



Food Processing Skills Canada's Skills Training Atlantic Canada (STAC) Pilot Project

Final Evaluation Report

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for

Food Processing Skills Canada

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FSC is a forward-thinking centre for research and collaboration dedicated to preparing Canadians for employment success. We believe Canadians should feel confident about the skills they have to succeed in a changing workforce. As a pan-Canadian community, we are collaborating to rigorously identify, test, measure, and share innovative approaches to assessing and developing the skills Canadians need to thrive in the days and years ahead. The Future Skills Centre was founded by a consortium whose members are Toronto Metropolitan University, Blueprint ADE, and The Conference Board of Canada

The opinions and interpretations in this publication are those of the author(s) and do not necessarily reflect those of the Future Skills Centre or the Government of Canada.



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Introduction

This final evaluation report for the Skills Training Atlantic Canada (STAC) Pilot Project is designed to inform Food Processing and Skills Canada (FPSC) and the Future Skills Centre (FSC) on the evaluation results for the STAC. The outline and structure of this report aligns with that suggested by FSC.¹

STAC was a three-year program designed as a pilot project by FPSC to advance workforce development in Atlantic Canada with training for New Hires & Seasonal Workers, Frontline Workers and Supervisors. This program was made available at no cost to food and beverage manufacturing businesses in Nova Scotia, Prince Edward Island, New Brunswick, Newfoundland & Labrador. STAC's course curriculum was aligned with Canada's Learning and Recognition Framework (LRF) for the food and beverage industry to ensure the most progressive learning environment and to 'raise the bar' for industry workforce development.

Based on the industry-validated LRF, this project's purpose was to systematically develop skill sets among current employees in the Atlantic food and beverage processing industry that would contribute to increased capacity among both employees and employers to successfully adapt to the anticipated and ongoing challenges associated with substantial increased industry growth, combined with disruption due to technological industry advancements and an aging workforce.

The specific design and implementation objectives for the STAC project included:

- To design a skills training pilot program that aligns with components of the FPSC LRF;
- To develop and adapt courses that align with program design;
- To recruit a diverse group of food and beverage processing employers across Atlantic Canada to actively participate in the STAC Pilot;
- To deliver technical and social emotional learning skills training to workers in the Atlantic food and beverage processing industry that aligns with the FPSC LRF; and
- To monitor and evaluate the STAC Pilot results.

¹ Future Skills Centre (no date). *Guidance and Questions for Evaluators of FSC-Supported Projects*

Section 1: Stakeholders and Evaluation Goals

From Guidance and Questions for Evaluators of FSC-Supported Projects

- a) Who were the stakeholders for the program undertaken with FSC?
 b) How has the purpose and use of this evaluation been articulated? Provide details on any work done to articulate how this evaluation's findings were envisioned to have been used by partners, key project stakeholders, and other external stakeholders. If possible, describe any relevant processes undertaken to develop and validate these goals (i.e., design workshops, 1:1 consultations, etc.)

There were multiple partners and stakeholders identified and consulted for the STAC Pilot Project. These included the following:

A) *Project Partners* (directly contributed to inputs and resources):

- Participating Atlantic Canadian food and beverage processors (employers)
- Participating industry associations
- Participating training organizations and curriculum developers
- Future Skills Centre
- FPSC Board of Directors

B) *Project Stakeholders* (vested interest in Pilot results):

- Canadian food and beverage processors
- Industry associations
- Industry participants involved in the LRF development for the sector
- Government of Canada (ESDC)
- Industry trainers and colleges

The evaluation has been an integrated component from the very beginning of the Pilot development with the initial proposal. FPSC consulted in detail with Project Partners during the development of the proposal to FSC for funding and worked directly with DPM Research to integrate the evaluation methods directly into the Pilot activities. Project partners were consulted on the purpose, design and anticipated outcomes for the Pilot from the early conceptualizations, through design and implementation, and via dissemination and review of results from ongoing monitoring and preliminary analyses of results. Throughout implementation of the Pilot, FPSC consistently worked to increase awareness of the evaluation, outline its importance, and emphasize the “pilot” nature of the program. Evaluation purpose and data collection methods were highlighted in all onboarding activities with participating employers and employees so that awareness of need for participation in interviews and surveys was high among participating partners.

The preliminary results from the STAC evaluation have been used by FPSC and partners to improve other programs' processes in areas such as online learning options, recruitment, material development, increased alignment of courses with LRF, improved course offerings, and identify areas for additional needed skill development.

Among key stakeholders, the preliminary results from the STAC evaluation have supported FPSC's efforts to apply for and be granted additional funding from ESDC for expanding the scope of STAC to the National level. This has resulted in an updated, and improved version of STAC now being made available to all Canadian food and beverage manufacturers as of Spring 2023, increased partnerships with additional industry associations to get them involved with promoting STAC nationally, and greater awareness of the LRF aligned training among relevant industry trainers and colleges.

