



**National Educational Association
of Disabled Students**

**Association nationale des étudiant(e)s
handicapé(e)s au niveau postsecondaire**

**Accessibility and
Universal Design in
Career Transitions
Programming**

**FINAL PROJECT
REPORT**

June 2019

Developed with the support of



CERIC

Advancing
Career
Development
in Canada

Promouvoir
le développement
de carrière
au Canada

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PROJECT TEAM



Frank Smith, National Coordinator

Frank Smith works as the National Coordinator of the National Educational Association of Disabled Students (NEADS), a position he has held since 1986 when the group was founded. NEADS is the only non-governmental organization of its type in Canada that represents post-secondary students and graduates with disabilities, with a mandate to support full access to college and university education nationally. Over 33 years of service to the organization, Frank has been part of a team that has conducted and published groundbreaking research into access and accommodation issues as they apply in Canada's colleges and universities. He has assisted in event planning for national conferences and regional forums across Canada that have dealt with a range of issues including, but not limited to: the transition from school to work, financial aid/financial literacy. He has written numerous reports that he has co-written and edited with NEADS' consultants, advisors and board members can be found on the NEADS website: www.neads.ca He curates the media content on the association's website.

Since its founding in 1986, the National Educational Association of Disabled Students (NEADS), has had the mandate to support full access to education and employment for post-secondary students and graduates with disabilities across Canada.

NEADS is a consumer-controlled, cross-disability charitable organization (corporation # 1007761975RR0001). We represent our constituents through specific projects, resources, research, publications and partnerships. NEADS is governed by a national Board of Directors representative of all of the provinces and territories.

NEADS' major research reports in the past 10 years include the "Success in STEM: Studying and Pursuing a Science or Technology Career as a Postsecondary Student with a Disability" (2010); "Assessment of Financial Barriers and Debt Load for Students with Disabilities in Postsecondary Education" (2011); "Enhancing Accessibility in Post-Secondary Education Institutions: A Guide for Disability Service Providers" (2012); and, "Understanding Accessibility for Graduate Students with Disabilities in Canadian Postsecondary Education" (2016).

NEADS also has substantial employment transition programming-related expertise, as well as experience developing professional development modules for career educators.

PROJECT TEAM

The following individuals and partnering organizations have contributed to the project.



Dr. Michelle Pidgeon, Associate Professor, Faculty of Education, Simon Fraser University

Michelle's Pidgeon was a Co-Investigator for the project. The research agenda is located within the areas of higher education and Indigeneity. In particular, she is interested in the intersections between student affairs and services, recruitment and retention, Indigenous peoples, and student success in post-secondary education. Michelle Pidgeon is also passionate about expanding understanding of Indigenous research processes and research ethical protocols. Theoretically, her work is influenced by Indigenous theory, social reproduction theory, and retention theories, university and college responsibility and accountability to Aboriginal higher education from policy to practice.



Dr. Christine Arnold, Assistant Professor, Faculty of Education, Memorial University

Christine Helen Arnold is an Assistant Professor in the Adult Education/Post-Secondary program in the Faculty of Education at Memorial University of Newfoundland. She holds a B.A. (Honours), B.Ed. (Intermediate/Senior), and M.Ed. in Teaching, Learning and Development from Brock University in St. Catharines, Canada and a Ph.D. in Higher Education from the University of Toronto/OISE in Toronto, Canada. Her research interests include the student experience in post-secondary education, with a focus on student affairs/services and student mobility/transitions. More specifically, she studies student transitions in post-secondary education and the extent to which organizational and information frameworks support movement.



Dr. Deanna Rexe, Vice-President Academic, Assiniboine College

Before coming into her role at ACC, Rexe taught and conducted research in the Faculty of Education at Simon Fraser University. She previously held senior leadership positions at Vancouver Community College, where she served as a Vice-President, and the British Columbia Institute of Technology. Rexe holds a doctorate in educational leadership from Simon Fraser University. Her research program focuses on various issues in post-secondary policy, apprenticeship and governance in Canada. Rexe will continue her applied research work and is enthusiastic about supporting the college's capacity and engagement in applied research and technology transfer projects.

PROJECT TEAM

The following team members contributed to various sections of this report: Adele Furrrie; Dr. Christine Arnold, Co-Investigator (Memorial University); Dr. Michelle Pidgeon, Co-Investigator (Simon Fraser University); Dr. Deanna Rexe, Co-Investigator (Assiniboine Community College); Kathleen Clarke Moore (University of Toronto), Researcher; Olivia Auriat, Researcher NEADS (Assiniboine Community College); Michaela Burton, Researcher NEADS; Natalie Geiger, Researcher NEADS; Dr. Mahadeo Sukhai, Principal Investigator. We thank the authors. The final report to CERIC was compiled and edited by Nadine Powell, NEADS Researcher and Frank Smith, National Coordinator, National Educational Association of Disabled Students (NEADS).

Dr. Mahadeo Sukhai was the Principal Investigator on the project until the fall of 2018. At that point, he was no longer the Director of Research for NEADS and so he did not complete the project research and reporting. That was left to others on the team.

EXECUTIVE SUMMARY

Please select the Guiding Principle(s) this application ended up actually applying or adhered to. Career development...

- Is a lifelong process of blending and managing paid and unpaid activities: learning (education), work (employment, entrepreneurship), volunteerism and leisure time.
- Should be self-directed; an individual is responsible for his or her own career, but is not alone - we all influence and are influenced by our environment.
- Can be complex and complicated, so context is key - there may be both internal constraints (financial, culture, health) or external constraints (labour market, technology).
- Is dynamic, evolving and requires continuous adaptation and resilience through multiple transitions.
- Is often supported and shaped by educators, family, peers, managers and the greater community.
- Involves understanding options, navigating with purpose and making informed choices.
- Entails determining interests, beliefs, values, skills and competencies - and connecting those with market needs.

If the application of Guiding Principles changed over the course of the project, please explain why.

Not applicable.

State the over-arching need or gap that you identified that warranted such a project. How does this fill a 'gap' in the career counselling field?

Career educators have identified that professional development resources that foster their preparedness to work with students with disabilities are required to enhance their ability to successfully work with this population, and to maximize the impact of their interventions. Furthermore, understanding the current transition issues for students with disabilities as well as existing innovative practices within the field would better enable the creation of effective professional development resources for career educators.

Describe how the project meets CERIC's mission, vision and strategic priorities.

CERIC is dedicated to advancing research and education in career education. This project, with a specific focus on a defined under-served population (students with disabilities), helps CERIC continue to fulfill its mission by adding novel and substantive research and outcomes to the limited body of work already available on career education for students with disabilities. This work has a long-term positive impact in the field, as it has resulted in the development of resource guides and professional development programming

for pilot testing and eventual deployment across career education offices within the post-secondary sector.

Additionally, the Accessibility and Universal Design in Career Transitions Programming and Services initiative enables us to fulfill goals relevant to two core areas of NEADS' mission: Effecting positive change to the experience of students with disabilities on campus, as well as enhancing the successful transition from education to the workforce for students with disabilities.

This work has a demonstratively positive impact in the field, as it led to significant research, reporting and recommendations that will be of benefit to post-secondary career educators and policy-makers at colleges and universities.

Describe the project in broad strokes – clearly state the problem you have identified needs to be addressed, the project purpose, goals, objectives and rough timelines.

Career educators have identified that professional development resources that foster their preparedness to work with students with disabilities are required to enhance their ability to successfully work with this population, and to maximize the impact of their interventions. Furthermore, through understanding the current transition issues for students with disabilities as well as existing innovative practices within the field would better enable the creation of effective professional development resources.

Project Outline:

Building on our previous efforts, and harmonized with our concurrent research to profile the landscape of accessibility and accommodation policy and practice in Canadian post-secondary education, the National Educational Association of Disabled Students (NEADS) undertook a nationwide research initiative to understand the current best practices around accessibility, accommodation and universal design in career education of students with disabilities, as well as the gaps in service delivery and professional development that may exist for career educators working with this population. Leveraging the research platforms established through NEADS' Government of Canada, Social Development Partnerships Program (SDPP)-funded project, "Landscape of Accessibility and Accommodation for Students with Disabilities in Canadian Postsecondary Education," the CERIC-funded research initiative included online and in person consultations with students with disabilities and career educators and other post-secondary stakeholders, in order to identify best practices and gaps in service delivery and professional development. This project also leveraged other existing Canada-wide student datasets in order to obtain a more global overview of the experiences of students with disabilities in campus-based career education.

Consultations and research on post-secondary access and services are timely and will also contribute to the Government of Canada's emphasis on access to education and training for persons with disabilities, leading to their participation in the competitive labour market.

Purpose for which Resources are Needed:

Learning within the co-curricular environment, including student learning in the context of career transitions, is increasingly recognized as a crucial component of the student experience within post-secondary education. However, for students with disabilities, the potential for significant barriers to accessing the co-curricular learning environment exists. For instance, disability services centres on Canadian college and university campuses are funded to provide academic accommodations, accommodations in other learning environments, and do not often have the staff resources to devote to working with other student services portfolios, such as the career educators on campus, in preparing them to work with students with disabilities. Therefore, there is a significant need for professional development resources for career educators that will better enable them to work effectively with students with disabilities, and to recognize the often unique career transition barriers these students face as they graduate from post-secondary education. A necessary first step in the development of those resources is a research effort to understand the current landscape of accessibility, accommodation and the application of universal design principles in the career education space within post-secondary education.

Uniqueness:

This project is unique within the field for its focus on accessibility and universal design in the career education/career transition space. NEADS has been the nationwide - and, in some cases, international leader in higher education policy and practice research as it relates to students with disabilities over the past decade, and has also led nationally on student and career educator professional development initiatives related to accessibility and career transitions for more than 15 years. This project builds on many of those previous initiatives, including the “Towards a National Approach to Services” report (2000, focused on classroom accessibility and accommodations), and the “Understanding Accessibility for Graduate Students with Disabilities in Canadian Postsecondary Education” report (2016, focused on the graduate student experience). As noted previously, this project harmonizes with NEADS’ current work, and the work of our partners, looking at the landscape of accessibility and accommodation in the Canadian post-secondary education sector.

Objectives and Activities:

To define best practices and “fillable gaps” in policy, practice and professional development requirements as they relate to accessibility and universal design in working with students with disabilities in the career education/career transition space within Canadian post-secondary education.

The project consists of 6 separate activities that include: Examining large national student survey datasets for data related to career transitions in the context of disability; Conducting a nationwide survey of career education professionals working with students with disabilities; Conducting focus groups and key informant interviews to understand engagement of students with disabilities in career transition programming; Understanding gaps in student need through a nationwide survey of students with disabilities; Data synthesis, development of research reports and recommendations; and Dissemination of project findings through publications, conferences and the NEADS’ network.

Impact:

After the completion of the project, recommendations and conclusions of the research will greatly benefit post-secondary secondary students and graduates with disabilities in their career pursuits and career

professionals in implementing proactive, progressive programs and policies for disabled student and graduates. New service delivery resources and models and professional development initiatives, which take advantage of the learnings from this project, will result throughout the national collaborative network NEADS maintains.

Required Resources:

This project required funding as well as additional in-kind support from CERIC. Interim results of the project were available for presentation in time for the 2018 Cannexus Conference, and the final results were disseminated at the 2019 Cannexus Conference. We requested the ability to present the work contained within this important initiative at those two conferences, as well as the ability to engage with the CERIC network to disseminate the research instruments and final report.

Budget and Timeline:

Project Budget: Included funding to support the research costs of project consultants, access to national student engagement datasets and a portion of the in-person consultation costs of the proposed research.

Project Timeframe:

July 01, 2017 – February 28, 2019

Additional Support:

The Government of Canada, Social Development Partnerships Program, has provided core research funding to support the research platforms required for this project, in addition to the other research initiatives under the overall framework of the “Landscape of Accessibility and Accommodation for Students with Disabilities in Canadian Postsecondary Education” initiative (2016-2018). Additional resources (including in-kind contributions) for the overall initiative were received from the Conference Board of Canada and the Ontario Council of Graduate Studies.

Talk about your target audience, stakeholders and any partners/ collaborators.

Stakeholders for this project included students with disabilities; disability service providers within post-secondary education; and career educators within post-secondary education. Collaborating institutions include Simon Fraser University, Memorial University of Newfoundland and Assiniboine College. This project leveraged existing Canada-wide student datasets, including the Canadian Graduate and Professional Student Survey (CGPSS), the National Survey on Student Engagement (NSSE) and the Community College Survey on Student Engagement (CCSSE), in order to obtain a more global overview of the experiences of students with disabilities in campus-based career education.

The target audience for the research outcomes from this project was primarily career educators within post-secondary education. Career educators who work within community service provision spaces was a secondary target audience.

The project enabled partnerships and collaborations right across the country and we employed graduate students with disabilities who worked under the supervision of the Co-Investigators. The following team members contributed to the research and the reporting: Adele Furrie; Dr. Christine Arnold, Co-Investigator (Memorial University); Dr. Michelle Pidgeon, Co-Investigator (Simon Fraser University); Dr. Deanna Rexe, Co-Investigator (Assiniboine Community College); Kathleen Clarke Moore (University of Toronto), Researcher; Olivia Auriat, Researcher NEADS (Assiniboine Community College); Michaela Burton, Researcher NEADS; Natalie Geiger, Researcher.

Clearly state the project deliverables.

Deliverables included a series of interim research reports for the analysis of the publicly available datasets (Canadian Survey on Disability 2012 (Statistics Canada); the Canadian Graduate and Professional Student Survey 2016; analysis of the career educators' survey; and analysis of the focus groups/key informant interviews. The final report and recommendations arising from the research was prepared for dissemination on the CERIC website: ceric.ca/accessibility and publicized on the NEADS website: [Post-secondary students with disabilities face gaps in career education services](#) (See Appendix A for the full article).

From this work raises the potential to partner with CERIC to develop specific webinars and/or other professional development opportunities beyond Cannexus and we would be open to such potential collaborations upon completion of this research.

Was the project carried out as intended? If yes, what was different? If no, skip to next question.

Yes for the most part. The Principal Investigator left the project team in the fall of 2018, which caused some delays in meeting the project deliverables. There were also delays in receiving ethics approval that also affected our timelines. The NEADS National Coordinator, along with Co-Investigators and members of the research team completed the project. As the Canadian University Survey Consortium data-set is so

rich with data, we will be generating a larger report on our analysis and findings after the CERIC project has been completed, with full credit to CERIC. In the end, the student focus groups that were proposed in the initial project submission didn't take place as described. Instead our approach was to enrich our consultations with a broader range of those impacted and involved in the career transitions programming and employment opportunities for disabled students and graduates with disabilities.

The student experience with career and employment services on campus and co-curricular experiences including internships, co-op places and mentorships is also amply reported in the large data-sets that we have undertaken to analyze and report on.

Did the nature of any of the deliverables change over the course of the project? If so, how and why? If not, skip to the next question.

The nature of the deliverables did change somewhat as we released a series of reports based on our analysis of the Canadian Graduate and Professional Student Survey (2016). In June, 2018 we launched an online survey – [Survey of Canadian Students with Disabilities in Post-secondary Education](#) (See the survey questionnaires in Appendix L) with an Invitation to participate in a study about experiences of post-secondary students with disabilities in Canada.

The purpose of the survey was to report on the experiences of students with disabilities in post-secondary education in Canada. Specifically, this study explores two areas of focus:

1. What is the current landscape of accessibility, services, accommodations, technical equipment and supports for students with disabilities at publicly-funded post-secondary institutions?
2. What are the college-university transfer experiences of post-secondary students with disabilities?

There were a number of questions related to career services and employment services and experiences in college and university education.

The survey was developed as an outcome of the CERIC project "Accessibility and Universal Design in Career Transitions Programming and Services" and the initial "Landscape of Accessibility and Accommodation in Post-Secondary Education for Students With Disabilities" (Employment and Social Development Canada) and the ONCAT (Ontario Council on Articulation and Transfer) and co-funded by all three.

We have the complete data-set from the NEADS survey and we have hired a Master's student through the Carleton University Accessible Experiential Learning Program (CUAEL) to undertake further reporting through the summer of 2019.

Did the timelines change? If so, how and why? If no, skip to the next question.

Yes. The project started in June 2017 and was completed in February 2019. There were some delays in completion of the project as the Principal Investigator was no longer working for NEADS as of September 2018. The Co-Investigators, the National Coordinator of NEADS and research staff completed the project research and final reporting but with an extended timeframe.

What was the anticipated outcome?

The anticipated outcomes were: creation of new collaborations around development of resources for career educators; institutional and organizational uptake on the recommendations from the final report; creation, testing and development of new resources for career educators; accessing of new funding of and spin-off from the project outputs.

How does this compare to the actual outcome?

The outcome in the project is perhaps best summarized in the press release announcing the final report's availability that is posted to the CERIC website: [Post-secondary students with disabilities face gaps in career education services](#) with a link to the report (See Appendix A for the full article).

Were there changes to any other components of the project? If so, what was the nature of the change and what was its impact on the project?

The components of the project were for the most part the same as described in the original application to CERIC. The consultations with stakeholders took a slightly different approach and we were able to reach a more diverse group including and beyond post-secondary students and graduates with disabilities and career services professionals.

THE NEED FOR THE PROJECT

Discuss the need for this project and describe changes, modifications, adaptations, if any, and very brief justifications to the originally presented problem to be solved.

Need for the Project:

Career educators have identified that professional development resources that foster their preparedness to work with students with disabilities are required to enhance their ability to successfully work with this population, and to maximize the impact of their interventions. Furthermore, understanding the current transition issues for students with disabilities as well as existing innovative practices within the field would better enable the creation of effective professional development resources for career educators. Overall, the key messages related to career development that emerge from the research justify the originally presented problem to be solved:

Accessibility and inclusion efforts in the post-secondary environment have lagged behind the evolution of the student experience and are limited to the academic (classroom and online learning) environment; in particular, accessibility in the co-curricular, professional development and work-integrated learning spaces needs to be developed. Students with disabilities are often lacking in non-academic experiences that can lead to employment including: summer employment, part-time work during the school year, co-op placements and internships. Significant transition barriers into, between, and out of levels of post-secondary education remain, with particular challenges faced by disabled students transitioning into post-secondary, and from post-secondary into the labour market.

The outcome of the project is already reflected in significant new content added to the NEADS employment portal Breaking it Down: breakingitdown.neads.ca.

PURPOSE, GOALS AND OBJECTIVES

Summarize the purpose, goals or objectives.

Overall Objective and Purpose:

To define best practices and “fillable gaps” in policy, practice and professional development requirements as they relate to accessibility and universal design in working with students with disabilities in the career education/career transition space within Canadian post-secondary education.

The activities aligned with the purpose, goals and objectives:

Activity 1: Examining large national student engagement/student experience survey datasets: Canadian Survey on Disability (Statistics Canada 2012), Canadian Graduate and Professional Student Survey (CGPSS) and the Canadian University Survey Consortium CUSC) 2015 survey for relevant data related to career transitions in the context of disability.

Activity 2: Conducting a nationwide survey of career education professionals in order to understand their experiences working with students with disabilities.

Activity 3: Conducting focus groups and key informant interviews to understand the narrative around engagement of students with disabilities in career transition programming.

Activity 4: Understanding gaps in student need through a nationwide survey of students with disabilities.

