.04	5	15	20	35	55	176,904	-8.3	.000	561
28.1	15.5	.10	5	15	25	40	60	4,740	-11.9	.000	775
35.5	11.9	.20	16	28	36	44	60				
34.4	12.1	.06	16	28	36	40	56	49,532	1.1	.000	.095
34.0	12.6	.06	12	24	32	40	56	4,058	1.5	.000	.123
33.7	12.3	.09	16	24	32	40	56	4,856	1.8	.000	.149
40.5	13.2	.03	20	32	40	52	60	3,624	-5.0	.000	379
42.3	14.1	.06	16	32	44	56	60	4,126	-6.7	.000	480
39.8	12.5	.23	18	32	40	48	60				
39.7	12.6	.07	16	32	40	50	60	36,157	.1	.716	.007
39.4	12.9	.07	14	32	40	48	60	3,297	.4	.108	.031
39.0	12.8	.10	14	32	40	48	60	4,002	.8	.002	.061
45.2	11.2	.03	24	38	46	54	60	2,893	-5.4	.000	478
47.2	11.6	.06	25	40	50	58	60	3,146	-7.4	.000	632
30.8	12.9	.22	10	20	30	40	55				
29.6	13.0	.06	10	20	30	38	53	46,098	1.2	.000	.089
30.5	13.5	.06	10	20	30	40	55	3,866	.3	.193	.023
29.2	13.2	.10	8	20	28	38	53	21,864	1.6	.000	.121
37.9	13.1	.03	18	30	38	48	60	225,001	-7.1	.000	543
40.0	12.9	.07	18	33	40	50	60	42,417	-9.3	.000	718
	Mean  16.2 13.3 14.5 14.3 24.5 28.1  35.5 34.4 34.0 33.7 40.5 42.3  39.8 39.7 39.4 39.0 45.2 47.2  30.8 29.6 30.5 29.2 37.9	Mean         SD b           16.2         14.6           13.3         13.4           14.5         14.0           14.3         14.0           24.5         14.7           28.1         15.5           35.5         11.9           34.4         12.1           34.0         12.6           33.7         12.3           40.5         13.2           42.3         14.1           39.8         12.5           39.7         12.6           39.4         12.9           39.0         12.8           45.2         11.2           47.2         11.6           30.8         12.9           29.6         13.0           30.5         13.5           29.2         13.2           37.9         13.1	16.2 14.6 .25 13.3 13.4 .06 14.5 14.0 .06 14.3 14.0 .10 24.5 14.7 .04 28.1 15.5 .10  35.5 11.9 .20 34.4 12.1 .06 34.0 12.6 .06 33.7 12.3 .09 40.5 13.2 .03 42.3 14.1 .06  39.8 12.5 .23 39.7 12.6 .07 39.4 12.9 .07 39.0 12.8 .10 45.2 11.2 .03 47.2 11.6 .06  30.8 12.9 .22 29.6 13.0 .06 30.5 13.5 .06 29.2 13.2 .10 37.9 13.1 .03	Mean         SD b         SE c         5th           16.2         14.6         .25         0           13.3         13.4         .06         0           14.5         14.0         .06         0           14.3         14.0         .10         0           24.5         14.7         .04         5           28.1         15.5         .10         5           35.5         11.9         .20         16           34.4         12.1         .06         16           34.0         12.6         .06         12           33.7         12.3         .09         16           40.5         13.2         .03         20           42.3         14.1         .06         16           39.8         12.5         .23         18           39.7         12.6         .07         16           39.4         12.9         .07         14           39.0         12.8         .10         14           45.2         11.2         .03         24           47.2         11.6         .06         25           30.8         12.9         .22 <td>Mean         SD<sup>b</sup>         SE<sup>c</sup>         5th         25th           16.2         14.6         .25         0         5           13.3         13.4         .06         0         0           14.5         14.0         .06         0         5           14.3         14.0         .10         0         5           24.5         14.7         .04         5         15           28.1         15.5         .10         5         15           35.5         11.9         .20         16         28           34.4         12.1         .06         16         28           34.0         12.6         .06         12         24           33.7         12.3         .09         16         24           40.5         13.2         .03         20         32           42.3         14.1         .06         16         32           39.4         12.9         .07         14         32           39.4         12.9         .07         14         32           39.4         12.9         .07         14         32           45.2         11.2         <td< td=""><td>Mean         SD b         SE c         5th         25th         50th           16.2         14.6         .25         0         5         15           13.3         13.4         .06         0         0         10           14.5         14.0         .06         0         5         10           24.5         14.7         .04         5         15         20           28.1         15.5         .10         5         15         25           35.5         11.9         .20         16         28         36           34.4         12.1         .06         16         28         36           34.4         12.1         .06         16         28         36           34.0         12.6         .06         12         24         32           40.5         13.2         .03         20         32         40           42.3         14.1         .06         16         32         40           39.4         12.9         .07         14         32         40           39.4         12.9         .07         14         32         40           45.2</td><td>Mean         