Section 2: Learning-focused Background and Description of the Project

2.1 Project Need and Opportunity

From Guidance and Questions for Evaluators of FSC-Supported Projects

- i) Why was this project needed?
- ii) Who are the populations that this project aimed to serve (be as specific as possible about demographics, geographical locations, occupations and sectors)?

2.1.1 Need for STAC Pilot Project

From the previous research undertaken by FPSC, consistent findings have included:

- Significant skill gaps in the industry’s workforce, particularly with respect to “soft skills” or social-emotional learning areas.
- Need to “professionalize” the industry’s workforce – many occupations require specific skills and capacity to negotiate a changing workplace.
- Need to integrate training as an approach to recognizing and encouraging career development opportunities and retention in the industry.
- Training considerations that recognize many of the entry-level positions require very little or no post-secondary training, so the workforce does not have the same experience with training opportunities or methods compared with many other workforces.

The STAC Pilot was developed specifically to address these areas of need and opportunities for progress for the industry with respect to workforce development which in turn should contribute to addressing the severe ongoing challenges of recruitment and retention.

The STAC program focused on people already working within the food and beverage processing industry. This means that any training and skill development has to be interwoven and accommodated within very busy manufacturing environments that operate often according to multiple shifts within a 24-hour period and are often short-staffed with participants working long hours. As a result, FPSC designed STAC courses to be self-paced, accessible 24-7, and delivered on-line with quick turn-around time for support issues. As well, live webinars associated with the Acahkos program were scheduled frequently and at different times to accommodate busy schedules and schedule changes.

The skills gap in the industry are significant, so FPSC developed the STAC program courses to provide participants with a balance of both industry-relevant technical and broader social-emotional learning knowledge and skills. Approximately one-half of employers surveyed in the industry (48%) in 2020 indicated that they had significant challenges finding people with the right skills and training for their vacant positions, and most training is done in-house with on-the-job training techniques. The industry-validated Learning and Recognition Framework (LRF) guided the course selection and development and was a key aspect in program development to support the concept of learning pathways and career opportunities in the industry in contrast to “its just a job” perspective that characterizes some parts of the industry.

Finally, FPSC developed the STAC program considering the varied academic backgrounds and languages skills of participants to ensure that students felt comfortable with the learning environment and could self-pace their engagement with the training. According to recent LMI research, the majority (55%) of the industry does not have any post-secondary diploma, degree or certificate which varies according to sub-sector with seafood processing at approximately 72% (a key target population for the STAC program). As well, there is a high proportion of immigrants working in the industry (31%) who also come with varied educational backgrounds and experiences.

2.1.2 Populations that STAC Aimed to Serve

The initial design of STAC aimed to serve four main groups of workers currently employed within the Atlantic Canadian food and beverage manufacturing industry. These included:

- **Supervisors** – Supervisors have worked in a supervisory position directly or indirectly overseeing the work of at least 3 employees for at least 6 months or more, and a minimum of one year of work experience in any sector.
- **New Hires / Seasonal workers** – Food and beverage employees with little or no previous work experience, those who are new to Canadian workplace culture and those who are new to Canadian food safety culture. They have been hired within the past 12 months or work at the facility usually less than 7 months of the year
- **Established Front-Line Workers (High School Graduate)** – has worked in a front-line position at a food and beverage manufacturing facility for more than 12 months and has a High School Diploma (or equivalent).
- **Established Front-Line Workers (High School non-Graduate)** - has worked in a front-line position at a food and beverage manufacturing facility for more than 12 months and does not have a High School Diploma (or equivalent).

There was no other population targeting beyond having participants fit into one of these learning streams, and having sufficient grasp of English, literacy levels, and computer skills to be able to successfully complete the online courses. Detailed profiles of participants were provided in the Interim Evaluation Report (June 2022).

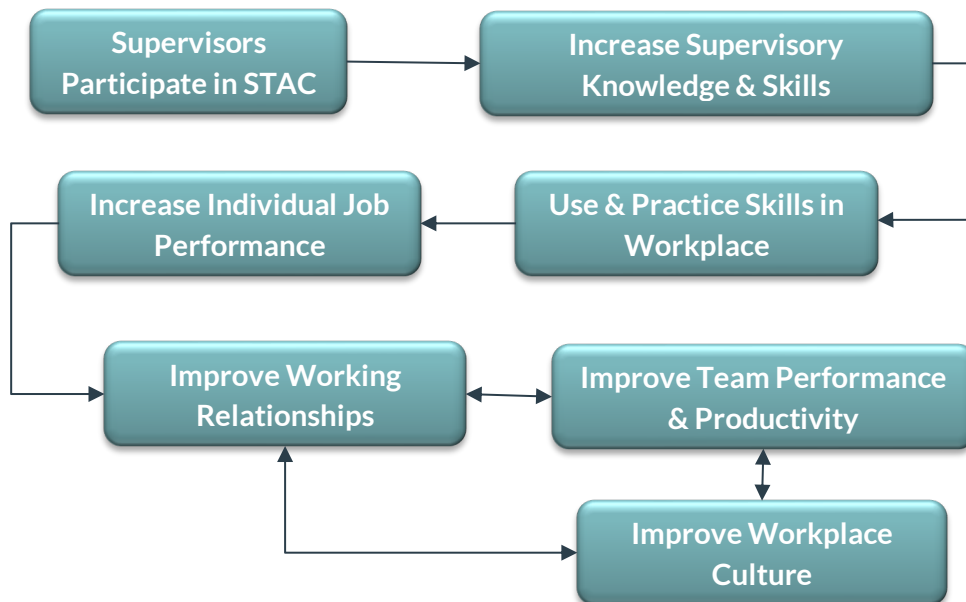
2.2 Theory of Changes and Project Logic Model