Activity 5: Data synthesis, development of research report and recommendations.

Activity 6: Dissemination of interim and final project findings through academic publication, conference presentations, and sharing within NEADS' partnership network.

Did your originally proposed objectives change over the course of the project? If so, detail what objectives changed, how they changed and why they changed (provide sufficient detail to elaborate on specific internal and external factors).

The Original Objective and Purpose of the Project:

Building on our previous efforts, and harmonized with our concurrent research to profile the landscape of accessibility and accommodation policy and practice in Canadian postsecondary education, the National Educational Association of Disabled Students (NEADS) undertook a nationwide research initiative to understand the current best practices around accessibility, accommodation and universal design in career education of students with disabilities, as well as the gaps in service delivery and professional development that may exist for career educators working with this population. Leveraging the research platforms established through NEADS' Government of Canada, Social Development Partnerships Program (SDPP)-funded project, "Landscape of Accessibility and Accommodation for Students with Disabilities in Canadian Postsecondary Education," the CERIC-funded research initiative included online and in-person consultations with students with disabilities and career educators, in order to identify best practices and gaps in service delivery and professional development. This project also leveraged existing Canada-wide student datasets, including the Canadian Graduate and Professional Student Survey (CGPSS), the National Survey on Student Engagement (NSSE) and the Community College Survey on Student Engagement (CCSSE), in order to obtain a more global overview of the experiences of students with disabilities in campus-based career education.

The objectives didn't change over the course of the project, but there were aspects of the research and data gathering/analysis that did change. We were not able to include as many large data-sets in our analysis and to inform our recommendations as originally forecast. Dr. Mahadeo Sukhai started as the Principal Investigator on the project at the outset. But was no longer with NEADS or the project as of the fall of 2018. That had some impact on the timing of deliverables, but the Co-Investigators and the rest of the project team pulled together with the support of Frank Smith, National Coordinator to see the project to its conclusion.

PARTNERSHIPS AND COLLABORATIONS

Briefly describe intended partnerships and collaborations.

Intended partnerships and collaborations included the Canadian Association of Graduate Studies (CAGS), Simon Fraser University (through Co-investigator Dr. Michelle Pidgeon), Canadian Association of Career Educators and Employers (CACEE), Canadian Association of College and University Student Services (CACUSS) and the Conference Board of Canada. The CAGS partnership allowed us to access the Canadian Graduate and Professional Student Survey and make presentations on the project at their conferences. Dr. Michelle Pidgeon supervised graduate students working on the project and was a huge contributor to the project from beginning to end. Dr. Deanna Rexe, Co-Investigator at Assiniboine College and Dr. Christine Arnold at Memorial University also had graduate students working for them who contributed to the research and writing. CACEE distributed the Career Educators Survey to career educators and employers across the country. The involvement of the Conference Board of Canada consisted of some complimentary staff time to the NEADS project and presentations at their conferences.

If the project involved collaborating with another/other organization(s), including any not referred to in your proposal, please comment on the collaboration's effect on the project and how this process influenced you, your organization and your partner organization(s). What role did your collaborator(s) play? How often and in what manner did you meet with your collaborator(s)?

There were regular conference calls with project partners at Memorial University, Simon Fraser University and Assiniboine College. It was exciting to be collaborating on this research with seasoned academics and also talented graduate students with disabilities who contributed to the research and report writing. Also the collaborators provided opportunities for the project team to present at annual conferences of Canadian Association of College and University Student Services, Canadian Association of Career Educators and Employers, the Canadian Association of Graduate Studies and the Conference Board of Canada. This enabled us to engage with the following impacted groups included career educators and students with disabilities.

P5. Similarly, if you engaged key informants, an advisory or steering committee, who were they and what role did they play in shaping and executing the project?

Dr. Christine Arnold (Memorial University), Dr. Michelle Pidgeon (Simon Fraser University), Dr. Deanna Rexe (Assiniboine Community College) were all Co-Investigators. Frank Smith, National Coordinator of NEADS managed the project. Kathleen Moore (Clarke), a University of Toronto graduate student played a significant role in analyzing large data-sets including the Canadian Graduate and Professional Student Survey (2016).

P6. What non-financial supports did you request and/or receive from CERIC (eg. marketing, etc.)? How did this impact your project?

There was significant, regular promotion of the project through CERIC on its website and social media. For example in June 2018 the following article was posted to the CERIC website: [Diversity in Post-Secondary Career Education: Strategies for Universal Design](#) (See Appendix B for the full article).

We presented at the Cannexus National Career Development conference in Ottawa in January 2019. The National Educational Association of Disabled Students (NEADS) was recognized as a Supporting Organization for the conference. The full presentation delivered by Frank Smith, National Coordinator; Daniel Patterson, Communications and Social Media Officer and Laura Brawn, David C. Onley, Carleton University is embedded within the final project report and is available through the Cannexus website. (See Appendix G for the full presentation).

ACTIVITIES AND RESEARCH METHODS

Describe your project's activities and/or research methods.

Data were collected in five distinct ways (3 quantitative, 2 qualitative):

Quantitative methods (Activities 1, 2 and 4):

- Analysis of large publicly available datasets (Canadian University Survey Consortium survey data 2013- 2015; Canadian Survey on Disability 2012; Canadian Graduate and Professional Student Satisfaction Survey 2016)
- Online nationwide survey of campus career educators
- Online nationwide survey of students in post-secondary education programs

Qualitative methods (Activity 3):

- Remote and in-person focus groups
- Key informant interviews

Quantitative data were cross-tabulated and analyzed using the SPSS statistical package. Population differences were measured by regression analyses, Fisher Exact Test and Chi-Square Test, where appropriate. Qualitative data were collected via recording and transcription of focus groups and interviews, and then analyzed using grounded theory approaches.

Detail your activities, milestones etc. and any changes therein over the project life-cycle. Consider a chronology of actual events/activities and milestones to tell the story of how your project unfolded.

The larger “Landscape of Accessibility and Accommodation in Post-Secondary Education for Students with Disabilities in Canada” (October 2018) – which was initially supported with funding from the Social Development Partnerships Program of Employment and Social Development Canada -- was released with credit to CERIC for its support of the research components that related to career transitions and co-curricular experiences (including co-op placements, internships, mentorships, employment through the school year and in the summer). In addition we released and credited CERIC for its support of Graduate Students With and Without Disabilities: A Comparison – The Canadian Graduate and Professional Student Survey (CGPSS) (2016); Comparison of Full-Time and Part-Time Graduate Students With Disabilities Using 2016 CGPSS Data; Snapshots of The Experiences of Graduate Students With Disabilities who Identify as Aboriginal Using 2016 CGPSS Data; and Comparison of Graduate Students With Disabilities in STEM and Non-STEM Disciplines Using 2016 CGPSS Data. Each of these reports have significant analyses and findings relating to the student experience with academic and co-curricular endeavours in Canadian post-secondary education, including internships, co-op placements and mentorships. This research and reporting builds on the analysis performed by Adele Furrie for NEADS of the 2012 Canadian Survey on Disability (Statistics Canada) in terms of education and employment accommodations and success. We also launched the National Career Educators survey in August, 2018.

Our CERIC-funded project “Accessibility and Universal Design in Career Transitions Programming and Services” grew from and was benefitted by previous research conducted for the “Landscape of Accessibility and Accommodations for Post-Secondary Students with Disabilities” project funded by Employment and Social Development Canada from September 2016 to March 2018 through a contributions agreement from the Government of Canada. The grant revenues from Employment and Social Development Canada and other grant funding connected to the Landscape Project through the Ontario Ministry of Training, Colleges and Universities (Ontario Human Capital Research Innovation Fund) - “Preparing Students With Disabilities for Post-Secondary Education and Training – Gaps, Barriers and Best Practices”, magnified the scope and capacity of the research team with additional resources. Funding from ONCAT, the Ontario Council on Articulation and Transfer, also magnified the research and engagement possibilities for the CERIC-funded initiative.

Specifically, funds requested from CERIC enabled the completion of Activities 1, 2, 5 and 6, while Activities 3 and 4 were subsidized in large measure by the overall “Landscape” initiative.

In terms of our primary Objectives and Activities for the project the following is the status of each:

Activity 1: Examining large national student engagement/student experience survey data-sets (Canadian Survey on Disability (CSD) 2012, Canadian Graduate and Professional Student Survey (CGPSS 2016) and the Canadian University Survey Consortium (CUSC) 2016 for relevant data related to career transitions in the context of disability:

CSD 2012 reporting was completed by Adele Furrie. The research and analyses have been published on our website. This includes significant reporting on both the education and employment experiences of post-secondary students with disabilities and accommodations required versus those provided. There is valuable data that will be of interest and use to career service professionals on post-secondary campuses and policy-makers. Reporting and analyses of the Canadian Professional and Graduate Student Survey (2016) was completed by Kathleen Clarke (Moore).

Our analysis and reporting of the CPGSS on the student experience of graduate students with disabilities includes use of career and employment centres on campus by disabled students and information the extent ratings of these services. Plus we examine the accessibility and utilization by disabled students of co-curricular experiences including mentorships, internships, co-op placements etc. We're also addressing "universal design" as it applies to our objectives in the CERIC project. There's been an extensive environmental scan and a huge annotated bibliography developed and shared. All reports are on the NEADS website:

- [Comparison of STEM and Non-STEM Graduate Students with Disabilities using The Canadian Graduate and Professional Student Survey \(2016\)](#) (See Appendix C for the full article)
- [Comparison of Full-time and Part-time Graduate Students with Disabilities using The Canadian Graduate and Professional Student Survey \(2016\)](#) (See Appendix D for the full article)
- [A Snapshot of the Experiences of Graduate Students with Disabilities who identify as Aboriginal using The Canadian Graduate and Professional Student Survey \(2016\)](#) (See Appendix H for the full article)
- [National Educational Association of Disabled Students \(NEADS\) releases The Landscape of Accessibility and Accommodation for Post-Secondary Students With Disabilities in Canada report](#) (See Appendix I for the full article)

Activity 2: Conducting a nationwide survey of career education professionals in order to understand their experiences working with students with disabilities.

The survey was launched on August 2, 2018 and we decided to close receipt of completed surveys as of September 30th, 2018. See Appendix K for the full survey. The survey announcement was posted to the NEADS website and social media and shared widely throughout our network including the Canadian Association of Career Educators and Employers (CACEE) and its members. It is important to note that the National Educational Association of Disabled Students (NEADS) is a CACEE member group.

Activity 3: Conducting focus groups and key informant interviews to understand the narrative around the engagement of students with disabilities in career transition programming. We have delivered presentations and consultations with various stakeholders including students and graduates with disabilities, on our research and received feedback on our work at 15 conferences from May, 2017 to July, 2018. Groups consulted include the following:

- Senior academic administrators (college and university)
- Students with disabilities

- Graduate deans
- Faculty and higher education researchers
- Teaching and learning staff and faculty
- Student services directors
- Student life and professional development professionals
- Career educators
- Co-op placement officers
- Student financial aid administrators
- Disability services staff
- Accessibility experts
- Counsellors and campus mental health staff
- Librarians
- Providers of academic materials in accessible formats

Three conferences to highlight here include the University of Toronto Career Fair – Diversity and Inclusion Breakfast, February 2018, the Healthy and Productive Employment Workshop for Youth With Disabilities, Holland Bloorview Kids Rehabilitation Hospital, April 2018 and the Career and Disability Symposium –University of Toronto, Scarborough, April 2018. The focus group and key informant interviews piece has not been conducted as we had originally described in the proposal as our other research efforts as described and presentations to key stakeholders have proven to be the most informative approach to the research. And the student experience with career and employment services on campus and co-curricular experiences including internships, co-op places and mentorships is amply reported in the large data-sets that we have undertaken to analyze and report on.

Activity 4: Understanding gaps in student need through a nationwide survey of students with disabilities.

The Survey of Canadian Students With Disabilities in Post-Secondary Education was developed by our team and launched in June, 2018. Over 200 students with disabilities across Canada responded. This is a good response, but we would have liked to have had more. Certainly the results from this survey research with a small sample are balanced against the large CSD 2012 and CGPSS data-sets with thousands of respondents. Topics covered in this survey were: 1. What is the current landscape of accessibility, services, accommodations, technical equipment and supports for students with disabilities at publicly-funded post-secondary institutions? 2. What are the college-university transfer experiences of post-secondary students with disabilities? We have focused on analyzing the transfer experiences. Analysis of the data from the rest of the report will be completed before the end of the CERIC project. This survey has a relatively low number of respondents compared to the more robust data-sets including the Statistics Canada, Canadian Survey on Disability (2012), the Canadian Professional and Graduate Student Survey (2016) and the Canadian University Survey Consortium (2015/2016) data set.

Activity 5: Data synthesis, development of research report and recommendations.

Reports that we have released on our analyses of the CSD 2012, CGPSS2016 and the larger “Landscape of Accessibility and Accommodation in Post-Secondary Education for Students with Disabilities” contain extensive analyses and recommendations that relate directly to our CERIC-funded “Accessibility and Universal Design in Career Transitions Programming and Services” project. There was one CERIC specific report delivered at the end of the project as a compilation of all findings and recommendations.

Activity 6: Dissemination of interim and project findings through academic publication, conferences and presentations and sharing within the NEADS' partnership network.

This has been an ongoing activity with the various reports. Initial project content was published on the CERIC website on April 18, 2018, which now features links to reports we have released at ceric.ca/accessibility.

An article called "[Accommodating students with disabilities on campus: moving beyond silos](#)" by Michael Rancic (See Appendix E for the full article) was published on November 21, 2018 in University Affairs, the Universities Canada publication. This article quoted the Co-Investigators of our project.

Under the heading "[Post-secondary students with disabilities face gaps in career education services](#)" CERIC released the findings and the full report for the project "Accessibility and Universal Design in Career Transition Programming and Services" on May 10, 2019. (See Appendix A for the full article)

See page 25 for a full list of data outcome reports.

As applicable to your project, for each of your activities or milestones, detail factors that were helpful, factors that were challenging or presented obstacles and areas where changes were required as a result.

Activity 1: Examining large national student engagement/student experience survey data-sets (Canadian Survey on Disability (CSD) 2012, Canadian Graduate and Professional Student Survey (CGPSS 2016) and the Canadian University Survey Consortium (CUSC) 2016 for relevant data related to career transitions in the context of disability:

As explained above in detail, we met the primary objectives of the project. We published substantial analyses of the CSD 2012 and CGPSS 2016 surveys with credit to CERIC in the reporting. The Canadian University Survey Consortium data set is huge and our team has done less detailed analysis with it, with more to follow post-project. The final report to CERIC includes analysis of this survey and the highlights from our analysis of the CSD 2012, CGPSS 2016 and the NEADS survey.

Activity 2: Conducting a nationwide survey of career education professionals in order to understand their experiences working with students with disabilities.

Done. Responses were lower than expected at 35 career professionals. The issue here is likely survey fatigue amongst career professionals.

Activity 3: Conducting focus groups and key informant interviews to understand the narrative around the engagement of students with disabilities in career transition programming.

We delivered presentations and consultations with various stakeholders including students and graduates with disabilities, on our research and received feedback on our work at about 15 conferences from May, 2017 to July, 2018. The focus group approach and the key informant interviews didn't seem practical and we had so many opportunities for presentations and information gathering at conferences with multiple stakeholders.

Activity 4: Understanding gaps in student need through a nationwide survey of students with disabilities.

The Survey of Canadian Students With Disabilities in Post-Secondary Education was developed by our team and launched in June, 2018. Over 200 students with disabilities across Canada responded.

Activity 5: Data synthesis, development of research report and recommendations.

We have released a series of reports, for different populations analyzing the Canadian Survey on Disability (2012) and the Canadian Graduate and Professional Student Survey (2016). A full CERIC research report with all findings and analysis has also been made available.

Activity 6: Dissemination of interim and project findings through academic publication, conferences and presentations and sharing within the NEADS' partnership network.

We gave a presentation at the Cannexus 2019 on the project work and we've been published in CERIC publications. The intention was to also present at Cannexus 2018, but it was too early in the research.

Clearly state where activities differed or deviated from activities proposed in your application.

Please see above.

TIMELINES AND DELIVERABLES

Describe your project timeline.

Overall Objective: To define best practices and “fillable gaps” in policy, practice and professional development requirements as they relate to accessibility and universal design in working with students with disabilities in the career education/career transition space within Canadian post-secondary education.

Activity 1: Examining large national student engagement/student experience survey datasets (CUSC, CSD 2012, CGPSS), for relevant data related to career transitions in the context of disability.

Measures:

- Access to the CUSC, CSD 2012 and CGPSS datasets are obtained by the research team
- Datasets are successfully triaged for career transition and career education elements, and analyzed against disability demographics
- Triaged data are successfully analyzed for potential differences in career transition and career education elements, based on disability demographics
- A research report summarizing the outcomes of this quantitative analysis is successfully prepared as part of the project deliverables

Timeline:

- July 2017: Access to all datasets secured
- August 2017-November 2017: Completion of data review and analysis
- December 2017-March 2018: Data synthesis and generation of interim report
- April 2018: Publication of interim report

Activity 2: Conducting a nationwide survey of career education professionals in order to understand their experiences working with students with disabilities

Measures:

- A bilingual online survey is deployed through CACEE’s distribution network as well as NEADS’ internal database of career centres
- A minimum of 75 respondents complete the survey, with coverage of at least 25% of post-secondary institutions across Canada (approximately 60 schools)
- A research report summarizing the outcomes of this quantitative analysis is successfully prepared as part of the project deliverables

Timeline:

- July 2017: Access to all datasets secured
- August 2017-November 2017: Completion of data review and analysis
- December 2017-March 2018: Data synthesis and generation of interim report
- April 2018: Publication of interim report

Activity 3: Conducting focus groups and key informant interviews to understand the narrative around engagement of students with disabilities in career transition programming

Measures:

- A minimum of two remote teleconference focus groups and one in-person focus group (at the Ontario regional meeting in December 2017) are conducted with the assistance of CACEE (total of 20 respondents, minimum)
- A minimum of 10 key informant interviews are conducted to support the work of the project; key informants are from a cross section of institutions nationwide
- A research report summarizing the outcomes of this quantitative analysis is successfully prepared as part of the project deliverables

Timeline:

- July-August 2017: Development of focus group and key informant interview questions
- September 2017-November 2017: Hosting remote focus groups
- December 2017: Hosting in person focus group at CACEE Ontario regional conference
- October 2017-February 2018: Key informant interviews
- December 2017-May 2018: Data synthesis and generation of interim report
- June 2018: Publication of interim report

Activity 4: Understanding gaps in student need through a nationwide survey of students with disabilities

Measures:

- A bilingual online survey is deployed through NEADS' distribution network
- A minimum of 500 respondents complete the survey, with coverage of at least 25% of post-secondary institutions across Canada (approximately 60 schools)
- Datasets are successfully triaged for career transition and career education elements, and analyzed against disability demographics
- Triaged data are successfully analyzed for potential differences in career transition and career education elements, based on disability demographics
- A research report summarizing the outcomes of this quantitative analysis is successfully prepared as part of the project deliverables

Timeline:

- July-August 2017: Survey development, testing and translation
- September 2017-November 2017: Survey distribution through CACEE and NEADS networks
- December 2017-March 2018: Data synthesis and generation of interim report
- April 2018: Publication of interim report

Activity 5: Data synthesis, development of research report and recommendations

Measures:

- Interim research reports are generated for each of the four major goals of the project
- A final report and recommendations around required professional development resources is created based upon the interim reports

Timeline:

- April-June 2018: Publication of interim reports
- April-June 2018: Synthesis of final report
- April-June 2018: Development of recommendations
- July-August 2018: Publication of report and recommendations in English and French online at neads.ca

Activity 6: Dissemination of interim and final project findings through academic publication, conference presentations, and sharing within NEADS' partnership network.

