Work Integrated Learning – What works for whom?

A preliminary evaluation of the IntegratED program for immigrants and international students

TED ROGERS SCHOOL OF MANAGEMENT | DIVERSITY INSTITUTE

Future Skills Centre | Centre des Compétences futures

The Diversity Institute conducts and coordinates multi-disciplinary, multi-stakeholder research to address the needs of diverse Canadians, the changing nature of skills and competencies, and the policies, processes and tools that advance economic inclusion and success. Our action-oriented, evidence-based approach is advancing knowledge of the complex barriers faced by underrepresented groups, leading practices to effect change, and producing concrete results. The Diversity Institute is a research lead for the Future Skills Centre.

The Future Skills Centre (FSC) is a forward-thinking centre for research and collaboration dedicated to driving innovation in skills development so that everyone in Canada can be prepared for the future of work. We partner with policy makers, researchers, practitioners, employers and labour, and post-secondary institutions to solve pressing labour market challenges and ensure that everyone can benefit from relevant lifelong learning opportunities. We are founded by a consortium whose members are Toronto Metropolitan University, Blueprint, and The Conference Board of Canada, and are funded by the Government of Canada's Future Skills program.

The Momentum Centre, Inc. (TMC) is a charitable, not for profit organization headquartered in Winnipeg. TMC is a leader in economic & workforce development and works with employers, industry, youth & equity deserving groups. We harness partnerships that are demand driven while providing employability, leadership & professional development training, relevant work experience and retention and advancement supports. This innovative approach fosters smooth transitions to employment while focusing on talent pipeline development in Manitoba and Canada.

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Authors

Humera Sadiq
The Momentum Centre

Cindy Burgess
The Momentum Centre

Crystal Kalaitzakis
Astrolab Synergies

Wendy Cukier
Founder & Academic director, Diversity Institute
Professor, Entrepreneurship & Innovation, Toronto Metropolitan University

Lindsay Coppens
Post-doctoral research fellow, Diversity Institute

Contributors

Dr. Snehil Dua
University of Manitoba

Kimber Corthey
The Momentum Centre

Mingxin Wang
Research assistant, Diversity Institute

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Executive Summary

In Manitoba, the demand for skilled workers continues to grow, with all sectors facing shortages of workers with digital skills and sectors like agriculture and food and beverage manufacturing struggling to attract and retain talent. Despite the demand for talent, domestic and international students in Canada encounter challenges in Science, Technology, Engineering, and Mathematics (STEM) education and careers. Domestic students often face inadequate preparation in secondary education, as the education system may not offer a strong foundation in STEM subjects like mathematics and sciences. Meanwhile, despite the substantial presence of international students in post-secondary STEM programs, they encounter numerous barriers to remaining in Canada after graduation, including difficulties obtaining permanent residence, cultural barriers to integration, and discriminatory hiring practices in Canada's labour market.

The IntegratED program was designed to address the skills gap and labour market challenges in Canada's food and beverage manufacturing industry by providing skills training and work experience to support international students and recent newcomer graduates in STEM fields. Informed by consultations with Canadian organizations and post-secondary personnel in Manitoba, the program provides students and recent graduates with supports to overcome employment barriers both pre- and post-graduation.

The program had four goals:

- To equip international students and newcomers with the necessary skills to succeed in the Canadian job market.
- To facilitate participants' transition into the workforce through practical, real-world experience via work-integrated learning (WIL) placements.
- To provide opportunities for participants to apply and develop their STEM knowledge in professional work settings.
- To help small and medium-sized enterprises (SMEs) fill critical skill gaps by leveraging the perspectives and expertise of international students and newcomers in Manitoba.

The IntegratED program supports students and graduates through two key initiatives: Industry Projects and Canada Digital Adoption Program (CDAP) Internships. These streams offer professional skills training and work experience to bridge the gap between post-secondary educational knowledge and real-world experience. Not only does this program help organizations in achieving their business objectives, but it also enables students and new graduates to gain work experience in the Canadian context.

Methods

The evaluation of the IntegratED program utilized a mixed methods approach. Surveys with participants and employers formed a key part of the evaluation, alongside qualitative semi-structured interviews with Canadian businesses, post-secondary personnel, University of Manitoba students, newcomers, and program administrators. Data was collected at various points to understand program outcomes and inform program improvements. For example, surveys for industry projects were administered at enrollment, end of year, and end of program, and interviews were conducted pre- and post-program.

The following questions guide the evaluation:

- Did the IntegratED program improve participants' ability to build professional networks, career planning and development skills, and employability in the Canadian context for international students?
- Did the IntegratED program improve access to student talent and system navigation tools for SMEs in Manitoba's STEM sector?
- Did employers enhance their connections with post-secondary institutions? Did participation in the IntegratED program advance business objectives?

Findings

Program delivery

From June 2022 to June 2024, the IntegratED program delivered 114 WIL placements, with 83 international students in consulting roles in industry projects and 31 recently graduated newcomers in CDAP internships. A total of 23 employers in the agri-foods sector hosted international students for 46 WIL projects in industry projects, and newcomers in the CDAP Internships stream worked with 215 SMEs.

Industry projects

From June 2022 to March 2024, 21 of 118 industry project participants completed the post-program survey. Results indicated that all respondents reported growth in communication, critical thinking, and teamwork skills, as well as increased employability. A gap was identified in job search strategies used by participants and those preferred by employers. Respondents noted that their top search strategies were online job boards (26.7%), corporate websites (20%), and word-of-mouth referrals (18.7%). However, in the employer post-program survey, the five employers that responded indicated that they primarily rely on social media (33.3%) and word-of-mouth referrals (26.7%).

Interviews with 12 industry project participants revealed that before joining the program, they faced several challenges, such as difficulty securing placements, unclear organizational expectations, and the need to balance academic commitments. Additionally, at the end of each year, participants were given a feedback survey to rate their satisfaction with the

program and 82 of 118 provided feedback. While overall program satisfaction was high, year-end feedback revealed some variation in experiences, particularly in Year 2, with only 50% who rated their experience as excellent compared to 79.3% in Year 1.

Canada digital adoption program internships

From June 2022 to March 2024, 18 of 29 participants responded to the post-program surveys. Respondents indicated an improvement across all key skill areas, including communication, career development, and critical thinking. Most also reported that internship experience enhanced their competencies, allowed them to build relationships with industry professionals, and provided opportunities to apply their academic learning to real-world situations.

Employer feedback

A total of five employers provided feedback on the post-program survey between June 2022 and March 2024. Post-program results showed that 80% of employers felt the program helped them access skilled talent, and 80% indicated a willingness to hire international students. Interviews with nine Manitoba organizations revealed challenges related to participant availability, resource constraints, and project expectations.

Employers in industry projects also provided feedback on their satisfaction with the program every year (N = 21). Most employers rated the program as excellent in both Years 1 and 2 (71.4% and 85.7%).

Program administrator feedback

Interviews with three program administrators revealed the need for a more robust tracking system to better measure long-term impacts for participants, increased program visibility through targeted outreach, and consistent funding to ensure program sustainability.

Conclusion

The IntegratED program achieved its goals by preparing international students and permanent residents with essential skills to succeed in the Canadian job market. Although the number of post-program responses were low, respondents reported a growth in key competencies such as professionalism, critical thinking, teamwork, technological proficiency, and career development. The program also provided valuable opportunities for participants to apply their academic knowledge in real-world business settings through 114 WIL placements.

From the perspective of Manitoba organizations, the program aimed to help address labour and organizations could tap into a diverse and skilled talent pool to alleviate immediate workforce challenges. The 21 organizations who completed the yearly feedback survey expressed strong interest in future participation in WIL programs.

Future program improvements included increasing program visibility through enhanced outreach, strengthening labour market intermediaries, offering equity, diversity and inclusion training sessions, implementing a robust system to track long-term outcomes, expanding WIL programs, and refining evaluation tools and analysis techniques. Additionally, policy recommendations, such as reforming immigration programs, creating pathways to permanent residency for international students, reducing underemployment of skilled immigrants, and investing in upskilling programs, would strengthen outcomes for both newcomers and employers.

Introduction

Canada has long faced a shortage of skilled professionals in Science, Technology, Engineering, and Mathematics (STEM), partly fueled by the aging population and retirements.[1,2] As experienced professionals exit the workforce, younger workers often lack the mentorship needed to develop essential technical, professional, and soft skills, which hinders knowledge transfer and creates a pressing need for strategies to bridge this gap.[3] Despite higher levels of education, many young people struggle to find jobs that match their qualifications[4] or lack specialized skills and experience.[5] In 2021, Statistics Canada's Survey of Workers' Skills survey found that over two-fifths (44.5%) of businesses experienced difficulties hiring individuals with relevant skills to complete the job.[6] Additionally, of those organizations that reported a skills gap, almost three-fifths (57.5%) indicated that the skills needed the most improvement were technical, practical, or job-specific, followed by problem-solving and critical thinking.[7] The brain drain further complicates the situation.

In Manitoba, the demand for skilled workers continues to grow, with all sectors facing shortages of workers with digital skills, while sectors like agriculture and food and beverage manufacturing struggle to attract and retain talent. In 2022, Manitoba's agricultural sector had approximately 1,300 unfilled positions.[8] This shortage is expected to grow by 13% and result in over 1,900 vacancies by 2030.[9] Moreover, 40% of agriculture businesses report they cannot find skilled workers, and an additional 48% face challenges in filling roles with Canadian workers, partly due to retirements and difficulties retaining young workers.[10] These recruitment challenges are compounded by a high voluntary turnover rate in the sector, which reached 14% in 2022, well above the estimated 7.7% turnover rate across all industries in the country.[11] Likewise, the food and beverage processing sector is Manitoba's largest manufacturing industry and employs over 12,650 Manitobans. However, recruitment and retention challenges in the sector persist.[12] Food Processing Skills Canada reports that 7 in 10 food manufacturers in Canada cannot fill positions, a trend that is also reflected in Manitoba.[13] While the number of jobs in Manitoba's food and beverage manufacturing sector increased by 122.2% between 2000 and 2022, many vacancies remain to be filled.[14] As of the second quarter of 2023, the vacancy rate stands at 3% in food manufacturing and 4.9% in beverage and tobacco manufacturing, which underscores the ongoing demand for skilled labour in these industries.[15]

Despite the demand for talent, domestic and international students face significant challenges when pursuing STEM education and careers. Domestic students in Canada often face inadequate preparation in secondary education, as the high school system may not provide a strong foundation in STEM subjects. These educational gaps are evident in student performance data. The Programme for International Student Assessment, an international study that evaluates the skills and knowledge of 15-year-olds in reading, mathematics, and science, consistently shows that Manitoba ranks among the lower-performing provinces in Canada.[16] Meanwhile, despite the substantial presence of international students in STEM

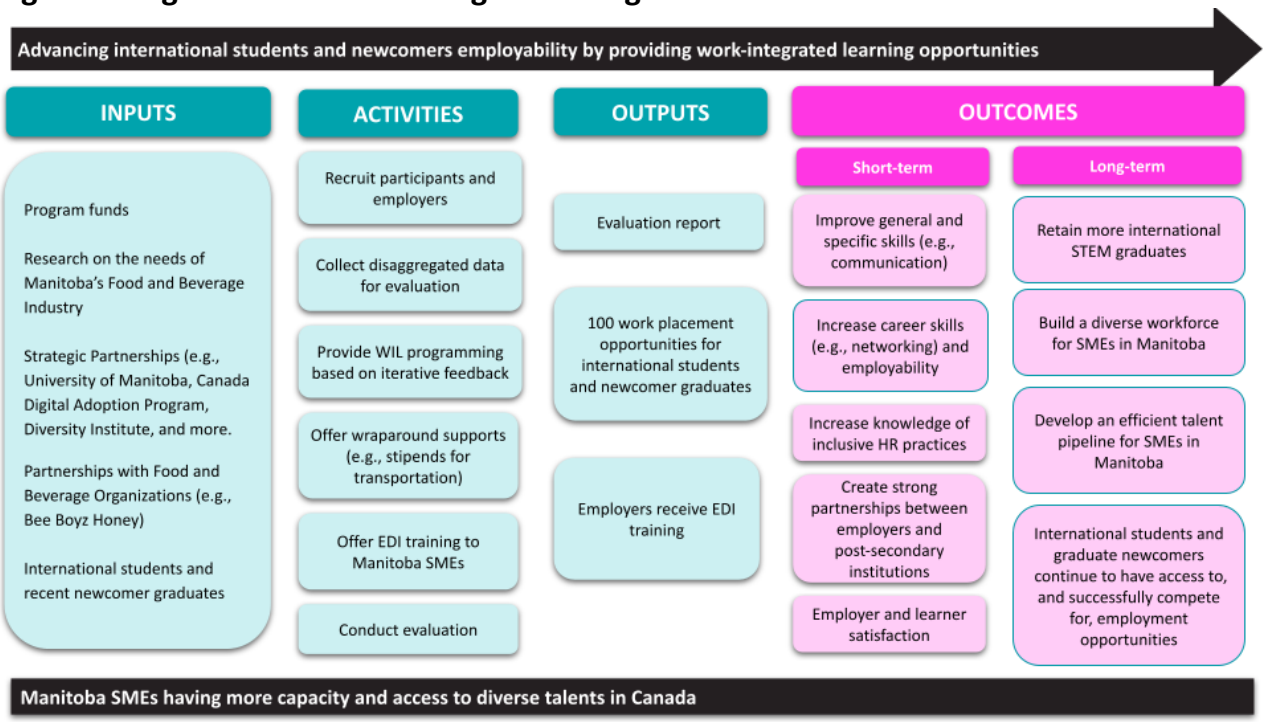
programs, they encounter additional barriers to staying in Canada after graduation, including the lack of recognition of international credentials,[17] difficulties obtaining permanent residence status,[18] and cultural barriers to integration.[19] They also face challenges in the labour market. For example, a meta-analysis found that candidates with Asian names had a 28% reduced likelihood of being called for an interview compared to those with Anglophone names, even when qualifications were identical.[20] Such discriminatory hiring practices further complicate their transition into the Canadian job market.

