INDIGENOUS PROGRAM PATHWAYS INVENTORY PROJECT, PHASE TWO: A STUDY OF STUDENT TRANSFER EXPERIENCE

Prepared by: Dr. Lana Ray[1], Janine Landry[1], Jeannette Miron[2] & Elaine Toombs[1]

Date: April, 2019

[1] Lakehead University
[2] Canadore College

FOREWORD

Throughout this project and others before, the resounding issue of access to postsecondary education for Indigenous learners is highlighted time and time again. Community led bridging programs, recognition of experience, mentorship and wholistic student support systems are examples of initiatives that Aboriginal institutes, colleges and universities are championing in order to address some of the Calls to Action as identified in the Truth and Reconciliation report.

In Phase One of the Indigenous Program Pathways Inventory Project, the goal was to identify the many Indigenous programs and pathways that existed at Aboriginal institutes, colleges, and universities in the province of Ontario. The report showcased the variety of offerings and wrap around support systems available. It also identified tensions and challenges of creating pathways in an Indigenous context and noted the absence of the student voice in assessing the pathway experience.

This led us to Phase Two, 'A study of the student transfer experience.' Garnering the student voice is important for educators, administrators and policy makers who seek to improve the success and experience of students as they navigate the system. Data for Indigenous populations is difficult to glean as it is many times rolled into mass survey tools. Moreover, available data does not always mean relevant data as Indigenous peoples, in many cases, remain marginalized within the research process. Yet, we know that Indigenous learners possess unique yet diverse experiences so we cannot take a "one size fits all" approach to Indigenous education.

It was important to us that we maintain Indigenous student voice and experience at the centre of this research. We sought out learners as well as those who work to support them along their pathway journey to shape the survey and make meaning of the results. What was resoundingly clear was that while progress has been made, there is still work to do to implement changes to policy, standards and delivery in order to positively shift access opportunities and create meaningful change.

Thank you, to all who participated, shared their knowledge and contributed to this project. We would like to call upon those working within the field of education to amplify the voices of learners by sharing the findings and taking action within your respective circles.

Miigwetch, Nia:wen, Merci, Thank You,

Jeannette Miron
Registrar and Director, Strategic Enrolment
Services, Canadore College

Dr Lana Ray
Assistant Professor, Indigenous Learning,
Lakehead University

EXECUTIVE SUMMARY

Amid the Truth and Reconciliation Commission of Canada's (2015) calls to action is improving education attainment levels and success rates for Indigenous peoples (p. 2). Indigenous enrolment and completion rates in postsecondary education (PSE) have improved (McKeown, Vedan, Jacknife, & Tolmie, 2018; Restoule et al., 2013). Yet, Indigenous peoples in Canada still remain underrepresented in PSE (Restoule et al., 2013; Stol, Houwer & Todd, 2016; McKeown et al., 2018) with Indigenous learners, comprising about 1% of the overall college and university student population in Ontario with 16,000 Indigenous learners enrolled (Bathish et al., 2017, p. 4).

A program pathway is a route from one program to another within or between postsecondary institutions that contains benefits such as transfer credits or guaranteed acceptance. Research has shown that implementing pathways is a promising practice to support PSE access and attainment, especially among underrepresented populations. Thus, pathways may support broader decolonization strategies that support reconciliation among Indigenous and non-Indigenous peoples in Canada (Ray, 2017; Ottmann, 2017).

Building on Phase 1 of the research which examined Indigenous program pathways from an institutional perspective, this research sought to expand current understandings of Indigenous program pathways in Ontario by privileging student voice and examining pathways from student perspectives. This was achieved primarily through the dissemination of an online student survey at Ontario colleges and universities (n= 330 participants). Three Indigenous student focus groups, and online engagement sessions and a one-day Indigenous pathway forum also took place to ensure the postsecondary communities' participation in survey design and analysis.

This report presents the results of this research. It details who is accessing pathways to and/or from Indigenous programs, the experiences of pathway students within these programs, and the overall experiences of Indigenous transfer students in Ontario, whether or not they are enrolled in an Indigenous program.

Overall the research found that generally students seem content with their pathway experience and that there were more advantages than disadvantages to being a pathway learner. Results also showed that those who were more likely to already attend PSE were the students utilizing pathways the most, bringing into question the role of pathways in creating access to PSE.

TABLE OF CONTENTS

BACKGROUND

Since the early 2000s, Indigenous enrolment and completion rates in postsecondary education (PSE) have improved (McKeown, Vedan, Jacknife, & Tolmie, 2018; Restoule et al., 2013). The proportion of Indigenous peoples with a bachelor's degree and college diploma rose from 7.7% to 10.9% and 18.7% to 23% respectively between 2006 to 2016 (Statistics Canada, 2017). Today, Indigenous students account for 5% of the college student population and this number jumps to 15% for Northern colleges (CO, 2018). Among Ontario universities, there are 6500 self-identified Indigenous students (Bathish et al., 2017). With a 33% increase in Indigenous programs since 2013, there has never been so much opportunity for culturally-relevant education within postsecondary institutions (Universities Canada, 2015).

Yet, Indigenous peoples in Canada still remain underrepresented in PSE (Restoule et al., 2013; Stol, Houwer & Todd, 2016; McKeown, Vedan, Jacknife & Tolmie, 2018). Indigenous learners, comprise about 1% of the undergraduate and graduate college and university population in Ontario with 16,000 Indigenous learners enrolled (Bathish et al., 2017, p. 4). Indigenous peoples are especially underrepresented in the university sector as they are more likely to attain college and trade credentials than university degrees (Stol, Houwer & Todd, 2016, p. 11). According to Universities Canada (2016), less than 10% of Indigenous people aged 25 to 64 have a university degree, whereas more than 26% of their non-Indigenous counterparts possess this credential. Ontario is not exempt from this trend (Sawyer et al., 2016).

 Bathish and colleagues (2017) argue that the rates of enrolment are "concerningly low" since 42% of the province's Indigenous population is under the age of 25 (p. 4). Furthermore, rates of high school diploma or equivalency certificates among Indigenous peoples aged 25-64 in Canada are increasing with almost 7 in 10 Indigenous people aged 25 to 64 in possession of a high school diploma or equivalency certificate (Statistics Canada, 2017, p. 7). Although Indigenous peoples are increasingly eligible for PSE, they are not gaining access at the same rate.

Amid the Truth and Reconciliation Commission of Canada's (2015) calls to action is improving education attainment levels and success rates for Indigenous peoples (p. 2). The need to ensure that "Indigenous peoples are encouraged and enabled to equitably access, engage, and succeed throughout their postsecondary careers and beyond" remains (Bathish et al., 2017, p. 4). Access and success in postsecondary education is a vital component to the reconciliation process (Bathish et al., 2017; Universities Canada, n.d), and is also linked to individual and community health (Stol, Houwer & Todd, 2016, p. 25)

Program pathways have been put forth as a promising practice to improve access to PSE (Camman et al., 2014). Traditional pathways from college to university can facilitate access for individuals with lower socio-economic status or limited postsecondary experience in their family (DeCock, 2006). Kinnane et al. (2013) noted targeted pathway programs, mentoring programs and early intervention and targeted skill development as strategies to improve PSE participation (as cited in Vitartas, Ambrose, Millar & Anh Dang, 2015). Providing adequate educational offerings and pathways to access higher education, including preparatory, bridging programs, and wholistic supports, as well as ensuring adequate transitional arrangements between preparatory programs and higher education were identified as promising practices to increase access and retention for Indigenous learners in Australia (Smith, Trinidad, & Larkin, 2015). Indeed, pathways can be seen as one component of broader institution-wide indigenization and decolonizing strategies to support access to and completion of PSE, and ultimately reconciliation among Indigenous and non-Indigenous peoples in Canada (Ray, 2017; Ottmann, 2017).

In Ontario there is approximately 21 500 learners transferring within the province annually via the 600+ pathways and 35000+ transfer opportunities available (ONCAT, online). However, as suggested by Camman and colleagues (2014), "Ontario's postsecondary institutions are not equal in their capacity to attract students from under-represented groups, meaning that effective transfer pathways between postsecondary institutions could support the facilitation of a more accessible and equitable education system overall" (p. 4).

Transfer effectiveness has generally relied on mechanisms of transfer as opposed to descriptive analysis. Very little is known about transfer experiences and the characteristics of the transfer student in Ontario (DeCock, 2006). Indigenous pathways are no exception, and more information is needed on Indigenous learners' pathway experiences (Ray, 2017, p. 32). A deeper understanding of Indigenous pathways and transitions into higher education can help to better understand and enhance persistence in higher education (Frawley, Smith & Larkin, 2015; Waterman & Sands, (2016). Obtaining the direct opinions of Indigenous students can fill a gap in knowledge and expertise that adminstrators typically do not possess (Gavakip, p. 159 as cited in Ottmann, 2017, p. 106).

This mixed-methods research seeks to enhance understanding of Indigenous program pathways in Ontario. For the purpose of this project, a program pathway is defined as a route from one program to another within or between postsecondary institutions that contains benefits such as transfer credits or guaranteed acceptance. An Indigenous program pathway, unless otherwise stated, refers to a pathway between Indigenous programs or a program pathway utilized by an Indigenous learner.

This project builds on the prior work of report authors, Ray and Miron, entitled *Indigenous Program Pathways Inventory Project: Phase One*. This research sought to understand Indigenous program pathways from an institutional perspective. The focus of this report is understanding Indigenous program pathways from student perspectives and as such this report (Phase 2) privileges learners' voice.

This report examines who is accessing pathways to and/or from Indigenous programs, the experiences of pathway students within these programs, and the overall experiences of Indigenous transfer students in Ontario, whether or not they have been enrolled in an Indigenous program.

