

Faculty of Science Summary Results 2014 National Survey of Student Engagement

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The National Survey of Student Engagement (NSSE) is an internationally-recognized instrument for measuring student engagement. Student engagement describes the time and effort students put into their studies, as well as how the institution supports student learning. NSSE includes over one hundred questions related to student satisfaction, activities, and perceptions of the institution's contributions to growth and development. TRU participated in NSSE for the fifth time in 2014. All Baccalaureate first year and fourth year students at TRU were invited to participate in winter 2014, and TRU received 673 responses (23% response rate). This report includes results specific to the Bachelor of Science, the Bachelor of Natural Resource Science and the Bachelor of Computing Science. For institutional results please refer to the *NSSE 2014 Survey - First and Fourth Year Students TRU 2014 Results* overall report.

In 2013, the National Survey of Student Engagement (NSSE) was updated based on testing, institutional feedback, and recent advances in educational and survey research. These updates resulted in the creation of ten new engagement indicators (previously, five benchmark scores were used). Each engagement indicator is normalized to scale of 1 to 60, with 60 being the highest positive engagement score. The new indicators are described in detail in Appendices A and B.

Engagement indicator results for the Bachelor of Science, the Bachelor of Natural Resource Science and the Bachelor of Computing Science are displayed in Figures 1 to 4. The two overall satisfaction questions have not changed from previous surveys, and are reported in Figures 5 to 12. Overall TRU results are provided for comparison purposes, along with scores from similar programs across Canada. Canadian students who indicated they were taking a major in Biological Sciences, Agriculture, Physical Sciences, or Mathematics were included in the comparisons for the Bachelor of Science.

Figure 1: First Year BSc Engagement Indicator Results 2014

	Bachelor of Science (TRU)		Overall (TRU)	Similar Programs (Canada)
	N	Mean*	Mean*	Mean*
Higher-Order Learning	86	33.72	36.4	36.2
Reflective and Integrative Learning	92	30.12	34.1	30.8
Learning Strategies	82	38.21	37.5	36.9
Quantitative Reasoning	90	25.19	23.1	27.8
Collaborative Learning	94	32.34	31.2	34.0
Discussions with Diverse Others	83	35.78	36.8	39.8
Student-Faculty Interaction	90	16.94	15.8	12.2
Effective Teaching Practices	91	39.74	38.9	34.9
Quality of Interactions	75	41.08	39.7	38.7
Supportive Environment	70	30.12	30.8	32.0

* Each engagement indicator is normalized to scale of 1 to 60, with 60 being the highest positive engagement score.

Figure 2: Fourth Year BSc Engagement Indicator Results 2014

	Bachelor of Science (TRU)		Overall (TRU)	Similar Programs (Canada)
	N	Mean*	Mean*	Mean*
Higher-Order Learning	28	44.11	40.3	34.9
Reflective and Integrative Learning	30	34.89	39.8	31.9
Learning Strategies	29	39.77	36.3	36.2
Quantitative Reasoning	30	30.22	25.3	30.8
Collaborative Learning	29	41.38	35.2	32.4
Discussions with Diverse Others	30	37.33	41.7	39.3
Student-Faculty Interaction	29	27.41	25.2	18.5
Effective Teaching Practices	30	45.60	38.3	35.9
Quality of Interactions	28	44.25	41.3	39.6
Supportive Environment	27	32.02	29.5	28.0

* Each engagement indicator is normalized to scale of 1 to 60, with 60 being the highest positive engagement score.

Figure 3: BNRS Sc Engagement Indicator Results 2014

	Bachelor of Natural Resource Science First & Fourth Year (TRU)		Overall Fourth Year (TRU)
	N	Mean*	Mean*
Higher-Order Learning	20	39.75	40.3
Reflective and Integrative Learning	20	34.43	39.8
Learning Strategies	18	38.89	36.3
Quantitative Reasoning	20	35.67	25.3
Collaborative Learning	20	30.75	35.2
Discussions with Diverse Others	18	35.00	41.7
Student-Faculty Interaction	20	22.00	25.2
Effective Teaching Practices	20	41.60	38.3
Quality of Interactions	17	42.12	41.3
Supportive Environment	18	26.88	29.5

** Each engagement indicator is normalized to scale of 1 to 60, with 60 being the highest positive engagement score.*

Figure 4: BCSc Engagement Indicator Results 2014 (First and Fourth Year Students)

	Bachelor of Computing Science First & Fourth Year (TRU)		Overall Fourth Year (TRU)
	N	Mean*	Mean*
Higher-Order Learning	21	35.00	40.3
Reflective and Integrative Learning	22	35.26	39.8
Learning Strategies	20	33.67	36.3
Quantitative Reasoning	21	27.62	25.3
Collaborative Learning	23	37.61	35.2
Discussions with Diverse Others	20	47.50	41.7
Student-Faculty Interaction	21	22.62	25.2
Effective Teaching Practices	21	38.19	38.3
Quality of Interactions	19	44.24	41.3
Supportive Environment	19	28.25	29.5

** Each engagement indicator is normalized to scale of 1 to 60, with 60 being the highest positive engagement score.*

Figure 5: First Year BSc Satisfaction Results 2014: How would you evaluate your entire educational experience?