Programs designed to address these skills gaps and labour market integration, such as work-integrated learning (WIL) initiatives, can bridge the gap between employer needs and the skills that STEM graduates bring to the workforce. WIL programs combine academic study with practical work experience, which allows individuals to apply theoretical knowledge in real-world settings, improve their employability, and help address persistent labour shortages and skill gaps.[21,22,23,24,25] These initiatives also reach diverse participants to promote a more inclusive labour market and expand employers' access to a broader talent pool. However, inequities persist in programming for equity-deserving groups.[26] For example, WIL programs are often criticized for not offering tailored wraparound supports for equity-deserving groups, including persons with disabilities[27] and Indigenous Peoples.[28] Other research argues that the lack of diversity data leaves unanswered questions about the impact of WIL programs on equity-deserving students.[29,30] Ultimately, WIL programs serve as a promising solution to Canada's evolving workforce challenges and ensure that graduates are better equipped to transition into the labour market.[31,32] However, more work needs to be done to ensure inclusive program design with relevant wraparound supports.[33,34]

One program that offers inclusive WIL to international students and recently graduated newcomers is the IntegratED program, developed in collaboration with the Momentum Centre, the University of Manitoba's Faculty of Agriculture and Food Science, and the Asper School of Business. The program is funded by WES Mariam Assefa Fund and Food and Beverage Manitoba and designed to address the needs of newcomers to Canada and the skills gap and labour market challenges in the food and beverage manufacturing industry, which is the largest manufacturing sector in Canada[35] and Manitoba.[36] It not only aims to train, integrate and retain international students and recent newcomer graduates in STEM but also helps them tackle employment barriers both pre- and post-graduation and build talent in Manitoba to meet employers' current and emerging needs.

Figure 1 illustrates the program's logic model. In the short term, the IntegratED program aims to improve technical and professional skills, increase knowledge of human resource (HR) practices, and create strong partnerships between employers and post-secondary institutions. The long-term outcomes focus on retaining more international STEM graduates, building a diverse workforce in Manitoba's small and medium-sized enterprises (SMEs), and providing learning and employment opportunities for international students.

Figure 1. Logic model for the IntegratED Program



Goals and Outcomes

The IntegratED Program has four goals:

1. To equip international students and newcomers with the necessary skills to succeed in the Canadian job market.
2. To facilitate participants' smooth transition into the workforce through practical, real-world experience via WIL placements.
3. To provide opportunities for participants to apply and develop their STEM knowledge.
4. To assist SMEs in addressing critical skill gaps by leveraging the fresh perspectives and expertise of international students and recently graduated newcomers.

The program has also three broad program outcomes:

1. To retain more international STEM graduates.
2. To build and harness a more equitable, diverse, and inclusive economy and workforce, fostering a culture of belonging and inclusion among employers.
3. To develop an efficient talent pipeline.

Design

The program design included two components: (1) a pilot program from 2021 to 2022 to inform the design and approach and (2) initial consultations with key informants, including professors, instructors, educational stakeholders, and businesses. Iterative feedback was also

collected from June 2022 to March 2024 to inform improvements to program design and delivery.

A total of 27 key informant interviews were conducted with organizations and educational stakeholders to uncover educational barriers, skills gaps, and opportunities that influence participants' transitions into the workforce and potential solutions to improve employability. Interviews highlighted themes regarding essential skills, competencies, skills gaps, and preparedness for the workforce. Employers emphasized the importance of non-technical skills, such as teamwork, communication, problem-solving, leadership, and time management, as well as technical skills, such as digital literacy, project management, and applying theoretical knowledge. They explained that these skills not only enhance learning potential but also build confidence and serve as a foundation for effective collaboration in the workplace. Employers also pointed to considerable gaps in student preparedness, including industry-specific technical skills, digital literacy, and work planning. They indicated that targeted education and support to enhance students' employability may be a solution.

Structure

Recognizing that many newcomers and international students face barriers to long-term employment because of their lack of Canadian experience[37] and that employers who begin to hire newcomers are more inclined to hire more newcomers,[38] the IntegratED program focuses on targeted training, work placements, and support for employers.

Streams

The IntegratED program offered international students and recently graduated newcomers skills training and work experience through two key streams: Industry Projects and Canada Digital Adoption Program (CDAP) Internships.[i]

1. **Industry Projects:** A WIL program, in partnership between the IntegratED program, the University of Manitoba, and Food and Beverage Manitoba, which aimed to bridge pathways between post-secondary institutions and the labour market. It placed students in consulting roles within SMEs in Manitoba's food and beverage industry. Industry projects were integrated into university-level courses and offered by Dr. Dua in their fourth-year Food Science and Human Nutrition courses at the University of Manitoba. These projects aligned with the curriculum and allowed students to apply their theoretical knowledge to real-world contexts. For example, participants who participated in food and beverage industry projects received lectures on food quality, food safety, and quantity food production theory.
2. **Canada Digital Adoption Program Internships:** An internship program, funded by CDAP,[39] that aimed to enhance recently graduated newcomers' employability and leadership skills and provide organizations with advisory services and

[i] These streams continue to operate in 2025.

recommendations to assist them with their digital adoption journey. Newcomers in this stream were employed through IntegratED's sister program, IntegrateIT.

Training

- Industry project participants had optional skills training in project management and employability and resilience.
- Individuals in CDAP internships participated in several workshops and professional development training on topics such as digital marketing, e-commerce, leadership in motion, team collaboration, and project management.

Work placements

Through the industry project stream, participants worked directly with organizations for three months to design and complete projects tailored to organizations' specific challenges and needs. Participants applied their Food Science and Human Nutrition course knowledge to analyze real-world issues and develop practical recommendations and solutions. They also presented findings to organizations and demonstrated how course concepts, such as preventative control plans, quality control in food analysis and testing, good manufacturing practices, and quantity food production, could be implemented to improve operational objectives and needs.

The CDAP internship participants were assigned business case files and completed business assessments on topics such as digital adoption plans, digital marketing strategies, and digital business audits. This involved time-limited interactions with organizations, with participants engaging with clients by email or optional meetings for one to five hours. This approach helped support business growth, provided newcomers with meaningful employment opportunities aligned with their skills and expertise, and supported newcomer integration into the Canadian labour market.

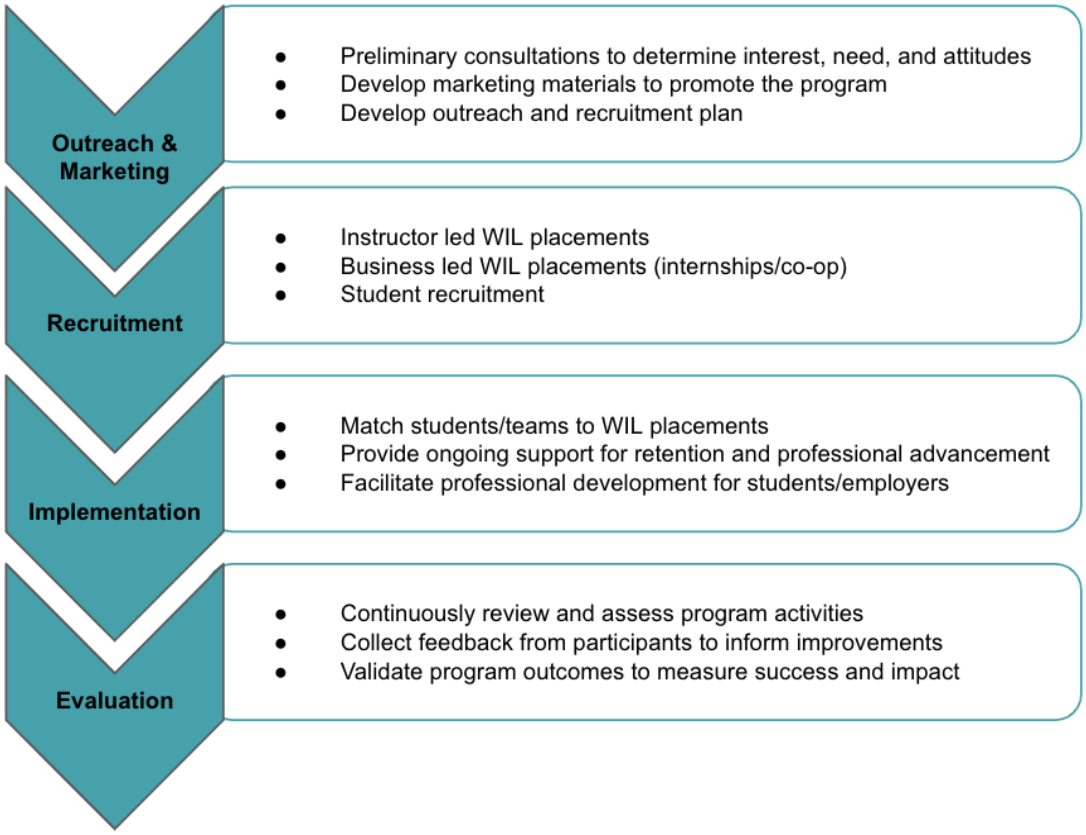
Wraparound supports

Participants in industry projects received stipends to cover transportation and incidental expenses. Recently graduated newcomers in the CDAP Internships stream received wages that reflected their educational background, skills, and abilities.

Implementation

The IntegratED program was structured into several key phases to ensure comprehensive and effective delivery, provided participants with valuable labour market experience, and had a positive impact on organizations. (Figure 1).

Figure 2. Phases of the IntegratED Program



Methods

The IntegratED program was evaluated using a mixed methods approach. Both surveys and qualitative semi-structured interviews were conducted to understand participant and employer experiences and the effectiveness of the program. Data was collected at various stages – onset, midpoint, and conclusion – to facilitate continuous program improvement and provide a holistic view of the program's outcomes. The following questions guided the evaluation:

- Did the IntegratED program improve participants' ability to build professional networks, career planning and development skills, and employability in the Canadian context for international students?
- Did the IntegratED program improve access to student talent and system navigation tools for small and medium enterprises in Manitoba's STEM sector?
- Did employers enhance their connections with post-secondary institutions? Did participation in the IntegratED program advance business objectives?

Data Sources

Data were collected and analyzed to understand participants' and organizations' experiences and satisfaction. However, due to response rates, no additional disaggregated analysis by diverse identity groups were completed.

Note: The analyses in this report are from different time periods. These streams continue to operate, and data collection continues. Enrollment data, including demographic characteristics, are from June 2022 to June 2024. Feedback and post-program results are from June 2022 to March 2024.

Surveys

Surveys formed a key part of the evaluation. They were administered at different stages of the program and captured enrollment information, experiences during the program, and post-program feedback. Each survey was structured to capture demographic characteristics and participants' experiences.

Several surveys were distributed to participants in the IntegratED program, including:[ii]

[ii] Participants in CDAP internships received enrollment and post-program surveys. Only those in industry projects received the yearly feedback surveys. Across both streams, the survey questions were nearly identical.

- **Enrollment surveys:** Administered at the onset of the program to collect demographic information, such as age, gender, and self-identification, alongside academic information, including university, faculty, department, and degree type.[iii]
- **Feedback surveys:** Distributed at the end of Year 1 and Year 2 to gather feedback on industry projects' effectiveness and their overall experiences. The insights from Year 1 were used for improvements in Year 2. Topics included employment status, placement expectations, how well placements aligned with those expectations, and any challenges encountered.
- **Post-program:** Conducted after program completion for both streams to assess the impact of placements on career development and skill enhancement. Key areas of focus – rated by participants on a scale of 1 to 5 – included employability, networking opportunities, communication, leadership, critical thinking, and career goals. Participants also rated how effectively their work experience applied academic knowledge to real-world scenarios and overall employability.

Response rates varied, particularly at program completion, but the feedback received was positive (Table 1). Disaggregated analysis was not possible due to the small number of responses.

Table 1. Response rates

	# of Surveys	# Completed	Response Rate (%)
Industry projects yearly feedback survey	118	82	69.5
Industry projects post-program survey	118	21	17.8
CDAP internship post-program survey	29	18	58.1

Note: Data tables for industry projects and CDAP internships are in Appendix A and B.

Several surveys were administered to organizations, including:[iv]

- **Enrollment surveys:** Administered at the onset of the program to collect business-specific details, such as contact information, organization name, sector, industry, number of employees, product/service descriptions, and information on majority ownership by gender and diverse group.
- **Feedback surveys**. Distributed at the end of Years 1 and 2 to gather feedback from employers on their satisfaction with the program and experience with participants on a scale from 1 to 5. They also indicated their willingness to provide reference letters, suggestions for program improvements, and willingness to participate in future programming.

[iii] Slights changes were made to the enrollment survey between Year 1 and Year 2, relating to diversity self-identification and international student status.

