

NSSE Survey Alignment & Analysis

PROJECT NUMBER: R2145 NIPISSING UNIVERSITY

Prepared in March 2022 by:

Heather Daoust
Stephen Tedesco

Overview of Project

Project Goals & Description

The National Survey of Student Engagement (NSSE) is a survey that has been administered to undergraduate students in their first and graduating years across over 1,600 North American universities. The survey has been conducted in intervals over the past 20 years, gaining popularity as a tool to measure student engagement using a series of meaningful academic and social indicators.

Through this project, Nipissing University will attempt to align – where possible – fields within the NSSE across the 2006, 2008, 2011, 2014, 2017 and 2020 iterations of the survey. ***The intent will be to pool observations across years to produce a large enough sample – across years – to analyze differences amongst students that started their post-secondary education at Nipissing with those that started their post-secondary education elsewhere.***

Scope of Work

1. A field-by-field comparison of codebooks for the six identified waves of the NSSE survey. And, in particular, an evaluation of pre-/post-2012 versions of the survey.
2. Harmonization of inconsistent fields, where possible.
3. Descriptive analysis of students with/without previous post-secondary education, as identified through the questions:
 - i. “Did you begin college at this institution or elsewhere?” [**begincol**]
 - ii. “Since graduating from high school, which of the following types of schools have you attended other than the one you are now attending?” [**attend_recoded**]

This analysis will include comparisons:

- a. **Demographics**, including: age, disability, gender identity, parental education, citizenship status, ethno-racial groups, sexual orientation, etc.
 - b. **Academics**, including: course load, courses taken entirely online, grades, field of study (major), educational aspirations, etc.
 - c. **Engagement**, including all of the engagement metrics unique to the NSSE.
4. Basic significance testing of differences between the two abovementioned groups (e.g., t-tests or other suitable test).
 5. Evaluation of the feasibility of linkages between NSSE and other available administrative data sources within Nipissing, in particular, student information system and graduate KPI survey data.

About Nipissing University

Nipissing University is located in the traditional lands of Nipissing First Nation, an Anishnaabek community along the shores of Lake Nipissing, with several First Nations located within a 100 km radius. One fifth of all Indigenous people and First Nations communities in Canada are in Ontario. While this is only about 2.4% of the province's population, North Bay is geographically well situated amongst many of the large urban Indigenous communities in the province (e.g., Toronto, Ottawa, Sudbury, Kenora, Midland, and Sault Ste. Marie). Consequently, 7% of Nipissing's student body is comprised of individuals who identify as having Indigenous cultural and/or ancestral background.

Nipissing University is a vibrant, young, ready-to-grow 21st century university with century old roots in the communities it serves. It was created by a Provincial Act to specifically address the needs of Northern Ontario and continues to have a special focus on serving the North in the North. Nipissing's student body is increasingly diverse, and Nipissing remains committed to being an accessible institution, serving first generation students, as well as students from economically challenging backgrounds, students with disabilities, and students with diagnosed learning challenges.

Nipissing's strategic focus on student success and experience has translated into consistent top rankings in the areas of student support, student experience, faculty, and residences. It is on this foundation of student success that Nipissing continues to develop into a university that is fully integrated into the economy of its region and whose social impacts support the aspirations of Northern Ontario.

About Our Learners

Access and equity have been a longstanding priority of Nipissing University with a focus on students who, without interventions and support, might not otherwise participate in postsecondary education.

For example, Nipissing has experienced continued growth in the number of full-time first generation students enrolled at the institution from 809 in 2016/17 to 838 students in 2021/22. Further, Nipissing University continues to see increases in the number of enrolled students with disabilities (reaching an all-time high of 703 students in 2018/19), and the number of full-time Indigenous students enrolled at the University has grown by nearly 25% over the past five years to a high of 382 in the 2021/22 academic year.