METHODOLOGY

The study employed a participatory mixed-methods approach to examine Indigenous program pathway experiences in Ontario postsecondary institutions. More specifically, the study sought to better understand:

- who is accessing pathways to and/or from Indigenous programs?
- what program pathways Indigenous learners are accessing, if not Indigenous program pathways?
- what are the transfer experiences of Indigenous learners and those accessing Indigenous program pathways?
- what are the perceptions of pathways by Indigenous learners and those accessing Indigenous program pathways? and,
- what are common characteristics of Indigenous program pathways and pathways accessed by Indigenous learners?

An online student survey was disseminated at Ontario colleges and universities across the province and 3 student focus groups were also conducted. The research was participatory in nature through the engagement of learners and members of the broader postsecondary community in survey design, implementation and analysis.

Institutional Participation and Engagement

Ontario postsecondary institutions were invited to collaborate on the project via email. Efforts were made to identify and reach out to an Indigenous lead, pathway/transfer lead and a representative from the Registrar's office for each institution. In some cases, a representative from each of these sectors could not be identified, but at minimum, one point of contact was made with each institution.

In total, 25 institutions (Aboriginal institutes n=1; colleges n=15; universities n=9) participated in the research project in some capacity. While not all institutions participated in all project activities, the scope of collaboration included:

- providing advisement on institutional processes for student engagement and supporting submissions to research ethics boards;
- participating in group sessions online or via telephone to provide input into survey design;
- facilitating student survey dissemination;
- providing advisement on and supporting student focus groups;
- participating in a one-day Indigenous pathway forum to provide input into data analysis direction and interpretation of preliminary results; and,
- participating in group sessions online to provide further input on the data analysis and report recommendations.

Data Collection

Data was collected primarily through an anonymous online student survey. Three follow-up student focus groups were also held.

Online Student Survey

The survey was developed collaboratively with postsecondary institutions and Indigenous learners. Two online sessions were held using Webex® which provided institutional representatives an opportunity to provide feedback on question design and develop new questions. Table one provides an overview of institutional participation in the online sessions.

Table 1
Survey Development Engagement by Institution Type and Number of Participants

Online Session Date	# of Participating Institutions	# of Participants
October 31, 2018	4 (colleges n=2; universities n=2)	N=4
November 1, 2018	6 (colleges n=5; universities n=1)	N=7
Email (excludes institutions that participated in an online session)	1 (university n=1)	N=1
Overall	11 (colleges n=7; universities n=4)	N=12

Additional feedback was also received via email. This included feedback by institutions who provided input during the online sessions but wished to provide further feedback as well as institutions who did not participate in an online session. Institutions had the autonomy to decide who should attend the online sessions and were encouraged to share the draft survey with relevant parties within their institutions (employees, Indigenous education council members, and students). One college also tested the survey with a group of students.

The final survey was inputted into SurveyMonkey® and was comprised of 39 questions which were a mix of Likert-type, open-ended and close-ended questions. It was distributed at 13 colleges, 6 universities and 0 Aboriginal institutes throughout the province. Table Two provides an overview of survey distribution.

Table 2

Sites of Student Survey Dissemination by Region

Region	Participating Institutions
Southwestern	Fanshawe College Mohawk College University of Windsor
Central/GTA/Metro	Centennial College Georgian College University of Toronto York University
Eastern	Algonquin College Fleming College Loyalist College St. Lawrence College Niagara College
Northern	Algoma University Canadore College Cambrian College Confederation College Lakehead University Nipissing University Sault College

Surveys were distributed to learners between January to March 2019 primarily via their student email accounts. In some instances, the survey was advertised on institution-wide communication bulletins or Indigenous student support listservs[1]. Learners who participated in the survey had the opportunity to win 1 of 2 IPADs. To be eligible to participate, students had to have:

- participated in a program pathway and self-identify as Indigenous; or
- participated in a program pathway to and/or from an Indigenous program.

Of 1089 potential participants who were interested in the study, 1061 (97.3%) stated they read the initial study information and 963 consented to participation. Of these participants, 356 met the above eligibility criteria related to engaging in a program transfer. After data cleaning (including removal of participants who did not complete any questions following consent), the final sample size was n= 330 participants.

Student "Lunch and Learns"

Lunch and Learn sites were selected based on the following criteria:

- level of student engagement in the online student survey;
- willingness of host institution; and,
- availability of host institution.

Based off this criteria, three institutions were identified as hosts for these sessions. In all three cases, Indigenous support services at each institution helped with the organization and recruitment for the sessions. In one instance, the Indigenous student association was also involved in the organization of the session.

---

[1] In a limited number of institutions, institution-wide dissemination was not possible and the survey was disseminated via Aboriginal self-identification list-servs. This may have resulted in an overrepresentation of Indigenous respondents.

The sessions were advertised as student "lunch and learns." This name seemed more appropriate than focus groups because we were interested in engaging with students about preliminary results to further an understanding of Indigenous program pathways and potential recommendations for enhancing student experience. Those who participated also received a hot lunch in addition to a $10 gift certificate.

Three student sessions were conducted between February-April 2019 and each lasted approximately 1-1.5 hours. The majority of students who attended had participated in a transfer. There were also students in attendance who were in the process of or were interested in transferring. Further information on the student sessions can be found in Table 3.

Table 3

Student Lunch and Learns by Location and Number of Participants

Institution	Date	Number of Participants
Lakehead University	February 26, 2019	N=1
Canadore College	March 19, 2019	N=2
Sault College	April 1, 2019	N=7

Data Analysis

Quantitative analyses of the online survey data were completed using SPSS. Descriptive statistics (including means, ranges, and percentages) were used to report participant demographic data. Inferential statistical analyses were completed using independent t-tests and one-way Analysis of Variance (ANOVAs) tests. Qualitative information provided by participants was amalgamated and summarized. Given the limited qualitative participant responses, descriptive, rather than thematic analyses were completed.

The student focus groups (discussed above), a 1-day Indigenous pathways forum and online sessions with members of the postsecondary community were held to discuss survey results. The purpose for these sessions was to enhance the understanding and relevancy of data findings and recommendations through community participation.

Indigenous Pathways Forum

On March 1, 2019 a forum was held in Toronto, ON. Table 4 provides an overview of participation.

Table 4

Indigenous Pathways Forum Participation by Postsecondary Institution

Participating Institution	Number of Participants
Aboriginal Institutes	
Oshki-Pimache-O-Win	N=1
Colleges	
Algonquin College	N=1
Cambrian College	N=1
Canadore College	N=2
Fanshawe College	N=1
Mohawk College	N=1
Sault College	N=1
St. Lawrence College	N=2
Universities	
York University	N=1
Other	
Ontario Council on Articulation and Transfer	N=3
Total	
N=10	N=14

The purpose of the Forum was to gain the reactions and interpretations of members of the postsecondary education community to preliminary survey results as well as to receive guidance on additional areas of interest for data analysis. Institutions were responsible for choosing who would attend the session and a mix of those responsible for Indigenous student supports, academic programming and admissions and enrolment attended the forum. In addition to preliminary results being presented, results were also captured through interactive infographics. Infographics containing results from key aspects of a student's pathway experience were presented. Indigenous pathway forum attendees were asked to review the findings similar to how the student would experience their pathway transfer, from learning about the pathway, to applying to the pathway to arriving at the transfer program. As participants walked alongside the pathway experience they were asked to identify key reactions to or interpretations of preliminary results and recommendations to enhance pathway experiences.

Figure 1
Interactive Infographics at the Indigenous Pathway Forum

Online Sessions

Participating institutions were provided with the results, discussion, and recommendation sections of the draft final report. Subsequently, two online sessions were held to provide members from the postsecondary institution community a final opportunity to provide input into the interpretation of results and creation of recommendations. Table 5 provides a summary of community engagement in data analysis via online sessions.

Table 5
Participation in Online Data Analysis Session by Institution Type and Number of Participants

Online Session Date	# of Participating Institutions	# of Participants
April 25, 2019	4 (Aboriginal institutes n=1; colleges n=3)	N=5
April 26, 2019	3 (colleges n=2; universities n=1)	N=3
Email	1 (university n=1)	N=1
Overall	8 (Aboriginal institutes n=1; colleges n=5; universities n=2)	N=9

Research Limitations

For some survey questions the response rate was too low and could not be considered as representative of the Indigenous program pathways population. In these instances, only descriptive analyses could occur. The online survey was not disseminated at Aboriginal institutes nor at institutions outside of Ontario yet students may be transferring across provinces, within Aboriginal institutes or between an Aboriginal institute and a

college or university. As a result, this research is limited in its perspective on Indigenous program pathway experiences in Ontario.

RESULTS

In this section the results of the student survey are presented and discussed. To ensure that the results be interpreted within local contexts, Indigenous student "lunch and learns," an Indigenous forum and Webex® sessions with PSE representatives were conducted to discuss results. The insights that arose from these engagements as well as recent literature are presented alongside the results.

Indigenous Program Pathway Learner Demographics

Survey participants were asked about their Indigeneity, gender, age, and residency prior to attending PSE. Participating institutions were divided into four regions, as per the Colleges Ontario regions, classified as Southwestern, Eastern, and Northern. For the purposes of this review, the Central, Greater Toronto Area and Metro areas were combined. Table 6 provides an overview of survey participant demographics by region.