[iv] Organizations in CDAP internships received enrollment and post-program surveys. Only those in industry projects received the yearly feedback surveys. Across both streams, the surveys were nearly identical.

- **Post-Program surveys:** Distributed to organizations to provide feedback on product reach and recruitment methods, rating their agreement with statements on a scale of 1 to 5. These surveys gathered data on the program's effectiveness in organizations' abilities to access diverse talent and hire international students, willingness to engage with post-secondary institutions, and participation in future WIL programs. Organizations also assessed participants' skills using the Dreyfus model.[40]

From June 2022 to March 2024, 21 industry project employers completed the feedback survey (response rate of 91%), and five from both streams completed the post-program survey (response rate of 19%). Additional data tables for employers are in Appendix C.

Interviews

Semi-structured interviews with students, organizations, and administrators were conducted, either in-person or virtually, at the end of the program to gather more nuanced insights into the program. Additional details on interview participants are in Appendix D.

A total of 32 interviews were conducted to understand program effectiveness and areas for improvement.

- **University of Manitoba Students**: Interviews with 12 students engaged in industry projects participated in interviews to provide feedback on their experiences.
- **Newcomers**: Interviews with eight newcomers engaged in CDAP internship to gather feedback on their experiences and satisfaction.
- **Manitoba Businesses**: Nine Manitoba organizations provided feedback on the impact of the Industry Projects stream on their operations and program satisfaction.
- **Program Administrators**: Three administrators were interviewed to understand operational successes and areas for improvement.

Findings

This section presents key findings from the quantitative and qualitative data collected during the evaluation. Insights are organized around key findings, including program delivery, skills development, employability, and employee experiences.

Note: The analyses in this report are from different time periods. These programs continue to operate, and the findings are preliminary. Program participation findings, including demographic characteristics, are from June 2022 to June 2024. Feedback and post-program results are from June 2022 to March 2024.

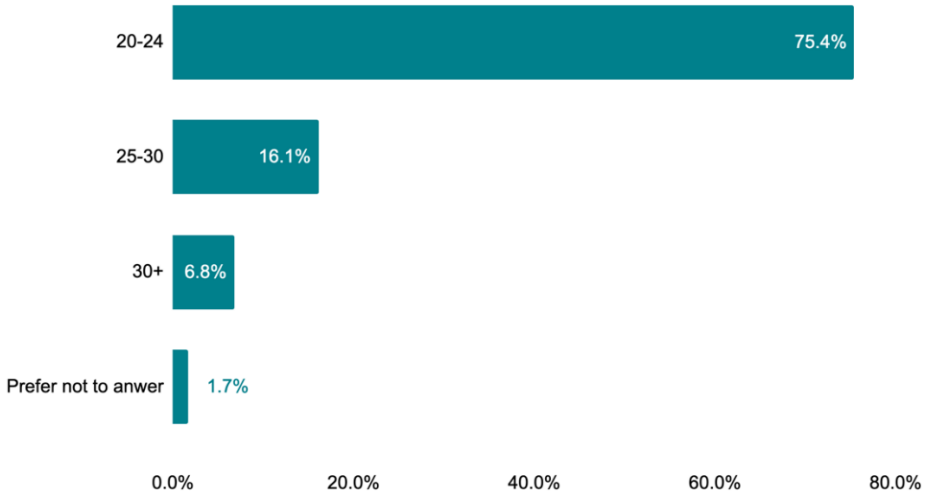
Program Delivery

From June 2022 to June 2024, the program exceeded their target of 100 work placements: 83 international students gained consulting experience in industry projects, and 31 recently graduated newcomers participated in CDAP internships. At the start of Year 3, the program registered 22 participants in industry projects.

Industry projects

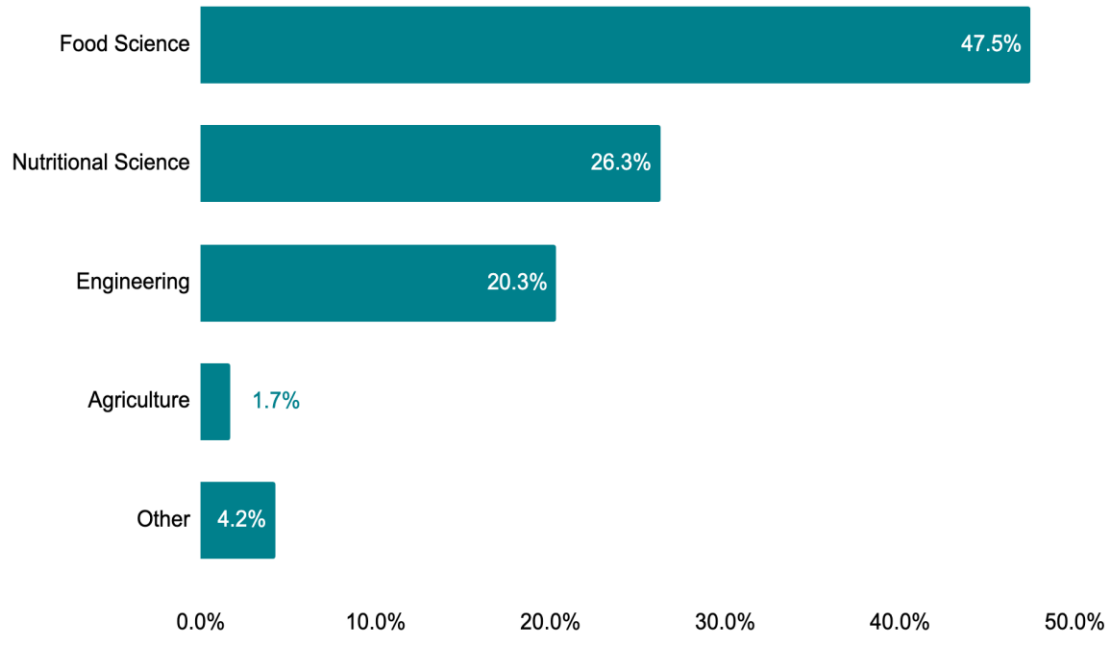
From June 2022 to June 2024, 118 students participated in industry projects and worked on 46 projects with 23 employers in the food and beverage sector. Over two-thirds of participants (67%) identified as women, and 32% identified as men. Additionally, 70.3% were international students, and 7.6% were members of the 2SLGBTQ+ community. Most participants were between 20 and 24 (Figure 3).

Figure 3. Age of industry project participants (N = 118)



Most participants were enrolled in enrolled in food science (47.5%), followed by nutritional science (26.3%) and engineering (20.3%) (Figure 4). While students from different years of study participated in these projects, most (58.5%) were in their fourth year.

Figure 4. Post-secondary program of industry project participants (N = 118)

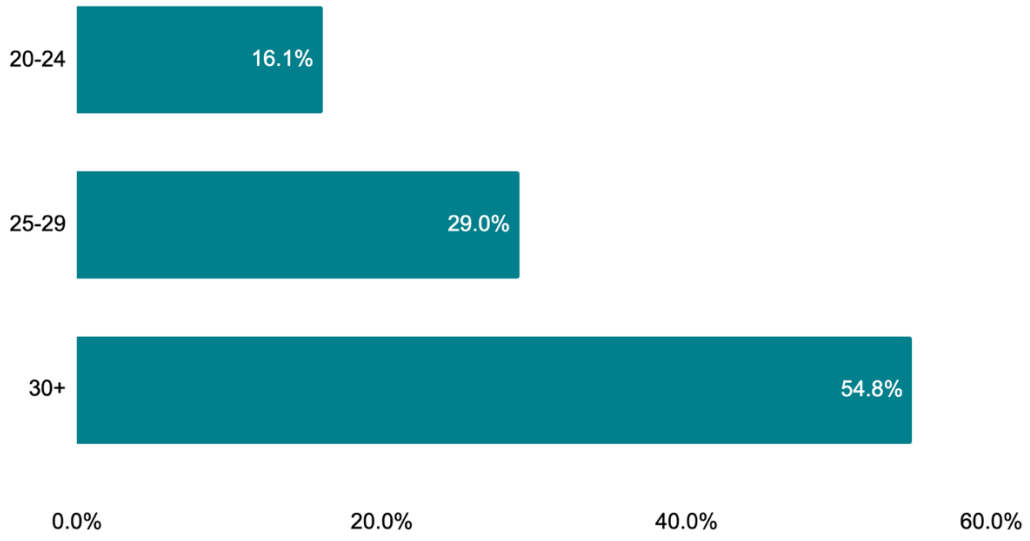


Canada Digital Adoption Program internships

From June 2022 to June 2024, CDAP Internships provided 31 work placements to newcomers, who worked for approximately 18,860 hours for 215 SMEs. On average, they were paid $20.14/hour and worked for seven months. All recent newcomer graduates completed work aligned with their credentials and skills, and most were unemployed or underemployed and struggling to secure meaningful employment in their fields.

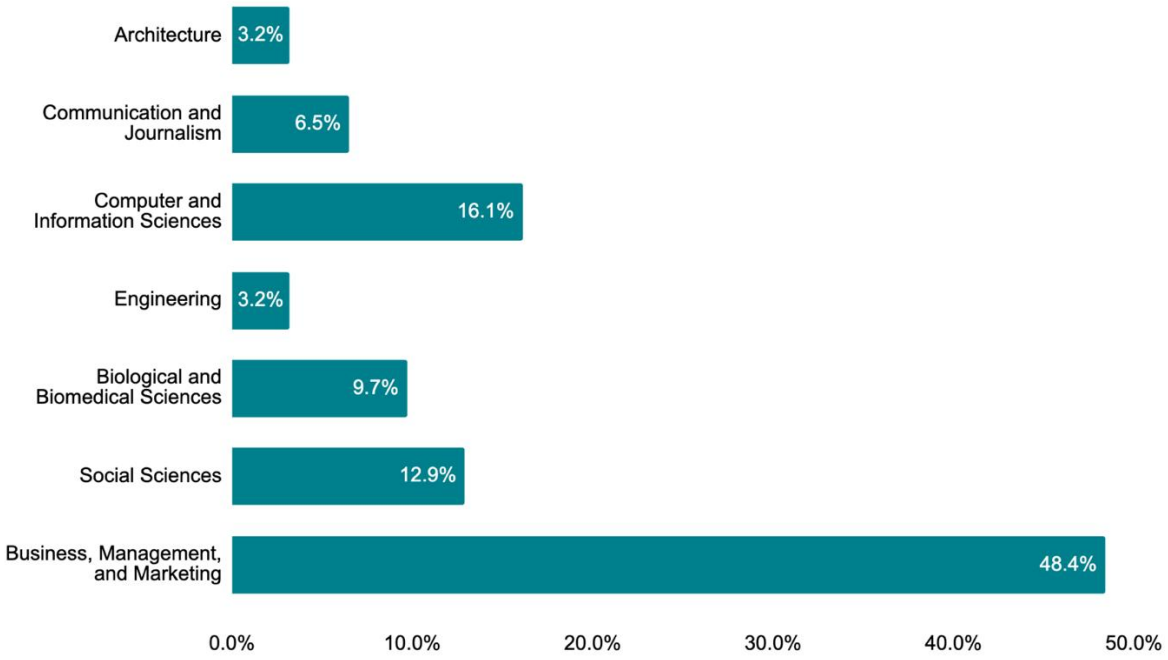
Participants in CDAP internships had diverse demographic and educational characteristics. Over half (54.8%) were over 30 (Figure 5). Slightly more participants identified as women (58.1%) than men (41.9%).

Figure 5. Age of Canada Digital Adoption Program internship participants (N = 31)



Most participants in CDAP internships had completed a master's (41.9%) or bachelor's degree (41.9%). The most common fields of study were business, management, and marketing (48.4%), computer and information sciences (16.1%), and social sciences (12.9%) (Figure 6).

Figure 6. Academic discipline of Canada Digital Adoption Program internship Participants (N = 31)

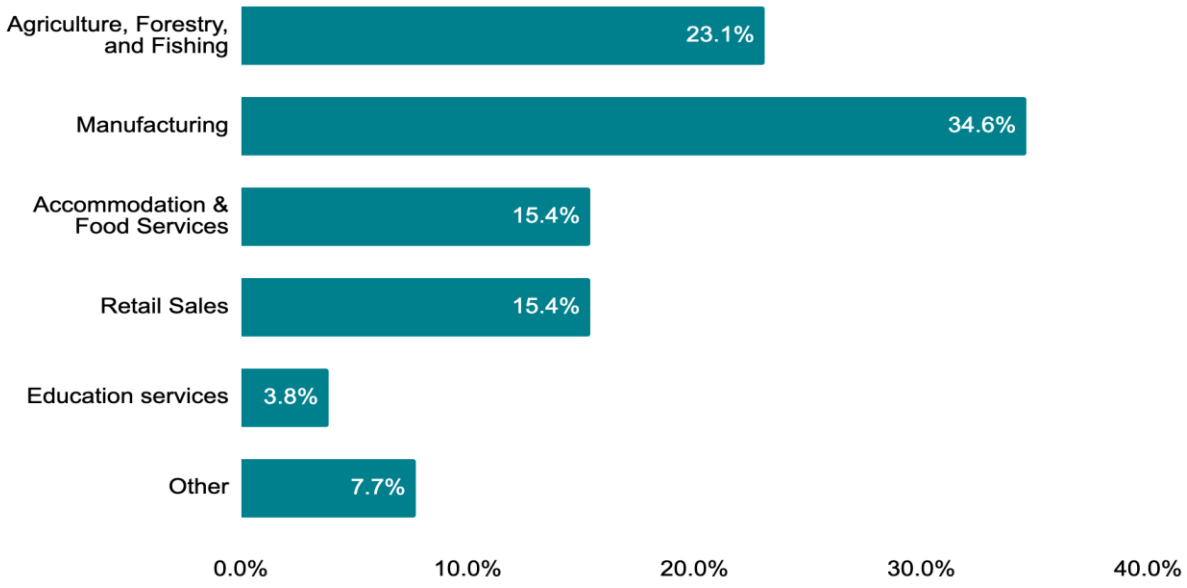


Employers

From June 2022 to June 2024, 26 organizations enrolled in the IntergatED program, 23 in industry projects and 3 in CDAP internships. Although 215 organizations received support through CDAP internships, only three were registered and had student-employer interactions. The others had time-limited interactions, and no post-program surveys were distributed to these organizations.