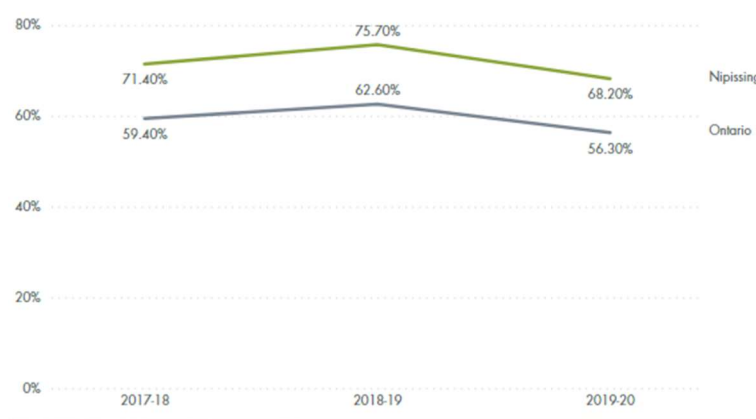
We believe that this growth is a result of the continued efforts of the University to be student-centered. We are dedicated to the individual and holistic development and success of our students.

The majority Nipissing's students are Ontario residents (95.3%). The balance of our students are a mix of international fee paying students (0.8%) and students that come to us from other provinces in Canada (1.9%) or with an unknown permanent address (2.0%). Over the next five years, we plan to invest significantly in international recruitment, which will not only have a positive economic impact on North Bay, but will also enrich and diversify our community.

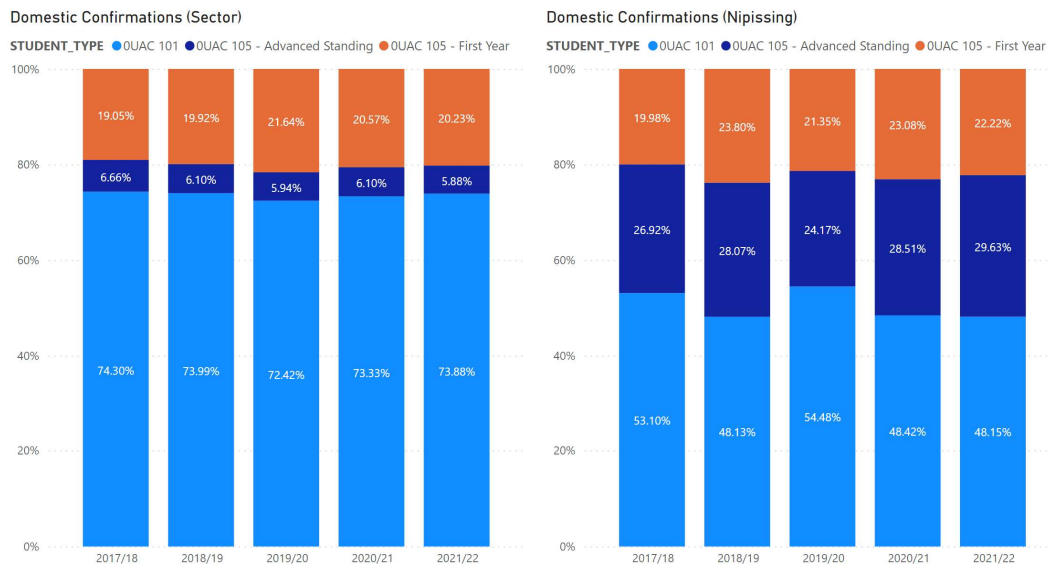
Other factors that differentiate our learners from other institutions in the province are our student's participation in OSAP. OSAP participation rates in the province have fluctuated between 56% and 63% over the last three years and the participation rates for Nipissing students has been between 68% and

76% during this same period (OpenSIMS). Overall, OSAP participation for Nipissing students is 13% higher than the sector average which also places additional burden on our students as many do not have the luxury of being able to only focus on their academics while pursuing their degree.