Table 6
Student Survey Participant Demographics by PSE Region

	Region (n= 173)	Southwestern	Central/ Metro/ GTA	Eastern	Northern
Number of Students		31 (17.9%)	8 (4.7%)	21 (12.1%)	113 (65.3%)
	Indigenous Students	17 (9.8%)	4 (2.3%)	21 (12.1%)	96 (55.5%)
Gender	Female	17	7	9	87
	Male	14	1	11	23
	Other/Prefer Not to Say	0	0	0	2
Age	Under 19	0	0	1	1
	19 to 24	22	6	14	53
	25 to 35	4	2	3	46
	35 to 40	2	0	0	6
	40+	3	0	2	6
Community residence prior to postsecondary (multiple selections)	Urban area (> 10 000)	18	6	5	59
	Small town (1 000 to 9 999)	6	3	8	29
	Rural community (<1 000)	3	1	3	16
	First Nation community located near an urban community	2	0	2	9
	First Nation community located near a rural community	2	1	3	12
	Remote First Nation community	0	0	2	3

One-way ANOVAs were completed to determine if institutional region influenced pathways experiences of students. It appears that for students who participated in the study, Indigenous program pathways are similar across participating institutions. Further details on regional results are found throughout the report.

Indigenous Identity

Table 7 provides a breakdown of demographic information for Indigenous participants in comparison to the overall survey population. Almost half the sample identified as Indigenous (*n*= 154; 46.7%). When asked to select from a range of backgrounds, the majority of respondents identified as First Nation (*n*=82; 52.9%) and Status Indian (*n*=82; 52.9%), followed by Métis (*n*= 33; 21.29%), non-status Indian (*n*=15; 9.68%), and Inuit (*n*=7; 4.52%). The remainder indicated their background was not listed, unknown, or that they would prefer not to say (*n*= 25).

Table 7
Indigenous and Non-Indigenous Survey Respondents by Gender, Age and Community Residence Prior to PSE

Participant Demographic (*n*=*)		Total Number of Participants (%)	Number of Indigenous Participants
Total		330 (100%)	154 (46.7%)
Gender (*n*=187)	Female	130 (69.5%)	106
	Male	55 (29.4%)	42
	Trans	1 (0.5%)	1
	Non-binary	1 (0.5%)	1
Age (*n*=187)	Under 19	4 (2.1%)	4
	19 to 24	104 (55.6%)	77
	25 to 35	57 (30.5%)	47
	35 to 40	11 (5.9%)	10
	40+	11 (5.9%)	11
Community residence prior to postsecondary (multiple selections)	Urban area (> 10 000)	96	73
	Small town (1 000 to 9 999)	49	38
	Rural community (<1 000)	23	20
	First Nation community located near an urban community	15	14
	First Nation community located near a rural community	19	19 12.3%
	Remote First Nation community	5	5 3.2%

*Note. * indicates the number of participants that answered this question*

Among Indigenous forum attendees, the high number of non-Indigenous survey respondents was unexpected. Many Indigenous scholars, have articulated that Indigenous students must be the target population of Indigenous programming (Cook-Lynn 1997; Deloria 1998; Forbes 1998), however the response rate of non-Indigenous students appears to corroborate a finding in Phase 1 of the study which noted an increasing amount of non-Indigenous students accessing Indigenous programming. In Phase 1, some institutional representatives indicated that it is non-Indigenous learners and/or Indigenous learners who reside in urban areas that are accessing Indigenous programs and pathways. For example, one institution shared that approximately 40% of students in their Indigenous programs are non-Indigenous (Ray, 2017, p. 20).

There was an interest by Indigenous forum attendees to understand more about the high levels of non-Indigenous enrolment. One attendee explained that it could just be personal interest or because such programs provide more "bang for your buck." This has been referred to in the literature as the "parity paradox" (Paquette & Fallon, 2014), or "program plus" approach (Wabano, 2014) whereas Indigenous programming must meet provincial standards in addition to the expectations of Indigenous communities. The suggestion is that Indigenous programs offer additional value.

The percentage of Status Indian survey respondents was also disproportionately high in comparison to the National Household Survey (2011). This voluntary national survey which includes on and off-reserve, found that 54.8% of Métis, 52.1% of non-status Indians, and 42.3% of status Indians possess postsecondary qualifications (Ferguson & Zhao, 2011).

Gender

Of the 187 participants who identified their gender, 130 identified as female (69.5%), 55 identified as male, 1 identified as trans, and 1 as non-binary. Within this sample of respondents that identified as Indigenous, 106 (69%) identified as female, 42 identified as male, 1 as trans, and 1 as non-binary.

The general gender distribution is consistent with Colleges Ontario's (2018) findings that most (52%) of their full-time student body is female, with approximately 1% of the student body identifying with a gender other than male or female. Still, female participation in the survey is much higher than female participation in PSE. Those in attendance at the Indigenous forum wanted to better understand the reasoning for this vast over representation and identified a need to more effectively engage Indigenous males in PSE pathways.

The higher percentage of female respondents may be attributed to the areas of programming and pathways. In Ontario, Indigenous programs and subsequently pathways fall largely within the realm of the social sciences, social services, and health (Ray, 2017). Women are generally overrepresented in such program areas (Hango, 2013). Whereas men are more likely to study engineering or computer sciences, women account for 92.7% of young nursing graduates aged 25 to 34 at the bachelor's level and 64.4% of young graduates and the majority of young graduates aged 25 to 34 in health fields at the college level (Statistics Canada, 2017, p. 6). This trend continues into graduate studies with women accounting for the majority of doctoral graduates in the social and behavioural sciences (Statistics Canada, 2017, p. 4).

Age

Of the 187 participants who identified their age, the majority of participants (n= 104; 55.6%) were between the ages of 19 to 24, or 25 to 34 (*n*= 57; 30.5%), while less participants were under 19 (*n*= 4; 2.1%), 35 to 40 (*n*= 11; 5.9%) or over 40 (*n*= 11; 5.9%). The age range of the sample (n= 149) who identified as Indigenous was similar to the overall participant sample, with most participants reporting being between the ages of 19 to 24 (n= 77; 51.7%) and 25 to 34 (n=47; 31.5%), and less reporting under the age of 19 (n=4; 2.7%), 34 to 40 (n=10; 6.7%), and over 40 (n=11; 7.4%).

The age distribution of respondents differs in comparison to Restoule and Colleague's (2013) Ontario postsecondary education student survey which noted that 79% of respondents were over the age of 25 and that over 60% of learners had accessed postsecondary studies through a bridging program or as a mature student (Restoule et al., 2013). Monkman (2016) noted that it is imperative for pathways to be provided for mature Indigenous learners, especially considering that many First Nation communities prioritize recent high school graduates or students continuing their graduate studies over those who have been out of school for a while (as cited in Hallmark & Reed, 2016, p.5)

Community Residence Type Prior to PSE

Survey participants were asked to identify the community types in which they resided in the 5 years prior to attending PSE. The majority of Indigenous participants lived in the same community type for the 5-year duration prior to postsecondary education. The survey could not discern if individuals lived in the same community or a different community within the same community type. Almost half (47.4%) of Indigenous participants indicated that they lived in an urban community prior to PSE, whereas 37.7% reported living in a small town or rural community. 24.6% of Indigenous participants lived on-reserve, and only 3.2% of these respondents indicated that it was a remote reserve.

Similar findings have been noted. The 2011 National Household Survey and the 2016 Census Data both show that those living off-reserve were more likely to have completed postsecondary education (Ferguson & Zhao, 2011; Statistics Canada, 2017). For example, 21.2% of off-reserve, Status-Indians possessed a college diploma and 10.9% had a university degree compared to 14.8% and 4.7% respectively for their on-reserve counterparts (Ferguson & Zhao, 2011). Administrators at postsecondary institutions from Phase One of this study reported that among Indigenous learners, it was those from urban areas who are second or third generation learners that are accessing Indigenous programs and pathways (Ray, 2017, p. 20). This trend exists internationally as well. In Australia, students from regional and remote areas remain largely under-represented in PSE. (Frawley, Smith & Larkin, 2015).

This trend of under-access, while slight, is reversed among non-Indigenous learners. Colleges Ontario (2018) reports that there is a slightly disproportionately high number of applicants to college from rural and small population centres, in comparison to cities. This may be explained by a number of factors including a general trend of mobility from rural to urban areas and the socio-economic status of First Nation peoples on-reserve in comparison to non-reserve rural areas and urban areas.

Those who attended the Indigenous forum were not surprised by the high number of Indigenous students who resided in urban areas and low representation of Indigenous peoples who lived in First Nation communities. This is supported by the literature which suggests that geographic proximity and available transfers are closely related (Trick, 2013). Moreover, a survey of Indspire recipients found that most Indigenous learners attending university listed close proximity to home as an influential factor in deciding what institution to attend (Indspire 2013 as cited in Sawyer et al., 2016).

Those at the Indigenous forum explained that finding affordable housing, moving costs, delays in the application process due to the need for band funding letters, and infrastructure challenges are all barriers to accessing PSE for learners coming from First Nation communities. In the online engagement sessions, the distinct challenges that learners from rural and remote First Nations face in relation to PSE was stressed. These learners face unique financial challenges due to geography, must leave their home communities and travel far distances to access PSE, all while dealing with a vast array of other systematic and structural barriers.

Other studies have also reported similar barriers for Indigenous peoples living on reserve, including having to leave their communities (Statistics Canada, 2017) and travelling long distances to attend PSE (McKeown, Vedan, Jacknife & Tolmie, 2018). Bathish and colleagues (2017) explain that travelling from home to attend university for Indigenous students in Ontario can be "both financially and emotionally challenging" (p. 5). Forum participants recommended that more be done to effectively engage rural and remote First Nation communities. This would include enhanced promotion of pathways and pathway development. In particular, pathways options that include programs delivered in online or blended models should be explored.

Access to Indigenous Program Pathway Information

Participants were asked to indicate how they first became aware of a program pathway. Postsecondary websites were the most common source of transfer information for learners (see Table 8). No difference was noted among those living on-reserve and off-reserve or between Indigenous and non-Indigenous learners. Qualitative comments suggested that pathway learners were also likely to get information from peers or other people known to them in their community that are either affiliated with the school or have completed a similar program.