Measures:

- Project results are presented to CACEE and CERIC audiences at the 2018 and 2019 Cannexus Conferences and the 2018 CACEE Conference
- A minimum of 2 academic publications are derived from the work, including one submitted to the Canadian Journal of Career Development
- Presentations related to the project outcomes are delivered at a minimum of 3 sites across the country
- The final report is presented in English and French on the NEADS website

Timeline:

- January 2018: Presentation at Cannexus 2018
- March 2018-May 2018: Development of academic publication based on the data from the project
- May 2018: Presentation at CACEE national meeting
- May 2018-December 2018: Presentations on project delivered at 3 regional/local campus sites nationwide
- July-August 2018: Publication of report and recommendations in English and French online at neads.ca
- January 2019: Presentation of final project outputs and outcomes at Cannexus 2019

Were reporting and other deliverables given on time and what possible adjustments needed to be made to proposed timeline given outside considerations (e.g., ethics approval from outside agencies; unanticipated delays or interruptions).

Yes, for the most part. However, ethics approval for the student and career educators surveys took longer than expected. Having a change with respect to our Principal Investigator presented some challenges as the NEADS National Coordinator had to step in and do more hands-on work with the project Investigators and team, including scheduling regular team conference calls to get the work back on track. Some project timelines needed to be adjusted. Kathleen Moore (Clarke), NEADS Researcher; Dr. Michelle Pidgeon, Co-Investigator (Simon Fraser University) and Dr. Deanna Rexe, Co-Investigator (Assiniboine College) really stepped up to the plate to get us back on track working with Frank Smith, National Coordinator.

Describe the intended deliverables from your proposal. List in bullet form all of the project deliverables.

Intended deliverables included interim research reports for the analysis of the publicly available datasets (CUSC; CSD 2012; CGPSS); analysis of the nationwide bilingual online student survey deployed by the research team; analysis of the career educators' survey; and analysis of the focus groups/key informant interviews (4 interim reports). We published and credited CERIC for its support in 5 reports (available on the NEADS and CERIC websites): Graduate Students With and Without Disabilities: A Comparison – The Canadian Graduate and Professional Student Survey (CGPSS) (2016)” Comparison of Full-Time and Part-Time Graduate Students With Disabilities Using 2016 CGPSS Data; Snapshots of The Experiences of Graduate Students With Disabilities who Identify as Aboriginal Using 2016 CGPSS Data; Comparison of Graduate Students With Disabilities in STEM and Non-STEM Disciplines Using 2016 CGPSS Data. Each of these reports have significant analyses and findings relating to the student experience with academic and co-curricular endeavours in Canadian post-secondary education, including internships, co-op placements and mentorships. A final report with recommendations arising from the research was posted and made available on the NEADS website and shared throughout our network through NEADS-L and ACCESS-EDU electronic discussion forums. The report, “Accessibility and Universal Design in Career Transitions Programming and Services” has been prepared for dissemination and is available through the CERIC website: ceric.ca/accessibility.

Overview/list of Data outcome reports with dates completed:

1. Project Report for CERIC: “Accessibility and Universal Design in Career Transitions Programming and Services” at ceric.ca/accessibility (August to end of October 2018)
2. [Nation-wide Accessibility Research Opportunity for Post-Secondary Career Educators](#) press release (August 1, 2018) (See Appendix F for the full article)
3. Presentation at the Cannexus conference in Ottawa in January 2019 (See Appendix G for the presentation)
4. [Comparison of Full-time and Part-time Graduate Students with Disabilities using The Canadian Graduate and Professional Student Survey \(2016\)](#) (See Appendix D for the full article)
5. [Comparison of STEM and Non-STEM Graduate Students with Disabilities using The Canadian Graduate and Professional Student Survey \(2016\)](#) (Ottawa, October 23, 2018) (See Appendix C for the full article)
6. [A Snapshot of the Experiences of Graduate Students with Disabilities who identify as Aboriginal using The Canadian Graduate and Professional Student Survey \(2016\)](#) (Ottawa, October 23, 2018) (See Appendix H for the full article)
7. [The Landscape of Accessibility and Accommodation for Post-Secondary Students With Disabilities in Canada report](#) (Ottawa, October 1, 2018) (See Appendix I for the full article)
8. [Post-Secondary Students With Disabilities: Their Experience Past and Present: An Analysis of the Statistics Canada 2012 Canadian Survey on Disability](#) (See Appendix J for the full article)

Describe any deliverables including specific documents or learning materials developed over the course of the project. Detail the target audience(s) for each deliverable.

Please see above.

If your project involved data collection, including surveys, focus groups, participant's feedback, quotes that informed product development, etc. provide some details – purpose of the data collection, what type of data was collected? Where was data stored?

Below are press releases from reports that were released with credit to CERIC and findings. Data were stored in a Survey Gizmo account.

- [Comparison of Full-time and Part-time Graduate Students with Disabilities using The Canadian Graduate and Professional Student Survey \(2016\)](#) (See Appendix D for the full article)
- [Comparison of STEM and Non-STEM Graduate Students with Disabilities using The Canadian Graduate and Professional Student Survey \(2016\)](#) (See Appendix C for the full article)
- [National Educational Association of Disabled Students \(NEADS\) releases The Landscape of Accessibility and Accommodation for Post-Secondary Students With Disabilities in Canada report](#) (See Appendix I for the full article)

Were there any ethical considerations? Any challenges or setbacks? How did you mitigate these?

There were delays in receiving ethics approvals. The original Principal Investigator was no longer with NEADS or on the project team from September 2018 to the completion of the project. This meant the Co-Investigators and Frank Smith, National Coordinator needed to step up to ensure the research and consultations were completed.

If you had an opportunity to do this project again, are there things that you would do differently?

We would have focused on fewer larger data-sets for analyses.

MARKETING AND DISSEMINATION

How will the initiative be promoted and marketed to its intended audience?

Dissemination Plan (short term):

- Project results were presented to the Canadian Association of Career Educators (CACEE) and CERIC audiences at the 2019 Cannexus Conference and the 2018 CACEE Conference.
- A minimum of 2 academic publications were derived from the work, including one to be submitted to the Canadian Journal of Career Development. An article Supports and Services for Canadian Graduate Students With Disabilities by Brad Yetman, Kathleen Clarke, Michelle Pidgeon and Deanna Rexe has been accepted by editors of Communiqué (See Appendix K for the full article).
- Presentations related to the project outcomes were delivered at a minimum of 3 sites across the country.
- The final report was presented in English on the NEADS website. This project is unique within the field for its focus on accessibility and universal design in the career education/career transition space. NEADS has been the nationwide - and, in some cases, international - leader in higher education policy and practice research as it relates to students with disabilities over the past decade, and has also led nationally on student and career educator professional development initiatives related to accessibility and career transitions for more than 15 years. This project builds on many of those previous initiatives, including the “Towards a National Approach to Services” report (2000, focused on classroom accessibility and accommodations), and the “Understanding Accessibility for Graduate Students with Disabilities in Canadian Postsecondary Education” report (2016, focused on the graduate student experience). As noted previously, this project harmonizes with NEADS’ current work, and the work of our partners, looking at the landscape of accessibility and accommodation in the Canadian postsecondary education sector.

After the conclusion of proposed initiatives, we anticipated that a number of the National Educational Association of Disabled Students’ established partners – including the Council of Ontario Universities, the Canadian Association of Graduate Studies, the Canadian Association of Career Educators and Employers, as well as career centres on post-secondary campuses across Canada will begin to work with the project deliverables in order to better shape their own programming, resources and services for students with disabilities. New service delivery resources and models and professional development initiatives, which take advantage of the learnings from this project, will begin to be developed throughout the national collaborative network NEADS maintains.

Effective marketing of the research and project work has been undertaken throughout the initiative using the NEADS website, social media (Facebook and Twitter) and NEADS-L and ACCESS-EDU electronic discussion forums. We have also promoted CERIC conferences and webinars throughout the project related to the work we are doing and our audience of post-secondary and graduates with disabilities and career educators.

How were deliverables shared? How did you market and/or disseminate outputs/findings/learnings of the project?

Intended deliverables included interim research reports for the analysis of the publicly available datasets (CUSC; CSD 2012; CGPSS); analysis of the nationwide bilingual online student survey deployed by the research team; analysis of the career educators' survey; and analysis of the focus groups/key informant interviews (4 interim reports). We published and credited CERIC for its support in 5 reports (available on the NEADS and CERIC websites): Graduate Students With and Without Disabilities: A Comparison – The Canadian Graduate and Professional Student Survey (CGPSS) (2016) Comparison of Full-Time and Part-Time Graduate Students With Disabilities Using 2016 CGPSS Data; Snapshots of The Experiences of Graduate Students With Disabilities who Identify as Aboriginal Using 2016 CGPSS Data; Comparison of Graduate Students With Disabilities in STEM and Non-STEM Disciplines Using 2016 CGPSS Data. As mentioned previously, each of these reports have significant analyses and findings relating to the student experience with academic and co-curricular endeavours in Canadian post-secondary education, including internships, co-op placements and mentorships.

A final report with recommendations arising from the research was posted and made available on the NEADS website and shared throughout our network through NEADS-L and ACCESS-EDU electronic discussion forums. The report, "Accessibility and Universal Design in Career Transitions Programming and Services," has been prepared for dissemination and is available through the CERIC website: ceric.ca/accessibility. From this work raises the potential to partner with CERIC to develop specific webinars and/or other professional development opportunities beyond Cannexus and we would be open to such potential collaborations upon completion of this research.

We are communicating availability of the project research online using many platforms including the main NEADS website (where all research reports are posted), on NEADS social media (Facebook and Twitter) and through the electronic discussion forums NEADS-L and ACCESS-EDU. Media items related to the project are also bcc'd to post-secondary and career professionals in the disability and student communities through Executive Directors and National Coordinators of organizations across Canada using the extensive NEADS network.

What was your plan? What strategies did you use? What were critical factors that impacted the successful implementation of your plan?

Please see elsewhere in report.

For Research Projects, tell us about the status of your research being published in the CJCD (either already published at time of final report submission or publishing in the journal is in progress).

In progress.

Was the dissemination successful? How could you tell?

Anecdotally, based on feedback we have received, our CERIC-funded research has been widely shared and referenced across the post-secondary sector and by staff and key decision makers in government and the disability community. We will be monitoring website statistics analytics following the project as we are able to track unique visitors to our websites and page downloads.

REVENUE GENERATION / COST RECOVERY

If you had developed strategies for generating revenues within the project, describe these and speak to how you did in relation to how you expected to do (as per your proposal).

While grants were obtained from various government sources (and CERIC) as outlined above to allow us to undertake this work, there were no revenue generation strategies associated with the outputs of the project.

EVALUATION AND MONITORING

Explain how you will know whether the project has achieved success.

Project success was measured according to the “outputs, outcomes and impacts” model - given the timeframe of the initiative, successful delivery of the project’s interim and final reports (Goal 5) and effective short-term dissemination plan (Activity 6) will serve as a measure of successful production of the project’s outputs.

Outcomes and impact are harder to measure in the timeframe of the project, but were followed up on by NEADS over time in the following ways:

- Creation of new collaborations around development of professional development resources for career educators
- Institutional and organizational uptake on the recommendations from the final report
- Creation, testing and deployment of new professional development resources for career educators
- Accessing new funding for continuation of and spin-off from the project outputs

What evaluation tools did you use? How did you evaluate? Describe the inputs to the project, the process and the results, including the impacts.

Our evaluation tools were the survey instruments we utilized and analyzed to focus in on the education and employment experiences of post-secondary students and graduates with disabilities including the Canadian Survey on Disability (Statistics Canada, 2012), Canadian Graduate and Professional Student Survey (2016) and near the end of the project the Canadian University Survey Consortium (2015) data-set. We compared our data analysis with the feedback we were getting in consultations with various stakeholders, most importantly students and graduates with disabilities. We also delivered presentations on our research and received feedback on our work at about 15 conferences from May, 2017 to July, 2018.

Describe the connections between evaluation tools you used for the project and the goals you have identified.

The primary goal/objective identified was: To define best practices and “fillable gaps” in policy, practice and professional development requirements as they relate to accessibility and universal design in working with students with disabilities in the career education/career transition space within Canadian post-secondary education. The evaluation tools we utilized -- most particularly analysis of large data sets -- allowed us to identify the gaps in service delivery and the experiences of students with disabilities with career related services on campus. Fillable gaps that we identified included the need for persons with disabilities to have full accessibility experiential learning, paid employment opportunities (part-time during the school year and full or part-time in the summer); internships; co-op placements and also access to some unpaid experiences that build skills including volunteer and mentorship experiences.

with disabilities to have full accessibility experiential learning, paid employment opportunities (part-time during the school year and full or part-time in the summer); internships; co-op placements and also access to some unpaid experiences that build skills including volunteer and mentorship experiences.

What specific marketing activities (website tracking; presentations; exhibits; blog posts; Twitter) were used in terms of project evaluation metrics?

NEADS social media (Facebook and Twitter), website (neads.ca), presentations at professional conferences -- including Cannexus in 2019 in Ottawa were all utilized. We will provide some website metrics following the conclusion of the project.

You provided three letters of support from key stakeholders. What impact did your project have on them? Was the impact different from what they anticipated from the project?

The project impact was considerable on the key stakeholders. For example, the collaboration with the Canadian Association of Graduate Students led to significant, impactful data analysis and reporting of the CAG survey: Canadian Graduate and Professional Student Survey (2016). We were able to work with Co-Investigators across Canada at Simon Fraser University in British Columbia, Assiniboine College in Manitoba and Memorial University in Newfoundland and employ students with disabilities researchers in each of those locations working under the supervision of the Co-Investigators. We have created a significant body of research findings and collaborative work with those three universities and have an excellent relationship with Dr. Michelle Pidgeon, Dr. Deanna Rexe and Dr. Christine Arnold. Discussions are now under way with a member of the Canadian Association of Career Educators and Employers (CACEE) to carry on with a follow-up initiative to build on findings and outcomes from the “Accessibility and Universal Design In Career Transitions Programming and Services” project.

IMPACT ASSESSMENT / OUTCOMES

Explain the intended outcomes from your proposal and describe data collections methods and tools.

Project effectiveness was measured through:

- Creation of new collaborations around development of professional development resources for career educators.
- Institutional and organizational uptake on the recommendations from the final report.
- Creation, testing and deployment of new professional development resources for career educators.
- Accessing new funding for continuation of and spin-off from the project outputs.

Measures of project output utilization:

- Number of page views and downloads of documents, assessed over time starting at publication.
- Number of page views and searches of institutional policy database, assessed over time starting at publication.
- We will be able to provide numbers from November 2017 to May 2019 in the summer of 2019 when our webteam prepares analytics for our various pages and web platforms.

Measures of community interest:

- Attendance at conference presentations/discussion sessions.
- Number of requests throughout the project for information.
- Number of requests for the final report and recommendations.

What were the actual outcomes of the project?

The outcomes of the project were significant from our consultations, research and reporting. While there has been progress in advancing inclusion for students with disabilities in Canadian colleges and universities, there is still work to be done to reduce structural barriers, discrimination and alienation from access to career education and work-integrated learning, according to the final report we published with CERIC's support. The report, "Accessibility and Universal Design in Career Transitions Programming and Services," finds that students with disabilities need greater opportunities to build their skills and career-related experience, whether through co-op placements, mentorship or volunteering.

This NEADS report aggregates findings from a range of research that looks at different data-sets and populations of disabled students and includes a survey of post-secondary career educators. The purpose of the report is to help increase understanding of existing gaps and guide best practice models for accommodations and universal design in career education for students with disabilities. CERIC's support allowed for an expansion of the scope of research within the landmark "The Landscape of Accessibility and Accommodation for Post-Secondary Students with Disabilities in Canada" project funded by Employment and Social Development Canada from 2016-2018, which is a thorough examination of current accessibility, services, accommodations, technical equipment and supports for students with disabilities at publicly funded post-secondary institutions across Canada.

What were your measures of success? Be specific. For example, in the case of a website project, talk about the usability and navigability of the site, speak to the content of the site, etc. If tools or guides were being developed, provide examples of tools and plans for the use of the guide.

Our measures of success in this project "Accessibility and Universal Design in Career Transitions Programming and Services" were the large number of data-sets we were able to analyze to report fully and completely on the population of college and university students with disabilities and their education and career-related experiences while in school. And we were able to conduct our own survey research of post-secondary disabled student and career educators to enrich our findings. Our participation in 15 conferences across Canada consulting and hearing recommendations from key stakeholders was also a key to our success.

All of the sub-reports on different populations of disabled students and specific issue areas were published on the NEADS website: www.neads.ca and the CERIC website. Press releases with links to the reports were also shared on NEADS social media to student and disability leaders in our community.

Another measure of success is the students and graduates with disabilities were employed to work on the "Accessibility and Universal Design in Career Transitions Programming and Services" project.

Were there any unexpected outcomes or unintended consequences?

We produced more reports than anticipated. We consulted with more stakeholders.

KEY FINDINGS / INSIGHTS

Share your key findings from the project. Provide any insights and any learning from the project.

Overall, the key messages related to career development that emerge from the research include:

- Accessibility and inclusion efforts in the post-secondary environment have lagged behind the evolution of the student experience and are limited to the academic (classroom and online learning) environment; in particular, accessibility in the co-curricular, professional development and work-integrated learning spaces needs to be developed.
- Students with disabilities are often lacking in non-academic experiences that can lead to employment including: summer employment, part-time work during the school year, co-op placements and internships.
- Significant transition barriers into, between, and out of levels of post-secondary education remain, with particular challenges faced by disabled students transitioning into post-secondary, and from post-secondary into the labour market.

While the data in our research for this project “Accessibility and Universal Design in Career Transitions Programming and Services” revealed some global developments regarding the inclusivity of college and university students who identify as having a disability in education and career development environments, there is still much work to be done to reduce structural barriers, discrimination and alienation from access to these spaces. Some general highlights in existing gaps include continued issues with educational transitions, the ongoing need for training and support for teaching and tertiary staff and insufficient economic support for education and training, including student assistance from provincial and federal governments through grants and loans for college and university study. Students with disabilities clearly need greater opportunities to build their skills and career-related experience. This is possible through part-time work while in school, summer employment; internships, co-op placements, mentorship and volunteer experiences and other co-curricular experiences many of which may be part of the academic program of study. Findings included in the summaries of various reports (which look at different data-sets and populations of disabled students) will provide further details on the existing gaps for students with disabilities, educators and professionals seeking resources to help these students achieve their goals and objectives. Our purpose is to convey an understanding gained from the research that will help guide current and future best practice models for accommodations and universal design in career education for students with disabilities. Secondly, we want to identify the gaps in service delivery and professional development that may exist for career educators.