SD b         SE c         5th         25th         50th         75th           16.2         14.6         .25         0         5         15         25           13.3         13.4         .06         0         0         10         20           14.5         14.0         .06         0         5         10         20           24.5         14.7         .04         5         15         20         35           28.1         15.5         .10         5         15         25         40           35.5         11.9         .20         16         28         36         44           34.4         12.1         .06         16         28         36         40           34.0         12.6         .06         12         24         32         40           33.7         12.3         .09         16         24         32         40           40.5         13.2         .03         20         32         40         52           42.3         14.1         .06         16         32         40         48           39.7         12.6         .07</td><td>Mean         SD<sup>b</sup>         SE<sup>c</sup>         5th         25th         50th         75th         95th           16.2         14.6         .25         0         5         15         25         45           13.3         13.4         .06         0         0         10         20         40           14.5         14.0         .06         0         5         10         20         40           14.3         14.0         .10         0         5         10         20         40           24.5         14.7         .04         5         15         20         35         55           28.1         15.5         .10         5         15         20         35         55           28.1         15.5         .10         5         15         25         40         60           35.5         11.9         .20         16         28         36         44         60           34.4         12.1         .06         16         28         36         40         56           33.7         12.3         .09         16         24         32         40         56           <t< td=""><td>Mean         SD<sup>b</sup>         SE<sup>c</sup>         5th         25th         50th         75th         95th         Deg. of freedom<sup>c</sup>           16.2         14.6         .25         0         5         15         25         45           13.3         13.4         .06         0         0         10         20         40         3,918           14.5         14.0         .06         0         5         10         20         40         3,942           24.5         14.7         .04         5         15         20         35         55         176,904           28.1         15.5         .10         5         15         25         40         60         4,740           35.5         11.9         .20         16         28         36         44         60         34,740           34.4         12.1         .06         16         28         36         40         56         49,532           34.0         12.6         .06         12         24         32         40         56         4,856           40.5         13.2         .03         20         32         40         52         60         &lt;</td><td>Mean         SD<sup>b</sup>         SE<sup>c</sup>         5th         25th         50th         75th         95th         Deg. of freedom<sup>c</sup>         Mean diff.           16.2         14.6         .25         0         5         15         25         45        </td><td>  Nean   SD   SE   Sth   25th   Soth   75th   95th   Deg. of freedom   diff.   Sig.    </td></t<></td></td<></td>	Mean         SD <sup>b</sup> SE <sup>c</sup> 5th         25th           16.2         14.6         .25         0         5           13.3         13.4         .06         0         0           14.5         14.0         .06         0         5           14.3         14.0         .10         0         5           24.5         14.7         .04         5         15           28.1         15.5         .10         5         15           35.5         11.9         .20         16         28           34.4         12.1         .06         16         28           34.0         12.6         .06         12         24           33.7         12.3         .09         16         24           40.5         13.2         .03         20         32           42.3         14.1         .06         16         32           39.4         12.9         .07         14         32           39.4         12.9         .07         14         32           39.4         12.9         .07         14         32           45.2         11.2 <td< td=""><td>Mean         SD b         SE c         5th         25th         50th           16.2         14.6         .25         0         5         15           13.3         13.4         .06         0         0         10           14.5         14.0         .06         0         5         10           24.5         14.7         .04         5         15         20           28.1         15.5         .10         5         15         25           35.5         11.9         .20         16         28         36           34.4         12.1         .06         16         28         36           34.4         12.1         .06         16         28         36           34.0         12.6         .06         12         24         32           40.5         13.2         .03         20         32         40           42.3         14.1         .06         16         32         40           39.4         12.9         .07         14         32         40           39.4         12.9         .07         14         32         40           45.2</td><td>Mean         SD b         SE c         5th         25th         50th         75th           16.2         14.6         .25         0         5         15         25           13.3         13.4         .06         0         0         10         20           14.5         14.0         .06         0         5         10         20           24.5         14.7         .04         5         15         20         35           28.1         15.5         .10         5         15         25         40           35.5         11.9         .20         16         28         36         44           34.4         12.1         .06         16         28         36         40           34.0         12.6         .06         12         24         32         40           33.7         12.3         .09         16         24         32         40           40.5         13.2         .03         20         32         40         52           42.3         14.1         .06         16         32         40         48           39.7         12.6         .07</td><td>Mean         SD<sup>b</sup>         SE<sup>c</sup>         5th         25th         50th         75th         95th           16.2         14.6         .25         0         5         15         25         45           13.3         13.4         .06         0         0         10         20         40           14.5         14.0         .06         0         5         10         20         40           14.3         14.0         .10         0         5         10         20         40           24.5         14.7         .04         5         15         20         35         55           28.1         15.5         .10         5         15         20         35         55           28.1         15.5         .10         5         15         25         40         60           35.5         11.9         .20         16         28         36         44         60           34.4         12.1         .06         16         28         36         40         56           33.7         12.3         .09         16         24         32         40         56           <t< td=""><td>Mean         SD<sup>b</sup>         SE<sup>c</sup>         5th         25th         50th         75th         95th         Deg. of freedom<sup>c</sup>           16.2         14.6         .25         0         5         15         25         45           13.3         13.4         .06         0         0         10         20         40         3,918           14.5         14.0         .06         0         5         10         20         40         3,942           24.5         14.7         .04         5         15         20         35         55         176,904           28.1         15.5         .10         5         15         25         40         60         4,740           35.5         11.9         .20         16         28         36         44         60         34,740           34.4         12.1         .06         16         28         36         40         56         49,532           34.0         12.6         .06         12         24         32         40         56         4,856           40.5         13.2         .03         20         32         40         52         60         &lt;</td><td>Mean         SD<sup>b</sup>         SE<sup>c</sup>         5th         25th         50th         75th         95th         Deg. of freedom<sup>c</sup>         Mean diff.           16.2         14.6         .25         0         5         15         25         45        </td><td>  Nean   SD   SE   Sth   25th   Soth   75th   95th   Deg. of freedom   diff.   Sig.    </td></t<></td></td<>	Mean         SD b         SE c         5th         25th         50th           16.2         14.6         .25         0         5         15           13.3         13.4         .06         0         0         10           14.5         14.0         .06         0         5         10           24.5         14.7         .04         5         15         20           28.1         15.5         .10         5         15         25           35.5         11.9         .20         16         28         36           34.4         12.1         .06         16         28         36           34.4         12.1         .06         16         28         36           34.0         12.6         .06         12         24         32           40.5         13.2         .03         20         32         40           42.3         14.1         .06         16         32         40           39.4         12.9         .07         