Most organizations were private corporations (80.8%) and small businesses (96.1%). Over half (53.8%) were majority-owned by women, and a small percentage (6.7%) were majority-owned by members of the 2SLGBTQ+ community. Most organizations operated in goods production (92.4%), with key sectors including manufacturing (34.6%), and agriculture, forestry and fishing (23.1%) (Figure 7).

Figure 7. Industries of organizations (N = 26)



Experiences with Industry Projects

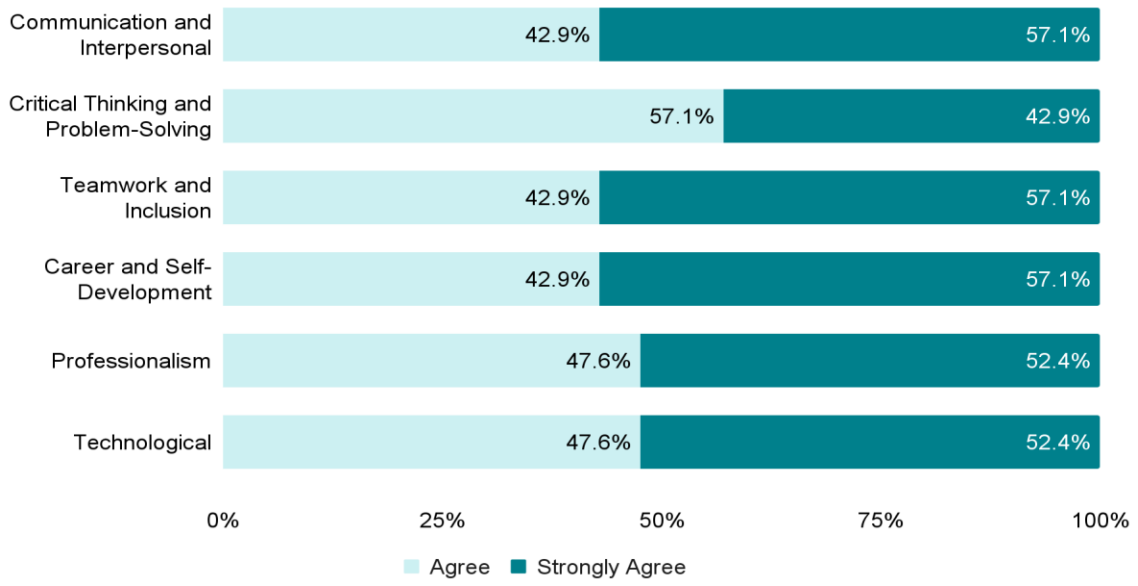
Participants in industry projects had numerous opportunities to share feedback, including feedback and post-program surveys and interviews. The post-program survey, which included questions on skills development, employability, and experiences, was distributed to 118 participants and had 21 responses. The feedback survey, which was distributed at the end of each year to understand program satisfaction, was distributed to 118 participants and had 82 responses.

Findings point to several themes, including improved skills, increased employability, and mismatch and job search strategies.

Skills development

Of the 21 responses, all respondents agreed or strongly agreed that the program contributed to their growth across all skills, including communication and interpersonal, critical thinking and problem-solving, teamwork and inclusion, career and self-development, professionalism, and technology (Figure 8).

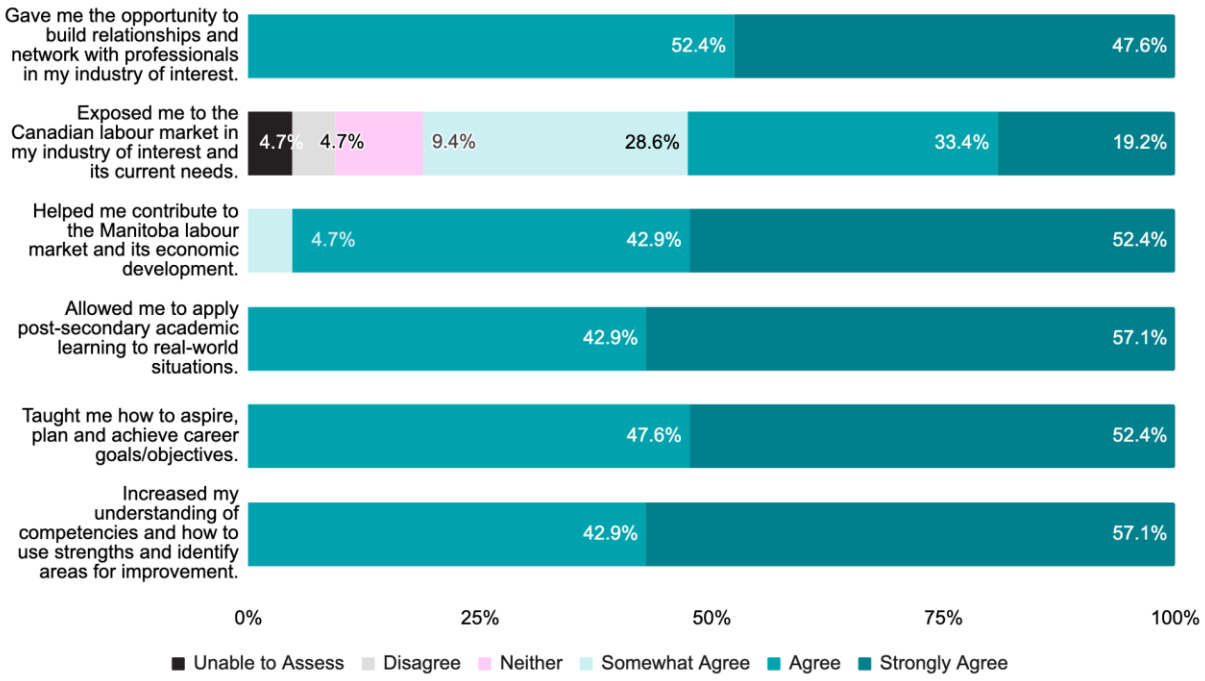
Figure 8. Skills development (N = 21)



Increased employability

Those who responded also reported increased employability, and all agreed that their placements allowed them to build relationships and network with professionals in their industry of interest, apply post-secondary academic learning to real-world situations, and develop skills in planning and achieving career goals. While most agreed that their placements exposed them to the Canadian labour market, 4.7% of participants disagreed, and 9.4% were neutral.

Figure 9. Feedback with work-integrated learning experience (N = 21)



Interviews with 12 participants revealed more nuanced insights into how the program helped increase employability.

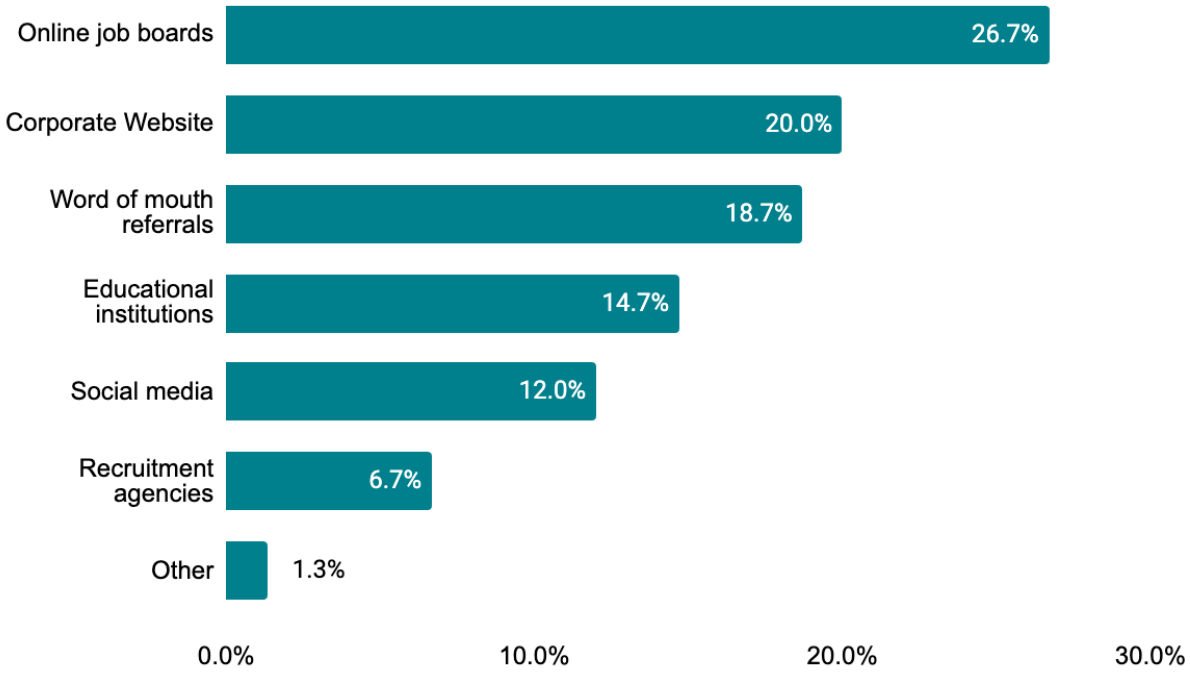
- One participant shared how the program opened doors to networking opportunities and provided references that helped them secure employment: "Before the program, I applied to over 100 jobs and was rejected every time. I even applied to [a] co-op but did not get a job in agriculture until after I completed the WIL project with Dr. Dua. I was able to discuss it during interviews and use the business as a reference afterward. I am not sure if I would've been able to land a job otherwise."
- Another participant explained how the program solidified their interest in their chosen field: "Being in Dr. Dua's class allowed me to experience what I could expect from a career in food science. Before, I was unsure if I had chosen the right degree, but helping a business with food safety made me realize I do love food science."
- A participant noted how the program helped them secure a full-time role immediately after graduation: "The skills and experience I gained through the WIL projects were instrumental in helping me secure a full-time position in food science immediately after graduation."

Mismatch in job search strategies

Post-program responses from 21 respondents revealed that they used various methods to search for jobs, including online job boards (26.7%), corporate websites (20%), word-of-mouth referrals (18.7%), and educational institutions (14.7%) (Figure 10). However, in the employer

post-program survey (N = 5), employers reported that they rely on social media (33.3%) and word-of-mouth referrals (26.7%) to recruit candidates. More work is needed to align job search strategies with employer practices.

Figure 10. Job search strategies (N = 21)



Overcoming barriers and challenges

Of those participants completed the post-program, participants agreed that industry projects helped address challenges when adapting and integrating into the Canadian workforce and that their work placement opportunities made them feel included and valued.

Interviews with 12 students highlight key barriers and challenges. Some of these include:

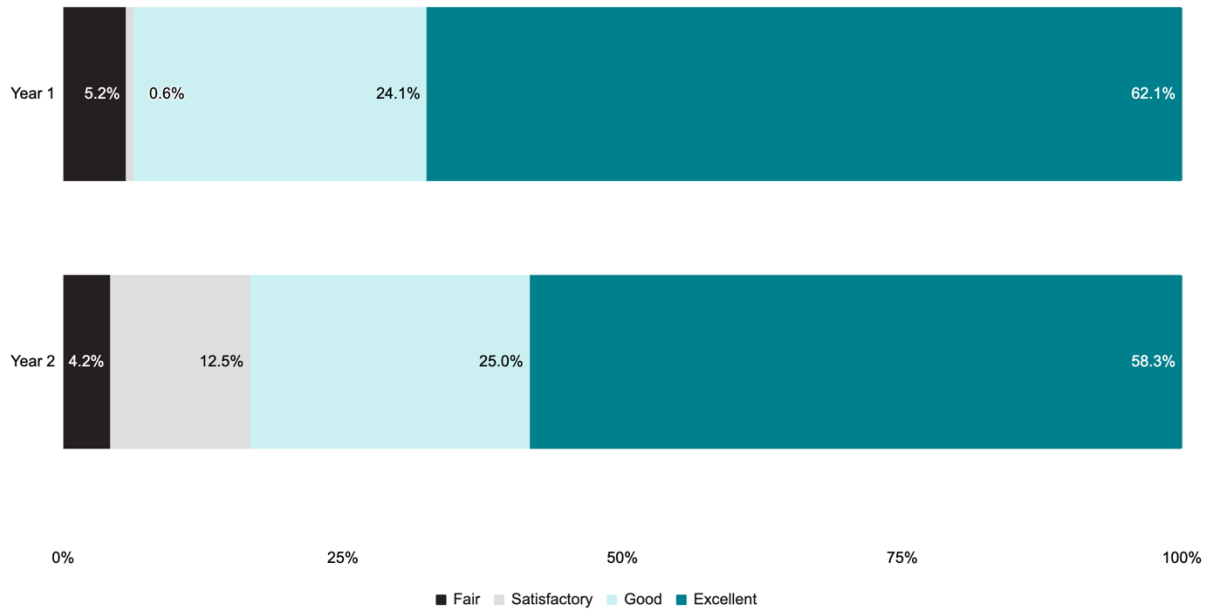
- **Difficulties Securing Work Placements:** Many participants, particularly international students, struggled to find work placement opportunities or were unaware of co-op opportunities until their final year.
- **Unclear Organizational Expectations:** Participants often faced uncertainty regarding employer expectations, which resulted in miscommunication and project delays. One participant shared their experience working on a quality control project without clear guidelines, which led to multiple revisions and stress.
- **Balancing Academic and Work Commitments:** Participants mentioned challenges balancing coursework and Industry Projects and suggested a more focused course load to alleviate the strain of multiple responsibilities.