From Guidance and Questions for Evaluators of FSC-Supported Projects

- i) What was being tested in this project?
- ii) How did project partners think the project would work and address stated needs?
- iii) What assumptions were initially made about the project in order to achieve its objectives?
- iv) What contextual factors were anticipated that might affect how the project is delivered?
- v) How was success initially articulated for this project?

The STAC Design included a simple model or theory of change for supervisors in the food and beverage processing workplace. As illustrated in Figure 1, the model followed a relatively simple knowledge/skills acquisition approach that translated into behaviours practiced in the actual workplace setting which in turn were anticipated to impact supervisors own job performance. Once supervisors were performing better in their roles, this would theoretically impact the working relationships they have with their teams, other supervisors and managers. Overall, this should eventually improve team performance and productivity and workplace culture which then has a bi-directional impact of greater improvements and support. For example, team performance is impacted by workplace culture and vice versa creating a bi-directional relationship. Given the timeline for the pilot, the evaluation team anticipated that not all of the results chain could be demonstrated within the 10-12 week window for follow-up with graduates.

Figure 1: Theory of Change Model use for Supervisor STAC Stream



In addition to the simple theory of change model, the STAC team developed an overall Project Logic Model for the pilot that provided an overview of anticipated key inputs, activities, outputs and intended outcomes to assist with project implementation and monitoring of results (see Table 1).

Table 1: STAC Pilot Project Logic Model

Resources / Inputs What human, financial, organizational, and community resources are required to operate your project?	Activities Activities are what your project does with its resources. They are the processes, tools, events, technology, and actions that are an intentional part of the program implementation.	Outputs Outputs are the direct products of your activities and may include types, levels and targets of services to be delivered by your project.	Intended Outcomes Outcomes are the specific changes in project participants' satisfaction, knowledge, skills, employment, etc.
<ul style="list-style-type: none"> • Supervisors in the Food and Beverage Processing Industry (FBPI) • Established Front-line FBPI Workers • New Hires & Seasonal FBPI Workers • Atlantic Canada FBPI Employers • FBPI Associations • Research Institutes • Colleges and Training Institutions • Specialized Trainers/Facilitators • Canadian Food Processors Institute • Project Manager & Team • In-kind Contributions • FSC Financial Contributions 	<ul style="list-style-type: none"> • Project design, planning and structure 	<ul style="list-style-type: none"> • Detailed workplans, methodology reports, detailed measurement/eval plan, selected measures/tools, project advisory group 	<p>Participant outcomes:</p> <ul style="list-style-type: none"> • Satisfaction with program structure and acquired skills • Increased skills in areas of focus (new and augmented) • Higher job satisfaction (multiple dimensions) • Improved job performance • Increase in job responsibilities • Promotion/advancement <p>Employer outcomes:</p> <ul style="list-style-type: none"> • Satisfaction with program • Increased skill level of workforce • Increased investments in training • Improved retention/turnover rates • Lower absenteeism rates • Improved productivity
	<ul style="list-style-type: none"> • Development/adaptation of courses to align with LR framework and focus areas 	<ul style="list-style-type: none"> • Courses, teaching/facilitation materials, testing materials 	
	<ul style="list-style-type: none"> • Recruitment of project participants across Atlantic regions and target groups 	<ul style="list-style-type: none"> • Recruitment materials, meetings with employers, participants 	
	<ul style="list-style-type: none"> • Training interventions according to groups, regions, and phases 	<ul style="list-style-type: none"> • Training sessions, online course completions, credentials, certificates 	
	<ul style="list-style-type: none"> • Monitoring and tracking results and evaluation 	<ul style="list-style-type: none"> • Surveys, interviews, focus groups, data • Analyses, evaluation reports 	

Section 3: Evaluation Questions, Data Sources and Indicators

From Guidance and Questions for Evaluators of FSC-Supported Projects

Please structure the evaluation questions against the following categories:

- **Implementation (Process)** What did we learn about how the program is being implemented?
- **Effectiveness (Outcomes):** What did we learn about the outcomes of the intervention? After what time period? At what levels? (individuals, institutions, systems)
- **Efficiency:** What will we learn about how to use resources more efficiently to achieve the desired outcomes?
- **Causal Attribution:** To what extent will we learn about the extent to which any outcomes can be causally attributed to the project intervention? What information (qualitative or quantitative) would improve our confidence in the role the project played in achieving outcomes?