14         32         40           39.4         12.9         .07         14         32         40           45.2	Mean         SD b         SE c         5th         25th         50th         75th           16.2         14.6         .25         0         5         15         25           13.3         13.4         .06         0         0         10         20           14.5         14.0         .06         0         5         10         20           24.5         14.7         .04         5         15         20         35           28.1         15.5         .10         5         15         25         40           35.5         11.9         .20         16         28         36         44           34.4         12.1         .06         16         28         36         40           34.0         12.6         .06         12         24         32         40           33.7         12.3         .09         16         24         32         40           40.5         13.2         .03         20         32         40         52           42.3         14.1         .06         16         32         40         48           39.7         12.6         .07	Mean         SD <sup>b</sup> SE <sup>c</sup> 5th         25th         50th         75th         95th           16.2         14.6         .25         0         5         15         25         45           13.3         13.4         .06         0         0         10         20         40           14.5         14.0         .06         0         5         10         20         40           14.3         14.0         .10         0         5         10         20         40           24.5         14.7         .04         5         15         20         35         55           28.1         15.5         .10         5         15         20         35         55           28.1         15.5         .10         5         15         25         40         60           35.5         11.9         .20         16         28         36         44         60           34.4         12.1         .06         16         28         36         40         56           33.7         12.3         .09         16         24         32         40         56 <t< td=""><td>Mean         SD<sup>b</sup>         SE<sup>c</sup>         5th         25th         50th         75th         95th         Deg. of freedom<sup>c</sup>           16.2         14.6         .25         0         5         15         25         45           13.3         13.4         .06         0         0         10         20         40         3,918           14.5         14.0         .06         0         5         10         20         40         3,942           24.5         14.7         .04         5         15         20         35         55         176,904           28.1         15.5         .10         5         15         25         40         60         4,740           35.5         11.9         .20         16         28         36         44         60         34,740           34.4         12.1         .06         16         28         36         40         56         49,532           34.0         12.6         .06         12         24         32         40         56         4,856           40.5         13.2         .03         20         32         40         52         60         &lt;</td><td>Mean         SD<sup>b</sup>         SE<sup>c</sup>         5th         25th         50th         75th         95th         Deg. of freedom<sup>c</sup>         Mean diff.           16.2         14.6         .25         0         5         15         25         45        </td><td>  Nean   SD   SE   Sth   25th   Soth   75th   95th   Deg. of freedom   diff.   Sig.    </td></t<>	Mean         SD <sup>b</sup> SE <sup>c</sup> 5th         25th         50th         75th         95th         Deg. of freedom <sup>c</sup> 16.2         14.6         .25         0         5         15         25         45           13.3         13.4         .06         0         0         10         20         40         3,918           14.5         14.0         .06         0         5         10         20         40         3,942           24.5         14.7         .04         5         15         20         35         55         176,904           28.1         15.5         .10         5         15         25         40         60         4,740           35.5         11.9         .20         16         28         36         44         60         34,740           34.4         12.1         .06         16         28         36         40         56         49,532           34.0         12.6         .06         12         24         32         40         56         4,856           40.5         13.2         .03         20         32         40         52         60         <	Mean         SD <sup>b</sup> SE <sup>c</sup> 5th         25th         50th         75th         95th         Deg. of freedom <sup>c</sup> Mean diff.           16.2         14.6         .25         0         5         15         25         45	Nean   SD   SE   Sth   25th   Soth   75th   95th   Deg. of freedom   diff.   Sig.