Learning within the co-curricular environment, including student learning in the context of career transitions, is increasingly recognized as a crucial component of the student experience within post-secondary education. However, for students with disabilities, the potential to experience significant barriers while accessing the co-curricular learning environment and the employment market exists. For instance, disability services centres on Canadian college and university campuses are funded to provide accommodations in academic settings but not accommodations in other learning environments, such as internships or co-op placements. Therefore appropriate staff resources devoted to working with other student services portfolios, such as the career educators on campus, is often lacking at colleges and universities in Canada. Hence, there is a significant need for professional development resources for career educators that will enable them to work effectively with students with disabilities. This will help to equip staff and professionals to recognize and assist with the unique career transition barriers these students face as they graduate from post-secondary education. A necessary first step in the development of such resources is this research effort to understand the current landscape of accessibility, accommodation and the application of universal design principles in the career education space within post-secondary education.

Provide any reflection on project implementation process and learnings from the project.

It was a fairly complicated project to implement with a large advisory group, Co-Investigators at Simon Fraser University, Assiniboine College and Memorial University along with student researchers being supervised to work at those universities and in Ottawa and Toronto. The project was certainly rewarding because of its diversity.

Did the project partnership funding lead to any capacity-building within your organization? Within your community stakeholders?

Yes. It was a terrific project for capacity building as we were working with post-secondary stakeholders and career educators across Canada. There was also capacity building in terms of funding as the CERIC project “Accessibility and Universal Design in Career Transitions Programming and Services” was built upon “The Landscape of Accessibility and Accommodations in Post-Secondary” project, which was funded by the Social Development Partnerships Program of Employment and Social Development Canada and we received support from the Ontario Human Capital Research Innovation Fund, Ministry of Training Colleges and Universities for aspects of our research. So, we leveraged and increased the capacity of our stakeholders in the disability and post-secondary communities and we sought funding from grants and contributions programs that increased our research capacity.

How might the learnings from the project impact your service, methods and future thinking?

The CERIC project “Accessibility and Universal Career Transition Programming and Services” and its various reports and consultations with disabled students and other stakeholders have resulted in data and recommendations that will determine the work of the National Educational Association of Disabled Students (NEADS) going forward to support career and employment aspirations of Canadian post-secondary students and graduates with disabilities. The project will greatly benefit policy-makers working in the federal and provincial governments; career and accessibility services staff at Canadian colleges and universities, other non-governmental organizations and employers.

If the project involved collaborating with another/other organization(s), what lesson(s) did you learn about your collaboration process?

We learned that the collaboration process requires ongoing consistent communication between team members.

If your project included revenue generation/cost recovery strategies, what lessons did you learn?

Not applicable.

Did you undertake any anticipated or unanticipated political activities with funds provided for this project partnership?

No.

NEXT STEPS AND RECOMMENDATIONS

What next steps would you recommend to enhance work done through the project or contact information for those interested in their area of work or, again, future projects to continue to support evaluation?

As mentioned previously, career educators have identified that professional development resources that foster their preparedness to work with students with disabilities are required to enhance their ability to successfully work with this population, and to maximize the impact of their interventions. Furthermore, understanding the current transition issues for students with disabilities as well as existing innovative practices within the field better enable the creation of effective professional development resources for career educators.

We are now in discussions with the Canadian Association of Career Educators and Employers (CACEE) regarding the potential for another submission to CERIC to develop an accessible online resources for disabled students and career educators on Canadian college and university campus which will describe programs and services specifically for disabled students and graduates through post-secondary-based career and employment services offices. This resource would be of benefit to career professionals in the post-secondary sector and for disabled students seeking to enhance the development of their employment and workplace experiential learning through part-time work during the school year, summer employment and paid internships, co-op placements and mentorships. We are also in the process of furthering connections with the Learning Branch of Employment and Social Development Canada to determine how our research and learnings can benefit federal employment programs including the Federal Student Work Experience Program (FSWEP), the Canada Summer Jobs Program, etc.

APPENDIX A

Post-secondary students with disabilities face gaps in career education services (May 10, 2019)

While there has been progress in advancing inclusion for students with disabilities in Canadian colleges and universities, there is still work to be done to reduce structural barriers, discrimination and alienation from access to career education and work-integrated learning, according to the Final Report of a CERIC-funded project undertaken by the National Educational Association of Disabled Students (NEADS). The report, *Accessibility and Universal Design in Career Transitions Programming and Services*, finds that students with disabilities need greater opportunities to build their skills and career-related experience, whether through co-op placements, mentorship or volunteering.

This NEADS report aggregates findings from a range of research that looks at different data-sets and populations of disabled students and includes a survey of post-secondary career educators. The purpose of the report is to help increase understanding of existing gaps and guide best practice models for accommodations and universal design in career education for students with disabilities. CERIC's support allowed for an expansion of the scope of research within the landmark *The Landscape of Accessibility and Accommodation for Post-Secondary Students with Disabilities in Canada* project funded by Employment and Social Development Canada from 2016-2018, which is a thorough examination of current accessibility, services, accommodations, technical equipment and supports for students with disabilities at publicly funded post-secondary institutions across Canada.

Overall, the key messages related to career development that emerge from the research include:

Accessibility and inclusion efforts in the post-secondary environment have lagged behind the evolution of the student experience and are limited to the academic (classroom and online learning) environment; in particular, accessibility in the co-curricular, professional development and work-integrated learning spaces needs to be developed.

Students with disabilities are often lacking in non-academic experiences that can lead to employment including: summer employment, part-time work during the school year, co-op placements and internships.

Significant transition barriers into, between, and out of levels of post-secondary education remain, with particular challenges faced by disabled students transitioning into post-secondary, and from post-secondary into the labour market.

Additional analysis for the report was done using the Statistics Canada 2012 Canadian Survey on Disability and the 2015 Canadian University Consortium study. The consortium study includes survey data on types of work experience; motivation for pursuit of higher education and career goals; and steps to prepare for employment among students with disabilities. The Canadian Graduate and Professional Student Survey (2016), which specifically focuses on graduate students with disabilities, was also examined. It includes a snapshot of the experience of Indigenous graduate students with disabilities and graduate students pursuing STEM disciplines. Collectively, this reporting on the education and employment experiences of Canadians with disabilities in college or university programs provides valuable context and insights.

Some notable findings:

Of the 3,775,910 Canadians with disabilities aged 15 years and older, 190,290 are attending a post-secondary institution.

University students with disabilities are younger, slightly more likely to be female, much less likely to identify as Indigenous, more likely to be an immigrant and slightly less likely to be a member of the visible minority population than non-university students with disabilities.

The most prevalent type of disability reported among university students is pain. This type of disability is frequently reported together with mobility and/or flexibility disabilities and/or disability as a result of a mental-health condition. Mental health was the second most prevalent disability reported.

The employment rate of Canadians aged 25 to 64 with disabilities was 49%, compared with 79% for Canadians without a disability. The difference in employment rates between persons with disabilities and those without a disability was lower among university graduates.

Graduate students with disabilities are typically older than graduate students not reporting disabilities. They are also more likely to be enrolled in arts and humanities and less likely to be enrolled in business/management and engineering programs.

Approximately 60% of graduating students with disabilities plan to continue with further education or career development after graduation, with 38% expected to apply to graduate school and 22% expected to apply to professional school.

Thirty-one percent of students with disabilities say they have employment arranged for after graduation. Among those, 44% report the work as having a strong correlation with the skills and knowledge they acquired and 38% say it required their specific degree.

Nearly all graduating students with disabilities have taken at least one step to prepare for employment after graduating, usually informally through talking with peers, parents or professors about career options.

As part of this research project, NEADS also conducted a nationwide survey in late 2018 /early 2019 of career education professionals in Canadian post-secondary institutions in order to understand their experiences working with students with disabilities. Some of the challenges noted by respondents include:

Issues and questions students have regarding disclosure to employers;

Lack of awareness or resources to support diverse conditions by institution or employers;

Employers are still slow to hire people with diverse abilities due to lack of awareness, will or supports; and

Structural barriers that exist within the institution.

The report notes that a key issue is that disability services centres on Canadian college and university campuses are funded to provide academic accommodations, but not accommodations in other learning environments. For students with disabilities, the potential for significant barriers to accessing the co-curricular learning environment exists. Disability offices do not often have the staff to devote to working with other student services portfolios, such as career educators on campus, in preparing them to work with students with disabilities.

The report encourages career educators to increase their knowledge base to support the specific challenges that students with disabilities experience and to consider how – from universal design to employment accommodations – they can better transform this knowledge into programming within their post-secondary institutions.

<https://ceric.ca/2019/05/post-secondary-students-with-disabilities-face-gaps-in-career-education-services/>

APPENDIX B

Diversity in Post-Secondary Career Education: Strategies for Universal Design

By Michaela Burton, Natalie Geiger and Mahadeo Sukhai

How to meet the needs of students with a wide range of cultural experiences, socioeconomic backgrounds, and cognitive and physical abilities

Within today's competitive global knowledge economy, career education programs play a vital role in the employment outcomes of growing numbers of diverse post-secondary students (Benz, Lindstrom, & Yovanoff, 2000; Berry & Domene, 2015; Flannery, Yovanoff, Benz, & Kato, 2008; Lindstrom, Doren, & Miesch, 2011). Perceptions of post-secondary students' cognitive and physical abilities, social class, culture, race/ethnicity and experiences both within and outside the institution influence the way students are treated by employers and the future opportunities to which they have access (Lindsay & DePape, 2015; Trainor, 2012; D'Amico & Marder, 1991). Career educators have the capacity to increase access to the labour market for *all* students by building career development programs and strategies, work-integrated learning (WIL) opportunities, and relationships with employers rooted in celebrating students' diverse characteristics, cultural backgrounds, experiences and ways of thinking.

In fact, we believe that one of the most important factors in shaping the long-term health of the Canadian economy and our post-secondary institutions in today's diverse global village is a shift toward a culture of universal design in post-secondary career education. This shift is highlighted in a recent CERIC-funded research project on "Accessibility and Universal Design in Career Transitions Programming and Services" led by the National Educational Association of Disabled Students (NEADS), a part of the larger NEADS "Landscape of Accessibility and Accommodation for Students with Disabilities in Canadian Post-Secondary Education (2016-2018)" initiative funded by the Government of Canada.

Post-secondary career education built upon universal design

Universal design is founded upon the principle of equity, placing high value on diversity and inclusiveness (Burgstahler, 2012; Story, Mueller, & Mace, 1998). In other words, asking "How can a product, service or environment be designed and operated so that users have equitable access?" Within the context of universally accessible post-secondary career education, programming and the spaces and facilities in which it is delivered should be designed and implemented for students with a wide range of abilities, ages, life stages, learning styles, native languages, cultural backgrounds and other characteristics (Burgstahler, 2017).

Providing access is dependent on assessing users' experiences and needs. It is crucial that those working in the career education space remain cognizant of their own *implicit biases* or *self-reference points* and consider student input when providing support to students. Based on their unique set of experiences, a student's needs in relation to gaining career development skills or jobseeking may reach beyond the scope of standard employment skill development, job application or hiring practices. For example:

- Navigating disclosure and workplace accommodations for a student with a disability;
- Connection to native language, country and region and/or cultural differences in employment etiquette for an international student or student of another cultural or ethnic group membership;
- Affordable access to professional clothing and networks for a student of low socioeconomic status;
- Emphasis on transferable skill application and assistance with obtaining suitable employment skill training opportunities (e.g., experiential learning, internships, volunteering and part-time work for students with added time and energy barriers, such as students with disabilities and varsity and Olympic student-athletes).

While each jobseeker might differ in their personal experiences and identification with these personal experiences, the following are some fundamental needs that may remain constant for students when accessing career education programs and services:

- (1) Sustainable and secure economic well-being as a means to engage in a secure quality of life.
- (2) Peripheral resources such as social/transportation/technological supports that can maintain their academic and career aspirations.
- (3) Feelings of security, progressive development and worthwhile investment in the type of education and employment they pursue.

Catering to these universal career development needs, while recognizing students' distinct personal, developmental and experiential differences, will make a career education program more usable for everyone. Significantly, access for all minimizes the need for special accommodations for some students and employees. Taking steps to embed universal design thinking at the onset of career education program and service development will save time, energy and cost for students, employees, the institution and employers in the long run.

Empowering the career educator: Universal design best practices

As we write this article, we recognize that the career educator is one person whose role requires a team of cross-collaboration for success. Further, rather than a silo-culture of career education, a culture of teamwork, accessibility and universal design thinking is required throughout all student service programs at the post-secondary institution. It is essential for everyone to talk about inclusion, and to care about inclusion. If someone is not sure how to support a student, they should be able to work with someone else on campus or in the community who may understand aspects of a particular student's needs and integrate this information into their practice. When each person practices their role with this intent, a culture of inclusion and universal design starts to form.

The following are some concrete examples of how career educators can contribute to forming a culture of inclusion and universal design in their role of supporting students with career development:

Student engagement

- Be open to students' narratives on a variety of factors which shape their day-to-day experience, and by extension, their employment-related interests and skills; include why they chose their academic program and the skills they feel they have gained from this education, their cultural background and what interests, characteristics and experiences they identify with, what kind of environment they would like to live and work in, what type of environment enables them to work their best, what challenges they are currently experiencing at the institution.
- Ask students what methods they use to navigate information; work with them on problem-solving how they can most efficiently use their time to gather career-related information or apply to jobs.

Communications support

- Obtain knowledge about where the assistive technologist is on campus; work with staff to prepare an information/communication plan if a student requests communication software for meetings.
- Gain familiarity with multiple sources of communicative methods and devices outside of French and English (e.g., American Sign Language); develop strategies to meet the needs of students who may speak other languages.
- Be prepared to provide multiple means of information to students regarding career education programs and services, and employment opportunity information (e.g., print format; electronic; speech-to-text; JAWS); encourage partner employers to provide information in accessible formats, where possible.
- Facilitate opportunities for all employees within the career education team to learn about specialized accessible computer technologies.

Employment preparation

- Prepare all students for interacting in diverse ways with employers in varying contexts (e.g., informational interviewing, different methods of informal and formal networking, job application components, interview processes, hiring and onboarding processes, goal-setting and expressing accommodation needs); ask "Will students be comfortable or able to follow standard forms of etiquette?"
- Prepare all students to practically articulate their previous experiences and invested time to prospective employers in a communicative format that is digestible and understandable (Elias, 2015; Wentz, 2013). All experience is valuable!
- Provide guidance to students on navigating employment-related challenges such as disclosure of a disability, cases of discrimination and obtaining professional clothing for interviews (e.g., *Dress for Success* program).
- Emphasize learning and application beyond the classroom (e.g., co-curricular and work-integrated learning) when working with diverse students, and work with other student service providers, professors and employers to facilitate their equitable access to these experiences.

Campus, alumni and employer engagement

- Be versed with other student service departments on campus, such as the Disability Service Office and Indigenous Student Services; partner with the student and a counsellor (especially those the student is familiar with) to prepare career plans.
- Engage diverse alumni to create diverse mentorship programs; connect students to informal diverse networking platforms (e.g., Ten Thousand Coffees) to enable students to talk about employment-related issues with individuals they can relate to who are in the field.
- Engage diverse alumni and employers who have expressed that increasing diversity is a priority in creating work-integrated learning and employment recruitment opportunities for diverse students, particularly students who identify with disabilities.

Career education is increasingly recognized as a critical component of the post-secondary student experience and of graduate success. The application of universal design principles in career education has enormous potential to improve access to the labour market for diverse student populations. By implementing best practices in universal design, career educators will maximize the impact of their interventions to support all students in successfully transitioning from education to the workforce.

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Dr Mahadeo A. Sukhai is the Head of Research and Chief Accessibility Officer for the CNIB, and the Director of Research for the National Educational Association of Disabled Students. Dr Sukhai serves as the principal investigator for national projects to understand the student experience for persons with disabilities, and to examine the landscape of accessibility within Canadian post-secondary education.

References

- Benz, M. R., Lindstrom, L., & Yovanoff, P. (2000). Improving Graduation and Employment Outcomes of Students with Disabilities: Predictive Factors and Student Perspectives. *Exceptional Children*, 66(4), 509-529.
- Berry S., Domene J. F. Supporting Postsecondary Students With Sensory or Mobility Impairments in Reaching Their Career Aspirations. *Career Development and Transition for Exceptional Individuals*, 38(2), 78-88.
- Billett, S. (2009). Realising the educational worth of integrating work experiences in higher education. *Studies in Higher Education*, 34(7), 827-843.
- Burgstahler, S. (2012). *Universal Design in Education: Principles and Applications*. University of Washington. Retrieved from <https://www.washington.edu/doit/sites/default/files/atoms/files/Universal-Design-Education-Principles-Applications.pdf>
- Burgstahler, S. (2017). *Equal Access: Universal Design of Career Services*. University of Washington. Retrieved from <https://www.washington.edu/doit/equal-access-universal-design-career-services>.
- Carter, E.W., Austin, D., & Trainor, A.A. (2012) Predictors of postschool employment outcomes for youth adults with severe disabilities. *Journal of Disability Policy Studies* 23, 50-63.
- D'Amico, R., & Marder, C. (1991). *The early work experiences of youth with disabilities: Trends in employment rates and job characteristics*. Menlo Park, CA: SRI International.
- Elias, K. (2014). *Employer Perceptions of Co-Curricular Engagement and the Co-Curricular Record in the Hiring Process*. Unpublished master's thesis, Ontario Institute for Studies in Education/University of Toronto, Toronto, Canada.
- Flannery, K., Yovanoff, P., Benz, M., & Kato, M. (2008). Improving employment outcomes of individuals with disabilities through short-term postsecondary training. *Career Development for Exceptional Individuals*, 31(1), 26-36.
- Lindsay, S., & DePape, A.M. (2015). Exploring Differences in the Content of Job Interviews between Youth with and without a Physical Disability. *PLOS ONE*, 10(3), 1-16.
- Lindstrom, L., Doren, B., & Miesch, J. (2011). Waging a living: career development and long-term employment outcomes for young adults with disabilities. *Exceptional Children*, 77(4), 423-434.
- Story, M. F., Mueller, J. L., & Mace, R. L. (1998). *The universal design file: Designing for people of all ages and abilities*. Raleigh: North Carolina State University, The Center for Universal Design.
- University of Toronto White Paper. (2017). *Rethinking Higher Education Curricula: Increasing Impact Through Experiential, Work-Integrated, and Community-Engaged Learning*. Toronto: University of Toronto, 1-18.
- Wente, M. (2013, Dec. 5). Why can't today's graduates get hired? *Globe and Mail*. Retrieved from <http://www.theglobeandmail.com/globe-debate/why-cant-todays-graduates-gethired/article15771887/>.

APPENDIX C

Comparison of STEM and Non-STEM Graduate Students with Disabilities using The Canadian Graduate and Professional Student Survey (2016) Ottawa, October 23, 2018

As part of the "Landscape of Accessibility and Accommodation for Post-Secondary Students With Disabilities in Canada" national study, the National Educational Association of Disabled Students (NEADS) has conducted a detailed analysis of the 2016 [Canadian Graduate and Professional Student Survey](#) (CGPSS) to examine the experiences of 2,324 graduate students who identify as having a disability. We previously released reports in which we compared [graduate students with and without](#) disabilities as well as part-time and full-time graduate students with disabilities. We are pleased to now share the next report in this series where we compare graduate students with disabilities in Science, Technology, Engineering, and Math (STEM) disciplines to those in non-STEM programs.