The overall STAC evaluation was designed to collect data and evidence to address evaluation questions related to implementation (including efficiency), and effectiveness. The STAC Pilot Project integrated a pre-post intervention research design, including an extensive data collection plan at multiple points throughout the project. The evaluation was not designed to assess casual attribution *per se* given that we did not undertake an experimental or quasi-experimental design; however, participants were asked to provide their qualitative perspectives on the extent to which the reported individual outcomes achieved were attributable at least in part to their participation in STAC.

Evaluation analysis and reporting was undertaken within two main phases:

- **Phase 1** - an interim evaluation report that focused on design/implementation issues including efficiency (prepared in June 2022); and
- **Phase 2** – this final evaluation report that focuses on specific evaluation research questions that align with anticipated STAC outcomes at three levels (i.e., employee, employer, sector) (see Table 2).

Table 2: Research Questions focused on Outcomes for STAC Pilot Project

Research Question	
Individual Employee/Learner Level Outcomes	
RQ1	Does participating in the training that aligns with the LRF (i.e., follows a clear development “pathway”) contribute to increasing employees’ skill levels in selected areas?
RQ2	Does participating in the training that aligns with the LRF contribute to improved job performance among employees?
RQ3	Does participating in training that aligns with the LRF contribute to increasing employees’ job satisfaction levels?
RQ4	Does participating in training that aligns with the LRF pathways contribute to employees’ future training/development plans?
Employer/Organizational Level Outcomes	
RQ5	What impact has participating in the LRF aligned training had on employers’ organization-level training plans and investments ?
RQ6	Does participating in the LRF aligned training contribute to improved employee retention ?
Sector/System Level Outcomes	
RQ7	Does the implementation of the LRF contribute to improved productivity within the sector?
RQ8	Does the implementation of the LRF contribute to an increased demand for training that aligns with specific pathways outlined in the LRF?
RQ9	Does the implementation of the framework contribute to training providers adjusting or adapting their course and program offerings to improve alignment with the LRF?
RQ10	Does the implementation of the framework contribute to the development and integration of future skills required by the sector to address potential challenges and take advantage of future opportunities?

The main data collection methods for the evaluation study included:

- Project administration data such as intake forms, application forms, progress information, course marks, and enrollment statistics (based on 45 employers and 330 STAC participants enrolled as of January 2022);
- Baseline surveys (pre-intervention) with STAC participants (n=258);
- In-program surveys (during intervention) with STAC participants which include semester completion surveys (4 surveys for supervisors, 3 surveys for frontline/seasonal/new hires);
- Follow-up surveys (post-intervention) with supervisor STAC participants who had graduated from the program (administered approximate 10-12 weeks on average post-completion) (n=84);
- Follow-up surveys with supervisor STAC participants who had partially completed the program (n=13);

- Two sets of semi-structured interviews with employers with STAC participants that had progressed significantly or graduated from the program (n=19 and n=11).

Other than the follow-up surveys and employer interviews, data collection for the evaluation was integrated with the activities associated with the on-line learning system. For example, as participants complete a semester, they are directed to the on-line semester survey for their input on the courses and processes just completed. All baseline and intake data were linked to individuals' course performance/progress (engagement data) and various program activities (e.g., webinar participation) so data could be extracted periodically for iterative feedback on potential program enhancements and improvements and any technical adjustments that were required.

On-line data collection instruments (surveys) allowed for weekly analyses of key variables for monitoring, adjustments, and follow-up. Outcome monitoring occurred at semester periods for each of the staggered cohorts. This real-time outcome monitoring allowed for adjustments and "mini-studies" with new variables to be tracked as adjustments were required. The new variables of interest were added easily for existing or future cohorts while maintaining core variables given the flexibility inherent with the on-line data collection platforms.

All data collection instruments were reviewed by Blueprint Team from FSC to assist FPSC and DPM Research Inc. in identifying and potentially including indicators for the common outcome framework for the various FSC projects where possible.

Section 4: Evaluation Results

From Guidance and Questions for Evaluators of FSC-Supported Projects

Please provide more detail on results based on data gathered against evaluative questions articulated above. Where anticipated results were not achieved, please provide any discussion as to what factors might explain what was observed. Where possible please provide any discussion about what has been learned about assumptions that were made at the onset, as well as the role of context.

As previously indicated, the evaluation results for the STAC Pilot are divided across two main evaluation reports. This report focuses on the post-intervention outcome results for the Supervisor Learning Stream. Interestingly, the Supervisor Learning Stream was the most popular among the four streams outlined in Section 2.1. It accounted for over two-thirds of the enrolled participants, and most of the graduates within the time-period allocated for the pilot study. As a result, the pilot outcomes described below focus on the supervisors given there was a sufficiently large sample of graduates (n=84) that completed all surveys (i.e., baseline, four in-program surveys, 3-month post-program follow-up surveys), allowing for statistical testing and drawing of some conclusions on differential impacts.