Table 8
Source of Program Pathway Information for Indigenous Program Pathway Students

Program Pathway Information	Number of Students (%) (*N*= 154)
Website of second institution	30 (19.48)
Website of initial institution	26 (16.88%)

Recruiters visiting classes	23 (14.94%)
Information sessions	12 (7.79%)
Pamphlets	8 (5.19%)
Community Visits	3 (1.95%)
Other	42 (27.27%)

These findings resonated with students during the lunch and learns. A few students shared they had similar experiences to survey respondents and that they learned of the option by a friend who had already went through the transfer or a school website. They explained it was helpful to have someone guide them along the way who has already completed the process. The students who shared that they mostly learned through searching their school's website noted that there is nothing easily accessible online, there are no drop-down menus or links to take you right to pathway opportunities. Students said they would like to see the information be more accessible, direct and understandable. Some learners also saw ads on Facebook and other sites. Lastly, a few students shared that they learned about their transfer or pathway from support services.

Ontario eINFO has previously been identified as a place to house university pathway information so that it is easily accessible (Bathish et al., 2017, p. 7). "Future Further," the Ontario Universities' Aboriginal Student Resource Portal provides a further option, especially if the scope could be expanded to also include colleges and Aboriginal Institutes and linked to existing repositories. ONCAT's OnTransfer is a repository for all Ontario college and university course to course equivalency and articulated pathway agreements and could be a central resource for all students seeking pathway opportunities. However, if was noted in an online engagement session that, if adopted, the site needs to be delivered through a more user-friendly interface and efforts should be made to clarify and simplify language surrounding pathways.

Overall, these findings are somewhat consistent with the most common ways that institutions reported notifying learners about pathways. Phase 1 of the project found that institutions were more likely to notify learners of potential pathways through websites (n=10), pamphlets (n=8), and classroom visits by recruiters (n=7) (Ray, 2017, p. 18). Additionally, when these survey results were shared with Indigenous forum participants, the response was that this was to be expected as younger generations are very comfortable with computers and technology; however, 25% of university websites do not feature sections dedicated to programs and services offered to support Indigenous students (Universities Canada, 2016).

Other studies have noted different findings. Particularly that Indigenous students are limited in their ability to access online and in-person information about PSE because of a lack of internet access and geographic location (Bathish et. al., 2017, p. 7). While these results differ they are not conflicting as there was a lack of representation of Indigenous participants who specified that they resided in a remote First Nation community prior to attending PSE in the survey. This in and of itself may speak to the need to better engage and address barriers to PSE and pathways for individuals living on-reserve. The Ontario Postsecondary Access & Inclusion Program (OPAIP) was identified as a place to seek resources and develop and implement strategies to improve in-person and online engagement with rural and remote Indigenous peoples. The program was created to improve access to, and retention in PSE for first generation student populations through outreach, transition, and retention. The literature also identified the Aboriginal Postsecondary Information Program (APSIP) as a site where this work could be undertaken (Bathish et al., 2017, p. 7).

One institution from Phase 1 of the study believed that there was a lack of promotion in Indigenous communities and agencies connected with Indigenous communities (Ray, 2017, p. 18). The need to better engage First Nation communities was also noted at the Indigenous forum. The Ontario Native Education Counselling Association (ONECA) could be invaluable to advertising program pathways. Prior research has also identified friendship centres, regional associations and First Nation community representatives as potential partners in promoting pathways (Bathish et al., 2017, p. 7).

Additionally, engagement with the PSE community identified that additional efforts should be made to ensure that recruiters, faculty and support staff are also informed of pathway opportunities. Some session attendees discussed that there is inconsistent information circulating in their own institution about pathways or that they were not aware of the pathway opportunities that exist. Lastly, notifications of new and existent pathway opportunities could be sent out to program alumni.

Survey participants were also asked to identify whether they found out about their program pathway before entry into their transfer program, while in their transfer program, or after graduation from their transfer program. Survey findings revealed that most students found out about their program pathway while attending the program they transferred from (n= 70), while many also found this information before beginning their initial program (n=53), and less after graduation from the program they transferred from (n=21). A one-way ANOVA found no significant regional differences for these groups (F $(4, 139)$ = .568, p= .686).

The literature suggests that learners want to know about pathway opportunities prior to entering PSE so that they can better plan for their academic journey. College Ontario's (2018) "Environmental Scan of College Applicants and Students" found that 11% of respondents from their applicant survey identified "Transfer to University" as a major reason for applying to college, while 4% identified transfer to another college as a major reason. DeCock (2006) found that for students who do not meet university entrance requirements and/or who have families with limited postsecondary experience and/or who have a low to middle socio-economic status, college is a viable and sometimes the only route to university. Moreover, at Seneca College, evidence points to a growing intent among students coming from high school to use college as a vehicle to university and thus there is an expectation by students that the college provide this opportunity (DeCock, 2006).

These findings are consistent with the experience of one lunch and learn participant who shared that if it was known that there was a pathway that started with a two-year college diploma that students could later transfer into the partnering university to complete another two years to receive a degree, they would have taken that route from the beginning. This individual shared that they regretted wasting time and money on going to university first at a young age, not doing very well and felt as though while not quite ready for university back then, they probably would have done well in a college program. Furthermore, the use of college as a "stepping stone" to college was also discussed in an online engagement session. Not all high schools in Ontario have the capacity to offer advanced courses which are required to meet university admission requirements. Thus, for some students, college is the only way to access university. In other cases, participation in college can enhance student comfort in PSE and confidence to apply to and attend university.

Early engagement about program pathways can raise student aspirations and mitigate against students pursuing educational paths that are less or incompatible with future study (Fleming & Grace, 2015, p. 75). This may be particularly helpful for Indigenous students, as Dalley-Trim, Alloway and Walker (2008) found that students from disadvantaged backgrounds may be more likely to self-select into pathways that inhibit future study (as cited in Fleming and Grace, 2015, p. 75). Restoule and Colleagues (2013) argue that supporting Indigenous learners' entry to PSE must begin earlier than at the point of access and that high school students desire to have information about PSE as early as Grade 9.

Almost all students at the lunch and learns suggested better promotion and marketing as well as earlier promotion. The importance of effective communication was also stressed during the online engagement sessions. Many students suggested that colleges and universities should be promoting the transfers or pathways early on in either high school or in the beginning of a program. One student stated that it:

> "*would be helpful to have possibly second year students go into high schools to talk about the program*"

and another stated:

"If more promotion of pathways and transfers were more available when we initially started, could have been more invested into certain programs. Promotion / marketing through mail outs/ social media, through PSE sector and high schools."

Other methods of earlier promotion that were mentioned include brief information around the opportunity of pathways in PSE acceptance letters, and information sessions. One suggestion that was made was utilizing conversion calls to reach out to incoming or potential students to hear from current students about their experiences and pathway options. These findings were supported by Indigenous forum participants who articulated that engagement and promoting pathway opportunities need to begin during high school so students can better plan their PSE journeys. It was mentioned during online engagement that if students know of pathways in advance they can then submit their education plan to their First Nation for funding, mitigating delays or additional barriers that may be associated with receiving such funding.

Areas of Study and Academic History

Participants were asked to identify their educational history following completion of secondary school. Of the total sample (n= 330), 155 participants endorsed participation in one postsecondary program, 139 endorsed two programs, 56 endorsed three programs, 22 endorsed four programs, and 6 endorsed attendances to five programs. Of these programs attended by pathway learners, most were classified (according to College Ontario 2018) to be in Applied Arts, followed by Business, Health, and Science/Technology domains. Table 9 provides an overview of program attendance by area of study.

Table 9
Number of Programs Attended by Area of Study

Area of Study	Program 1	Program 2	Program 3	Program 4	Program 5
Applied Arts	75 (48.4%)	76 (54.7%)	33 (58.9%)	13 (59.1%)	5 (83.3%)
Social Services	47	35	12	4	1
Education	4	6	5	1	1
Social Sciences	11	27	9	8	1
Humanities	4	3	3		
Art/Graphic Design	9	5	4		2
Business	22 (14.2%)	18 (12.9%)	9 (16.1%)	3 (13.6%)	1 (16.7%)
Health	25 (16.1%)	20 (14.4%)	9 (16.1%)	3 (13.6%)	
Science/Technology	33 (21.3%)	25 (18.0%)	5 (8.9%)	3 (13.6%)	
Total Respondents	155	139	56	22	6

Overall the areas of study are consistent with other studies which found Indigenous learners have higher enrolment in programs within the applied arts. For example, in a British Columbia study on Indigenous student pathways, trades, ABE programming, health, early childhood education, family/community studies, social work, child and youth care, and Indigenous-focused programs were the most popular (McKeown, Vedan, Jacknife, & Tolmie, 2018, p. 17). One Australian study found that Indigenous students were most represented in "Society and Culture," and health and underrepresented in business (Dept. of Education 2013 as cited in Vitartas, Ambrose, Millar & Anh Dang, 2015, p. 85).

Moreover, descriptive analyses indicated that most participants (*n*= 107, 73.8%) remained within their general area of study as compared to the 38 participants who switched program area of study (26.2%) (see Table 10).

Table 10
Area of Study of Initial Program and Transfer Program

		Transfer Program				
		Applied Arts	Business	Health	Science/Technology	Total

Initial Program	Applied Arts	60	4	3	7	74
	Business	3	14	0	0	17
	Health	7	1	16	5	29
	Science/Technology	8	1	1	18	28
Total		78	20	20	30	148

When examining the breakdown of program enrolment for pathway students in the applied arts, education was noted for its low percentage among Indigenous forum attendees. However, pathways may not be equally relevant among fields, especially in instances where there is a professional designation. It was identified at the Indigenous forum that some careers do not need higher level credentials. For example, for Early Childhood Education, a college diploma is required. Waterman & Sands (2016) reported similar findings, stating that students returned to school to "get that piece of paper," for increased respect within the workplace (p. 64). Also, according to the Ministry of Advanced Education and Skills Development's (now MTCU) 2016/17 Student Satisfaction survey, just under 50% of students who apply to a certificate program did so to prepare for employment and 75% applying for a diploma did so for the same reasons (CO, 2018).