The reports that NEADS will be releasing from this work were completed by [Kathleen Clarke](#), a Research Associate at NEADS. She offered the following comment:

"Research concerning students with disabilities in STEM disciplines has examined a variety of topics including the prevalence of types of disabilities, teaching strategies, and accommodations. The graduate education environment differs from the undergraduate level and in turn warrants research on STEM students with disabilities in this specific context. This work not only addresses a gap in our understanding of this specific group of students but it does so within a Canadian context, a perspective that has been underexplored."

Some of the findings from this work include:

- Several demographic differences were found in terms of: age (students in Non-STEM were typically older); marital status (more students in Non-STEM were married); number of children (more students in Non-STEM had children)
- Respondents rated institutional efforts to accommodate their disability similarly, with 67% of STEM students and 63% of non-STEM students responding with Excellent/Very Good/Good.
- Students' reasons for enrolling in their current program differed based on discipline. While 39% of non-STEM students responded their reason was to 'equip them to start a career or advance an existing career in academia', only 29% of STEM students responded in this way. Slightly more STEM students responded they were looking to advance a career outside of academia, or to satisfy their interests in the field, in comparison to non-STEM students.
- For satisfaction with program, quality of interactions, and coursework, non-STEM respondents rated a few items more favourably than STEM students.
- The greatest difference between the two samples was on 'relationship of content to my research/professional goals' where 76% of STEM students and 85% of students in non-STEM programs responded with Excellent/Very Good/Good.
- STEM students meet with their advisor more frequently to discuss both ongoing research results as well as their dissertation writing.
- While 69% of STEM students responded that they are expected to meet at least annually with their advisory committee, only 45% of non-STEM students responded in the same way.
- One main difference was found in the financial support section: With off campus employment, 27% of non-STEM students and only 19% of STEM students indicated they used this type of support.
- Overall, graduate students with disabilities in STEM programs have a greater amount of debt at both the undergraduate and graduate levels, in comparison to graduate students with disabilities in non-STEM programs.
- The obstacle that was considered a 'major obstacle' by the highest number of respondents for both groups was 'work/financial commitments'. While 35% of STEM students responded that it was a major obstacle, this was much higher for students in non-STEM programs, at 47% (a difference of 12%).

The full report with the detailed findings can be found at the bottom of this press release in Word and PDF formats.

NEADS would like to thank the [Canadian Association of Graduate Studies](#) (CAGS) for organizing this survey and for also granting us access to the data for our analyses. Additionally, we gratefully acknowledge grant funding support for this research from the Social Development Partnerships Program, Employment and Social Development Canada, the Ontario Human Capital Research and Innovation Fund, Government of Ontario and the Canadian Education and Research Institute for Counselling, Counselling Foundation of Canada.

For further information about this research contact our national office: National Educational Association of Disabled Students (NEADS) Rm. 514 Unicentre, Carleton University Ottawa, Ontario, K1S 5B6

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Download and read the report here in Word and PDF formats:

STEMAnalysis_Oct22 PDF: http://neads.ca/en/about/media/STEMAnalysis_Oct22.pdf

STEMAnalysis_Oct22 Word: http://neads.ca/en/about/media/STEMAnalysis_Oct22.docx

APPENDIX D

Comparison of Full-time and Part-time Graduate Students with Disabilities using The Canadian Graduate and Professional Student Survey (2016) Ottawa, October 24, 2018

As part of the "Landscape of Accessibility and Accommodation for Post-Secondary Students With Disabilities in Canada" national study, the National Educational Association of Disabled Students (NEADS) has conducted a detailed analysis of the 2016 [Canadian Graduate and Professional Student Survey](#) (CGPSS) to examine the experiences of 2,324 graduate students who identify as having a disability. Specifically, we first compared their experiences to those of their non-disabled peers and found several key differences. [In our report](#), we detailed findings such as how more graduate students without disabilities said they would recommend their program or university to others and that students without disabilities were typically more satisfied with their program, the quality of interactions, and their coursework, in comparison to students with disabilities. Because of such differences, further analyses were completed to examine what differences might exist between various subpopulations of students with disabilities.

The reports that NEADS will be releasing from this work were completed by [Kathleen Clarke](#), a Research Associate at NEADS. She offered the following comment:

"How can institutions, student services departments, and academic programs tailor support for subgroups of graduate students with disabilities? To answer this question, we must first learn more about what differences exist based on various student characteristics. NEADS will be releasing a series of reports that seek to broaden the understanding of specific subpopulations of graduate students with disabilities including: part-time/full-time students; STEM/non-STEM students; Aboriginal students; and students with different types of disabilities. This is important work that I hope informs the way students are supported throughout their educational journeys."

Below, we are pleased to share the first report in which we present findings from a comparison of part-time and full-time graduate students with disabilities. Some of the findings from this work include:

- Several demographic differences were found in terms of: age (part-time students typically older); marital status (more part-time students were married); number of children (more part-time students had children)
- Most common disability for both groups was mental health.
- More part-time students were in course-based programs and were enrolled in masters programs.
- Full-time and part-time students with disabilities had similar reasons for enrolling in their programs: 36% of full-time students and 39% of part-time students indicated that they enrolled to equip them to start a career, or advance an existing career in academia.
- Slightly more part-time students indicated they would recommend their program and university to others in comparison to full-time students.
- When rating the satisfaction with their program, the quality of interactions, and their coursework, part-time students typically rated items more favourably than full-time students.
- When rating various professional skills development activities, full-time students rated almost all items more favourably than part-time students. However, in most cases, slightly more part-time students responded that they either did not participate in these things or they were not applicable to them.
- For activities concerning research experience, more full-time respondents rated the items favourably. However, similar to the professional skills development activities, more part-time students said they either did not participate in these things or they were not applicable to them.
- 39% of part-time students and 21% of full-time students indicated they were away from campus most of the time.

The full report with the detailed findings can be found at the bottom of this press release in Word and PDF formats.

NEADS would like to thank the [Canadian Association of Graduate Studies](#) (CAGS) for organizing this survey and for also granting us access to the data for our analyses. Additionally, we gratefully acknowledge grant funding support for this research from the Social Development Partnerships Program, Employment and Social Development Canada, the Ontario Human Capital Research and Innovation Fund, Government of Ontario and the Canadian Education and Research Institute for Counselling, Counselling Foundation of Canada.

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CGPSSEnrollmentStatusComparison Oct22 Word: http://neads.ca/en/about/media/CGPSSEnrollmentStatusComparison_Oct22.docx

APPENDIX E

Accommodating students with disabilities on campus: moving beyond silos

A new report looks at how accessibility and accommodations are meeting the needs of disabled students across Canada.

BY MICHAEL RANCIC | NOV 21 2018

A new study aims to challenge how accessibility and accommodations are understood at postsecondary institutions. Released in October, the *Landscape of Accessibility and Accommodation in Post-Secondary Education for Students with Disabilities* [report](#) says that accessibility remains “silos’ed” within postsecondary education.

“Accessibility and inclusion efforts in the postsecondary environment have lagged behind the evolution of the student experience and are limited to the academic (classroom and online learning) environment,” reads the report, published by the National Educational Association of Disabled Students (NEADS).

Founded in 1986, NEADS’ mandate is to support access to education and employment for postsecondary students and graduates with disabilities across Canada. The Social Development Partnerships Program of Employment and Social Development Canada funded the Landscape project in 2016 to help inform the federal government’s new national accessibility legislation, known as [Bill C-81](#), *An Act to ensure a barrier-free Canada*. The bill went through its first reading in June 2018 and was referred to committee in September for further study.

“We recognized that it was very important that postsecondary students and graduates with disabilities have a significant input into the consultations relating to a federal disability act,” said Frank Smith, NEADS’ national coordinator.

Beyond the opportunity to influence new federal legislation, there were more pressing reasons that necessitated the report, said Mr. Smith. “[NEADS] started in 1986 – that was before most students were using computers, the internet, social media. It was a time when, if you were a blind student, you got your books on tape,” he said.

“What has happened since then with technology, online learning and distance education has really helped to level the playing field for many people with disabilities who, without technology, would not be able to fully participate,” Mr. Smith continued. However, technology has also introduced new challenges: with more students with disabilities able to participate on campus, is the accommodation process working for them the best that it can? How is the rest of campus life meeting their needs? This rapidly shifting learning dynamic hasn’t been studied with this kind of national scope, Mr. Smith explained.

“We often don’t look at ... whole systems across a nation,” said Christine Arnold, one of the co-investigators for the Landscape report and an assistant professor in the faculty of education at Memorial University (the two other co-investigators were Michelle Pidgeon, an associate professor of education at Simon Fraser University, and Deanna Rexe, vice-president, academic, at Assiniboine Community College). “I don’t know that we’ve seen this comprehensive of a scan across the entire country looking at the policies, programs and the literature,” said Dr. Arnold.

The project was a collaborative effort between researchers at SFU, Assiniboine and Memorial, along with a team of 15 graduate students with disabilities. The report and its recommendations came from a substantive literature review, environmental scans, data analysis from surveys like the Canadian Graduate Survey, as well as consultations with students, service providers and educators at various conferences across the country.

The report makes numerous recommendations for policy changes at the federal, provincial and institutional levels (the latter includes service providers, teaching staff and libraries).

These include: “Mandate accessibility of features, methods, applications and protocols used by persons with disabilities in navigating education and employment,” meaning that accessibility shouldn’t be limited to certain areas of education and employment; and “Mandate postsecondary institutions to outline a nationally accepted set of essential requirements for all their programs of study,” which aims to eliminate the current regional and provincial disparities that exist with respect to policies and practices around accessibility and inclusion.

Information gaps

Across all recommendations, some themes emerged, said Dr. Arnold. First and foremost was the limited amount of research previously done in this area. “We found there were gaps – gaping gaps at times,” she said.

Identifying those gaps was a key step before more original research could take place, Dr. Arnold added. “We know there’s real appetite to do this work and we know that it’s becoming increasingly important ... as we open up access for students and we’re trying to accommodate more students and try to make sure they’re successful.”

Dr. Arnold cited the example of student transitions – within institutions, between institutions and from postsecondary education into the job market – as an area that’s of particular interest to her, and yet a literature review she conducted yielded little research. “How do our services allow our students to make those transitions successfully and where do we fall down?” she asked.

Dr. Arnold also said more effort needs to be focused on the retention and attrition of students, making sure that they have supports they need and know where to find them. “A lot of the literature focuses on support for students with disabilities with regard to their coursework – their academics, making sure they’re proceeding in their program – but there’s this whole other dimension of student life,” she said.

Acknowledging this, the Landscape report suggests that accommodations need to be built into programs and initiatives that fall under student services or student affairs. “Co-curricular experiences, work-oriented learning, experiential learning, leadership opportunities – all of these need to have accommodations built into them,” she said.

Jay Dolmage, an associate professor of English at the University of Waterloo who researches disability accommodations, said the NEADS report reveals a culture that’s failing its disabled students. “Offices of disability services, especially in Canada, are doing a good job within the parameters – they’re often really underfunded and understaffed. But, there’s also a cultural stigma against disability that makes it difficult to do that job effectively,” he said, noting that, according to the multi-year accountability agreements published by each university, fewer students are seeking accommodations from one year to the next.

Dr. Dolmage added: “Universities map disability as a legal requirement and as something that needs to be medically verified, but they might not necessarily recognize disability as an important source of diversity or as a culture.” Mr. Smith at NEADS agreed: “That medical approach doesn’t speak to the individual learning path or requirement of the student who happens to have a disability.”

Fundamentally, said Dr. Arnold, the report and its recommendations are rooted in a push for universal planning in education. “There are always going to be specific accommodations,” she said. “However, if we can be more universal and plan for those in advance, we would be doing ourselves a great favour and our students would be able to see themselves in the programming. Seeing yourself there and knowing you’ll be comfortable is honestly at times half the struggle.”

APPENDIX F

Nation-wide Accessibility Research Opportunity for Post-Secondary Career Educators

Are you a Post-Secondary Career Services Professional (Career Educator) or Co-op Placement Coordinator?
Do you find it particularly challenging and/or rewarding to engage and support students with disabilities in Career Education?
Do you experience challenges with implementing inclusive and accessible career education programming at your institution?

Consider participating in this study.

Survey Link: <http://ca.surveygizmo.com/s3/50017149/Landscape-of-Accessibility-and-Accommodation-for-Postsecondary-Students-with-Disabilities-in-Canada-Career-Educator-Survey>

What is this study about?

- Gathering perspectives on current practices and experiences on supporting students with disabilities in Career Education at Canadian post-secondary institutions
- Examining the current landscape in Canadian Post-secondary Education of accessible and inclusive Career Education programming
Who can participate?
- Canadian Post-secondary Career Services Professionals – e.g., Career Counsellor/Advisor, Employment/Co-op Placement Coordinator, Career Services Event Planner, Career Centre Director, etc.

What's involved?

- Online survey using Canadian survey development platform, Survey Gizmo
- This survey will take approximately 20 minutes to complete
- There are no known risks to participating! All individuals and institutions will remain confidential in the analysis and reporting of results

What are the benefits to participating?

- You will provide feedback to post-secondary education institutions and the Canadian federal government on the following:
- Career Education programming for post-secondary students with disabilities
- Policies, Procedures, and Best Practices in accessibility and accommodations for the engagement of students with disabilities in post-secondary career education programming
- Preparing post-secondary students with disabilities for transitions to the workplace

Please respond to this survey by January 15, 2019. The funding for this study was provided to the National Educational Association of Disabled Students (NEADS) by The Canadian Education and Research Institute for Counselling (CERIC) under the project Accessibility and Universal Design in Career Transitions Programming and Services.

National Educational Association of Disabled Students (NEADS)

Rm. 514 Unicentre, Carleton University

Ottawa, Ontario, K1S 5B6

www.neads.ca

<https://www.facebook.com/myNEADS/>

<https://www.canadahelps.org/dn/344>

APPENDIX G

Cannexus19 Presentation Slides

Career Services for Students with Disabilities: From Post-Secondary to Rewarding Careers –

Frank Smith, National Coordinator, NEADS;
Daniel Patterson, Communications and Social Media Support Officer, NEADS;
and **Laura Brawn**, Research and Development Officer, David C. Onley Initiative, Carleton University



Overview of the Landscape Project:

- The 'Landscape of Accessibility and Accommodation' project funded by Employment and Social Development Canada -- from 2016-2018 -- is a thorough examination of the current landscape of accessibility, services, accommodations, technical equipment and supports for students with disabilities at publicly-funded post-secondary institutions across Canada.
- This research contributes to the Government of Canada's emphasis on access to education and training for persons with disabilities, leading to their participation in the competitive labour market.
- Specifically, purpose of report is to support federal Accessible Canada Act.
- A CERIC funded project "Accessibility and Universal Design in Career Transitions Programming and Services," commenced in 2017 expanded the scope of research.



Cannexus19 Presentation Slides

Landscape Project Overview – continued:

NEADS gratefully acknowledges significant grant funding support for this research from:

- Social Development Partnerships Program, Employment and Social Development Canada,
- The Ontario Human Capital Research and Innovation Fund, Government of Ontario,
- CERIC for a specific project “Accessibility and Universal Design In Career Transitions Programming and Services.”

The project included a team of researchers working across Canada in Ottawa, Toronto, at Simon Fraser University in British Columbia, Assiniboine Community College in Manitoba and Memorial University of Newfoundland and Labrador.

We employed 15 graduate students with disabilities to conduct most of the research in all locations across the country.



Reports Released as Part of the Landscape Project:

- Comparison of Full-time and Part-time Graduate Students with Disabilities using The Canadian Graduate and Professional Student Survey (2016) – NEADS, October 2018
- Comparison of STEM and Non-STEM Graduate Students with Disabilities using The Canadian Graduate and Professional Student Survey (2016) – NEADS, October 2018
- The Landscape of Accessibility and Accommodation for Post-Secondary Students With Disabilities in Canada report (2018) – NEADS, October 2018
- Post-Secondary Students With Disabilities: Their Experience Past and Present: An Analysis of the Statistics Canada 2012 Canadian Survey on Disability – NEADS, May 2018
- Currently analyzing Canadian University Survey Consortium data, 2015 Graduating University Student Survey which includes 36 universities and over 18,000 graduating university students across Canada of which 17% self-identify as having a disability.
- Final report to CERIC for project “Accessibility and Universal Design In Career Transitions Programming and Services” due end of February, 2019



Cannexus19 Presentation Slides

Research findings from the Landscape Project:

Through our national consultations from fall 2016 to June, 2018 we have consistently heard several key messages:

- In many ways, accessibility remains silo'ed within post-secondary education; progress toward models of inclusion and universal design is slow and exists in pockets across the country;
- Good faith efforts to improve accessibility and inclusion for students with disabilities exist within the post-secondary system;
- Accessibility and inclusion efforts in the post-secondary environment have lagged behind the evolution of the student experience, and are limited to the academic (classroom and online learning) environment; in particular, accessibility in the co-curricular, professional development and work-integrated learning spaces needs to be developed;
- Students with disabilities are often lacking in non-academic experiences that can lead to employment including: summer employment, part-time work during school year, co-op placements and internships.



Research findings from the Landscape Project – continued:

- The intersectionality among universal design for learning, differentiated instruction, and essential requirements for courses, programs and disciplines in the context of accessibility and individual student's learner pathways has not been effectively understood within the post-secondary context;
- Significant transition barriers into, between, and out of levels of post-secondary education remain, with particular challenges faced by disabled students transitioning into post-secondary, and from post-secondary into the labour market;
- Accessibility and inclusion in the post-secondary environment are lagging behind technological advances; we continue to focus on specialized assistive solutions, as opposed to mainstream technological solutions, to accessibility challenges; and,
- Strong regional and provincial disparities exist with respect to institutional and provincial policies and practices around accessibility and inclusion in post-secondary education.



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Canadian Survey on Disability (2012)

- NEADS has conducted a detailed analysis of the 2012 Canadian Survey on Disability (Statistics Canada) reporting on the education and employment experiences of Canadians with disabilities in college or university programs of study in 2012 and/or having been enrolled in post-secondary education at some point from 2007 to 2012.
- The analysis and report preparation were completed for NEADS by Adele Furrie, with funding from Employment and Social Development Canada, with funding from the Social Development Partnerships Program.
- The analysis and report was part of The Landscape Project.



Canadian Survey on Disability Analysis (2012)

- The NEADS Landscape Project presents a comprehensive picture of the landscape of accessibility and accommodations for persons with disabilities pursuing higher education in publicly funded colleges and universities.
- This project contributes to the secondary analyses of existing surveys by providing an analysis of the data collected in the 2012 Canadian Survey on Disability (2012 CSD).
 - Of the 3,775,910 Canadians with disabilities aged 15 years and older, there were 325,170 who:
 - are attending school at the time of the 2012 CSD interview AND are attending a post-secondary institution OR
 - who were not attending school at the time of the 2012 CSD interview but had since September 2007 AND has a post-secondary degree, diploma or certificate.
 - Of the 325,170 who are attending post-secondary institutions or who attended recently, 190,290 or 58.5% are currently attending.



