Research Paper Summary

In 2021-22, the Supports for Student Learning Program (SSLP) within ESDC contracted seven research projects to better understand barriers and facilitators to educational attainment in Canada. Each project was led by an external researcher(s) and involved a literature review, a scan of provincial/territorial programs and services, and a discussion paper. The objective of this research series was three-fold:

1. *Build the knowledge and evidence base and refine the SSLP's understanding of the various groups of clients served (i.e., the barriers they face);*
2. *Improve the SSLP's capacity to engage in targeted outreach with groups and organizations that serve specific groups or underserved populations (e.g., Black and racialized students, Indigenous students, 2SLGBTQI+ students, youth in care, youth experiencing homelessness, students with disabilities, and youth facing a digital divide);*
3. *Inform future directions for the SSLP (e.g., to identify priority streams supporting specific population groups or projects reaching certain underserved students or partners who have expertise in addressing specific barriers).*

Below is an overview of the research project examining barriers and facilitators experienced by youth impacted by the digital divide. The project was completed in March 2022.

Supports for Student Learning Program Research Series: Investigating Barriers to Education Related to the Digital Divide

CONTEXT

The onset of the COVID-19 pandemic accentuated vulnerabilities and inequities related to the digital divide, i.e. the gaps between those who have ready access to the Internet and computers and those who do not. For youth and students, the closures of schools and after-school programs, alongside the ramp-up of online learning, has seen an uneven distribution of digital access (e.g., hardware, software, Wi-Fi, data, and digital literacy skills). In light of this context, the SSLP commissioned research that sought to answer the following research questions:

1. What are the barriers to education related to the digital divide?
   a. What factors may prevent students from fully engaging in their studies and how might these barriers affect completion of high school as well as transitions to and persistence in post-secondary education?

b. Beyond barriers directly linked to educational attainment, how does the digital divide affect students' personal wellbeing and attachment to social networks, thereby contributing to their overall sense of belonging and academic motivation?

c. What recent trends are emerging as challenges and opportunities? Particularly following and during the COVID-19 pandemic, what barriers have recently changed, been highlighted, or worsened or improved?

d. Taking an intersectional approach to the digital divide, how do varying identity factors (e.g., sex or gender, age group, race, Indigenous heritage, geography, mental or physical disability, household income(s), newcomer status, etc.) influence educational outcomes of students facing a digital divide?

2. What services are provided and/or investments have been made by provincial and territorial governments to reduce the effects of the digital divide on students? What gaps or overlaps exist?

3. What recommended actions could Employment and Social Development Canada's SSLP take to reduce the effects of the digital divide, enhance learning experiences, and overall improve educational outcomes for students?

ABOUT THE RESEARCHER(S)

The SSLP contracted three members of the Ryerson Leadership Lab[1] – an action-oriented think thank based at Ryerson University in Toronto – to undertake this research.

Karim Bardeesy, Executive Director, Ryerson Leadership Lab. Karim is a public service leader who has worked in progressively senior roles in public policy, politics, journalism and academia in Toronto and the United States since 2001. He is also a board member of The Atmospheric Fund and Corporate Knights, Inc., a member of the Banff Forum, and a founding faculty member of Maytree Policy School. Karim was previously Deputy Principal Secretary for the Premier of Ontario, the Honourable Kathleen Wynne, and served as Executive Director of Policy for Premiers Wynne and Dalton McGuinty. He has worked as a journalist, an editorial writer at The Globe and Mail, and as an editorial assistant at Slate magazine.

Sam Andrey, Director of Policy and Research, Ryerson Leadership Lab. Sam has led applied research and public policy development for the past decade,

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[1] Note that in April 2022 Ryerson University was renamed Toronto Metropolitan University: https://www.ryerson.ca/news-events/news/2022/04/a-new-name-for-our-institution/.

including the design, execution and knowledge mobilization of surveys, focus groups, interviews, randomized controlled trials and cross-sectional observational studies. He also teaches about public leadership and advocacy at Ryerson University and George Brown College. He serves on the board of the Institute of Public Administration of Canada and chairs its research and professional practices committee. He previously served as Chief of Staff and Director of Policy to Ontario's Minister of Education, in the Ontario Public Service and in not-for-profit organizations advancing equity in education and student financial assistance reform.

Nour Abdelaal, Policy Analyst, Ryerson Leadership Lab. Nour has been working at the intersection of research, public service, academia, and social advocacy for four years. She is passionate about advancing innovative policy solutions in the realms of technology, cybersecurity, and digital inclusion. Prior to joining the Leadership Lab, she was a Political Assistant at the U.S. Consulate General in Toronto, working to advance U.S.-Canada relations and provide research insights for the U.S. State Department's technology and economic portfolio. Nour was also a Compliance Analyst at the G20 Research Group at the Munk School of Global Affairs and the Finance Director of the University of Toronto's Amnesty International Chapter. She holds an MA in political theory and a BA in political science and economics from the University of Toronto.