	Bachelor of Science (TRU)		Overall (TRU)	Similar Programs (Canada)
	Frequency	Percent	Percent	Percent
Poor	1	1.4	2.0	3.0
Fair	8	11.1	13.0	18.0
Good	49	68.1	62.0	53.0
Excellent	14	19.4	22.0	27.0
Total	72	100.0	100.0	100.0
Missing	24			
Total	96			

Figure 6: First Year BSc Satisfaction Results 2014: If you could start over again, would you go to the same institution you are now attending?

	Bachelor of Science (TRU)		Overall (TRU)	Similar Programs (Canada)
	Frequency	Percent	Percent	Percent
Definitely no	2	2.8	3.0	3.0
Probably no	6	8.3	13.0	13.0
Probably yes	44	61.1	56.0	47.0
Definitely yes	20	27.8	28.0	38.0
Total	72	100.0	100.0	100.0
Missing	24			
Total	96			

Figure 7: Fourth Year BSc Satisfaction Results 2014: How would you evaluate your entire educational experience?

	Bachelor of Science (TRU)		Overall (TRU)	Similar Programs (Canada)
	Frequency	Percent	Percent	Percent
Poor			2.0	4.0
Fair	1	3.6	13.0	18.0
Good	12	42.9	62.0	50.0
Excellent	15	53.6	22.0	28.0
Total	28	100.0	100.0	100.0
Missing	3			
Total	31			

Figure 8: Fourth Year BSc Satisfaction Results 2014: If you could start over again, would you go to the same institution you are now attending?

	Bachelor of Science (TRU)		Overall (TRU)	Similar Programs (Canada)
	Frequency	Percent	Percent	Percent
Definitely no			3.0	6.0
Probably no	3	10.7	13.0	17.0
Probably yes	10	35.7	56.0	44.0
Definitely yes	15	53.6	28.0	33.0
Total	28	100.0	100.0	100.0
Missing	3			
Total	31			

Figure 9: BNRS Sc Satisfaction Results 2014: How would you evaluate your entire educational experience?

	Bachelor of Natural Resource Science First & Fourth Year (TRU)		Overall Fourth Year (TRU)
	Frequency	Percent	Percent
Poor			2.0
Fair	2	11.1	13.0
Good	11	61.1	62.0
Excellent	5	27.8	22.0
Total	18	100.0	100.0
Missing	3		
Total	21		

Figure 10: BNRS Sc Satisfaction Results 2014: If you could start over again, would you go to the same institution you are now attending?

	Bachelor of Natural Resource Science First & Fourth Year (TRU)		Overall Fourth Year (TRU)
	Frequency	Percent	Percent
Definitely no	1	5.6	3.0
Probably no	4	22.2	13.0
Probably yes	11	61.1	56.0
Definitely yes	2	11.1	28.0
Total	18	100.0	100.0
Missing	3		
Total	21		

Figure 11: BCS Sc Satisfaction Results 2014: How would you evaluate your entire educational experience?

		Bachelor of Computing Science First & Fourth Year (TRU)		Overall Fourth Year (TRU)
		Frequency	Percent	Percent
	Poor	1	5.3	2.0
	Fair	8	42.1	13.0
	Good	8	42.1	62.0
	Excellent	2	10.5	22.0
	Total	19	100.0	100.0
	Missing	4		
	Total	23		

Figure 12: BCS Sc Satisfaction Results 2014: If you could start over again, would you go to the same institution you are now attending?