Cannexus19 Presentation Slides

Canadian Survey on Disability (2012) – continued

- Of the 3,775,910 adults with disabilities in Canada, 42% had some post-secondary education.
- University students with disabilities are younger, slightly more likely to be female, much less likely to identify as Indigenous, more likely to be an immigrant and slightly less likely to be a member of the visible minority population than non-university students with disabilities.
- Of those, 980,090 (62%) had some post-secondary non-university education and 605,100 (38%) report some post-secondary university education.
- Among the 980,080 Canadians with disabilities who report post-secondary non-university education, 21% are part of our research population; among the 605,100 who report post-secondary university education, 19.5% are part of our research population.



Canadian Survey on Disability (2012) – continued

University students with disabilities are:

- less likely to report more than one type of disability,
- less likely to be classified as having severe or very severe disability, and
- slightly more likely to have had their disability since before the age of 19 than non-university students with disabilities.
- For both research populations (non-university and university), the most prevalent type of disability is pain. This type of disability is frequently reported together with mobility and/or flexibility disabilities and/or disability as a result of a mental health condition.
- Among university students with disabilities, mental health was the second most prevalent disability reported; among non-university students, flexibility disability was the second most prevalent.



Cannexus19 Presentation Slides

Canadian Survey on Disability (2012) - Accommodations

- Just over one in four (84,830 or 26.1%) of students surveyed needed assistive devices, support services, modification to curriculum or additional time for testing to follow courses.
- This need was higher among university students with disabilities, 32.2% needing at least one of these accommodations, the most prevalent need being for extended time for tests or exams with 64,730 students indicating requirement.
- **The unmet need for this type of accommodation was significantly higher among non-university students with disabilities** - over one in five survey respondents who needed this accommodation, as of 2012, had not been receiving it.

Education level:	University	College/Other
% of unmet need (extended time):	8.3%	21.1%



Employment of Persons With Disabilities – Statistics Canada data

- In 2011, the employment rate of Canadians aged 25 to 64 with disabilities was 49%, compared with 79% for Canadians without a disability.

Employment rate among persons aged 25 to 64	
Mild disability	68%
Moderate disability	54%
Severe disability	42%
Very severe disability	26%

- The difference in employment rates between persons with disabilities and those without a disability was lower among university graduates.
- Approximately 1 in 2 university graduates, with or without a disability, held a professional occupation. However, graduates with a disability were less likely to hold a management position and earned less than those without a disability, especially among men (source: Martin Turcotte – Statistics Canada).



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Career Educators Survey - Nation-wide Accessibility Research Opportunity for Post-Secondary Career Educators (Survey ran until January 15, 2019)

- Gathered perspectives on current practices and experiences on supporting students with disabilities in Career Education at Canadian post-secondary institutions. Part of the CERIC project.
- Survey's purpose was to examine the current landscape in Canadian Post-secondary Education of accessible and inclusive Career Education programming.
- Who could participate?
Canadian Post-secondary Career Services Professionals – e.g., Career Counsellor/Advisor, Employment/Co-op Placement Coordinator, Career Services Event Planner, Career Centre Director, etc.



Advancing Career Development for Graduate Students with Disabilities: A Snapshot of the 2016 CGPSS Data

- Component of Landscape of Accessibility project.
- Report's focus is on secondary analyses that was completed on questions concerning career education and professional development from the 2016 Canadian Graduate and Professional Student Survey (CGPSS).
- Analyzed student engagement in post-secondary institutions across cultures and demographics.



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Advancing Career Development for Graduate Students with Disabilities: A Snapshot of the 2016 CGPSS Data

“...For students with disabilities, the potential for significant barriers to accessing the co-curricular learning environment exists. For instance and do not often have the staff resources to devote to working with other student services portfolios, such as the career educators on campus, in preparing them to work with students with disabilities.”

- Findings of report indicated that students with disabilities benefit greatly from extra-curricular employment/work experience opportunities, such as internships, co-op programming, volunteer opportunities and academic contests.

“Disability services centres on Canadian college and university campuses are funded to provide academic accommodations, but not accommodations in other learning environments”

NEADS

Example of support for experiential learning:



The **Carleton University Accessible Experiential Learning (CUAEL)** and **Accessible Career Transitions (ACT)** programs are the result of collaboration between the Paul Menton Centre for Students with Disabilities and Career Services and Co-op

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CUAEL <https://carleton.ca/cuael/>

- Ontario Government's Career Ready Fund
- Wage subsidies for approved positions
- Four fulltime staff, over 45 employer partners, on and off campus
- First placement began May 2018
- To date, has fulfilled 144 meaningful experiential learning placements for students with disabilities
- Until August 2019
- **ACT** will remain

ACT <https://carleton.ca/career/act/>

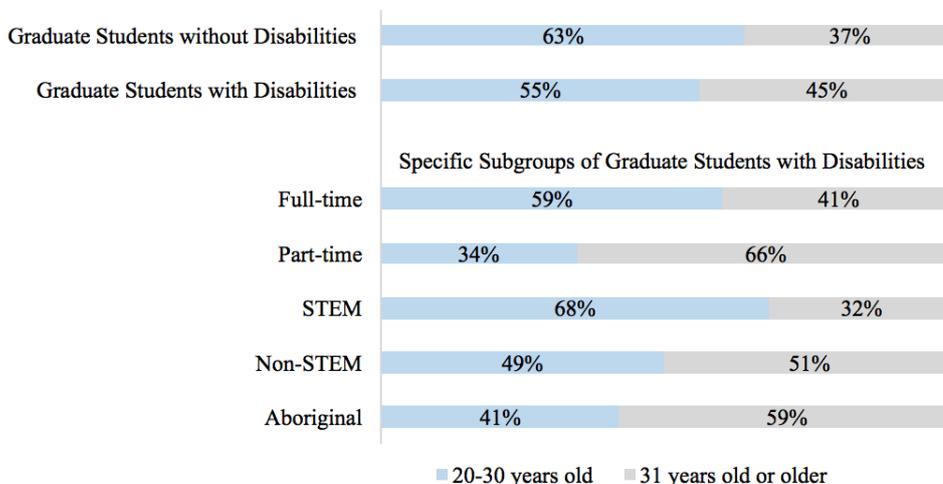
- One fulltime Career Advisor
- Individualized, Ongoing Support for Students and recent graduates with Disabilities
- Works in conjunction with CUAEL
- Resume preparation, job fit, disclosure, accommodations, interview preparation...
- Employment-related workshops for students with disabilities

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Questions for discussion:

1. What gaps exist in opportunities for co-curricular learning that are universally designed for students with various disabilities?
2. In general, how do the needs of master's students compare to those of doctoral students, in terms of: co-curricular learning opportunities; accommodations in the workplace; professional development; and transition to workplace needs?
3. What knowledge-base do we, as career educators, have in the specific challenges students with disabilities experience? In universal design? In employment accommodations? How can we (better) transform this knowledge into programming within our institutions?

Advancing Career Development for Graduate Students with Disabilities: A Snapshot of the 2016 CGPSS Data Continued – **age**:



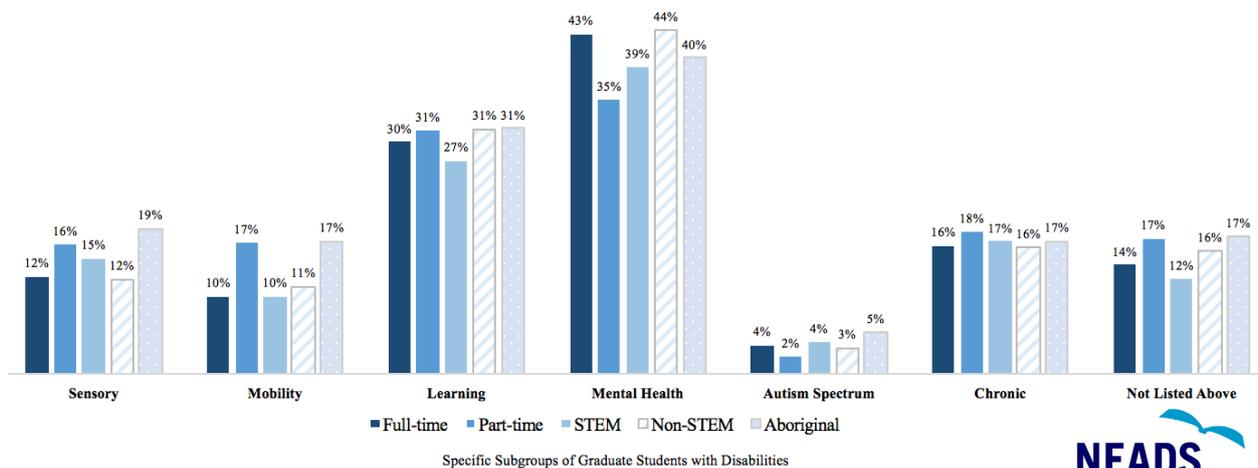
Cannexus19 Presentation Slides

Questions for discussion:

1. What trends might exist in the age of students who engage in professional development and career education activities?
2. How might career educators take the age of students with disabilities into consideration in their program planning?
3. If STEM students are the youngest group of students with disabilities, what specific career-related challenges might these students experience in comparison to: STEM students without disabilities? Non-STEM students with disabilities?



Advancing Career Development for Graduate Students with Disabilities: A Snapshot of the 2016 CGPSS Data continued – disability type:



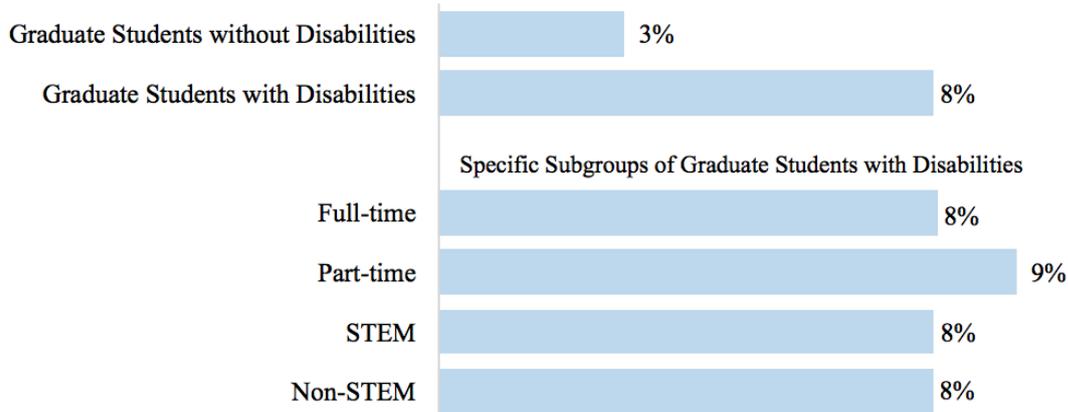
Cannexus19 Presentation Slides

Questions for discussion:

1. Are professional development opportunities designed in a way that the needs of students with various disabilities are accommodated using universal design principles?
2. Given mental health is the most common disability type, are career educators aware of the ways in which mental health disabilities are accommodated in the workplace?

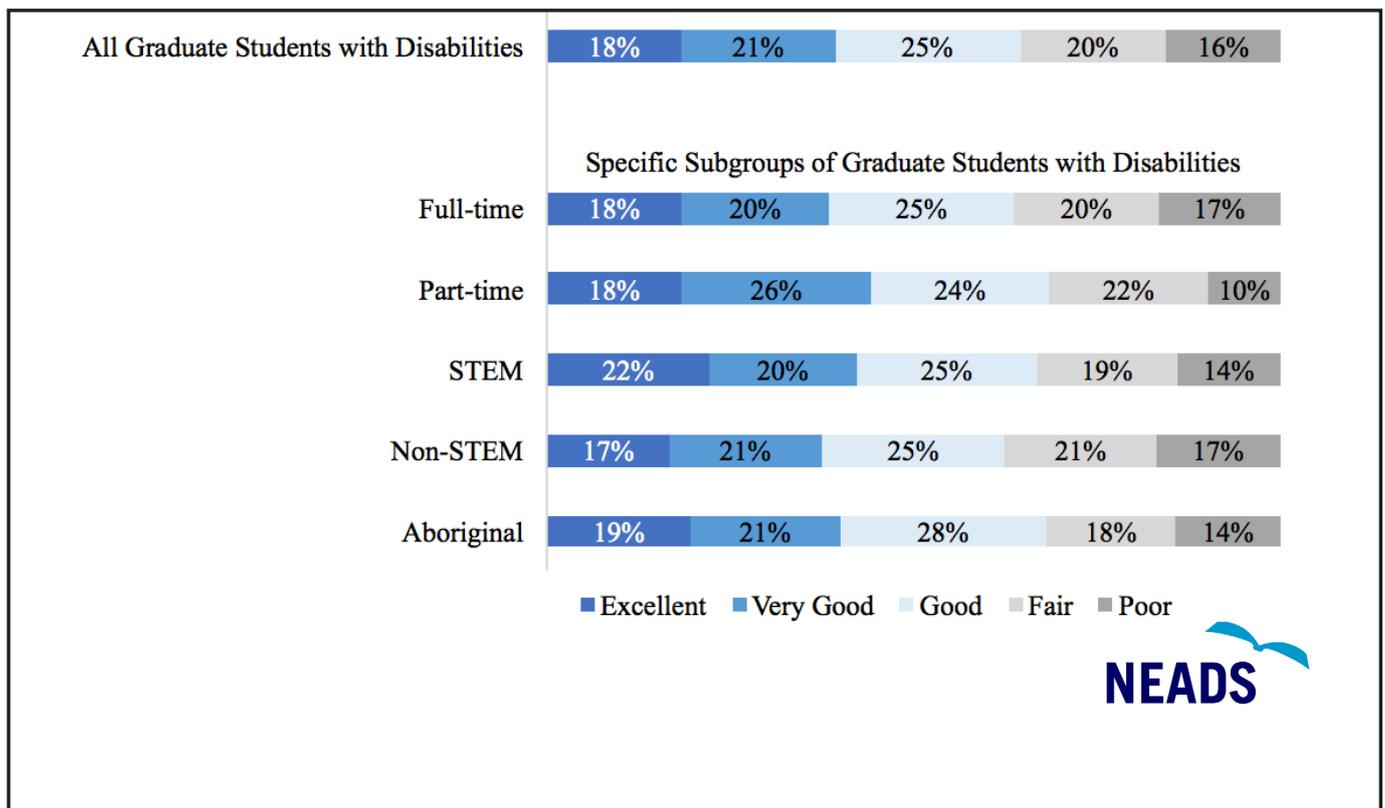


Advancing Career Development for Graduate Students with Disabilities: A Snapshot of the 2016 CGPSS Data Continued – self-identifies as Aboriginal:



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Advancing Career Development for Graduate Students with Disabilities: A Snapshot of the 2016 CGPSS Data Continued – institutional efforts to accommodate disability/impairment:



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Questions for discussion:

1. In what ways are disabilities/impairments accommodated in various aspects of graduate programs, including different learning environments and professional development opportunities?



Advancing Career Development for Graduate Students with Disabilities: A Snapshot of the 2016 CGPSS Data Continued – **disciplines and student disability status:**

- Business Management
- Engineering
- Humanities
- Social Sciences



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Questions for discussion:

1. In what ways are disabilities/impairments accommodated in various aspects of graduate programs, including different learning environments and professional development opportunities?



Advancing Career Development for Graduate Students with Disabilities: A Snapshot of the 2016 CGPSS Data Continued – **disciplines and student disability status:**

- Business Management
- Engineering
- Humanities
- Social Sciences



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Questions for discussion:

1. In what ways are disabilities/impairments accommodated in various aspects of graduate programs, including different learning environments and professional development opportunities?



Advancing Career Development for Graduate Students with Disabilities: A Snapshot of the 2016 CGPSS Data Continued – **disciplines and student disability status:**

- Business Management
- Engineering
- Humanities
- Social Sciences



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Questions for discussion:

1. In what ways are disabilities/impairments accommodated in various aspects of graduate programs, including different learning environments and professional development opportunities?



Advancing Career Development for Graduate Students with Disabilities: A Snapshot of the 2016 CGPSS Data Continued – **disciplines and student disability status:**

- Business Management
- Engineering
- Humanities
- Social Sciences



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Questions for discussion:

1. In what ways are disabilities/impairments accommodated in various aspects of graduate programs, including different learning environments and professional development opportunities?



Advancing Career Development for Graduate Students with Disabilities: A Snapshot of the 2016 CGPSS Data Continued – **disciplines and student disability status:**

- Business Management
- Engineering
- Humanities
- Social Sciences



APPENDIX H

A Snapshot of the Experiences of Graduate Students with Disabilities who identify as Aboriginal Ottawa, October 23, 2018

As part of the “Landscape of Accessibility and Accommodation for Post-Secondary Students With Disabilities in Canada” national study, the National Educational Association of Disabled Students (NEADS) has conducted a detailed analysis of the 2016 [Canadian Graduate and Professional Student Survey](#) (CGPSS) to examine the experiences of 2,324 graduate students who identify as having a disability. We previously released reports in which we compared [graduate students with and without](#) disabilities, part-time/full-time graduate students with disabilities, and STEM/Non-STEM students with disabilities. We are pleased to now share the next report in this series where we compare look at the students with disabilities who identified as Aboriginal.

The analyses and report for this work were completed by [Kathleen Clarke](#), a Research Associate at NEADS. She offered the following comment:

“There has been increasing discussion of how students have multiple characteristics or identities that shape their experiences in the postsecondary environment. This work addresses yet another perspective to reflect on when considering how to support graduate student success.”

Some of the findings from this work include:

- Of the 2,327 participants who identified as having a disability, 189 self-identified as Aboriginal. This equates to 8% of the sample of students with disabilities.
- Most of the sample (71%) were in a master’s program.
- 68% of the sample rated institutional efforts to accommodate their disability as Excellent/Good/Fair.
- ‘If you were to start your graduate/professional career again, would you select the same field of study?’ was rated very favourably, with 83% of respondents indicating they Definitely/Probably would.
- ‘The intellectual quality of fellow students’ was rated very favourably, with 91% of the sample responding with Excellent/Very Good/Good.
- Advice on the availability of financial support: 42% of the sample rated this item as ‘Fair’ or ‘Poor’
- Opportunities to take coursework outside my department: 39% of the sample rated this item as ‘Fair’ or ‘Poor’
- Top 5 sources of financial support: (1) Loans, savings, or family assistance (48%); (2) Graduate teaching assistantship (35%); (3) University-funded bursary (33%); (4) Graduate research assistantship (24%); (5) Full tuition scholarships or waivers (16%)
- In comparing amount of debt at each level of education, while 42% of students said they have no debt after undergraduate education, this amount drops to 32% at the graduate level. So, graduate school resulted in at least some debt for a number of students who didn’t have debt at the undergraduate level.
- While 73% of the sample said that ‘seminars/colloquia at which students present their research’ occurred in their department, the responses were closer to 50% for ‘departmental funding for students to attend national/regional meetings’ and ‘attend national scholarly meetings.’
- In terms of co-authoring in journals with faculty, 44% (n = 50) of respondents indicated this occurred, while 40% (n = 45) indicated publishing as a sole/first author occurred.
- The greatest obstacle for students (based on percentages for ‘a major obstacle’) was ‘work/financial commitments.’

The full report with the detailed findings can be found at the bottom of this press release in Word and PDF formats.