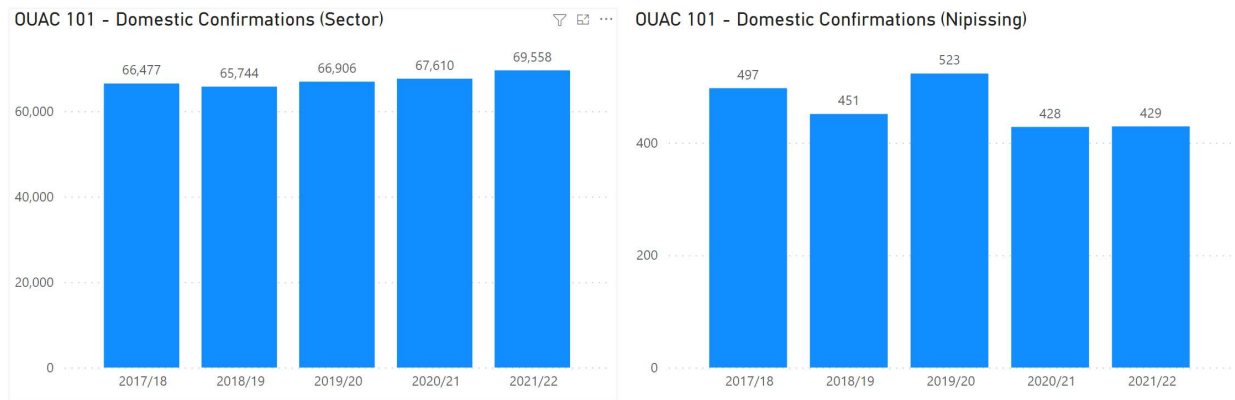
OSAP Participation Rates



As far as prior learning experience is concerned, Nipissing is among the top five institutions in the province with respect to the number of undergraduate learners with previous post-secondary experience (PPSE). Confirmation statistics from OUAC also illustrate that proportion of student acceptances that are assessed for advanced standing at Nipissing University is nearly five times greater than the sector (i.e. 28% for Nipissing vs. sector average of about 6%).



Put in another way, over half of our annual undergraduate acceptances come from students who did not participate in high-school studies the year prior to accepting their offer from Nipissing. Despite there being recent growth in the province with respect to direct from high-school (101's) applicants, Nipissing has seen a decline of about 13% in 101 acceptances between 2017/18 and 2021/22.



Nipissing continues to create pathways and articulation agreements that effectively recognize students’ prior learning, creating pathways that are tailored to support academic success and graduation. To date, Nipissing has about 15 block transfer agreements/articulated pathways through which a transfer student enter the university. The most popular of these pathways is our online RPN-BScN bridging program which constitutes a significant portion of our institutional FTE.

About Nipissing’s Participation in NSSE

Nipissing University participates triennially in the NSSE survey (2006, 2008, 2011, 2014, 2017 and 2020) has maintained a steady response rate between 38% and 50% for First Year students and between 41% and 50% for Upper Year Student. To date, we have collected responses from over 4000 students and have used this information to assess and improve upon Nipissing’s undergraduate student experience.

NSSE Survey Alignment and Analysis (The Project)

As outlined in the project goals section above, Nipissing University was tasked with aligning – where possible – fields within the NSSE across the 2006, 2008, 2011, 2014, 2017 and 2020 iterations of the survey.

Summary of Survey Alignment Process

Overall, this process went relatively smoothly. As part of the deliverables of the project we are attaching two alignment files that map the fields in the NSSE 2020 survey to its previous iterations (i.e., 2017, 2014, 2011, 2008 and 2006).

The file named: **NSSE Version Alignment** (pg 1 shown below) provides a field by field harmonization of the six iterations of NSSE. In the event that field names had changed in different iterations of the NSSE, suggested alignment is included in each cell of the table (example identified in yellow below). In the event that the wording of questions had changed, our suggested alignment is included in the table with the wording change (example identified in blue below). In the event that there was no continuous alignment (i.e., questions in 2020 NSSE did not appear in a previous iteration), then the cells will have the value of “n/a” (example identified in pink below).