- **Project Variety:** Some participants desired more project variety, particularly in clinical food science. They also recommended clear communication about WIL options in university course calendars, as WIL opportunities were less competitive than co-op placements.

Overall program satisfaction

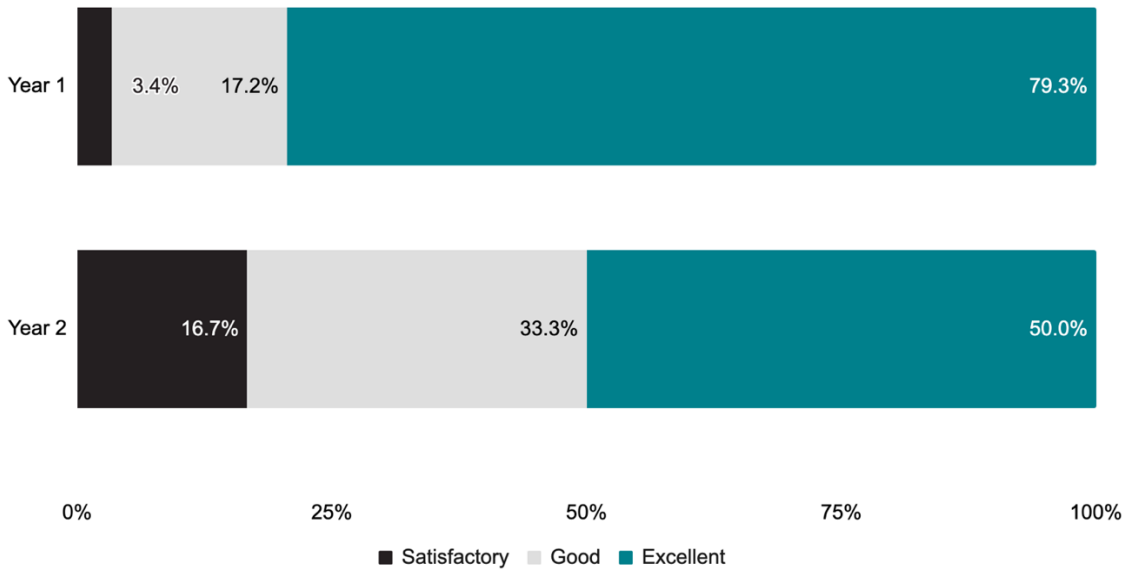
Feedback was also gathered at the end of each year to understand the participants' overall experiences, and 82 participants provided feedback in Years 1 and 2 (58 in Year 1 and 24 in Year 2). Most respondents had a positive experience with work placements -- 62.1% rated the program as excellent in Year 1 and 58.3% in Year 2 (Figure 11). Lower ratings increased between the two years – in Year 1, only 5.8% rated their experience as either unsatisfactory or poor, whereas in Year 2, this rose to 16.7%.

Figure 11. Overall experience with work placements



Those who responded also reported an overall positive experience with industry projects. In year 1, 96.5% rated their experience as good or excellent (Figure 12). While satisfaction remained high in Year 2, there was a slight decline, with 83.3% rating their experiences as good or excellent.

Figure 12. Overall experience with Industry Projects



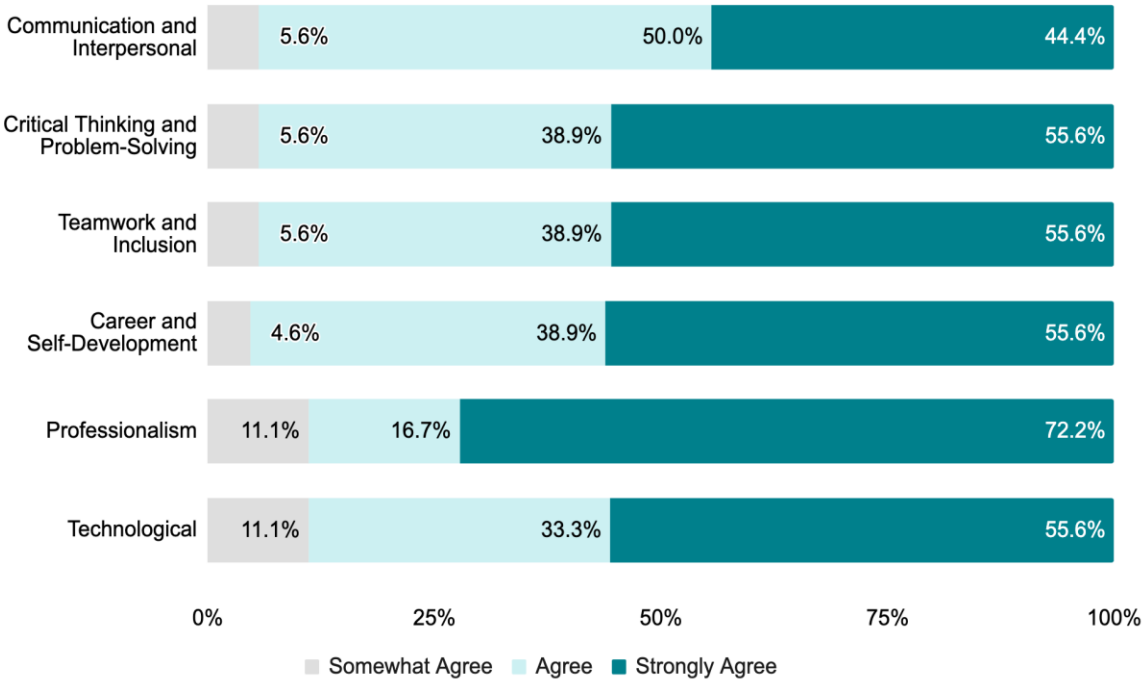
Experiences with Canadian Digital Adoption Program Internships

From June 2022 to March 2024, 18 of 29 participants responded to the CDAP internship post-program survey (response rate of 58.1%). Disaggregated analysis was not possible due to the small number of participants in the program. Findings point to several themes, including improved skills and increased employability.

Skills development

Of the 18 respondents, 94.4% agreed or strongly agreed that they improved their communication and interpersonal skills, 94.5% their critical thinking and problem-solving skills, and 94.5% their teamwork and inclusion skills (Figure 13). Only a small portion of participants reported somewhat agreeing that they improved their skills. For example, 11.1% of respondents reported that they somewhat agreed that their professionalism skills improved.

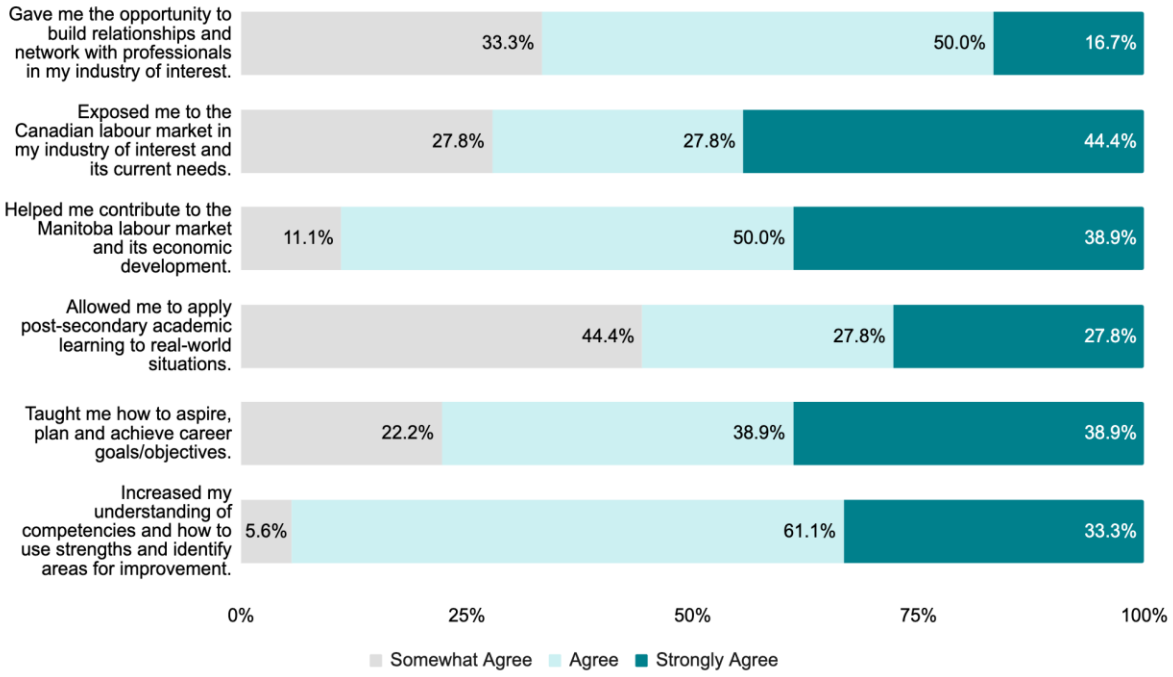
Figure 13. Skills development (N = 18)



Increased employability

Those who responded also reported that internships increased their competencies (94.4%), helped them contribute to Manitoba's labour market and economic development (88.9%) and exposed them to the Canadian labour market (72.2%) (Figure 11). More variability was observed for whether internships permitted them to apply their academic learning to real-world situations, with 44% of participants somewhat agreeing, 27.8% agreeing, and 27.8% strongly agreeing.

Figure 14. Experiences with CDAP Internship opportunities (N = 21)



Employer Feedback

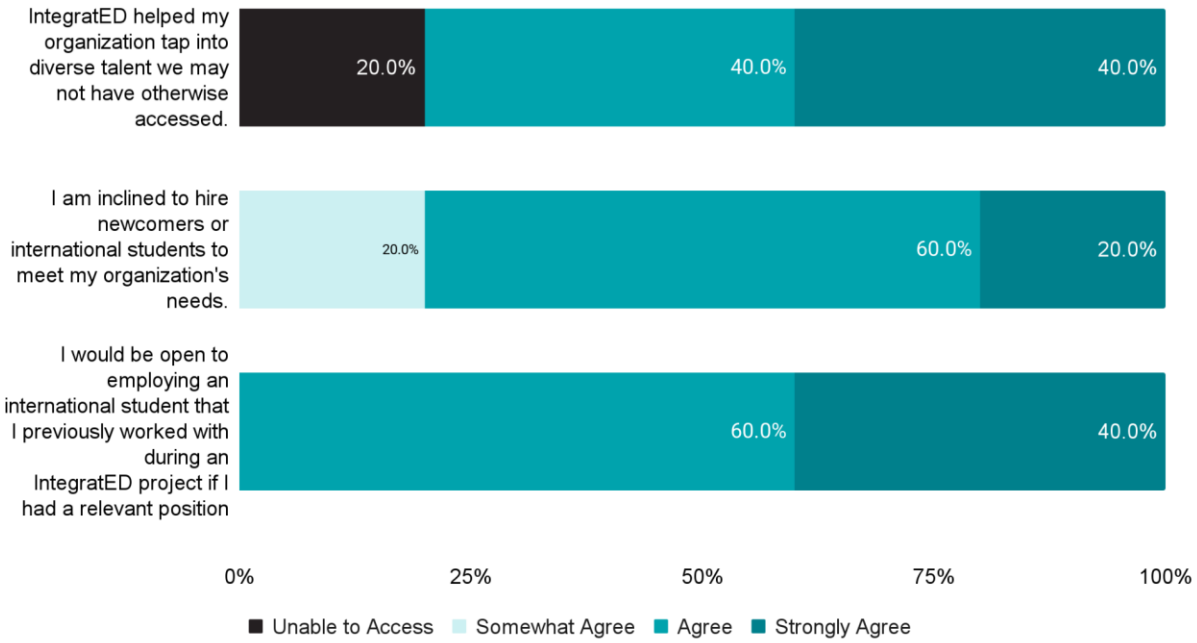
Feedback was collected through multiple channels, including feedback surveys at the end of Years 1 and 2, post-program surveys, and interviews. From June 2022 to March 2024, 21 industry project employers completed the feedback survey (response rate of 91%), and five from both streams completed the post-program survey (response rate of 19%). Additionally, interviews with 9 Manitoba employers provided a more nuanced understanding of program effectiveness.

Several themes emerged from the analysis of surveys and interview data, with key themes including access to a diverse talent pool, enhanced innovation capacity, and strengthened connections with post-secondary institutions.