NEADS would like to thank the [Canadian Association of Graduate Studies](#) (CAGS) for organizing this survey and for also granting us access to the data for our analyses. Additionally, we gratefully acknowledge grant funding support for this research from the Social Development Partnerships Program, Employment and Social Development Canada, the Ontario Human Capital Research and Innovation Fund, Government of Ontario and the Canadian Education and Research Institute for Counselling, Counselling Foundation of Canada.

For further information about this research contact our national office: National Educational Association of Disabled Students (NEADS) Rm. 514 Unicentre, Carleton University Ottawa, Ontario, K1S 5B6

www.neads.ca
<https://www.facebook.com/myNEADS/>
<https://www.canadahelps.org/dn/34>

Download and read the report here in Word and PDF formats:

AboriginalStudents Oct22 PDF: http://neads.ca/en/about/media/AboriginalStudents_Oct22.pdf

AboriginalStudents Oct22 Word: http://neads.ca/en/about/media/AboriginalStudents_Oct22.docx

APPENDIX I

National Educational Association of Disabled Students (NEADS) releases The Landscape of Accessibility and Accommodation for Post-Secondary Students With Disabilities in Canada report (Ottawa, October 1, 2018)

The 'Landscape of Accessibility and Accommodation' project represents a thorough examination of the current landscape of accessibility, services, accommodations, technical equipment and supports for students with disabilities at publicly-funded post-secondary institutions across Canada. This research on post-secondary access and services is timely. It contributes to the Government of Canada's and the Ontario government's emphasis on access to education and training for persons with disabilities, leading to their participation in the competitive labour market.

More specifically, the purpose of this project and report has been to inform the Government of Canada's consultation on the development and implementation of a new federal disability act. The National Educational Association of Disabled Students gratefully acknowledges significant grant funding support for this research from the Social Development Partnerships Program, Employment and Social Development Canada, the Ontario Human Capital Research and Innovation Fund, Government of Ontario and the Canadian Education and Research Institute for Counselling, Counselling Foundation of Canada. The project included a team of researchers working across Canada in Ottawa, Toronto, at Simon Fraser University in British Columbia, Assiniboine Community College in Manitoba and Memorial University of Newfoundland and Labrador. It's important to note that we employed 15 graduate students with disabilities to conduct most of the research in all locations across the country.

Through our consultations with students with disabilities, faculty, staff and policy makers across the country within the Canadian post-secondary system from the fall of 2016 to the end of June, 2018 we have consistently heard several key messages:

- In many ways, accessibility remains silo'ed within post-secondary education; progress toward models of inclusion and universal design is slow and exists in pockets across the country;
- Good faith efforts to improve accessibility and inclusion for students with disabilities exist within the post-secondary system;
- Accessibility and inclusion efforts in the post-secondary environment have lagged behind the evolution of the student experience, and are limited to the academic (classroom and online learning) environment; in particular, accessibility in the co-curricular, professional development and work-integrated learning spaces needs to be developed;
- The intersectionality among universal design for learning, differentiated instruction, and essential requirements for courses, programs and disciplines in the context of accessibility and individual student's learner pathways has not been effectively understood within the post-secondary context;
- Significant transition barriers into, between, and out of levels of post-secondary education remain, with particular challenges faced by students transitioning into post-secondary, and from post-secondary into the labour market;
- Accessibility and inclusion in the post-secondary environment are lagging behind technological advances; we continue to focus on specialized assistive solutions, as opposed to mainstream technological solutions, to accessibility challenges; and,
- Strong regional and provincial disparities exist with respect to institutional and provincial policies and practices around accessibility and inclusion in post-secondary education.

Continued progress toward a universally designed and inclusive post-secondary education environment for all students requires a renewed and nationwide commitment to achieve this goal. Ultimately, work in this space needs to adhere to two primary guiding principles:

1. Recognition of the student's individual lived experiences and learner journey, and the impact they have on the student's accessibility needs in education and employment, particularly as related to the interactions among social assistance, financial aid and lived circumstances with the educational environment.
2. Accessibility and inclusion legislation, policies, practices and guidelines must recognize the evolving nature of disability and accessibility for individuals over time (particularly for individuals with chronic, episodic and degenerative disabilities), and in consideration of the evolving nature of the interaction among disability, technology, and the learning and workplace environments

In this report, we provide a series of legislative recommendations, as well as recommendations for key stakeholders (federal and provincial governments, institutions, service providers, and professional societies, among others) which are intended to further progress toward accessibility.

Roxana Jahani-Aval, Chair and Ontario Director of NEADS lauds the report and its recommendations: "This report is ground-breaking. I am so proud of the work of our Landscape of Accessibility and Accommodation for Post-Secondary Students With Disabilities research team. Over the course of the next few weeks we will be rolling out more reports from our extensive research of large national data-sets that I'm also very excited about."

The full report is now available in PDF and Word formats. NEADS is also publishing five separate reports, with more detailed analysis of disabled students' reported experiences from the Canadian Graduate and Professional Student Survey (2016). We are beginning to review data reported by disabled students from the most recent Canadian University Survey Consortium (CUSC) survey. We have already released: Post-Secondary Students With Disabilities: Their Experience Past and Present: An Analysis of the Statistics Canada 2012 Canadian Survey on Disability <http://www.neads.ca/en/about/media/index.php?id=620> and Graduate Students With and Without Disabilities: A Comparison – The Canadian Graduate and Professional Student Survey (2016): <http://www.neads.ca/en/about/media/index.php?id=668>

Read the Landscape of Accessibility and Accommodation in Post-Secondary Education For Students With Disabilities report below:

[Landscape of Accessibility and Accommodation in Post-Secondary Education for Students with Disabilities \(PDF\)](#)

Post-Secondary Students With Disabilities: Their Experience Past and Present: An Analysis of the Statistics Canada 2012 Canadian Survey on Disability

The National Educational Association of Disabled Students (NEADS) has conducted a detailed analysis of the 2012 Canadian Survey on Disability (Statistics Canada) reporting on the education and employment experiences of Canadians with disabilities in college or university programs of study in 2012 and/or having been enrolled in post-secondary education at some point from 2007 to 2012. The analysis and report preparation were completed by Adele Furrie for NEADS, with funding from Employment and Social Development Canada with funding from the Social Development Partnerships Program, as part of the large national project: The Landscape of Accessibility and Accommodation for Students With Disabilities in Canada. An executive summary follows and the full report is included at the bottom of the major findings of the analysis of the 2012 Canadian Survey on Disability in a Word document.

Executive Summary

- This National Educational Association of Disabled Students' (NEADS) research initiative, "The Landscape of Accessibility and Accommodation for Students with Disabilities in Canadian Post-Secondary Education: 2016 – 2018" presents a comprehensive picture of the landscape of accessibility and accommodations for persons with disabilities pursuing higher education in publicly funded colleges and universities.
- This report contributes to the secondary analyses of existing surveys by providing an analysis of the data collected in the 2012 Canadian Survey on Disability (2012 CSD).
- Of the 3,775,910 Canadians with disabilities aged 15 years and older, there were 325,170 who:
 - are attending school at the time of the 2012 CSD interview AND are attending a post-secondary institution OR
 - who were not attending school at the time of the 2012 CSD interview but had since September 2007 AND has a post-secondary degree, diploma or certificate.
- Of the 325,170 who are attending post-secondary institutions or who attended recently, 190,290 or 58.5% are currently attending.
- The manner in which the data were collected on type of post-secondary education precludes the possibility of identifying the population who are attending or did recently attend non-university publicly-funded institutions. Therefore, the 2012 CSD can divide the population of 325,170 adults with disabilities who are attending or recently attended post-secondary institutions into those attending/recently attended university ((117,990) and those who are attending or recently attended non-university public and private post-secondary institutions (207,180).
- Of the 3,775,910 adults with disabilities in Canada, 42% had some post-secondary education.
- Of those, 980,090 (62%) had some post-secondary non-university education and 605,100 (38%) report some post-secondary university education.
- Among the 980,080 Canadians with disabilities who report post-secondary non-university education, 21% are part of our research population; among the 605,100 who report post-secondary university education, 19.5% are part of our research population.
- University students with disabilities are younger, slightly more likely to be female, much less likely to identify as Indigenous, more likely to be an immigrant and slightly less likely to be a member of the visible minority population than non-university students with disabilities.
- University students with disabilities are less likely to report more than one type of disability, less likely to be classified as having severe or very severe disability, and slightly more likely to have had their disability since before the age of 19 than non-university students with disabilities.
- For both research populations (non-university and university), the most prevalent type of disability is pain. This type of disability is frequently reported together with mobility and/or flexibility disabilities and/or disability as a result of a mental health condition. Among university students with disabilities, mental health was the second most prevalent disability reported; among non-university students, flexibility disability was the second most prevalent.
- Almost one in three (30.4% or 99,010 out of 325,180) of post-secondary students with disabilities report only one type of disability. Among university students with disabilities, 37.3% or 43,955 out of 118,000 reports only one type of disability while among the 207,180 non-university students with disabilities, this drops to 26.6% or 55,055 students.
- Overall, almost six out of 10 post-secondary students were employed at the time of the survey and there was little difference between those attending non-university post-secondary institutions and those attending university. However, the data show that there were significant differences when the post-secondary student population was divided into those currently attending and those who had recently attended. Just over seven out of 10 post-secondary students who had attended university during 2001 and 2011 were employed and only 2.6% were unemployed. Contrast this to non-university post-secondary students where 67.5% are employed but 7.3% were unemployed.
- When age is factored in, the percentages who were employed at the time of the survey shows major differences. Among university students who were attending school during 2007 and 2011 and are no longer attending, 79.1% who are aged 15 to 24 years and 81.4% who are aged 25 to 34 years were employed. Contrast this to non-university post-secondary students where only 73% aged 15 to 34 and 73.7% aged 25 to 34 years were employed.
- There were 18.7% post-secondary students with disabilities who lived in households where the household income was below the low-income cut-off. Within that group, post-secondary non-university students who were currently attending were the worse off. Almost one in four (23.9%) were living in households below the low-income cut-off. By contrast, non-university students who had attended during 2007 to 2011 were the best off with the percentage dropping to 14.8.
- Few post-secondary students need adapted or modified building features to attend their chosen post-secondary institution. Of the 325,180 post-secondary students, only 7.7% needed this accommodation and this proportion was even less among university students with disabilities.
- Just over one in four (84,830 or 26.1%) needed assistive devices, support services, modification to curriculum or additional time for testing to follow courses. This need was higher among university students with disabilities. With this group, 37,970 or 32.2% needed at least one of these accommodations.

- Among those who need such accommodations, the highest need was for extended time to take tests and exams – 76.3% or 64,730 students with disabilities. This need was similar across the two types of institutions. However, the unmet need for this type of accommodation was significantly higher among non-university students with disabilities. Among university-based students with disabilities, unmet need was 8.3% while among non-university students with disabilities, this unmet need was 21.2% - over one in five who needed this accommodation did not receive it.
- Some insights into the impact that having a disability has had on the individual's ability to obtain his/her desired level of education are provided. The largest impact is among post-secondary students who had their disability before the age of 19. Read the full report here: [POST-SECONDARY STUDENTS WITH DISABILITIES: THEIR EXPERIENCE – PAST AND PRESENT \(Word Document\)](#) [POST-SECONDARY STUDENTS WITH DISABILITIES: THEIR EXPERIENCE – PAST AND PRESENT \(PDF\)](#)

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Supports and Services for Canadian Graduate Students with Disabilities

The implications associated with the inability to meet graduate students' needs have been demonstrated throughout the literature and are considerable. Commonly reported implications include institutional financial loss when credentials are not completed, self-esteem and income loss for students, potential for litigation, and possible loss of government funding (Grundy & McGinn, 2008; Hill, 2011; Parks et al., 1987; Rose, 2010).

Consultations and research on post-secondary access and services are timely and contribute to the Government of Canada's emphasis on access to education and training for persons with disabilities, leading to their participation in the competitive labour market. Students with disabilities enrolling in graduate programs have increased and academic and student affairs/services (SAS) professionals are continually discussing and developing mechanisms to facilitate their success (NEADS, 2016). All post-secondary institutions provide assistance for graduate students with disabilities; however, delivery models and standards vary across institutions and provinces.

Within this article, we present findings from the multi-year, interdisciplinary national study, *Landscape of Accessibility and Accommodation for Students with Disabilities in Canadian Post-Secondary Education* (2016-2019), that examines the current landscape of accessibility, accommodations, technical equipment, supports, and services for students with disabilities at publicly-funded post-secondary institutions across Canada. The purpose of this research study was to inform the Government of Canada's consultation on a new federal disability act, under the leadership of the Minister of Sport and Persons with Disabilities. This research builds upon previous National Educational Association of Disabled Students (NEADS) work including the landmark report of the National Taskforce on the Experience of Graduate Students with Disabilities, *Understanding Accessibility in Graduate Education for Students with Disabilities in Canada* (2016); *Enhancing Accessibility for Disabled Students - A Guide for Service Providers* (2012); and, *Working Towards a Coordinated National Approach to Services, Accommodations and Policies for Post-Secondary Students with Disabilities* (1999).

The slice of data that we selected to analyze for this article was retrieved from the 2016 Canadian Graduate and Professional Student Survey (CGPSS) dataset, which is managed by the Canadian Association of Graduate Studies (CAGS). We focused our analyses on the following research questions: How are graduate students accessing and rating professional/personal supports and services and what comparisons can be drawn between graduate students with and without disabilities?

Data and Demographics

The Canadian Graduate and Professional Student Survey (CGPSS)

In Canada, the CGPSS is the largest and most comprehensive source of data concerning graduate student satisfaction. The purpose of the survey is to obtain information about graduate student satisfaction and the student experience allowing for a more comprehensive understanding of this specific population of students. The data collection period in 2016 was the first-time questions concerning disabilities were included in the survey. These inclusions mean this dataset has also become the largest source of data investigating Canadian graduate students with disabilities. The CGPSS 2016 dataset includes 50 institutions across Canada and 45,251 total respondents, from which 2,324 identified as having a disability (5% of the total sample). The most common disability reported was mental health (43%), followed by learning disabilities (30%), and the least common was autism spectrum (3%). Additionally, about one third of students with disabilities reported two or more disabilities.

Students with and without disabilities primarily identified as female (67% and 58%, respectively). With regard to maturity, students with disabilities were generally older, as 45% of students with disabilities and only 37% of students without disabilities responded as being 31 years or older. Moreover, students with disabilities were more likely to be Canadian citizens compared to those without disabilities (90% and 69%, respectively). Further, we determined that 70% of students with disabilities did not identify with a minority group; however, 8% of students with disabilities self-identified as Aboriginal compared to 3% of students without disabilities.

The findings presented herein address graduate students' *Professional Skills Development, Research Experience, and University Services and Student Life*, comparing responses of students with and without disabilities. All analyses were conducted based on students registered in long and medium (thesis and dissertation based), and short stream (course and project based) graduate programs and are noted throughout this article.

Professional/Personal Supports and Services

Professional Skills Development

The first component of our analysis pertains to *Professional Skills Development* and reports on how graduate students rate the quality of the supports and professional training they received in their current program. We concentrate on academic preparation for long and medium stream students (ex. courses/workshops on teaching, feedback on research, advice/workshops on publishing), career preparation for long and medium stream students (ex. advice/workshops on career options within and outside of academia, advice/workshops about research positions) and building skills for the workforce for short stream students (ex. advice/workshops on career options, advice/workshops on job preparation and professional practice, opportunities for contact with practicing professionals).

With regards to academic preparation measures (see Figure 1) the analysis was directed towards long and medium stream students. Students with and without disabilities demonstrated favourable responses for most resources/sources (rating Excellent, Very Good, Good), with students without disabilities reporting higher ratings overall. For example, it was reported for *Courses, Workshops, or Orientations on Teaching* that 55% of students with disabilities favourably received assistance compared to 65% of students without disabilities. Similarly, *Advice/Workshops on Standards for Academic Writing in Your Field* and *Advice/Workshops on Publishing Your Work* are worth mentioning, as students without disabilities responded slightly more favourably compared to students with disabilities (42% and 49%, respectively) and (28% and 39%, respectively).

Insert Figure 1 here.

Assistance regarding research ethics for students with and without disabilities yielded comparable results, but it must be stated that the percentages of graduate students who responded that they did not participate or that this was not applicable to them were relatively high considering program research requirements. For example, it was reported for *Advice/Workshops about Research Ethics in Human Subjects* that several students with and without disabilities did not participate (18% and 22%, respectively) or deemed the assistance not applicable (21% and 21%, respectively). A related pattern was revealed for *Advice/Workshops on Intellectual Property Issues*, as many students with and without disabilities did not participate (20% and 24%, respectively) or deemed the assistance not applicable (15% and 13%, respectively).

With regards to career preparation measures (see Figure 2) the analysis was directed towards long and medium stream students. It is important to recognize three resources/sources and the difference in percentages between students with and without disabilities. While favourable responses for most items among students with and without disabilities were consistent, students with disabilities unfavourable responses (rating Poor) revealed noteworthy variations compared to their peers. Students with disabilities responded unfavourably to *Advice/Workshops on Career Options Within and Outside of Academia* and *Research Positions* (21%, 27%, and 27%, respectively) compared to students without disabilities (13%, 17%, and 16%, respectively).

Insert Figure 2 here.

Lastly, with regards to building skills for the workforce measures (see Figure 3) the analysis was directed towards short stream students. When comparing favourable and unfavourable responses, there was very minimal variation demonstrated between students with and without disabilities. This minimal statistical variation could be due to the length and content of the programs themselves, with limited variation to be experienced, as they are fairly prescribed in nature.

Insert Figure 3 here.

Research Experience

The second component of our analysis pertains to *Research Experience* (see Figure 4) and reports on five areas: *Conducting Independent Research Since Starting your Graduate Program*, *Training in Research Methods Before Beginning your own Research*, *Faculty Guidance in Formulating a Research Topic*, *Research Collaboration with One or More Faculty Members*, and *Collaboration with Faculty in Writing a Grant Proposal*. The analysis was directed towards long and medium stream students, given that research is a major condition of their programs.

Insert Figure 4 here.

Students with and without disabilities responded favourably to all forms of research assistance with minor variations aside from *Collaboration with Faculty in Writing a Grant Proposal*. For example, it was reported for *Conducting Independent Research Since Starting your Graduate Program* that 57% of students with disabilities favourably received assistance compared to 64% of students without disabilities. However, while students reported working well with faculty on research projects, writing grant proposals received less favourable responses with many graduate students responding that they did not participate or that this was not applicable to them. For example, it was reported for *Collaboration with Faculty in Writing a Grant Proposal* that several students with and without disabilities did not participate (22% and 25%, respectively) or deemed the assistance not applicable (21% and 18%, respectively).

University Services and Student Life

The third component of our analysis pertains to *University Services and Student Life* (see Figure 5) and reports on how graduate students across all streams rate university services based on the quality of experience using them in their most recent year of study. Additionally, in this section of analysis, students identify whether the services used were based in “local” or “central” offices or “both”. In some universities, services are offered in multiple locations, with the “local office” being based in a school, department or faculty, as opposed to a “central office” location offering their services campus-wide. The analysis was directed towards long, medium, and short stream students.

Insert Figure 5 here.