It was also mentioned at the Forum that in some cases the pathway may not resonate to learners as a pathway, which also may explain some of the low number of survey respondents in particular fields. One example given was a pathway from a Bachelor of Arts Degree to a Bachelor's of Education. While this study provided a start to better understanding areas of study of pathway students, Forum participants identified the need for further information from both current and prospective learners on their areas of interest. The need for increasing access in STEM fields was also noted.

Overall, the availability of pathways appears somewhat aligned with program availability. Colleges Ontario (2018) found that graduates from community service programs accounted for 20% of all graduates. They also found that graduate rates of Native community worker programs were up by over 36%, health was up by over 12%, and engineering and social services were slightly up whereas education graduates were down almost 5% (CO, 2018).

While other studies have shown a tendency for Indigenous learners, including pathway learners to be enrolled and/or graduate from the Applied Arts, this has not been the case for non-Indigenous learners. According to ONCAT (n.d), across the province the most popular pathways are in business, with only 7% of pathways found within the social sciences. Whereas, a significant difference might be expected between Indigenous and non-Indigenous learners in terms of area of study in this research, none was noted. The lack of significant difference between areas of study among Indigenous and non-Indigenous might be explained by the availability of Indigenous programs and thus pathways to non-Indigenous learners. As indicated prior, for non-Indigenous learners to be eligible for the study they must have transferred to and/or from an Indigenous program. Most postsecondary Indigenous programs and pathways in Ontario are found within the applied arts, with social services being the most widespread (Ray, 2017, p. 13). The prevalence of social services pathways is almost double when compared to pathways in other areas of study (Ray, 2017). This understanding was affirmed at the Indigenous forum whereas it was identified that most Indigenous programming is in community and health studies.

Pathway Direction

The majority of participants who responded to the question on number of program transfers (N= 155) indicated that they have completed one program transfer in their postsecondary academic career (n= 82, 52.9% of sample), while less participants indicated 3 programs (n= 36, 23.2%), 4 programs (n= 16, 10.3%), or 5 programs (n= 5, 3.2%). When the number of programs per participant were compared for Indigenous and non-Indigenous students, Indigenous students were significantly more likely to report more transfer than non-Indigenous students (t (47) = 2.13, p =.046; Indigenous M= 2.50 SD= .95; Non-Indigenous M= 2.14 SD= .76).

Students were asked to list all programs they have previously attended and describe if the program was in progress, completed, or not completed. Not all programs were listed sequentially by students, and therefore, programs could not be compared. Results from this question indicated that most students completed programs they had attended.

Table 11

Program Transfer Completion Rates

	Program 1	Program 2	Program 3	Program 4	Program 5
Completed	75 (48.4%)	76 (54.7%)	33 (58.9%)	13 (59.1%)	5 (83.3%)
In Progress	22 (14.2%)	18 (12.9%)	9 (16.1%)	3 (13.6%)	1 (16.7%)
Did Not Complete	25 (16.1%)	20 (14.4%)	9 (16.1%)	3 (13.6%)	
Total Respondents	155	139	56	22	6

Pathways for learners are not always straightforward. These findings show that, especially among Indigenous learners there is a high level of PSE mobility. Learners attend a number of programs over their academic career and they may not complete all programs attended, however they remain part of the learner's journey toward achieving their education goals. One pathway learner who shared their journey during a lunch and learn demonstrates this point. The student shared that they were at risk in their program and went to see a counsellor. This is when they learned about other options that were available to them,

> *"I started in pre-health and my studies were at risk – specifically my sciences, met with education counsellor here at _____ college. Explained my options- looked at my interests and determined SSW-NS (social service worker- native specialization) was for me."*

In an American context, Waterman and Sands (2016) suggest that among Indigenous learners, the completion of a four-year degree is "not traditional" with some students attending multiple institutions over their lifetime because of community and family responsibilities (p. 51). Some similar findings were noted in Canada. In Phase 1 of the study, some postsecondary institutions noted that Indigenous learners may enter or return to PSE years after high school or after a preparatory program (Ray, 2017, p. 18), whereas McKeown and colleagues (2018) found that in British Columbia while there were more students making direct transitions from high school to PSE, often Indigenous learners transferred mid-way through their degree from smaller to larger institutions or would restart programs (p. 21).

Another survey finding was that more students (n= 90, 60.4%) switched program type or training programs than remained in a similar education level (n=59, 39.6). Of 147 respondents, most students identified they moved to a higher level of education in their transfer (i.e.: diploma to degree; n= 65; 44.2%). Many also remained in the same level of educational program throughout their transfer (n= 59 of 147; 40.1%), while fewer students transferred to a less advanced level (n= 23; 15.6%). These trends were similar for Indigenous students, with the majority moving to a more advanced level of education as a result of their transfer (n= 58), while 47 remained in a similar level, and 18 transferred to a less advanced level. Of 19 participants over the age of 35, 7 remained in a similar educational program level, 3 moved to a lower level, and 9 moved to a more advanced level of education. This is similar to other program pathway trends.

Table 12

Program Type of Initial Program and Transfer Program

		Transfer Program						
		Certificate	Diploma	Advanced Diploma	BA/BSc	MA/MSc	Other	Total
Initial Program	Certificate	14	7	0	2	0	0	23
	Diploma	14	27	3	7	0	0	51

	Advanced Diploma	0	1	4	2	0	1	8
	Bachelor's	9	30	8	12	0	1	60
	Master's	0	0	1	1	0	0	2
	Other	0	1	0	0	0	2	3
Total		78	20	16	24	0	4	147

While traditional pathways from college to university were most common, pathways remain diverse with more than half of students reporting a lateral or reverse transfer. These findings are consistent with other studies that suggest that in addition to traditional pathways, horizontal and reverse pathways are also desirable. College Ontario's (2018) recent study highlights the popularity of intra-lateral pathways reporting that recent college graduates were most likely to enrol at a university or continue studies at their college of graduation with very few students choosing to go to a different college.

In an Indigenous context, Restoule and Associates (2013) found that learners did not follow the typical or traditional sequence and Algoma University suggests that Northern Ontario learners, especially those that are Indigenous, will often start their studies at college and complete them at university (DeCock, 2006, p. 48). This was corroborated by Phase 1 Study findings. During a roundtable discussion, similar to the Indigenous pathway forum, institutional representatives shared that adult learners may have attended PSE but left due to family commitments or other reasons, sometimes leaving part way through a semester and/or returning to PSE many years later (Ray, 2017, p. 20). In the case of reverse transfers, Quinley and Quinley (1999) suggest that students may participate in a reverse transfer for financial, academic, emotional/personal, or career reasons as well as if they are ambivalent or dissatisfied with their current program (as cited in Waterman & Sands, 2006, p. 54).

Various tensions related to pathway direction were identified and discussed at the Indigenous pathway forum. Forum attendees shared that some First Nation funding policies endorse a traditional vertical pathway which can discourage reverse or lateral transfers. A similar point was made by one student in terms of their community-based funding. They suggested a General Arts and Sciences program for any First Nation students who are unsure of what program they want to attend, so that it does not affect their funding. Forum participants also discussed that postsecondary institutions can be resistant to being a sending institution. In Ontario, DeCock (2006) has noted that an emphasis on transfer can be perceived as a devaluation of the college's function (p. 17). It was recommended at the Forum that institutions take a student-centered stance toward pathways because when institutions focus on supporting students no matter what their educational goals are, students often come back to their institution at some point, send their children or friends or provide positive feedback via word of mouth.

Learner Preparedness Satisfaction

Independent samples t-tests were used to determine if program pathways experiences were different for Indigenous learners when compared to non-Indigenous ones. No significant differences were detected for satisfaction of transfer between Indigenous (M= 1.91 SD= .89) and non-Indigenous (M= 1.81 SD= .98) students (t (13) = .295, p =.83). Similarly, no significant differences were detected for perceived transfer program preparedness between Indigenous (M= 1.74   SD= .83) and non-Indigenous (M= 1.66 SD= .70) students (t (37) = .486, p =.24).

There were no significant differences reported for satisfaction with transfer (*t*(62) = .619, *p* =.48; Level Same *M*= 2.00 *SD*= .84; Level Different *M*= 1.86 *SD*= .96); number of courses applied to transfer program (*t*(77) = -.724, *p* =.667; Level Same *M*= 2.42 *SD*= 1.79; Level Different *M*= 2.68 *SD*= 1.87); the applicability of original learning to current program (*t*(58) = -.079, *p* = .360; Level Same *M*= 2.-3 *SD*= 1.11; Level Different *M*= 2.06 *SD*= 1.04); or how many courses were repeated due to transfer (*t*(51) = -.092, *p* = .80; Level Same *M*= 1.61 *SD*= 2.3; Level Different *M*= 1.67 *SD*= 2.75).

Independent t-tests compared differences between students that transferred laterally across educational programs or who moved to another educational program level. Students who transferred to a similar program (*M*= 1.63 *SD*= .72) reported they were significantly less prepared (*t* (121) = -1.201., *p* =.037) than students who transferred to another program level (*M*= 1.79 *SD*= .88). It is possible that students who complete preliminary certifications or diplomas prior to completing advanced diploma or degrees may report higher transfer preparedness. Prior research has found that transfer students using vertical pathways do quite well and enjoy the compliment of theory and applied study (Algoma University College, 2004, p. 8 as cited in DeCock, 2006, p. 48).There were also significant differences between lateral and vertical pathway students related to satisfaction with transfer credits, with students who transitioned to a different level of education within their pathways rating a higher satisfaction with program credit transfer (*t* (90) = -1.07, *p* = .037; Level Same *M*= 1.11 *SD*= .31; Level Different *M*= 1.17 SD= .39).