Recruitment and skilled talent

Of the five employers who completed the post-program, 80% felt that the program helped them tap into talent they might not otherwise have accessed, 80% were willing to employ international students, and 100% would be willing to rehire an international student from the program if they had a position available (Figure 15).

Figure 15. Recruitment of skilled talent (N = 5)



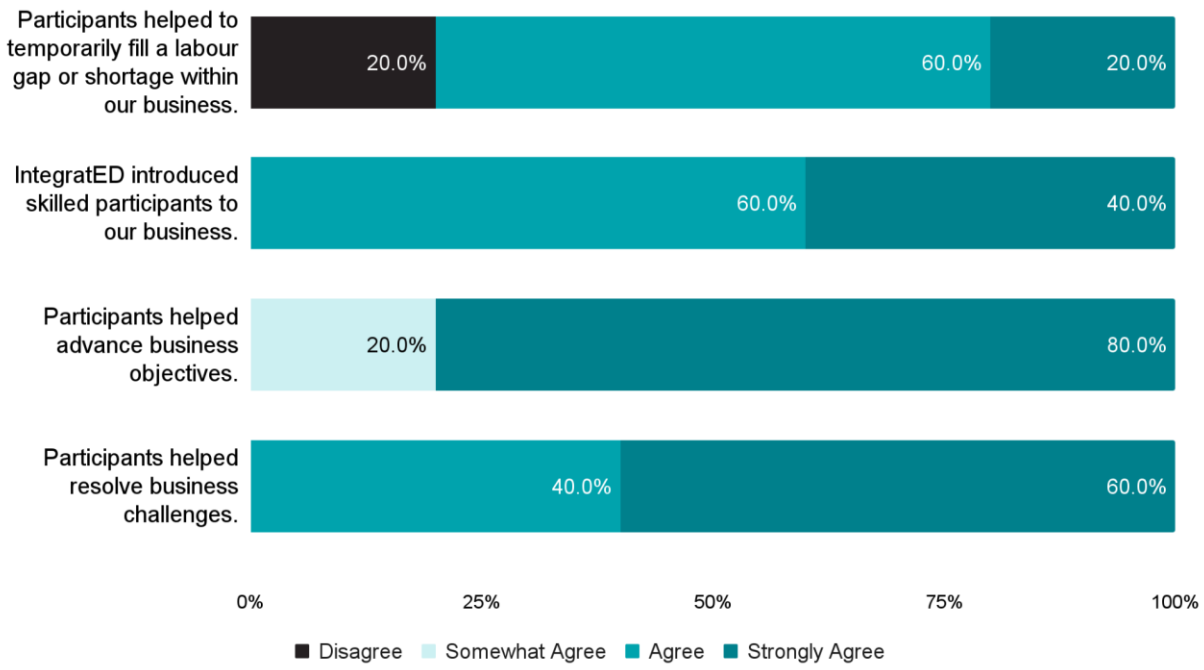
Interviews with 9 Manitoba employers echoed the value these employers placed on diversity.

- One employer explained: "Having students from different cultural backgrounds allowed us to approach problems in ways we had never considered before."
- Another organization noted, “We’ve always had a really great experience working with international students. The enthusiasm, the excitement that they bring to projects is always infectious. They bring a different mindset and cultural background to projects that we find beneficial as long as we’re being receptive to learning and understanding their unique life perspectives.”

Business objectives and labour shortages

Those who responded also reported that the IntegratED program helped to temporarily fill labour shortages (80%), introduced skilled talent to their organization (100%), and resolved business challenges (100%) (Figure 16). Only 80% agreed or strongly agreed that participants advanced their business objectives, such as Good Manufacturing Practices, preventative control planning, menu planning, microbial testing, shelf-life studies, and solving product quality issues.

Figure 16. Benefits of the IntegratED Program on business objectives and labour shortages (N = 5)



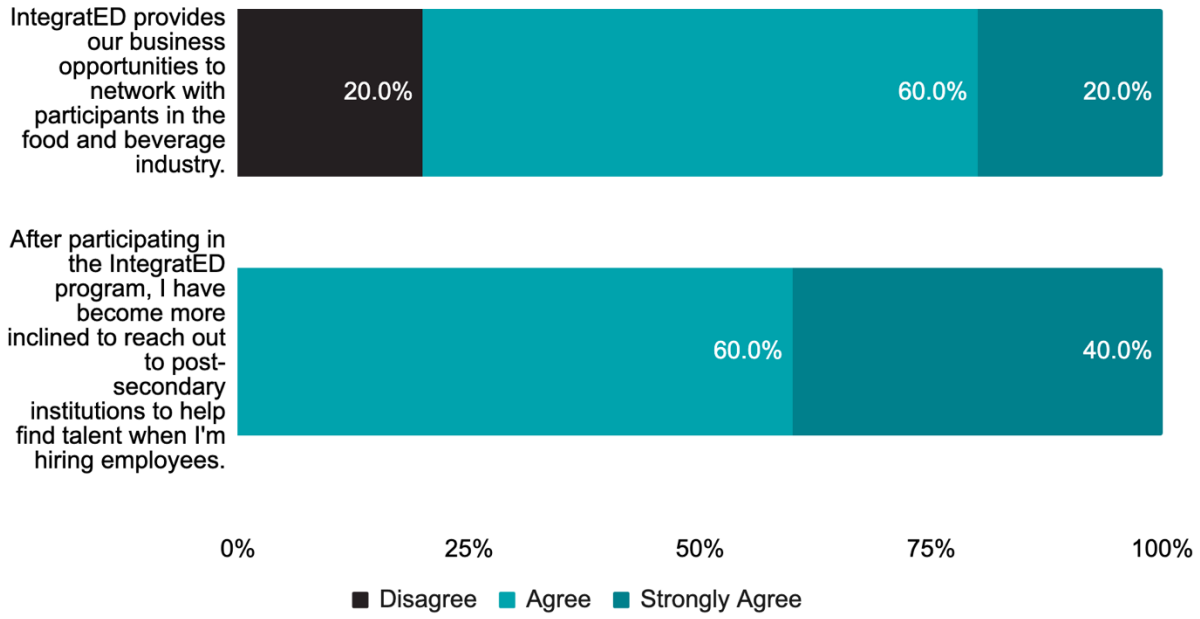
Qualitative interviews with 9 Manitoba employers further highlight how the program helped improve business practices. Employers noted that leveraging student assistance allowed them to reduce expenses traditionally allocated to hiring consultants or additional resources.

Relationships with post-secondary institutions

Post-program survey results of five employers showed that while 50% had no prior relationship with post-secondary institutions, 100% expressed a strong desire to engage with them in the future (Figure 17). Additionally, 80% felt that the program provided business opportunities to network with individuals in the food and beverage industry.

Interviews with nine Manitoba employers further highlight the importance of engaging with post-secondary departments, faculty, and professors. Employers noted that working with the Department of Food Science and Dr. Dua helped them establish long-term connections and university contacts. Despite improved relationships with post-secondary institutions, employers preferred working with an intermediary to improve efficiency and reduce administrative burdens.

Figure 17. Relationships with post-secondary institutions (N = 5)



Challenges

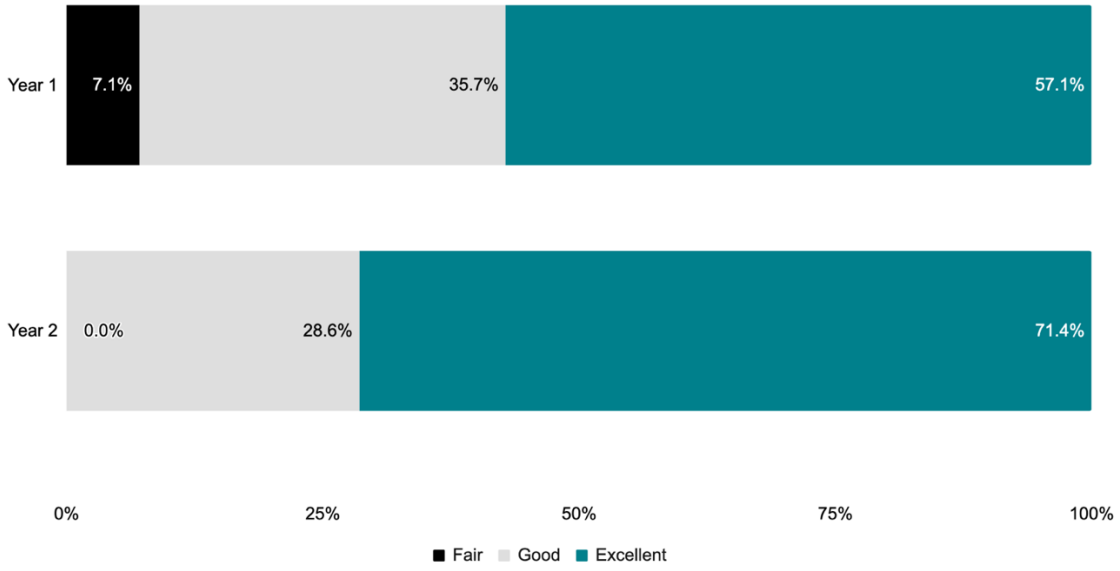
Employers noted several challenges when participating in the program. Interviews with nine employers revealed challenges related to communication, resources, and projects.

1. **Communication and Engagement:** Employers reported challenges with participant availability, as academic commitment often led to inconsistent engagement. One employer noted reduced participation when in-person learning resumed made it more difficult to maintain project progress. Employers emphasized the need for better communication and time management among participants.
2. **Resource Constraints:** SMEs faced resource constraints, including limited budgets and HR capacity, which limited their ability to offer full-time positions or comprehensive training sessions. Employers also mentioned an administrative burden and recommended a dedicated coordinator to streamline communication and oversight.
3. **Project Expectations:** Employers struggled with unclear expectations. One SME noted the importance of a well-defined project plan to ensure participants understand tasks and project scope. Employers also recommended more guidance on integrating participants into their operations and regular performance check-ins.

Overall program satisfaction

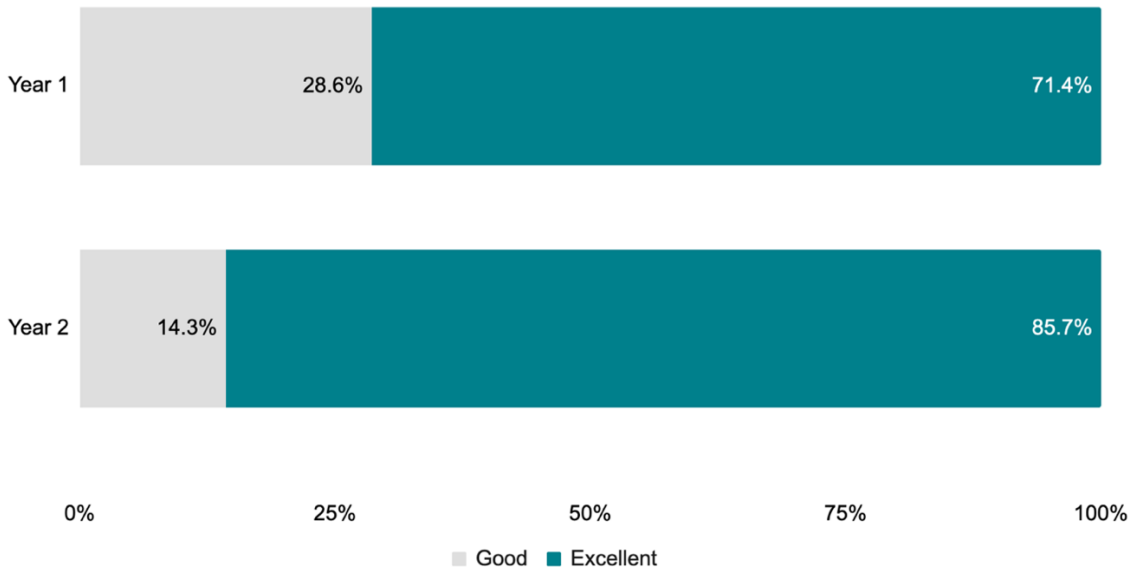
Feedback was also gathered at the end of each year to understand employers' overall experiences, and 21 of the 26 employers provided feedback in Years 1 and 2. In Year 1, most employers (57.1%) rated participants as excellent, while a small percentage (7.1%) rated them as fair (Figure 18). In Year 2, satisfaction increased. Almost three-fourths (71.4%) rated participants as excellent.

Figure 18. Overall experience with industry project participants (N = 21)



Those employers who responded also reported an overall positive experience with industry projects in Years 1 and 2. In Year 1, most employers (74.1%) rated the program as excellent, and 28.6% rated it as good (Figure 19). By Year 2, satisfaction increased, with 85.7% of employers who rated the program as excellent.

Figure 19. Overall experience with industry projects (N = 21)



Program Administrator Feedback

Qualitative interviews with three program administrators pinpointed challenges and ways to improve future program iterations.

Students

- **Cultural differences related to work were not as widely understood at the outset of the program:** Since students were mainly from non-western countries, where work cultures tend to emphasize observing hierarchies of authority, there was a gap in their ability to communicate effectively with businesses.
- **Foundation professional skills were not yet fully cultivated:** There were gaps between skills required for academia and the workforce, which suggested a need for a larger emphasis on foundation and professional skills.
- **Ongoing support and implementation assistance are paramount:** Students need guidance and support on how to run projects and meetings and support the communication needs of organizations.
- **International students face perceptions or bias in the workplace or post-secondary institutions:** Students may be reluctant to disclose their international status. More education and awareness training for employers and institutions are needed.