The following services had the highest percentages of favourable responses from graduate students with and without disabilities: *Library Facilities* (83% and 87%, respectively), *Graduate Student Work/Study Space* (46% and 56%, respectively), and *Health Care Services* (45% and 45%, respectively). In addition, a few services should be noted due to the percentages of graduate students who responded that they did not participate: *Child Care Services* (43% and 49%, respectively), *Student Counselling and Resource Centre* (40% and 50%, respectively), and *Career Services* (46% and 46%, respectively).

Initial analysis demonstrates that the majority of the services graduate students used were located within a “central” office, aside from *Graduate Student Work/Study Space* and *Research Laboratories*. Services were more commonly utilized in “central” offices for *Health Care Services*, *Student Counselling and Resource Centre*, and *Disability/Access Services Office*.

Constructive Considerations

This analysis revealed several findings that should be considered when developing graduate programs and preparing to assist graduate students with disabilities. First, it was apparent that for most professional skills examined (academic preparation, career preparation, and building skills for the workforce) students with disabilities generally rated the quality of the supports and professional training they received lower than their peers without disabilities. Institutions therefore have an opportunity to confirm that all students are receiving the supports they require and that they are tailored to the demographics enrolled within available programs. Moreover, research ethics preparation revealed that a sizable proportion of graduate students with and without disabilities in long and medium streams did not participate in these workshops or deemed the assistance not applicable. While some students may not require ethics training for their graduate research, this is an important element of graduate programs and will most likely be necessary in future work.

Second, career preparation for graduate students with disabilities was rated quite low compared to their peers (career options within and outside academia and research positions). Career potential and possibilities for graduate students with disabilities seem to require more attention across our institutions, as it is important that faculty and SAS members are familiar with the necessary workplace arrangements and accommodations.

Third, research assistance was rated favourably by both graduate students with and without disabilities, suggesting that students and faculty members are working well together on scholarly initiatives. However, grant proposal writing was noted as an area where improvements should be implemented.

Lastly, graduate students rated *Library Facilities*, *Graduate Student Work/Study Space*, and *Health Care Services* most favourably and the majority of the services graduate students used were located within a “central” office aside from faculty/departmental work/study space and research laboratories. Recognizing graduate students demand for these services, among others, can be advantageous in ensuring that the associated websites, service hours, personnel/advisors, and initiatives are appropriate.

References

- Grundy, A., & McGinn, M.K. (2008). Enabling participation in graduate education: Support for a student researcher who is hard of hearing. *International Journal of Disability, Community and Rehabilitation*. 7(1).
- Hill, H. (2011). Ontario public libraries, accessibility, and justice: A capability approach. *Canadian Journal of Information and Library Science*, 35(4), 423-435.
- National Taskforce on the Experience of Graduate Students with Disabilities. (2016). *Understanding accessibility in graduate education for students with disabilities in Canada*. Ottawa, ON: NEADS.
- Parks, A. W., Antonoff, S., Drake, C., Skiba, W.F., & Soberman, J. (1987). A survey of programs and services for learning disabled students in graduate and professional schools. *Journal of Learning Disabilities*, 20(3), 181-187.
- Rose, M. (2010). *Accommodating graduate students with disabilities*. Toronto, ON: Council of Ontario Universities.

Figure 1
Academic Preparation

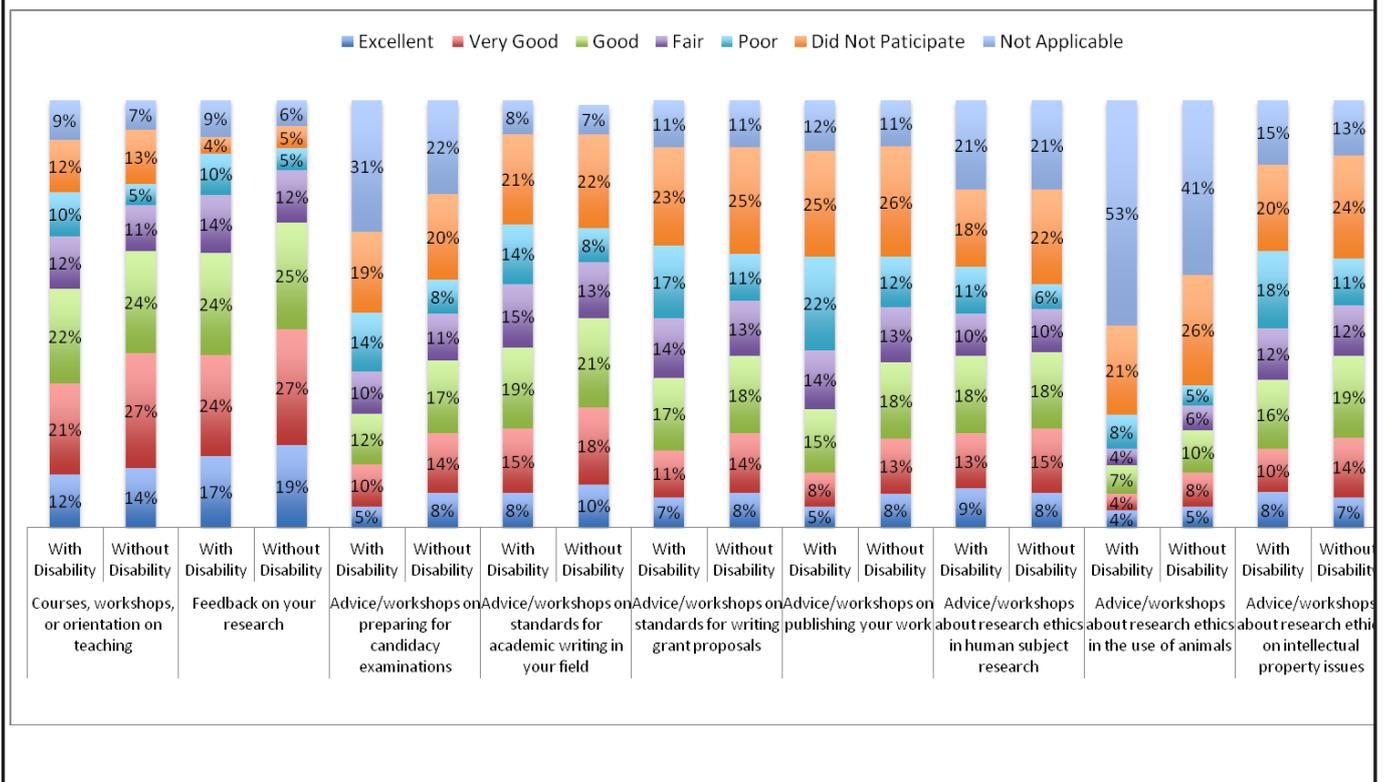


Figure 2
Career Preparation

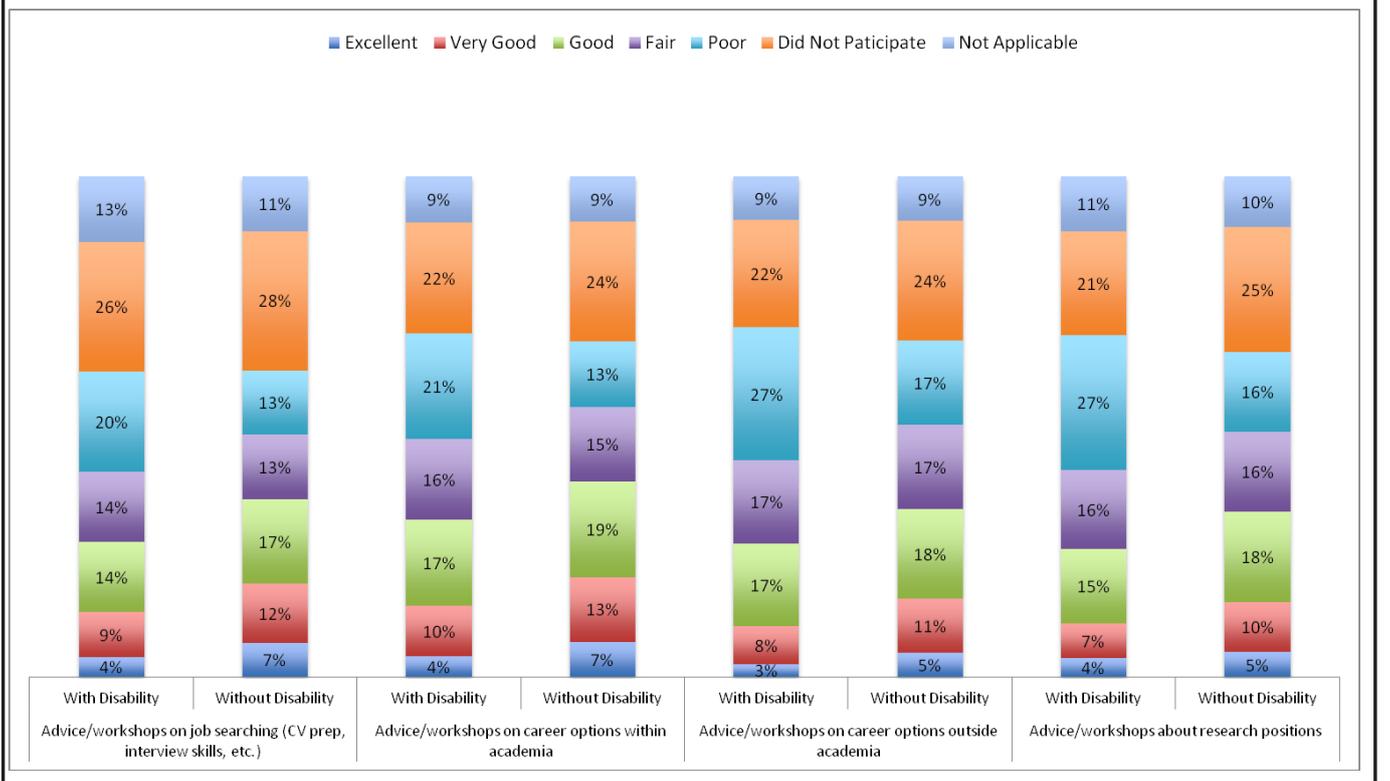


Figure 3
Building Skills for the Workforce

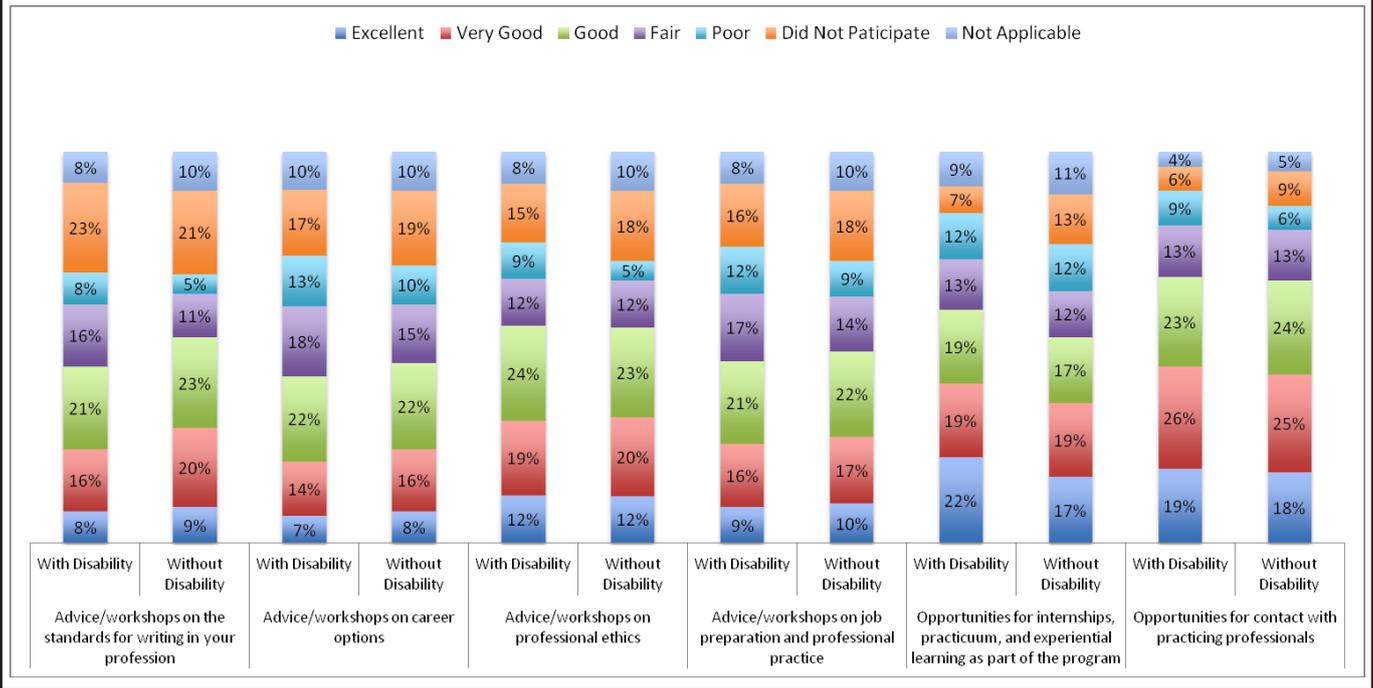


Figure 4
Research Experience

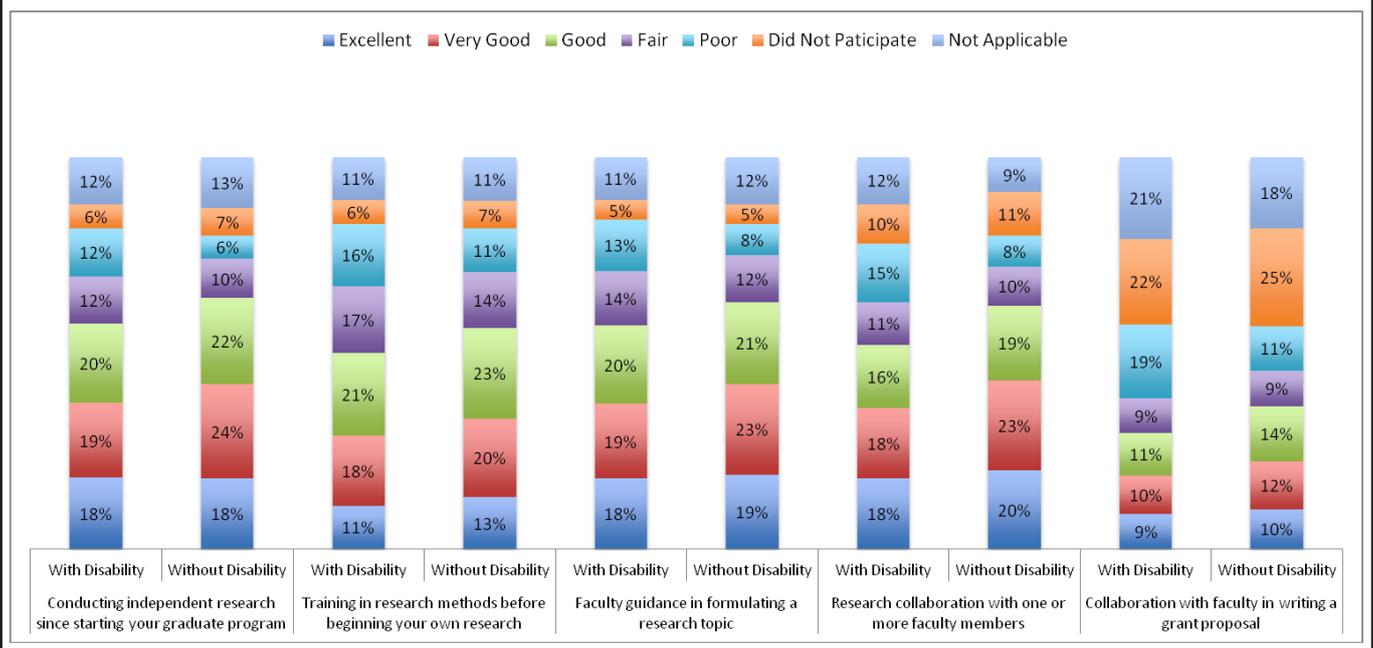
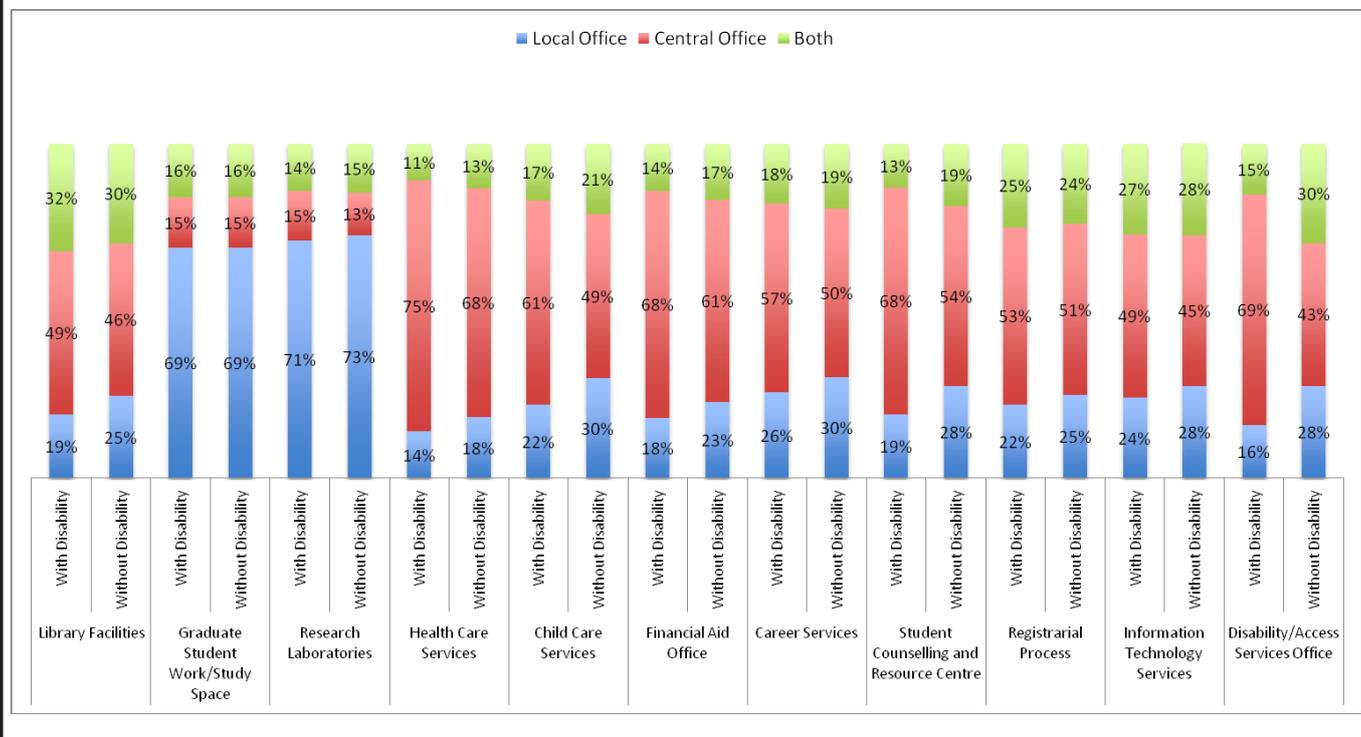


Figure 5
University Services and Student Life



APPENDIX L

Please see the questionnaires of Canadian Students with Disabilities in Post-Secondary Education Survey at <https://bit.ly/37LqV9Q>.