a. Results weighted by institution-reported sex and enrollment status (and institutional size for comparison groups).

b. Standard deviation is a measure of the amount the individual scores deviate from the mean of all the scores in the distribution.

c. Standard error of the mean, used to compute a confidence interval (CI) around the sample mean. For example, the 95% CI (equal to the sample mean +/- 1.96 x SE) is the range that is 95% likely to contain the true population mean.

d. A percentile is the point in the distribution of student-level EI scores at or below which a given percentage of EI scores fall.

e. Degrees of freedom used to compute the t-tests. Values vary from the total Ns due to weighting and whether equal variances were assumed.

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

g. Effect size is the mean difference divided by the pooled standard deviation.



# Detailed Statistics<sup>a</sup> University of Waterloo

**Detailed Statistics: Seniors** 

	Mea	n statisti	CS		Percei	ntile <sup>d</sup> scc	res			mparison	results	
	Mean	SD <sup>b</sup>	SE <sup>c</sup>	5th	25th	50th	75th	95th	Deg. of freedom <sup>e</sup>	Mean diff.	Sig. <sup>f</sup>	Effect size <sup>g</sup>
Academic Challenge	Wican			301	2501	30111	7501	<i>33111</i>	j.ccuo	۵.,,,	o.g.	5,20
Higher-Order Learning												
UWaterloo (N = 2013)	36.3	13.0	.29	15	25	35	45	60				
U15	36.8	13.2	.08	15	30	40	45	60	30,638	5	.092	039
ON Universities	37.5	13.4	.08	15	30	40	45	60	29,024	-1.2	.000	092
U6	37.3	13.3	.12	15	30	40	45	60	14,569	-1.0	.002	073
Top 50%	41.7	13.4	.03	20	35	40	55	60	188,412	-5.4	.000	403
Top 10%	43.2	13.3	.06	20	35	40	55	60	2,204	-6.9	.000	517
Reflective & Integrative Learnin	ng											
UWaterloo $(N = 2083)$	32.3	11.9	.26	14	23	31	40	54				
U15	35.6	12.0	.07	17	29	34	43	57	32,298	-3.4	.000	280
ON Universities	36.5	12.2	.07	17	29	37	46	57	2,414	-4.2	.000	347
U6	35.9	12.1	.10	17	29	37	43	57	15,396	-3.7	.000	304
Top 50%	39.8	12.2	.03	20	31	40	49	60	2,132	-7.6	.000	621
Top 10%	41.8	12.0	.07	20	34	40	51	60	2,392	-9.5	.000	791
Learning Strategies												
UWaterloo $(N = 1972)$	32.8	14.0	.32	13	20	33	40	60				
U15	34.7	14.3	.09	13	27	33	47	60	2,273	-2.0	.000	137
ON Universities	34.3	14.3	.09	13	27	33	40	60	27,982	-1.5	.000	105
U6	34.3	14.3	.13	13	27	33	47	60	13,981	-1.5	.000	107
Top 50%	40.7	14.5	.03	20	33	40	53	60	2,011	-7.9	.000	545
Top 10%	42.7	14.4	.06	20	33	40	60	60	2,097	-9.9	.000	685
Quantitative Reasoning												
UWaterloo $(N = 1994)$	29.0	14.9	.33	7	20	27	40	60				
U15	27.4	15.6	.09	0	20	27	40	60	2,320	1.7	.000	.108
ON Universities	27.6	15.7	.10	0	20	27	40	60	2,343	1.4	.000	.092
U6	27.9	15.7	.14	0	20	27	40	60	2,770	1.1	.002	.072
Top 50%	31.4	16.1	.03	0	20	33	40	60	2,029	-2.4	.000	149
Top 10%	33.4	15.9	.07	7	20	33	40	60	2,172	-4.3	.000	274
Learning with Peers												
Collaborative Learning												
UWaterloo ( $N = 2126$ )	33.7	14.1	.31	10	25	35	45	60				
U15	33.4	14.5	.08	10	25	35	45	60	2,438	.3	.335	.021
ON Universities	33.6	14.4	.08	10	25	35	45	60	2,456	.2	.634	.010
U6	33.3	14.7	.12	10	20	35	45	60	2,878	.4	.223	.028
Top 50%	35.9	14.0	.03	15	25	35	45	60	247,168	-2.2	.000	159
Top 10%	38.4	13.6	.07	15	30	40	50	60	2,327	-4.7	.000	343
Discussions with Diverse Others			_									
UWaterloo ( $N = 1955$ )	39.3	15.0	.34	15	30	40	50	60				
U15	39.1	15.1	.09	15	30	40	50	60	29,447	.2	.646	.011
ON Universities	40.2	15.3	.09	15	30	40	55	60	28,066	9	.014	058
U6	40.1	15.0	.14	15	30	40	55	60	13,994	8	.039	050
Top 50% Top 10%	42.1	15.5	.03	15	30	40	60	60	1,985	-2.8	.000	177
	43.8	15.3	.06	20	35	45	60	60	2,076	-4.5	.000	293