Organizations

- **Access barriers:** Quick turnaround projects were an effective way to engage, minimize barriers to access, and orient businesses to the international student talent available.
- **Resource intensity was underestimated:** Significant engagement was required to secure participation, with over 150 businesses engaged to recruit only 16 participants. Solutions to optimize efficiency include leveraging technology to simplify engagement activities and building ongoing relationships and brand awareness to foster referrals and repeat participation.
- **Ongoing support is needed:** Organizations need support throughout the process to foster positive outcomes. Partners with shared objectives can help enhance these outcomes while ongoing WIL services foster equity among SMEs and large enterprises and drive economic and workforce development.
- **Organizations require additional onboarding and compliance awareness:** Free cultural training for businesses on supporting to newcomers and international students would help improve employment outcomes.

Program administration

- **Need for a stronger tracking system:** A strong tracking system is needed to improve response rates, maintain alumni engagement, and collect comprehensive data.
- **Increased outreach efforts:** Low program visibility hindered outreach. It is essential to ensure outreach efforts share success stories and involve partnerships to increase awareness.
- **Need for additional funding:** The ability to secure funding remains a significant challenge and affects key aspects of the program, such as stipends and operations.

Conclusion

The qualitative and quantitative data from the evaluation suggests that the IntegratED program has the potential to help participants bridge the gap between academic knowledge and practical industry skills, support the growth of SMEs, and prepare participants for meaningful careers.

Key Goals and Outcomes

The IntegratED program set four goals to support international students, recently graduated newcomers, and employers in navigating Manitoba's job market.

1. **To equip international students and recently graduated newcomers with the necessary skills to succeed in the Canadian job market**: Both industry projects and CDAP internships were designed to address challenges identified during pre-program interviews; that is, participants often struggled with communication, critical thinking, and teamwork. Of the 39 industry project and CDAP internship participants who completed the post-program survey, most indicated skills improvements in communication and interpersonal skills, critical thinking and problem-solving, teamwork and inclusion, career and self-development, professionalism, and technology.
2. **To facilitate participants' smooth transition into the workforce through WIL placements**: WIL placements allowed participants to apply their academic learning to real-world situations, supporting their transition into the workforce. The IntegratED program offered 114 WIL placements, 83 to international students in industry projects, and 31 in the CDAP internships.
3. **To provide opportunities for participants to apply and develop their STEM knowledge**: Industry projects provided international students with work experience in consulting roles within SMEs in Manitoba's food and beverage industry. WIL projects were offered in Dr. Dua's fourth-year Food Science and Human Nutrition courses at the University of Manitoba.
4. **To help SMEs fill critical skill gaps**: The program not only helped businesses address immediate labour shortages but also offered access to a diverse talent pool, enhanced their innovation capacity, and contributed to long-term organizational growth.

The IntegratED program set three broad outcomes, which were addressed in program design and delivery.

1. **To retain more international STEM graduates**: The IntegratED program developed and designed two WIL streams based on challenges and skills gaps identified during pre-program interviews with organizations. This allowed the Momentum Centre to deliver a program to help international students and recently graduated newcomers with foundational and professional skills to succeed in the Canadian job market.

2. **To build and harness a more equitable, diverse, and inclusive workforce**: The IntegratED program was designed to provide participants with the skills and competencies to navigate the transition into the workforce and apply academic knowledge in real-world situations. It also aimed to address barriers faced by underrepresented groups, such as women in STEM and ease the integration challenges experienced by international students adapting to Canadian workplace culture.
3. **To develop an efficient talent pipeline**: The program aimed to connect SMEs in Manitoba with capable participants to address the critical skill gaps in the food and beverage manufacturing industry. This not only helped SMEs fill immediate labour shortages but also provided access to a diverse and skilled talent pool.

Program Design and Delivery Learnings

The IntegratED program faced challenges in bridging cultural and professional skills gaps for international students, outreach, and tracking long-term participants' outcomes. Some examples include:

- Students needed guidance on running projects, leading meetings, and understanding organizational communication. International students may also be reluctant to disclose their international status.
- Organizations need support through the program to foster positive outcomes, including standardized onboard documents, HR resources, and cultural awareness training.
- A strong tracking system is needed to improve response rates, maintain alumni engagement, and collect comprehensive data. Low program visibility hindered outreach, and future outreach efforts should share success stories and involve partnerships to increase awareness. The ability to secure funding remains a significant challenge and has affected key aspects of the program, such as stipends and operations.

Recommendations

Participants and employers recognized the value of the IntegratED program. Program evaluation results highlight improvements to skills development, employability, and inclusive HR practices. Future areas of exploration and improvement for the program could be:

- **Increase program visibility and engagement**: Promote the program through various channels, including social media, university newsletters, and information sessions. Collaborate with university career services and departments to raise awareness among participants early in their academic journey.
- **Strengthen labour market intermediaries:** Enhance the presence and role of intermediaries to connect emerging labour market supply and demand. Leverage WIL to link participants with potential employers, reduce the burden on participants to find opportunities independently, and help employers with limited resources secure talent.
- **Provide equity, diversity, and inclusion (EDI) training:** Offer EDI training for both participants and businesses. Develop support systems tailored to the needs of international students and new Canadians, including mentorship programs and

intercultural competency workshops.

- **Implement robust tracking:** Establish a system to monitor the progress of participants and businesses in the program. Collect data on employment outcomes, skills gained, and long-term career impacts to assess program effectiveness and identify areas for improvement.
- **Expand WIL programs:** Collaborate with academic departments to increase the number of WIL courses available. Ensure these courses are prominently listed in course catalogues and online registration systems.
- **Consider evaluation tools and analysis techniques:** The small sample size in this evaluation limited meaningful disaggregated analyses, which is particularly important for identifying barriers faced by specific groups, such as newcomers and international students with intersectional identities. Also, evaluation techniques, such as pre- and post-program skills assessments, can provide a better understanding of skills development. Differences in response structure may be considered – for example, Likert scales are symmetrical (i.e., strongly disagree, disagree, neither agree nor disagree, agree, and strongly agree) or 1 to 5 scales representing no knowledge to experts.

Several policy and program development recommendations can also help strengthen its outcomes and ensure continued effectiveness. These include:

- **Reform immigration programs**: Increase the admission of immigrants with prior study-permit-holder status and retain international students, particularly in STEM fields. Ensure that combined temporary and permanent immigration programs sufficiently increase the supply of newcomers with digital skills.
- **Offer a pathway to permanent residency**: Establish a pathway to permanent residency for international students in high-demand sectors to support smoother transitions to long-term employment while filling critical shortages in high-demand occupations. Collaborate with the government and target areas with skill shortages to help retain essential talent.
- **Reduce underemployment of skilled immigrants**: Improve language skills, address barriers to recognizing foreign credentials and experience, and provide tailored support for successful labour market integration. Encourage employer initiatives. Urge employers to offer higher wages to attract workers, provide on-the-job training to address skills gaps, and recognize non-formal training options to expand the diverse talent pool.
- **Upskill and reskill the workforce:** Invest in programs that provide upskilling and reskilling opportunities for the existing workforce to keep pace with technological advancements and changing job market demands.

Appendix A: Industry Projects Data Tables

Table 2. Participant Enrollment Demographic Information for Industry Projects from June 2022 to June 2024 (N = 118)

		Year 1 (N = 75)		Year 2 (N = 43)	
Category	**Subcategory**	**N**	**%**	**N**	**%**
Gender	Male	22	29.3	16	37.2
	Female	52	69.3	27	62.8
	Prefer not to say	1	1.3	0	0.0
Self-Identification	International student	50	66.7	-	-
	Newcomer	3	4.0	0	0.0
	Other racialized person	16	21.3	-	-
	LGBTQ2S+	5	6.7	4	9.3
	Women	32	42.7	26	60.5
	Prefer not to say	7	9.3	16	37.2
Student Status	Domestic	-	-	10	23.3
	International	-	-	33	76.7
Self-Identification (Updated in Year 2)	Arab	-	-	2	4.7
	Caucasian	-	-	5	11.6
	Chinese	-	-	7	16.3
	Eastern European	-	-	1	2.3
	Filipino	-	-	1	2.3
	Indian	-	-	1	2.3
	Indigenous (North America)	-	-	1	2.3
	Latin American	-	-	1	2.3
	South Asian	-	-	10	23.3
	Southeast Asian	-	-	4	9.3
	Western European	-	-	1	2.3
	Prefer Not to Say	-	-	9	21
Age	20-24	54	72.0	35	81.4
	35-30	14	18.7	5	11.6
	30+	6	8.0	2	4.7
	Prefer not to answer	1	1.3	1	2.3
Degree Type	Bachelor's	62	82.7	36	83.7
	Master's	1	1.3	7	16.3
	Other	12	16.0	-	-
Program	Food Science	34	45.3	22	51.1
	Nutritional Science	26	34.7	5	11.6
	Engineering	9	12	15	34.9
	Agriculture	2	2.7	-	-

		Year 1 (N = 75)		Year 2 (N = 43)	
Category	**Subcategory**	**N**	**%**	**N**	**%**
	Other	4	5.3	1	2.3
Academic Discipline	Health	25	33.3	8	18.6
	Agriculture	22	29.3	19	44.2
	Engineering/Architecture	7	9.3	3	7.0
	Education	4	5.3	1	2.3
	Physical & Life Sciences	4	5.3	-	-
	Other	13	17.3	12	27.9
Year of Study	1st	3	4.0	12	27.9
	2nd	4	5.3	1	2.3
	3rd	12	16.0	11	25.6
	4th	54	72.0	15	34.9
	Recent Graduate	1	1.3	1	2.3
	Other	1	1.3	3	7.0

Note: Questions on self-identification and international student status changed in Year 2.

Table 3. Feedback Survey for Industry Projects Participants from June 2022 to March 2024 (N = 82)

		Year #1 (N = 58)	Year #2 (N = 24)
Category	Subcategory	%	%
Satisfaction with Project Theme	1	0.0	0.0
	2	1.7	0.0
	3	1.7	8.3
	4	32.8	33.3
	5	63.8	58.3
Satisfaction with Amount of Time	1	0.0	4.2
	2	5.2	6.7
	3	8.6	20.8
	4	24.1	12.5
	5	62.1	45.8
Overall Experience in Placement	1	0.0	0.0
	2	5.2	4.2
	3	0.6	12.5
	4	24.1	25.0
	5	62.1	58.3
Overall Experience in IntegratED	1	0.0	0.0
	2	0.0	0.0
	3	3.4	16.7
	4	17.2	33.3
	5	79.3	50.0
Would Participate in Industry-Based Projects in Future	Yes	96.6	100.0
	No	3.4	0.0

Category	Subcategory	Year #1 (N = 58) %	Year #2 (N = 24) %
Recommend for Future Participants	Yes	98.2	95.8
	No	1.8	4.2
Interest in Development Workshops	Yes	67.2	75.0
	No	0.0	4.2
	Maybe	32.8	20.8

Table 4. Industry Project Post-Program Participant Demographics from June 2022 to March 2024 (N = 21)

Metrics	Categories	Percent (%)
Current Role	Student	33.3
	Employed Full-Time	16.7
	Employed Part-Time	13.3
	Looking for Work	13.3
	Term Contract	13.4
	Other	10.0
Highest Level of Education	Bachelor's Degree	57.0
	Master's Degree	24.0
	Associate Degree	10.0
	High School Diploma	9.0
Current Degree Being Pursued	Bachelor's Degree	64.0
	Master's Degree	36.0
Job Relevance to Degree / Education	Relevant	22.2
	Irrelevant	77.8
EDI Training Received	Workshops	40.0
	Seminars	20.0
	Review of Literature	10.0
	Curriculum Modules	10.0
	None	20.0
Avenues for Seeking Employment	Online Job Boards	26.7
	Corporate Website	20.0
	Word of Mouth Referrals	18.7
	Educational Institutions	14.7
	Social Media	12.0
	Recruitment Agencies	6.67
	Other	1.33

Table 5. Industry Project Post-Program Results for Participants from June 2022 to March 2024 (N = 21)

Metrics	Categories	N	%
Communication and Interpersonal Skills	Strongly Agree Agree	12 9 -	57.1 42.9 -
Critical Thinking and Problem-Solving Skills	Strongly Agree Agree	9 12 -	42.9 57.1 -
Teamwork and Inclusion Skills	Strongly Agree Agree	12 9	57.1 42.9
Career and Self-Development Skills	Strongly Agree Agree	12 9	57.1 42.9
Professionalism Skills	Strongly Agree Agree	11 10	52.4 47.6
Technological Skills	Strongly Agree Agree	11 10	52.4 47.6
Increased Employability	Strongly Agree Agree	13 8	61.9 38.1
During my work term / work–integrated learning placement, I felt included and valued.	Strongly Agree Agree	15 6	71.4 28.6
Work placements or work integrated learning programs should be utilized in academic or career development programs to better help young people to develop skills and prepare for employment in their field of interest.	Strongly Agree Agree Somewhat Agree	17 3 1	80.9 14.3 4.8
My work term(s) or work integrated learning placement(s) gave me the opportunity to build relationships and network with employers/professionals in my industry of interest.	Strongly Agree Agree	11 10	52.4 47.6
My work term(s) or work integrated learning placement(s) exposed me to the Canadian labour market in my industry of interest and its current needs.	Strongly Agree Agree Somewhat Agree Neither Disagree Unable to Assess	4 7 6 2 1 1	19.2 33.4 28.6 9.4 4.7 4.7
My work term(s) or work integrated learning placement(s) helped me contribute to the MB labour market and its economic development.	Strongly Agree Agree Somewhat Agree	11 9 1	52.4 42.9 4.7