4.1 Individual Employee/Learner Level Outcomes and Attributions

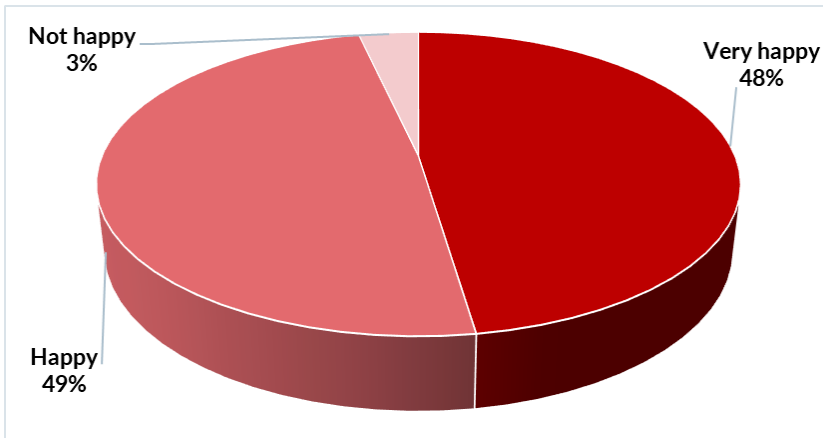
As outlined in the Phase 1 Evaluation Report, the profile of participants in the Supervisor Learning Stream illustrated that the group was relatively diverse according to age, gender, and educational attainment overall. The evaluation team analysed the outcome data according to these variables and found the following overall which is carried through in the detailed analyses for these individual outcomes:

- There are no significant differences in individual outcomes (e.g., satisfaction levels, skills) related to gender.
- There are very few significant differences in individual outcomes related to educational attainment (e.g., post-secondary graduate vs. no post-secondary education).
- There is a significant pattern of differences in individual outcomes related to age with younger supervisors (under 35 years of age) demonstrating different patterns of outcomes when compared with those supervisors who are 35 years or older. This consistent pattern was further examined for additional potential covarying factors such as education level and comfort levels with working with computers, all of which were not significant co-variants. As a result, this age comparison is used to additionally describe the findings throughout this section.

4.1.1 Overall assessment of satisfaction with STAC

Participants' overall assessment of being satisfied with what they had learned from participating in STAC at the approximate 3-month post-graduation point was very positive with 97% being in the “very happy” or “happy” range regarding what they had learned in STAC.

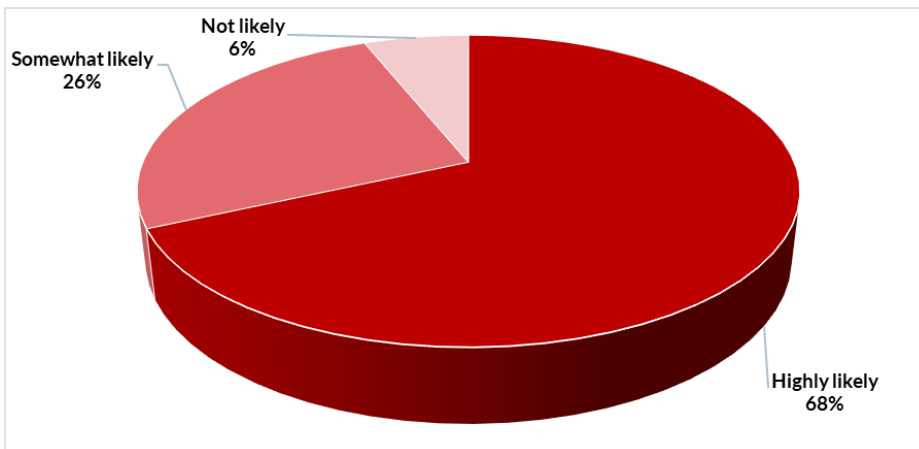
Figure 2: Overall, how happy are you with what you learned in the STAC Program? (Supervisor Stream – 3-month post-program)



Source: Supervisor Graduate Post-Program Survey (n=84)

The overall high level of satisfaction with STAC at the post-program stage was validated in part through the high likelihood (94%) that participants would recommend the program to other supervisors (see Figure 2).