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KEY FINDINGS

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Digital technologies have increasingly become a critical part of youth's education and social lives

- According to Statistics Canada's 2021 Canadian Internet Use Survey (CIUS), 59% of Canadians aged 15 to 24 said that they used the internet more often to complete online training or learning in 2020.

- In addition, a 2020 Statistics Canada study found that 77% of parents indicated their school-aged children were in engaged in structured, online academic activities three times per week or more.

- After the start of the COVID-19 pandemic, 70% of Canadians aged 15 to 24 also said they used video conferencing services more often to communicate with family or friends, 62% said they consumed streamed video content more often, and 39% said they used the internet more often to work at home.

Access to the internet and use of technology devices in productive and safe ways are key determinants of youth's level of academic achievement, and in

turn their social and economic mobility

Unequal access to technology

- Although nearly all (99%) Canadian households with school-aged learners have access to the internet at home and use the internet on a daily basis, socioeconomic and demographic factors are contributing to significant gaps in adequate digital connection for youth in Canada.

- Some examples of socioeconomic and demographic factors that impact equity-deserving student groups are:
  - Living in a low-income households:
    - According to a recent survey, 39% of parents with children learning online with household incomes below $60,000 said it was very or somewhat that their children would have to use public Wi-Fi to finish their school work because there is not a reliable internet connection at home, compared to 18% of those with incomes above $100,000.

  - Identifying as Indigenous:
    - Indigenous youth are much more likely to have stopped or postponed their postsecondary education due to the pandemic.
    - According to the CIUS, 8.5% of those who identify as First Nations, Métis or Inuk (Inuit) still do not have a household connection to the internet.
    - Moreover, a lack of internet access is most pronounced in the North: no territory has internet available at the 50/10 Mbps speed target and the highest download speed in Nunavut is only 5 Mbps.

  - Having disabilities:
    - A lack of technology and internet access for young people with developmental disabilities significantly limits their ability to transition to postsecondary education and secure employment opportunities.
    - People with a disability in Canada are approximately 2.5 times more likely to say they do not use a technology device and two times more likely to say they do not have a smartphone.

  - Living in rural and remote communities:
    - Rural youth are less likely to have access to computers in the home, use a computer everyday, access computers at school, or have specialized technology educators at school, compared to those living in urban areas.

COVID-19 has led to educational disruptions for Canadian youth, which have adversely affected their academic achievement.

- A Canadian survey of 9,500 educators conducted in the spring of 2021 found that 55% of elementary and secondary teachers reported fewer students were meeting learning objectives compared to other years and 70 per cent worried that some students will not catch up academically; and

- Research conducted during the pandemic has also shown that approximately half of Canadian parents with children learning remotely had at least one child struggling with distance learning, which in turn was associated with higher parental stress.

- Youth's educational outcomes are impacted by a lack of home internet connection at sufficient speed, access to high quality technology devices, and the digital skills required to meaningfully engage online. In particular, without digital access or experience, students marginalized by the digital divide will be left out of critical opportunities, inside and outside the classroom, to develop lifelong, essential skills using new and emerging educational technologies, thereby further perpetuating student achievement gaps.
  - Studies have shown that technology use plays a critical role in improving academic achievement and narrowing gaps related to economic status. The use of home computers for educational activities, for example, improves academic performance. Children who use a computer for 15 to 20 minutes a day also show higher levels of school readiness and cognitive development than those who do not.
  - Other studies have found that "digital experience and usage intensity" effectively predict academic performance reflected in students' GPA.
  - In addition, a nationally representative survey of 15-year-old Canadians revealed that optimal use of educational technology is linked to improvements in reading assessments, likely leading to greater confidence in school abilities and subsequent improvements in other tasks requiring advanced reading skills.

- Finally, public, private and community initiatives across Canada currently fund and operate a number of different programs to expand digital access and provide digital literacy training for youth in Canada. These initiatives make up an incomplete patchwork system in Canada, however, and only mitigate (and do not eliminate) digital barriers to education.

KEY RECOMMENDATIONS

The following five recommendations for the SSLP were made by the Ryerson Research Lab:

- Direct funding towards community-based organizations that are focused on alleviating digital barriers to education through the provision of technology

devices and digital skills programming, as well as organizations working to digitally transform their program offerings to virtual settings in response to the pandemic.

- Leverage the resources of existing infrastructures, such as federal programs, public libraries and community institutions, to better target underserved youth with programming.

- Develop an evaluation framework by which to measure the success of funded programs, with a particular focus on programs' ability to effectively target and deliver digital equity solutions to priority youth groups (i.e., youth from low-income households, youth in rural and remote communities, Indigenous youth, and youth with disabilities).

- Develop a set of guidelines for digital skills-based training programs seeking SSLP funding with clear guidance on program design and delivery expectations.

- Ensure access to funded programs is equitable by providing wraparound, supplementary financial and/or non-financial support to low-income students and students with disabilities.

CONTACT

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