Metrics	Categories	N	%
My work term(s) or work integrated learning placement(s) allowed me to apply post-secondary academic learning to real-world situations.	Strongly Agree Agree	12 9	57.1 42.9
My work term(s) or work integrated learning placement(s) taught me how to aspire, plan and achieve career goals/objectives.	Strongly Agree Agree	11 10	52.4 47.6
My work term(s) or work integrated learning placement(s) increased my understanding of competencies and how to use strengths and identify areas for improvement.	Strongly Agree Agree	12 9	57.1 42.9

Appendix B: CDAP Internships Data Tables

Table 6. CDAP Internship Participant Demographic Data from June 2022 to June 2024 (N = 31)

Metrics	Categories	N	%
Gender	Male Female	13 18	44.8 58.1
Self-Identification	Newcomer Other racialized person 2SLGBTQ+ Women	31 30 2 18	100 96.8 6.5 58.1
Age	20-24 25-29 30+	5 9 17	16.1 29.0 54.8
Degree Type Complete	Master's Bachelor's High School Diploma	13 13 5	41.9 41.9 16.1
Academic Discipline	Architecture Communication, journalism Computer and information sciences Engineering Biological and biomedical sciences Social sciences Business, management, marketing	1 2 5 1 3 4 15	3.2 6.5 16.1 3.2 9.7 12.9 48.4
Current Student Status	Enrolled Recent Graduate	6 25	19.4 80.6

Table 7. CDAP Internship Post-Program Responses from June 2022 to March 2024 (N=18)

Metrics	Categories	N	%
Communication and Interpersonal Skills	Strongly Agree Agree Somewhat Agree	8 9 1	44.4 50.0 5.6
Critical Thinking and Problem-Solving Skills	Strongly Agree Agree Somewhat Agree	10 7 1	55.6 38.9 5.6
Teamwork and Inclusion Skills	Strongly Agree Agree Somewhat Agree	10 7 1	55.6 38.9 5.6
Career and Self-Development Skills	Strongly Agree Agree Somewhat Agree	10 7 1	55.6 38.9 5.6
Professionalism Skills	Strongly Agree Agree Somewhat Agree	13 3 2	72.2 16.7 11.1
Technological Skills	Strongly Agree Agree Somewhat Agree	10 6 2	55.6 33.3 11.1
Increased Employability	Strongly Agree Agree Somewhat Agree	8 6 4	44.4 33.3 22.2
During my work term / work–integrated learning placement, I felt included and valued.	Strongly Agree Agree Somewhat Agree	13 4 1	72.2 22.2 5.6
Work placements or work integrated learning programs should be utilized in academic or career development programs to better help young people to develop skills and prepare for employment in their field of interest.	Strongly Agree Agree Somewhat Agree	14 3 1	77.8 16.7 5.6
My work term(s) or work integrated learning placement(s) gave me the opportunity to build relationships and network with employers/professionals in my industry of interest.	Strongly Agree Agree Somewhat Agree	6 9 3	33.3 50.0 16.7
My work term(s) or work integrated learning placement(s) exposed me to the Canadian labour market in my industry of interest and its current needs.	Strongly Agree Agree Somewhat Agree	8 5 5	44.4 27.8 27.8

Metrics	Categories	N	%
My work term(s) or work integrated learning placement(s) helped me contribute to the MB labour market and its economic development.	Strongly Agree Agree Somewhat Agree	7 9 2	38.9 50.0 11.1
My work term(s) or work integrated learning placement(s) allowed me to apply post-secondary academic learning to real-world situations.	Strongly Agree Agree Somewhat Agree	5 5 8	27.8 27.8 44.4
My work term(s) or work integrated learning placement(s) taught me how to aspire, plan and achieve career goals/objectives.	Strongly Agree Agree Somewhat Agree	7 7 4	38.9 38.9 22.2
My work term(s) or work integrated learning placement(s) increased my understanding of competencies and how to use strengths and identify areas for improvement.	Strongly Agree Agree Somewhat Agree	6 11 1	33.3 61.1 5.6

Appendix C: Employer Data Tables

Table 8. Business Enrollment Demographic Information from June 2022 to June 2024 (N = 26)

		Year 1 (N = 15)		Year 2 (N = 11)	
Category	**Subcategory**	**N**	**%**	**N**	**%**
Type	Private Corporation	10	66.7	11	100
	Sole proprietor	3	20.0	-	-
	Partnership	1	6.7	-	-
	Not for profit	1	6.7	-	-
Majority Ownership	Women	7	46.7	7	63.6
	LGBQT2S+	1	6.7	-	-
	Prefer not to say	7	46.7	2	18.2
	None	-	-	2	18.2
Number of Employees	Small (1-99)	14	93.3	11	100
	Medium (100-499)	1	6.7	-	-
Industry Sector	Agriculture, forestry, fishing	5	33.3	1	9.1
	Manufacturing	4	26.7	5	45.4
	Accommodation & food	2	13.3	2	18.2
	services Retail sales	2	13.3	2	18.2
	Education services	1	6.7	0	0
	Other	1	6.7	1	9.1
Goods Producing Business	Yes	14	93.3	10	90.9
	No	1	6.7	1	9.1

Table 9. Business Feedback Survey from June 2022 to March 2024 (N = 21)

		Year #1 (N = 14)	Year #2 (N = 7)
Category	Subcategory	%	%
More than one project	Yes	42.9	28.6
	No	57.1	71.4
Did the project advance your business objective?	Yes	100.0	100.0
	No		
Overall experience with participants	1	0.0	0.0
	2	7.1	0.0
	3	0.0	0.0
	4	35.7	28.6
	5	57.1	71.4
Overall experience with IntegratED	1	0.0	0.0
	2	0.0	0.0
	3	0.0	0.0
	4	28.6	14.3
	5	71.4	85.7
Level of satisfaction with program outcomes	1	0.0	0.0
	2	0.0	0.0
	3	23.1	0.0
	4	15.4	14.3
	5	61.5	85.7
Willingness to provide references	Yes	92.9	100.0
	No	7.1	0.0
Would you participate in further opportunities?	Yes	92.9	100
	No	7.1	0

Table 10. Post-Program Demographics for Businesses from June 2022 to March 2024 (N = 5)

Metric	Category	%
Business Product Research	Local	83.3
	Canada-Wide	16.7
Avenues for seeking employment	Social Media	33.3
	Word of Mouth Referrals Online	26.7
	Job Boards Corporate Website	13.3
	Print Ads	13.3
	Recruitment Agencies	6.7
		6.7
EDI Training received	Workshops	22.2
	Seminars	22.2
	Review of Literature	22.3
	Curriculum Modules	11.1

Metric	Category	%
	None Community Giveback	11.1 11.1
Prior relationships with post-secondary institutions	Yes No	50.0 50.0

Table 11. Post-Program Responses for Organizations from June 2022 to March 2024 (N = 5)

Metrics	Categories	%
Communication and Interpersonal Skills	Expert Proficient Competent Advanced Beginner Novice	0.0 40.0 40.0 20.0 0.0
Critical Thinking and Problem-Solving Skills	Expert Proficient Competent Advanced Beginner Novice	0.0 20.0 60.0 20.0 0.0
Teamwork and Collaboration Skills	Expert Proficient Competent Advanced Beginner Novice	0.0 40.0 0.0 0.0 60.0
Task and Time Management Skills	Expert Proficient Competent Advanced Beginner Novice	0.0 20.0 60.0 20.0 0.0
I am inclined to hire newcomers or international students to meet my organization's needs.	Strongly Agree Agree Somewhat Agree Neither Disagree Unable to Assess	20.0 60.0 20.0 0.0 0.0 0.0
IntegratED provides our business opportunities to network with participants in the food and beverage industry.	Strongly Agree Agree Somewhat Agree Neither Disagree	20.0 60.0 0.0 0.0 20.0

Metrics	Categories	%
	Unable to Assess	0.0
IntegratED helped my organization tap into diverse talent we may not have otherwise accepted.	Strongly Agree Agree Somewhat Agree Neither Disagree Unable to Assess	40.0 40.0 0.0 0.0 0.0 20.0
After participating in the IntegratED program, I have become more inclined to reach out to post-secondary institutions to help find talent when I'm hiring employees.	Strongly Agree Agree Somewhat Agree Neither Disagree Unable to Assess	40.0 60.0 0.0 0.0 0.0 0.0
I would be open to employing an international student that I previously worked with during an IntegratED project if I had a relevant position.	Strongly Agree Agree Somewhat Agree Neither Disagree Unable to Assess	40.0 60.0 0.0 0.0 0.0 0.0
I would be open to participating in other WIL programs like IntegratED in the future.	Strongly Agree Agree Somewhat Agree Neither Disagree Unable to Assess	80.0 20.0 0.0 0.0 0.0 0.0
Participants helped to temporarily fill a labour gap or shortage within our business.	Strongly Agree Agree Somewhat Agree Neither Disagree Unable to Assess	20.0 60.0 0.0 0.0 20.0 0.0
Participants helped generate novel ideas.	Strongly Agree Agree Somewhat Agree Neither Disagree Unable to Assess	40.0 60.0 0.0 0.0 0.0 0.0
Participants helped advance business objectives.	Strongly Agree Agree Somewhat Agree	0.0 80.0 20.0

Metrics	Categories	%
	Neither Disagree Unable to Assess	0.0 0.0 0.0
Participants helped resolve business challenges.	Strongly Agree Agree Somewhat Agree Neither Disagree Unable to Assess	40.0 60.0 0.0 0.0 0.0 0.0
IntegratED provided valuable labour market intermediary service for our business.	Strongly Agree Agree Somewhat Agree Neither Disagree Unable to Assess	40.0 40.0 20.0 0.0 0.0 0.0
IntegratED introduced skilled participants to our business.	Strongly Agree Agree Somewhat Agree Neither Disagree Unable to Assess	40.0 60.0 0.0 0.0 0.0 0.0
IntegratED provided essential services (student matching, facilitating projects, research, recommendations and report) for our business.	Strongly Agree Agree Somewhat Agree Neither Disagree Unable to Assess	60.0 40.0 0.0 0.0 0.0 0.0

Appendix D: Interview Data Tables

Table 12. Pre-Program: Canadian Employer Demographics from June 2022 to March 2024 (N = 15)

Category	Subcategory	Number	Percentage (%)
Business Size	Micro (1 to 4 employees) Small (5-99 employees) Large (100+ employees)	3 10 2	20.0 66.7 13.3
Industry Sector	Agrifoods Agriculture Food Services Technology Engineering	5 4 2 2 2	33.3 26.7 13.3 13.3 13.3
Access to Dedicated HR Department	Yes No	3 12	20.0 80.0
Established relationships with post-secondary institutions	Yes No	7 8	46.7 53.5
Need help with accessing diverse talent	Yes No	11 4	73.3 26.7

Table 13. Pre-Program: Post-Secondary Institutions Demographics from June 2022 to March 2024 (N = 12)

Category	Subcategory	Number	Percentage (%)
Position	Senior Executive Director/ Coordinator Professor/Instructor	1 4 7	8.3 33.3 58.3
Faculty / Department	Arts Science & Technology Agriculture & Food Sciences Business Other	1 2 2 3 4	8.3 16.7 16.7 25.0 33.3
Number of Students / Recent	1-100	1	8.3

Graduates	101-500 501-1000 1001+	5 2 4	41.7 16.7 33.3
Need help with accessing diverse talent	Yes No	9 3	75.0 25.0
Would benefit from funding initiatives	Yes No	8 4	66.7 33.3

Table 14. Post-Program: University Student Demographics from June 2022 to March 2024 (N = 12)

Category	Subcategory	Number	Percentage (%)
Gender	Male Female	3 9	25.0 75.0
Educational Background	Undergraduate Degrees Master's Degrees	10 2	83.3 16.7
Current Roles	Student Recent Graduate	7 5	58.3 41.7
Recent Graduates - Job Relevance / Education Relevance to Field	Relevant Occupation / Education Irrelevant Occupation / Education	2 3	40.0 60.0
Residency Status	International Student Non-International Student	8 4	66.7 33.3

Table 15. Post-Program: Newcomer Demographics from June 2022 to March 2024 (N = 8)

Category	Subcategory	Number	Percentage (%)
Gender	Male Female	3 5	37.5 62.5
Educational Background	Undergraduate Degrees Master's Degrees	5 3	62.5 37.5
Job relevance to degree	Related (in field of study) Unrelated (not in field of study)	6 2	75.0 25.0

Table 16. Post-Program: Manitoba Business Demographics from June 2022 to March 2024 (N = 9)

Category	Subcategory	Number	Percentage (%)
Business Size	Self Employed Micro (1 to 4 employees) Small (5-99 employees)	1 2 6	11.1 22.2 66.7
Access to dedicated HR department	Yes No	0 9	0.0 100.0
Number of WIL projects undertaken	1 2 3	2 3 4	22.2 33.3 44.4

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