		Bachelor of Computing Science First & Fourth Year (TRU)		Overall Fourth Year (TRU)
		Frequency	Percent	Percent
	Definitely no	2	10.5	3.0
	Probably no	7	36.8	13.0
	Probably yes	7	36.8	56.0
	Definitely yes	3	15.8	28.0
	Total	19	100.0	100.0
	Missing	4		
	Total	23		

Appendix A: Theme and Engagement Indicator Descriptions

THEME	ENGAGEMENT INDICATOR	BRIEF DEFINITION
ACADEMIC CHALLENGE	High-Order Learning	Promoting high levels of student achievement with challenging intellectual and creative work requiring complex cognitive tasks such as application, analysis, judgment, and synthesis.
	Reflective & Integrative Learning	Personally connecting with course material through reflective and integrative learning.
	Learning Strategies	Actively engaging and analysing course material by using effective learning strategies.
	Quantitative Reasoning	Providing opportunities to develop the ability to evaluate, support, and critique arguments using numerical and statistical information.
LEARNING WITH PEERS	Collaborative Learning	Deepening understanding and preparing to deal with life after university through teamwork to solve problems and master difficult material.
	Discussions with Diverse Others	Benefitting educationally and preparing for personal and civic participation in a diverse world by interacting and learning from others with diverse backgrounds.
EXPERIENCES WITH FACULTY	Student-Faculty Interaction	Positively influencing cognitive growth, development, and persistence through student-faculty relationships.
	Effective Teaching Practices	Promoting student comprehension through effective teaching.
CAMPUS ENVIRONMENT	Quality of Interactions	Promoting student learning and success through positive interpersonal relationships with peers, advisors, faculty, and staff.
	Supportive Environment	Promoting student success through cognitive, social, and physical support.

Appendix B: Engagement Indicator Component Questions

THEME: ACADEMIC CHALLENGE

Higher-Order Learning

During the current school year, how much has your coursework emphasized the following:

- Applying facts, theories, or methods to practical problems or new situations
- Analyzing an idea, experience, or line of reasoning in depth by examining its parts
- Evaluating a point of view, decision, or information source
- Forming a new idea or understanding from various pieces of information

Reflective and Integrative Learning

During the current school year, how often have you:

- Combined ideas from different courses when completing assignments
- Connected your learning to societal problems or issues
- Included diverse perspectives (political, religious, racial/ethnic, gender, etc.) in course discussions or assignments
- Examined the strengths and weaknesses of your own views on a topic or issue
- Tried to better understand someone else's views by imagining how an issue looks from his or her perspective
- Learned something that changed the way you understand an issue or concept
- Connected ideas from your courses to your prior experiences and knowledge

Learning Strategies

During the current school year, how often have you:

- Identified key information from reading assignments
- Reviewed your notes after class
- Summarized what you learned in class or from course materials

Quantitative Reasoning

During the current school year, how often have you:

- Reached conclusions based on your own analysis of numerical information (numbers, graphs, statistics, etc.)

THEME: LEARNING WITH PEERS

Collaborative Learning

During the current school year, how often have you:

- Asked another student to help you understand course material
- Explained course material to one or more students
- Prepared for exams by discussing or working through course material with other students
- Worked with other students on course projects or assignments

Discussions with Diverse Others

During the current school year, how often have you had discussions with people from the following groups:

- People from a race or ethnicity other than your own
- People from an economic background other than your own
- People with religious beliefs other than your own
- People with political views other than your own

THEME: CAMPUS ENVIRONMENT

Quality of Interactions

Indicate the quality of your interactions with the following people at your institution:

- Students
- Academic advisors
- Faculty
- Student services staff (career services, student activities, housing, etc.)
- Other administrative staff and offices (registrar, financial aid, etc.)

Supportive Environment

How much does your institution emphasize the following:

- Providing support to help students succeed academically
- Using learning support services (tutoring services, writing center, etc.)
- Encouraging contact among students from different backgrounds (social, racial/ethnic, religious, etc.)
- Providing opportunities to be involved socially
- Providing support for your overall well-being (recreation, health care, counseling, etc.)
- Helping you manage your non-academic responsibilities (work, family, etc.)
- Attending campus activities and events (performing arts, athletic events, etc.)
- Attending events that address important social, economic, or political issues

THEME: EXPERIENCES WITH FACULTY

Student-Faculty Interaction

During the current school year, how often have you:

- Talked about career plans with a faculty member
- Worked with a faculty member on activities other than coursework (committees, student groups, etc.)
- Discussed course topics, ideas, or concepts with a faculty member outside of class
- Discussed your academic performance with a faculty member

Effective Teaching Practices

During the current school year, to what extent have your instructors done the following:

- Clearly explained course goals and requirements
- Taught course sessions in an organized way
- Used examples or illustrations to explain difficult points
- Provided feedback on a draft or work in progress
- Provided prompt and detailed feedback on tests or completed assignments
- Used numerical information to examine a real-world problem or issue (unemployment, climate change, public health, etc.)
- Evaluated what others have concluded from numerical information