Figure 5: How likely are you to recommend the STAC Program to other supervisors/frontline workers? (Supervisor Stream by Age Group – 3-month post-program)

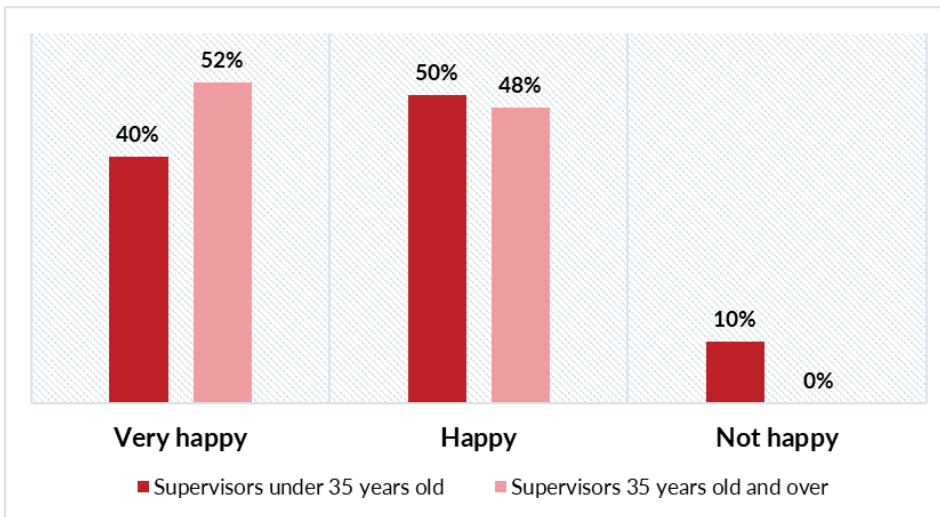


Source: Supervisor Graduate Post-Program Survey (n=84)

Younger Supervisors, Satisfaction and STAC

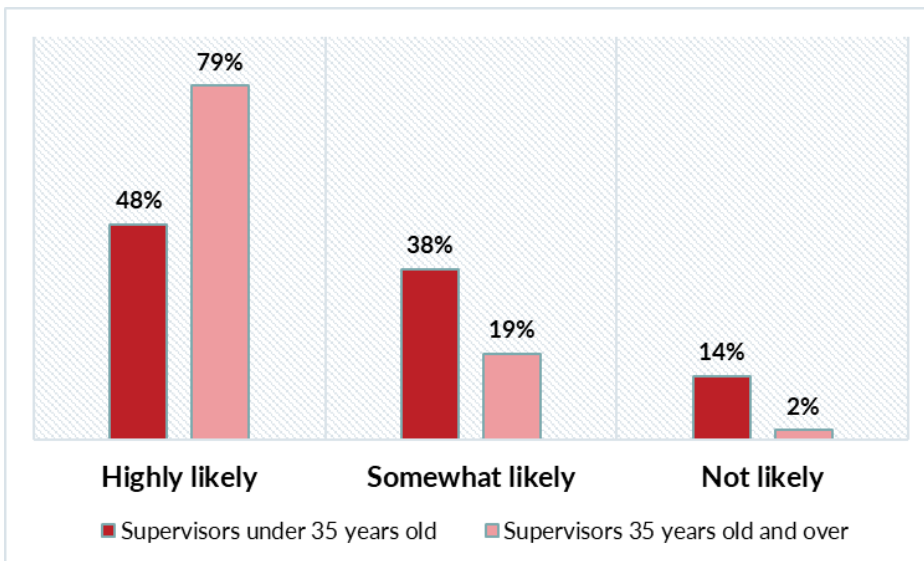
As illustrated in Figure 4, the younger supervisors (under 35 years of age) reported lower levels of satisfaction with what they had learned in the STAC program when compared with the older participants ($X^2(2,84)=6.78; p=.034$). Similarly, the younger supervisors were much less likely to recommend the STAC program to other supervisors when compared with responses from the older supervisors ($X^2(2,84)=9.50; p=.009$) (see Figure 5).

Figure 4: Overall, how happy are you with what you learned in the STAC Program? (Supervisor Stream by Age Group – 3-month post-program)



Source: Supervisor Graduate Post-Program Survey (n=84)

Figure 5: How likely are you to recommend the STAC Program to other supervisors/frontline workers? (Supervisor Stream by Age Group – 3-month post-program)



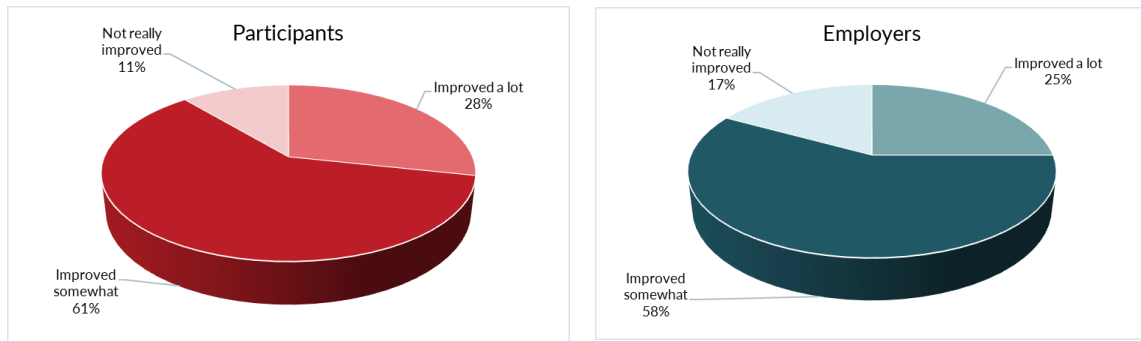
Source: Supervisor Graduate Post-Program Survey (n=84)