Learner Supports

When participants from the student online survey were asked to identify services that either the institution they transferred from or provided for them, the most commonly endorsed services were those related to general academic skill building (*n*=60; 28.8% of responses) and financial services (*n*= 40; 19.28% of responses), followed by wellness or counselling services (*n*= 34; 16.3%), cultural services (*n*= 26; 12.4%), health services (*n*= 17; 8.1%), and child care (*n*= 5; 2.4%). There were no significant differences in the number of supports provided by different regions. The lack of significant difference is compatible with Council of Ontario University survey findings, in which ninety-five percent of respondents indicated that a variety of supports and services are currently available to students such as an Indigenous space where students can practice their culture and traditions, visit with Elders, access tutoring, counselling and advising services, and recognizing Indigenous student achievement through awards and events (COU, 2017, p. 6). Students from the lunch and learns stressed the importance of supports during their transitions. One student discussed the necessity of a wrap around approach for Indigenous students in PSE. This individual mentioned that because of retention rates of Indigenous people, it is necessary to have those supports in place. The individual indicated that they themselves had struggles in their education and that if they hadn't received support and hadn't known about and made transfers they would be "not sure of [their] succession of studies".

Some students who attended the lunch and learns stated that they did not have enough guiding support throughout the process and that this was an issue. In discussion, many students were not sure who to seek out to help them with the process and one student reported that their process began too late which led to some withdrawn courses on their transcript. Yet, students who had found an appropriate person to support them said that their transfer experience was great. For some Indigenous students, seeking out the right people in such a large institution could be difficult and therefore affect their ability to complete a program or to get into another. A recommendation arising out of the lunch and learns was to identify and include contact information for the appropriate person to support them on transfer information alongside other pathway information that is easy to understand and readily available.

Overall, the supports that were accessed are alike those identified in various other studies. Among underrepresented groups in PSE, Stol, Houwer and Todd (2016) identified the need for financial and non-financial supports (2016, p. 5) whereas Bathish and colleagues (2017) identified childcare as a need among Indigenous students (p. 27). Moreover, Indspire scholarship and bursary recipients between 2015-2018 indicated the need for financial support to help with housing, food and childcare, and the difficulty of attending a place that did not value their culture, identity and belonging (Indspire, 2018). Lastly, a 10-year systematic review identified family responsibilities, finance and funding, in addition to fears of loss of identity and discrimination as barriers to PSE (Deonandan, Janoudi, & Uzun, 2017).

Most participants who responded to the survey identified they received supports either completely or mostly from their initial institution (n= 92; 44.0% of responses), 63 participants stated they received support equally from both intuitions (30.1%), and 55 students stated they received most or complete support from the institution they transferred to (26.31%). Despite receiving more supports from the institution students

transfer from, most students indicated that both institutions (n= 38; 39.18%) or the institution they transferred to (*n*= 34; 35.05%) provided the most helpful support during their transfer, while less students stated it was the institution they transferred from (*n*=18; 18.56%). A one-way ANOVA found no significant differences between number of supports and the type of institution that provided the supports (*F* (2, 93) = .344, *p*= .710; Transfer from *M*= 2.14 *SD*= 1.2; Transfer to *M*= 2.03 *SD*= 1.34; Equal *M*= 2.33 *SD*= 1.4.

The level of support from sending institutions was unexpected to some Indigenous forum participants however it was noted by one attendee that this is expected in a traditional pathway as colleges generally do a better job at providing wrap around supports for learners. This does however, contradict with the survey finding that there were no significant differences between number and types of support at institutions. Moreover, a 2017 Universities Canada survey found that over 66% of Canadian universities reach out to prospective Indigenous learners to notify them of available program supports and services (Universities Canada, n.d).

Bridging Programs

For this project, a bridging program was defined as a program that helps students make the transition from one program to another within or between educational institutions. These programs can assist students with academic preparation before they start their new program and can include condensed courses or skills and information to help students best succeed in their new program. The literature suggests that bridging programs can support students to build their self-confidence and commitment to fulfilling their education and career goals. (Stol, Houwer, & Todd, 2016, p. 18), can reduce barriers to PSE participation (Stol, Houwer, & Todd, 2016, p. 5) and can improve Indigenous learner success in PSE (Malatest, 2002).

The majority of Indigenous program pathway learners who responded to this question (97 of 135 respondents; 71.9%) did not attend a bridging program during their transfer. This experience differs from the general experience noted in the literature of Indigenous learners entering PSE in any way. For example, over 60% of Indigenous learners in an Ontario study first accessed postsecondary studies through a bridging program or as mature students (Restoule et al., 2013). In Australia, more than 50% of Indigenous students who entered university did so through enabling courses or special programs, whereas only 47.3% of Indigenous students entered university because of education credentials compared to 83.0% of non-Indigenous students (DIISRTE, 2012 as cited in Smith, Trinidad & Larkin, 2015, p. 21).

The discrepancy may be due in part to the scope and availability of transition programs. Whereas, 69% of Canadian universities offer programs to help Indigenous students transition to university, including outreach programs in Indigenous communities, academic support and mentorship (Universities Canada, 2016), only about 25% of colleges and universities who participated in Phase 1 of this study reported a bridging or transition program in place specific to pathway learners (Ray, 2017, p. 18). A study in British Columbia, which had a similar scope of examining PSE transfers from an institutional lens, also found that postsecondary institutions typically did not offer orientation sessions specific to Indigenous learners (McKeown, Vedan, Jacknife & Tolmie, 2018, p. 18).

Of the participants who indicated they did attend a bridging program (n=39), 24 (61.5%) indicated the bridging program was mandatory. The length of bridging program (reported by 32 participants) was highly variable. Eleven participants (34.4% of sample) reported their program was 1 month or more, while 10 indicated their program was 1 day or less. Of 33 participants, most indicated their bridging program was either Extremely or Very helpful (n= 25, 75.8%), while 7 participants responded that the program was somewhat helpful, and 1 stated it was not so helpful. Most participants felt they would have completed their transfer even if there was not a transfer program in place at their institution (80 responded likely or very likely of 159 participants). A higher percentage of mature students found the bridging program to be less helpful. Of these 19 students (over the age of 35), 13 did not use a bridging program. Of the 5 that responded, 4 indicated the program was not helpful or only somewhat helpful, while 1 student stated it was very helpful.

Overall, survey respondents believed that there were more advantages than disadvantages to Indigenous program pathways. Participants (n=41) identified the following advantages:
1. Educational advancement *(n*=33; 80.49% responses)
2. Professional advancement (*n*=19; 46.34 % responses)
3. Greater access to postsecondary education (*n*=16; 39.02% responses)
4. Earn multiple degrees in less time (*n*=14; 34.15% responses)
5. Flexibility and convenience (*n*=14; 34.15% responses)
6. Guaranteed entrance into a program *(n*=11; 26.83%)
7. Lower tuition costs and improved mobility (*n*=7; 17.07% responses)
8. Other responses (*n*=6)
    a. Placement experience
    b. Exemption from general education classes meant a lighter course load for some semesters
    c. Racism at previous school
    d. Hands on experience in college and able to apply that knowledge to university
    e. More accessible
    f. Allows me to stay in my home community to save money

Only 4 participants who answered the question did not identify any advantages.

Lunch and learn attendees confirmed the finding that overall there were more advantages than disadvantages to pathways. Specifically, it was explained that transferring can allow for flexibility and ease. In terms of moving from a college program to a university program, students felt an ease in transitioning. This allowed students to get comfortable in postsecondary education prior to jumping into a university program. For some of the students, completing a college diploma first, allowed them to boost their marks and overall average to be able to attend university later. Transferring or utilising a pathway can also allow students to cut their time in school, and therefore costs. For one student, they explained that this is going to allow them to spread courses out over the next two years and spend more time with their young daughter. For others this simply meant being able to lighten their course load.

Like Indigenous program pathway learners, postsecondary institutions in Ontario also identified educational advancement (91%) as the most popular advantage (Ray, 2017, p. 28). Institutions generally ranked advantages in the same order as learners, but at a much higher rate: greater access (91%) and professional advancement opportunities for the learner (74%). Both institutions (57%) and learners (17%) were less consistent in their reporting of lowering cost as an advantage.

Trick (2013) explains that pathways are only financially advantageous if learners can complete a diploma and degree in 4 years however, learners only "break-even" if completion takes 4.5-5 years (p. 32). Thus, those who completed more quickly may have a much different experience in terms of financial advantages when compared to those who took more time to complete their programs. A recommendation from the Forum was for full year courses to be separated and listed as two 0.5 FCEs. This may enhance the number of transfer credits available.

It was identified at the forum that depending on transfer credits awarded, a transfer can result in a change from full-time to part-time status and this could impact external funding. Also, Indigenous forum participants noted that when transferring from university to college there are fees associated with transferring credits and prior learning assessment and recognition (PLAR) that add an additional expense to learners. A recent report by the Ontario Undergraduate Student Alliance conveys that there are currently no set costs and learners could pay $175.00 or almost $500.00 out of pocket per course (Bathish et al., 2017, p. 9-10). The report suggests that PLAR be standardized and subsidized as part of a strategy to support equitable education for Indigenous learners in particular (Bathish et al., 2017, p. 10). A recommendation arising from the Forum was to further examine the role of the Ministry of Training, Colleges and Universities' (MTCU) Tuition and

Ancillary Fees Minister's Binding Policy Directive which currently houses PLAR in the regular fee program in creating financial barriers to PSE.