2020 Question	2020	2017	2014	2011	2008	2006
1. During the current school year, about how often have you done the following?	1 = Never, 2 = Sometimes, 3 = Often, 4 = Very often	1 = Never, 2 = Sometimes, 3 = Often, 4 = Very often	1 = Never, 2 = Sometimes, 3 = Often, 4 = Very often	1 = Never, 2 = Sometimes, 3 = Often, 4 = Very often	1 = Never, 2 = Sometimes, 3 = Often, 4 = Very often	1 = Never, 2 = Sometimes, 3 = Often, 4 = Very often
a. Asked questions or contributed to course discussions in other ways	[askquest]	[askquest]	[askquest]	[clquest]	[clquest]	[clquest]
b. Come to class without completing readings or assignments	[unprepared] *[unpreparedr]	[unprepared] *[unpreparedr]	[unprepared] *[unpreparedr]	[clunprep] *Recreate by reverse coding [clunprep]	[clunprep] *Recreate by reverse coding [clunprep]	[clunprep] *Recreate by reverse coding [clunprep]
c. Attended an art exhibit, play, or other arts performance (dance, music, etc.)	[attendart]	[attendart]	[attendart]	[atdart07]	[atdart07]	[atdart07]
d. Asked another student to help you understand course material	[Claskhelp]	[Claskhelp]	[Claskhelp]	n/a	n/a	n/a
e. Explained course material to one or more students	[CLexplain]	[CLexplain]	[CLexplain]	[tutor]: Tutored or taught other students (paid or voluntary)	[tutor]: Tutored or taught other students (paid or voluntary)	[tutor]: Tutored or taught other students (paid or voluntary)
f. Prepared for exams by discussing or working through course material with other students	[CLstudy]	[CLstudy]	[CLstudy]	[oocideas]: Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)	[oocideas]: Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)	[oocideas]: Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)
g. Worked with other students on course projects or assignments	[CLproject]	[CLproject]	[CLproject]	Highest value from [classgrp]/[ocgrp]	Highest value from [classgrp]/[ocgrp]	Highest value from [classgrp]/[ocgrp]

The file named: **NSSE Field Map** (portion of spreadsheet shown below) provides an abbreviated field by field alignment of the six iterations of NSSE. General colour coding is provided, however one would need to reference the **NSSE Version Alignment** file in order to see the details related to the harmonization.

	C	D	E	F	G	H	I
1	Question Leaf	2020	2017	2014	2011	2008	2006
2	Asked questions or contributed to course discussions in other ways	askquest	askquest	askquest	clquest	clquest	clquest
3	Prepared two or more drafts of a paper or assignment before turning it in	rewropap	drafts	drafts	rewropap	rewropap	rewropap
4	Come to class without completing readings or assignments	unprepared/unpreparedr	unprepared/unpreparedr	unprepared/unpreparedr	clunprep	clunprep	clunprep
5	Attended an art exhibit, play, or other arts performance (dance, music, etc.)	attendart	attendart	attendart	atdart07	atdart07	atdart07
6	Asked another student to help you understand course material	Claskhelp	Claskhelp	Claskhelp			
7	Explained course material to one or more students	CLexplain	CLexplain	CLexplain	tutor	tutor	tutor
8	Prepared for exams by discussing or working through course material with other students	CLstudy	CLstudy	CLstudy	oocideas	oocideas	oocideas
9	Worked with other students on course projects or assignments	CLproject	CLproject	CLproject	classgrp/ocgrp	classgrp/ocgrp	classgrp/ocgrp
10	Given a course presentation	present	present	present	clpresen	clpresen	clpresen
11	Combined ideas from different courses when completing assignments	Rintegrate	Rintegrate	Rintegrate	intideas	intideas	intideas
12	Connected your learning to societal problems or issues	Risocietal	Risocietal	Risocietal			
13	Included diverse perspectives (political, religious, racial/ethnic, gender, etc.) in course	Ridiverse	Ridiverse	Ridiverse	divclass	divclass	divclass
14	Examined the strengths and weaknesses of your own views on a topic or issue	Rlownview	Rlownview	Rlownview	ownview	ownview	ownview
15	Tried to better understand someone else's views by imagining how an issue looks from their perspective	Rlperspect	Rlperspect	Rlperspect	othrview	othrview	othrview
16	Learned something that changed the way you understand an issue or concept	Rlnewview	Rlnewview	Rlnewview	chgview	chgview	chgview
152							
153	Question does not exist in this version						
154	Not in Nipissing data file						
155	Recoded						
156	Minor disalignment/realigned						

Issues/Limitations of NSSE Alignment Task

By and large we feel that we have been able to successfully map NSSE 2020 to its previous iterations.

The approach we took was to align NSSE 2020 back through to NSSE 2006. As it was alluded to in the project overview, the NSSE had a significant overhaul between the 2014 and 2011 iterations. That being said, aligning NSSE 2006 through 2011 was a relatively simple task, as was the alignment of NSSE 2020 through NSSE 2014. The bulk of the work was harmonizing NSSE 2014 with NSSE 2011. Issues with harmonization typically came in the following forms:

1. Question did not exist from one version to the other
2. Responses needed to be derived/recoded due to coding inconsistencies

3. Other alignment issues (e.g., essence of the question was the same but wording had changed)

While we feel that we have done a comprehensive review of NSSE question alignment, we recognize that, in situations where the question wording has changed, some people may debate our alignment suggestions. Please understand that this is a fair criticism as this part of the process is inherently subjective in nature.