# Detailed Statistics<sup>a</sup> University of Waterloo

**Detailed Statistics: Seniors** 

	Mea	n statisti	CS	Percentile <sup>d</sup> scores			Co	mparison	results			
									Deg. of	Mean		Effect
	Mean	SD <sup>b</sup>	SE c	5th	25th	50th	75th	95th	freedom <sup>e</sup>	diff.	Sig. <sup>f</sup>	size <sup>g</sup>
Experiences with Faculty												
Student-Faculty Interaction												
UWaterloo $(N = 2045)$	16.7	14.2	.31	0	5	15	25	45				
U15	17.0	14.1	.08	0	5	15	25	45	31,429	3	.337	022
ON Universities	18.2	14.6	.09	0	5	15	25	45	29,739	-1.4	.000	098
U6	17.6	14.3	.13	0	5	15	25	45	14,933	8	.014	058
Top 50%	29.7	15.9	.05	5	20	30	40	60	2,152	-12.9	.000	815
Top 10%	33.2	16.0	.12	10	20	35	45	60	2,714	-16.5	.000	-1.046
Effective Teaching Practices												
UWaterloo ( $N = 2027$ )	34.3	12.0	.27	16	24	36	40	56				
U15	34.7	12.5	.07	16	28	36	44	56	2,350	4	.165	031
ON Universities	34.6	12.9	.08	12	24	36	44	60	2,393	3	.241	025
U6	34.5	12.6	.11	16	24	36	44	56	2,803	2	.553	014
Top 50%	41.8	13.7	.03	20	32	40	52	60	2,093	-7.5	.000	548
Top 10%	43.7	13.4	.07	20	36	44	56	60	2,330	-9.4	.000	706
Campus Environment												
Quality of Interactions												
UWaterloo $(N = 1783)$	38.5	12.3	.29	16	32	40	48	58				
U15	38.4	12.4	.08	15	30	40	48	58	24,854	.1	.840	.005
ON Universities	38.7	12.5	.08	16	32	40	48	58	24,758	2	.430	019
U6	37.7	12.6	.12	14	30	40	48	58	2,455	.7	.018	.059
Top 50%	45.2	11.7	.03	24	38	48	54	60	169,643	-6.7	.000	577
Top 10%	47.4	12.0	.05	24	40	50	58	60	55,473	-8.9	.000	739
Supportive Environment												
UWaterloo $(N = 1942)$	23.8	12.3	.28	5	15	23	33	45				
U15	24.7	12.6	.08	5	15	23	33	48	28,849	9	.002	071
ON Universities	25.8	13.2	.08	5	18	25	35	50	2,295	-2.0	.000	155
U6	24.1	12.6	.12	5	15	23	33	45	13,734	3	.326	024
Top 50%	34.6	14.0	.03	13	25	35	45	60	1,997	-10.8	.000	776
Top 10%	36.8	14.1	.08	13	28	38	48	60	2,268	-13.0	.000	932

 $a. \ Results \ weighted \ by \ institution-reported \ sex \ and \ enrollment \ status \ (and \ institutional \ size \ for \ comparison \ groups).$ 

b. Standard deviation is a measure of the amount the individual scores deviate from the mean of all the scores in the distribution.

c. Standard error of the mean, used to compute a confidence interval (CI) around the sample mean. For example, the 95% CI (equal to the sample mean +/- 1.96 x SE) is the range that is 95% likely to contain the true population mean.

d. A percentile is the point in the distribution of student-level EI scores at or below which a given percentage of EI scores fall.

e. Degrees of freedom used to compute the t-tests. Values vary from the total Ns due to weighting and whether equal variances were assumed.

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

g. Effect size is the mean difference divided by the pooled standard deviation.