Many Indigenous forum participants were initially surprised that educational advancement was by far the most noted advantage and thought that earning multiple credentials in less time or guaranteed entrance would have been higher. In terms of guaranteed acceptance this may be explained through a lack of availability-if learners are not receiving guaranteed entrance they will not report it as an advantage. Further guaranteed entrance incentives and their potential impacts was identified as in need of further study. For educational advancement, those at the Forum explained that this may be at least partially explained by the need for Indigenous learners to return back to school for the purpose of seeking a certification or to advance in their current career. They noted that this finding expands current understandings about the purpose of PSE and what success means. This is consistent with the literature which suggests that learners are entering PSE with the expectation that pathways will be in place. In addition, like the online student survey, in Phase 1, it was also noted in the comment section that an advantage of pathways is that they allow learners to study closer to home (Ray, 2017, p. 28).

Over 25% (n=17) of the 67 respondents who answered the question on transfer disadvantages reported that there were no disadvantages that they could think of. Other respondents noted the following disadvantages:
1. Duplicate courses/course material (*n*=36; 53.73% of responses)
2. Had to take courses I didn't want to take *(n*=23; 34.33% of responses)
3. Transfer credits undervalued *(n*=20; 29.85% of responses)
4. Difficult to schedule courses needed to graduate (*n*=17; 25.37% of responses)
5. Greater cost (*n*=16; 23.88% of responses)
6. Course load issues (*n*=12; 17.91%)
7. Difficult to take courses needed for accreditation/certification (*n*=10; 14.93%% of responses)
8. Other (*n*=3)
   a. Daily commute is long
   b. Courses I would like to take are not included in program requirements
   c. Program only granted admission to one specific program

The disadvantage of duplicating courses/course material was the most commonly reported disadvantage, which is consistent with Phase 1 findings (35%) (Ray, 2017, p. 29). Undervaluing of transfer credits was comparable between learners (29.85%) and institutional responses from Phase 1 (20%), as was course load delivery issues (17.91% and 10% respectively) and difficult to take courses needed for accreditation (14.93% and 10% respectively) (Ray, 2017, p. 29). Being more mindful of pathway needs during course scheduling was suggested.

Lunch and learns helped to provide a broader understanding about course duplication. In some cases, students were credited for courses that they took a long time ago which made it difficult for them to keep up in the second year of course material. Although they received a credit, they explained that they could have used a content refresher. For some of the students who retook certain courses, some were pleased to do so because they needed the refresher or wanted to know the material better. One student shared that they retook certain courses because they wanted to have an extra year of being certified in particular certificates that only last so many years. There most likely are costs associated with these certifications that they student would then have to pay out of pocket if not covered in their program.

Offering an alternative perspective, one student brought forward that for any students who may be utilizing OSAP, if you complete a transfer and are paying for your courses, having to retake certain ones could be very costly. Their suggestion was to make sure students know about this and know to stay on top of their courses so that this sort of thing doesn't cost them.

Although only mentioned by one survey respondent, ensuring intra-mobility within an institution after transfer was identified as an area of improvement. Those at the Forum also believed this to be a potential

area of improvement. Phase 1 of the research found that some institutions do allow for transfer students to keep their applied credits if they enter a different program of study after initially transferring to their institution if other institutions wish to adopt this practice.

Credit Transfer

The majority of participants (n= 123; 79.8%) stated that course credits were applied to their program when they transferred. Most stated that up to a year worth of credits were applied (n=48; 40.0%) and they were satisfied with the amount of credits applied in their transfer (n= 102; 85.0% of sample). Most students did not have to repeat courses in their transfer *(n=78; 65.0% of sample)*. Of those that did have to repeat courses, participants' responses indicated the mean number of repeated courses was 1.8 (n=120 responses, range from 1 to 15). One-way ANOVAS indicated that having credits transferred and the number of credits transferred were not significantly associated with transfer satisfaction.

The applicability of prior learning within a transfer program was examined, with no significant differences found (t (14) = -2.03., *p =.98)* for how content learned in their original program transferred to transfer program for Indigenous (M= 1.94 SD= 1.05) and non-Indigenous participants (M= 2.63 SD= 1.02). Students also described how many credits were transferred within their program pathway. Indigenous students (M= 2.71 SD= 1.91) reported significantly more (t (39) = 1.58, *p =*.01*)* prior course credits applied within their transfer program than non-Indigenous students (M= 2.13 SD= 2.13). Despite this difference, there were no significant differences related to student satisfaction with number of courses transferred (t (32) = .200., *p =.69;* Indigenous M= 1.15 SD= .36; Non-Indigenous M= 1.13 SD= .35). There were also no significant differences for how many courses were repeated following program transfer (t (21) = -.342., *p =.48;* Indigenous M= 1.60 SD= 2.5; Non-Indigenous M= 1.87 SD= 2.7).

No significant regional differences were detected for satisfaction with transfer experience (F (2, 63) = 1.46, *p* = .239), number of courses transferred (*F (*4, 110 = .618, *p* = .650), satisfaction with number of courses transferred (*F* (4, 110) = .967, *p* = .428), or how learning was applied from original to transfer program (*F (*2, 63 = .090, *p* = .914). The number of courses repeated following program transfer (*F (*3, 64) = 2.04, *p* = .117) were also not significant across regions.

Whereas most students indicated that up to a year worth of credits were applied (n=48; 40.0%), the most common amount of credit received from the institution survey disseminated in Phase 1 was above one year, but under two years' worth of credits (Ray, 2017, p. 21).

In Ontario, postsecondary institutions have received envelope funding to create pathways and articulation agreements between institutions, thus historically they have been developed on a case by case basis. Colleges are currently required to demonstrate laddering and pathway opportunities in their submissions for program funding approval. In this climate, institution's philosophies and beliefs can play an important role in the variance of transfer credits. For example, while one university was non receptive to a 2+2 type transfer agreement on the basis that two years of college and two years of university was not equivalent to a bachelor's degree with a 4-year university residency, "the training in college is not equivalent to the foundation years in University" (University of Guelph, 2004, p. 12 as cited in DeCock, 2006, p. 48). Alternatively, DeCock (2006) notes that another university was "more willing to acknowledge the different, but valued experiences of both institutions," and positioned this approach as responsive to the needs of Indigenous students in Northern Ontario that were more likely to start at college and then complete their studies at university with success (Algoma University College, 2004, p. 8 as cited in DeCock, 2006, p. 48). Those attending the Indigenous forum shared that the case by case approach to pathway agreements can be confusing. Specifically, sending and receiving institutions can hold different understandings about a pathway resulting in students receiving conflicting information. Practices identified that may be helpful is to include a review of pathway agreements in annual program reviews, have a pathway coordinator to centralize the process and have information on pathways that is easily digestible. Phase 1 of the study suggested that conducting an environmental scan of pathway agreements become standard work within the program pathway development process to support consistency among transfers (Ray, 2017).

CONCLUSION AND RECOMMENDATIONS

It has been almost a decade since the "Indigenous Issues in Postsecondary Education: Building on Best Practices" conference urged for the formal and informal development of access routes to university and college for Indigenous learners and the creation of mechanisms to enable smooth transitions among pathways (Rosenbluth, 2011). This study has attempted to contribute to this call by providing a better understanding of the current Indigenous program pathways in place as well as student experiences within these pathways.

This is deemed a worthy cause as pathways have been put forth as a means to enhance access and success in PSE. Moreover, the capacity of pathways to do so has also positioned them within the decolonizing strategies of postsecondary institutions and in the context of reconciliation. However, while this study has found that generally, students seem content with their pathway experience and that there were more advantages than disadvantages to being a pathway learner, those who were more likely to already attend PSE were the students utilizing pathways the most. It was found that a large number of non-Indigenous students were utilizing pathways to and from Indigenous programs and Indigenous students accessing pathways were predominately, female, under the age of 25 and from urban cities or towns. Otherwise put, while pathways are often implemented under a mandate of access, they appear to be failing segments of the population who are most underrepresented in PSE.

DeCock (2006) argues that it is difficult to claim pathways as a mechanism to enhance equity and access in "the absence of a policy or mechanism to encourage transfer" (p. 14). While the authors believe that pathways are a worthy cause and do have a role to play in decolonizing education, a more pro-active stance and targeted approach to pathway development and maintenance is needed. To do so effectively will require a willingness to take risks with program and policy development, invest in innovative program delivery models, and commitment to the sustainability and scaling-up of promising practices and policy responses (Frawley, Smith & Larkin, 2015). This report concludes with some initial recommendations to further this work.

Recommendation 1: To successfully implement pathways under a mandate of access, targeted strategies that are tailored toward the experiences of Indigenous students most underrepresented in PSE must be implemented.

Recommendation 2: All departments and agencies that play a role in supporting access and completion of PSE for Indigenous learners must be involved in pathway conversations, promotion and strategies.

Recommendation 3: Indigenous pathway information should be easily accessible at one central location in addition to local sites in plain language.

Recommendation 4: Indigenous learners enter PSE and participate in program pathways for a variety of reasons, including educational and professional advancement. These reasons should guide pathway development and design.

Recommendation 5: Policies at a First Nation, postsecondary institution and ministry level that impede effective pathway design and implementation to support access should be identified and revised.

Recommendation 6: In support of the above recommendations additional research should be undertaken in the following areas: lateral transfers, pathway experiences of rural and remote First Nation learners and mature learners, current and innovative transfer practice and policy, and forecasting of areas of study and transfer need among Indigenous learners.