It should be noted (and is outlined in detail in the **NSSE Version Alignment** file), that there are some circumstances that even deriving/recoding values will not achieve perfect alignment through all iterations of NSSE. Here are some examples:

1. Questions regarding number of papers and length (Q7); page count categories changed and overlapped previous categories.
2. Questions regarding challenge to do best work (Q10); one significant likert scale value change restricts direct comparison of results (e.g., NSSE 2014: 1 = Not at all; NSSE 2011: 1 = Very little).
3. Questions regarding Quality Interactions (Q13); descriptors on likert scale changed entirely.

Descriptive Analysis of NSSE Results for Students with/without PPSE

Due to the relatively small size of Nipissing University, it was decided that once the NSSE surveys were harmonized then we could pool observations across years to analyze differences amongst students that started their post-secondary education at Nipissing with those that started their post-secondary education elsewhere.

The detailed analysis of students with/without PPSE with respect to Demographics, Academics and Engagement is provided in **Appendix A: Analysis of NSSE Results**. Below is a brief summary of our findings.

Sample

Total Responses (all years): 3836

Total Students with PPSE: 841;

Total Students without PPSE: 2995

Significant Findings

It should be noted that the project specifications asked us to consider our analysis using [begincol] *“Did you begin college at this institution or elsewhere?”* and/or the question *“Since graduating from high school, which of the following types of schools have you attended other than the one you are now attending?”* It was decided that due to the nomenclature and distinct difference between Universities and Colleges in Ontario, and that the NSSE provided different wording of this question over the years, that [begincol] would likely be an underestimate of students with PPSE. Therefore, for this project students with PPSE are determined based on student response to the question: *Since graduating from high school, which of the following types of schools have you attended other than the one you are now attending.*

That said, if the respondent selected any of:

- Vocational or technical school [attend_voc_ca]

- Community or junior college [attend_com_ca]
- 4-year college or university other than this one [attend_col_ca]

the respondent was coded as having previous post-secondary education. This field is identified as **[attend_recoded]** in our records.

Statistical Tests and Summary of Findings

Group differences were analysed for significance at the $\alpha = 0.05$ level using an independent t-test for equality of means. Levene’s test for equality of variance was completed for each t-test and our results outline whether or not equal variances were assumed.

Summary of Findings

	Significance ($\alpha = 0.05$)	No Significance
Academics	<ul style="list-style-type: none"> • Major Category • Class Level • Enrolment Status • Online Courses • Grades • Living Arrangement • Varsity Athletes 	<ul style="list-style-type: none"> • Aspiration Level of Education
Engagement	<ul style="list-style-type: none"> • 41 measures of engagement were found to have significant group differences among those with and without PPSE. 	

With respect to Demographics and Academics, the categories in which we observed significant group differences didn’t come as much surprise to us. With respect to the Engagement indicators, there were some interesting observations. Generally speaking, students without PPSE tended to display more institutional satisfaction than those who had prior PPSE (see Q15, Q19, Q20). The same phenomenon was observed when evaluating institutional emphasis (see Q14). Conversely, students with PPSE tended to identify more prevalence of high-impact practices in their programming (Q2, Q4, Q6, Q8) than students without PPSE. As mentioned above, the entire analysis Nipissing’s NSSE data is outlined in **Appendix A: Analysis of NSSE Results.**

Further Linkages Between NSSE and Administrative Data

The project specifications asked us to investigate the feasibility of linkages between NSSE and other available administrative data sources within Nipissing, in particular, our student information system and graduate KPI survey data.

Since we only began in this office in 2017 (and after NSSE 2017 was administered), we spent a considerable amount of searching through our digital records to find crosswalk files for each NSSE. We are happy to say that we have a full set of crosswalks for our NSSE data which means that we can directly link NSSE results to our administrative data (i.e., our SIS). Now that we have put in the work to source these crosswalks we look forward to the opportunity to work with ONCAT to investigate deeper linkages to improve the body of knowledge with respect to student transfer experiences at Nipissing.