4.1.2 Increased employees' skill levels in selected areas

Overall increase in supervisory skills

The STAC pilot focused on enhancing the knowledge and skill levels of supervisors in both technical and essential or foundational skill areas, along with supervisory skills. Both participants and employers attributed increased skill levels to participation in STAC. As illustrated in Figure 6, three months after having graduated from STAC, many supervisors were attributing increased supervisory skill levels to their STAC participation. Similarly, most employers who were interviewed that had supervisors graduate from STAC noted that supervisory skills had improved among participants.

Figure 6: How have supervisory skills improved as result of the STAC Program?

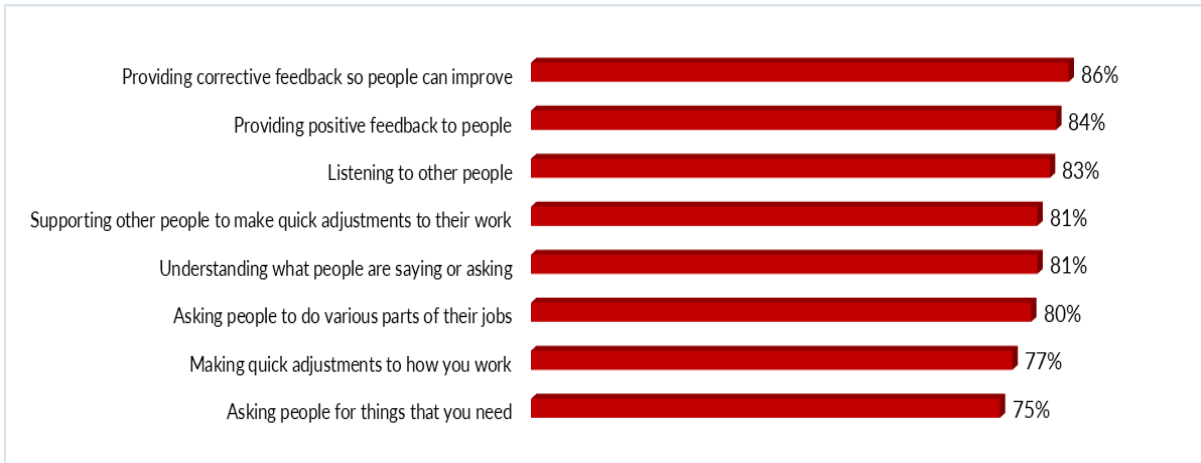


Sources: Supervisor Graduate Post-Program Survey (n=84); Interviews with Employers Post-program (n=11)

Increases in specific supervisory skills

Specific supervisory skills that were noted by participants as having been positively impacted by STAC are outlined in Figure 7. Three-quarters or more of graduates indicated that their participation in STAC had improved a multitude of supervisory skills such as providing both corrective and positive feedback, listening skills, being able to ask people to do things or for things that they need, and supporting their teams to make quick adjustments. Pre-post program differences in self-assessments of specific supervisory skills were also found. As illustrated in Table 3, there were statistically significant self-rated improvements found across all skills except for “making quick adjustments to own work”.

Figure 7: Has participating in the STAC Program contributed to improving these skills? (%“yes)
(Supervisor Stream – 3-month post-program)



Source: Supervisor Graduate Post-Program Survey (n=84)

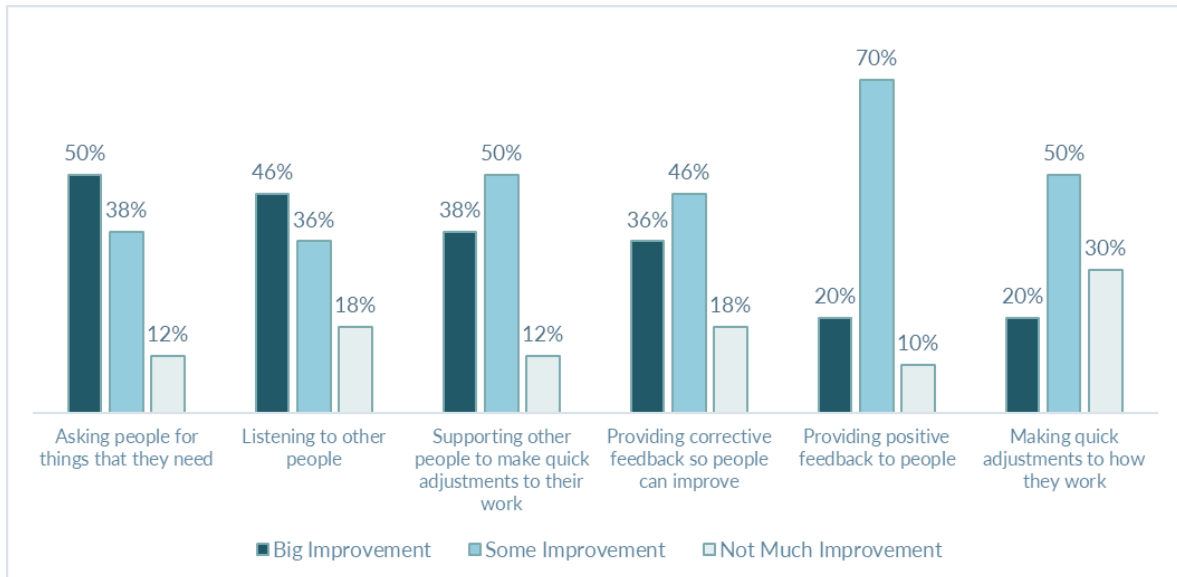
Table 3: Self-Assessments of Specific Supervisory Skills Pre- and Post-Program (Supervisor Stream – Baseline and 3-months post-program)