REFERENCES

Assembly of First Nations. (2012). *Chiefs assembly on education: A portrait of First Nations and education.* Ottawa, ON: AFN. Retrieved from https://www.afn.ca/uploads/files/events/fact_sheet-ccoe-3.pdf

Bathish, N., Deshpande, R., Kreps. P, Martin, H., Powless, S., & Sitarz, U. (2017). *Policy paper: Indigenous students.* Toronto, ON: Ontario Undergraduate Student Alliance. Retrieved from https://d3n8a8pro7vhmx.cloudfront.net/ousa/pages/83/attachments/original/1510256571/Indigenous_Students_policy_paper_document.pdf?1510256571

Camman, R., Hamade, S. & A. Zhou. (2014). *Policy paper: Student mobility and credit transfer pathways.* Toronto, ON: Ontario Undergraduate Student Alliance. Retrieved from https://d3n8a8pro7vhmx.cloudfront.net/ousa/pages/81/attachments/original/1522267328/Student_Mobility_and_Credit_Transfer_document.pdf?1522267328

Colleges Ontario. (2018). Student and graduate profiles 18. *Environmental Scan 2018.* Retrieved from https://collegesontario.org/research/2018_Environmental_Scan/CO_EnvScan_2018_PROFILES_WEB.pdf

Cook-Lynn, E. (1997). Who stole Native American studies? *Wicazo Sa Review, 12* (1), 9-28. doi:10.2307/1409161.

Council of Ontario Universities (COU). (2017). *Deepening our relationship: Partnering with Aboriginal communities to strengthen Ontario campuses.* Toronto, ON: Council of Ontario Universities. Retrieved from https://ontariouniversities.ca/wp-content/uploads/2017/08/Deepening-Our-Relationship-Report.pdf

DeCock, H. G. (2006). *A case study analysis of Ontario CAAT graduates who transfer to a university.* (Unpublished Doctoral Dissertation). Ontario Institute for Studies in Education of the University of Toronto, Toronto, ON.

Deloria Jr., V. (1998). Intellectual self-determination and sovereignty: Looking at the windmills in our minds. *Wicazo Sa Review13*(1), 25-31. doi:10.2307/1409027.

Deonandan, R., Janoudi, G., & Uzun, M. (2017). *Closing the Aboriginal education gap.* University of Ottawa. Retrieved from https://ruor.uottawa.ca/bitstream/10393/37189/1/Deonandan%20-%20Closing%20the%20Aboriginal%20Education%20Gap.pdf

Ferguson, S.J. & Zhao, J. (2011). The educational attainment of Aboriginal peoples in Canada: National Household Survey (NHS). Ottawa, ON: Statistics Canada. Retrieved from https://www12.statcan.gc.ca/nhs-enm/2011/as-sa/99-012-x/99-012-x2011003_3-eng.cfm

Fleming, M.J. & Grace, D.M. (2015). Aspiration, achievement and access: The ACT-Indigenous Success pathway to university. *Learning Communities: International Journal of Learning in Social Contexts 17*, 74-83. doi: 10.18793-lcj215.17.07

Forbes, J. D. (1998). Intellectual self-determination and sovereignty: Implications for Native Studies and for Native intellectuals. *Wicazo Sa Review, 13* (1), 11-23. doi:10.2307/1409026

Frawley, J. Smith, J.A. & Larkin, S. (2015). Beyond Bradley and Behrendt: Building a stronger evidence-base about Indigenous pathways and transitions into higher education. *Learning Communities: International Journal of Learning in Social Contexts 17*, 8-11. doi: 10.18793/LCJ2015.17.01

Gallop, C. J. (2016). Supporting Success: Aboriginal students in higher education. *Canadian Journal of Higher Education, 46* (2), 206-224. Retrieved from http://journals.sfu.ca/cjhe/index.php/cjhe/article/view/184772

Hallmark, T., & Reed, T. (2016). *Lessons from Ontario: An analysis of Indigenous postsecondary education.* Retrieved from https://contactnorth.ca/sites/default/files/pdf/external-presentations/2016-lessons_from_ontario.pdf

Hango, D. (2013). *Gender differences in science, technology, engineering, mathematics and computer science (STEM) programs at university.* Ottawa, ON: Statistics Canada. Retrieved from https://pdfs.semanticscholar.org/f0b1/4dc9663aa7942474e96175c63e7cabbb487a.pdf

Indspire. (2018). *Indigenous education Canada's future: Postsecondary experience of Indigenous students following the Truth and Reconciliation Commission: Summary of Survey Findings.* Retrieved from https://indspire.ca/wp-content/uploads/2018/09/PSE-Experience-Indigenous-Students-Survey-Summary-Sept2018.pdf

Malatest, R.A, & Associates Ltd. (2002). *Best practices in increasing Aboriginal postsecondary enrolment rates.* Toronto, ON: The Council of Ministers of Education, Canada (CMEC). http://www.cmec.ca/publications/lists/publications/attachments/49/malatest.en.pdf

McKeown, S., Vedan, A., Mack, K., Jacknife, S. & Tolmie, C. (2018). *Indigenous educational pathways: Access, mobility, and persistence in the BC postsecondary system.* Vancouver, BC: BC Council on Admissions and Transfer. Retrieved from http://www.bccat.ca/pubs/Indigenous_Pathways.pdf?fbclid=IwAR2iU7DNwwQ24P2M5F5_ry6ylmRrfSh5wBI66ztDZaA4Y2zIzs7vx1aa8sQ

ONCAT. (2016, February). *Workshop on pathways for small and northern institutions.* Retrieved from https://www.oncat.ca/sites/default/files/oncat_workshop_on_pathways_for_small_and_northern_institutions_key_themes_and_action_items.pdf

ONCAT. (2017, July). *Infographic: Student transfer in Ontario.* Retrieved from https://oncat.ca/sites/default/files/infograph_pse_students_july2017_print_en.pdf

Ottmann, J. (2017). Canada's Indigenous peoples' access to postsecondary education: The spirit of the 'New Buffalo'. In J. Frawley, S. Larkin & J. A. Smith (Eds.), *Indigenous Pathways, Transitions and Participation in Higher Education from Policy to Practice* (pp. 95-118). Gateway East, Singapore: Springer Open. doi: 10.1007/978-981-10-4062-7

Paquette, J., & Fallon, G. (2014). In quest of Indigeneity, quality, and credibility in Aboriginal postsecondary education in Canada: Problematic, contexts, and potential way forward. *Canadian Journal of Educational Administration and Policy, 165.* Retrieved from https://journalhosting.ucalgary.ca/index.php/cjeap/article/view/42872/30729

Ray, L. (2017). Indigenous Program Pathways Inventory Project: Phase One. North Bay, ON: Canadore College. Retrieved from https://www.oncat.ca/en/projects/pathway-inventory-indigenous-postsecondary-programs-and-community-based-deliveries

Restoule, J., Mashford-Pringle, A., Chacaby, M., Smillie, C., Brunette, C., & Russel, G. (2013). Supporting successful transitions to postsecondary education for Indigenous students: Lessons from an institutional ethnography in Ontario, Canada. *The International Indigenous Policy Journal, 4*(4). doi: 10.18584/iipj.2013.4.4.4

Rosenbluth, E.K. (2011). *Indigenous issues in postsecondary education: Building on best practices.* Kingston, ON: School of Policy Studies, Queens University. Retrieved from https://www.queensu.ca/sps/sites/webpublish.queensu.ca.spswww/files/files/Events/Conferences/IIPSE/2011IIPSEreport.pdf

Sawyer, J., Long, J., Hachkowski, C., Lanois, M., Lukin-Linklater, T. & Kataoka, S. (2016). *Deepening our collective understanding: Redefining success for Aboriginal university students*. North Bay: Aboriginal Initiatives & Enji Giiddoyang, Nipissing University.

Smith, J.A., Trinidad, S. & Larkin, S. (2015). Participation in higher education in Australia among under-represented groups: What can we learn from the higher education participation program to better support Indigenous learners? *Learning Communities: International Journal of Learning in Social Contexts, Special Issues Indigenous Pathways and Transitions into Higher Education, 17*, 12-29. doi: 10.18793/LCJ2015.17.02

Statistics Canada (2017, November). Education in Canada: Key results from the 2016 Census. *The Daily*. Retrieved from https://www150.statcan.gc.ca/n1/daily-quotidien/171129/dq171129a-eng.htm

Stol, J., Houwer, R., & Todd, S. (2016). *Bridging Programs: Pathways to Equity in Postsecondary Education*. Toronto, ON: Youth Research and Evaluation eXchange (YouthREX). Retrieved from https://exchange.youthrex.com/report/bridging-programs-pathways-equity-post-secondary-education

Trick, D. (2013) College-to-university transfer arrangements and undergraduate education: Ontario in a national and international context. Toronto: Higher Education Quality Council of Ontario.

Truth and Reconciliation Commission of Canada (TRC) (2015). Truth and Reconciliation Commission of Canada: Calls to action. Winnipeg, MB: TRC. Retrieved from http://nctr.ca/assets/reports/Final%20Reports/Executive_Summary_English_Web.pdf

Universities Canada. (n.d.). *Indigenous Student Education.* Retrieved from https://www.univcan.ca/priorities/indigenous-education/

Universities Canada. (2015). *Facts and Stats Overview.* Retrieved from http://www.univcan.ca/universities/facts-and-stats/

Universities Canada. (2016). *Enhancing Indigenous student success at Canada's universities.* Retrieved from https://www.univcan.ca/wp-content/uploads/2016/06/enhancing-indigenous-student-access-at-canadian-universities-june-2016accessible.pdf

Vitartas, P., Ambrose, K., Millar, H. & Dang, T.K. Anh. (2015). Fostering Indigenous students' participation in business education. *Learning Communities: International Journal of Learning in Social Contexts 17*, 84-93. doi: 10.18793-lcj215.17.08

Wabano, M. (2014). *Healing and wellness and the role of community colleges: A formative program evaluation* (Master's Thesis). Carleton University, Ottawa, ON.

Waterman, S.J & Sands, T.L. (2016). A Pathway to College Success: Reverse Transfer as a Means to Move Forward Among the Haudenosaunee (Iroquois). *Journal of American Indian Education, 55*(2), 51-74. doi: 10.5749/jamerindieduc.55.2.0051