Supervisory Skill Area	Wilcoxon Z-value	p-value (2-tailed)	Direction
Providing corrective feedback so people can improve	4.51*	.000	↑
Asking people for things that you need	4.33*	.000	↑
Listening to other people	2.89*	.004	↑
Supporting people to make quick adjustments to work	2.67*	.008	↑
Providing positive feedback to people	2.61*	.009	↑
Understanding what people are saying or asking	2.47*	.014	↑
Asking people to do various parts of their jobs	2.35*	.019	↑
<i>Making quick adjustments to how you work</i>	1.90	.057	---

Source: Supervisor Graduate Post-Program Survey (n=84)

Employers interviewed noted many of the same improvements that supervisors themselves reported. As illustrated in Figure 8, the majority of employers interviewed with STAC graduates noted improvements in the various supervisory skill areas attributed to STAC participation.

Figure 8: Have you noticed any impacts that STAC has had on your supervisors? – Specific Supervisory Skills (Employers with Supervisor Graduates)



Source: Interviews with Employers Post-program (n=11)

Younger Supervisors, Supervisory Skills and STAC

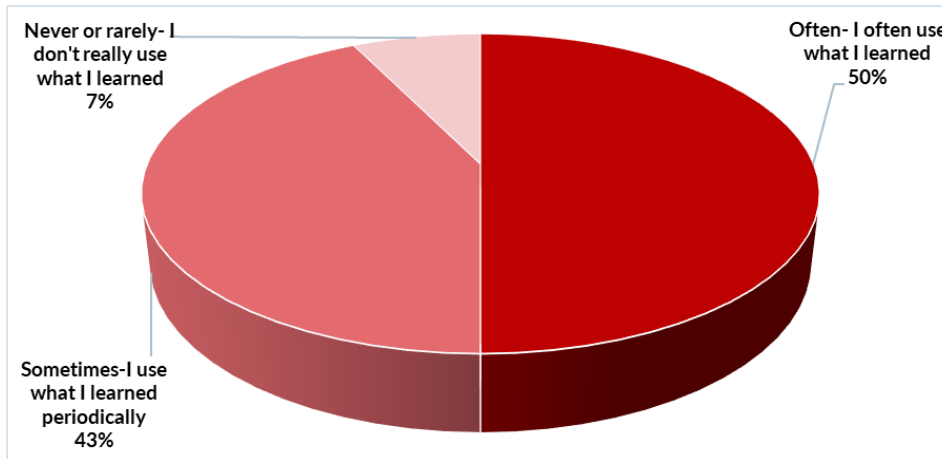
The analyses of skills data for the evaluation also demonstrated the pattern that younger supervisors (under 35 years old) were less likely attribute impacts to their participation in STAC. For example, proportionally fewer younger supervisors indicated that improvements in the following skill areas were attributable to STAC:

- Listening to other people ($X^2(1,83)=8.77; p=.003$)
- Understanding what people are saying or asking ($X^2(1,83)=5.75; p=.016$)
- Making quick adjustments to how you work ($X^2(1,83)=4.89; p=.027$)
- Supporting people to make quick adjustments to work ($X^2(1,83)=5.75; p=.016$)

4.1.3 Use and practice skills in workplace

As illustrated previously in the model of anticipated results for the STAC pilot (Figure 1), the anticipated chain of results would have supervisors attain new knowledge and skills, and then having the opportunity to use and practice them in the workplace assuming they were relevant and useful for their everyday role requirements. The evaluation results demonstrated that the vast majority of supervisors report that they are using what they learned in STAC in their work. As illustrated in Figure 9, 93% of supervisor graduates report using what they learned in STAC in their current job with one-half (50%) using the knowledge and skills “often”. This demonstrates the relevance of the STAC content to the workplace, and the opportunities present for graduates to practice supervisory skills and apply knowledge while undertaking their current roles and responsibilities.

Figure 9: How often do you use what you have learned in the STAC Program in your current job? (Supervisor Stream – 3-month post-program)

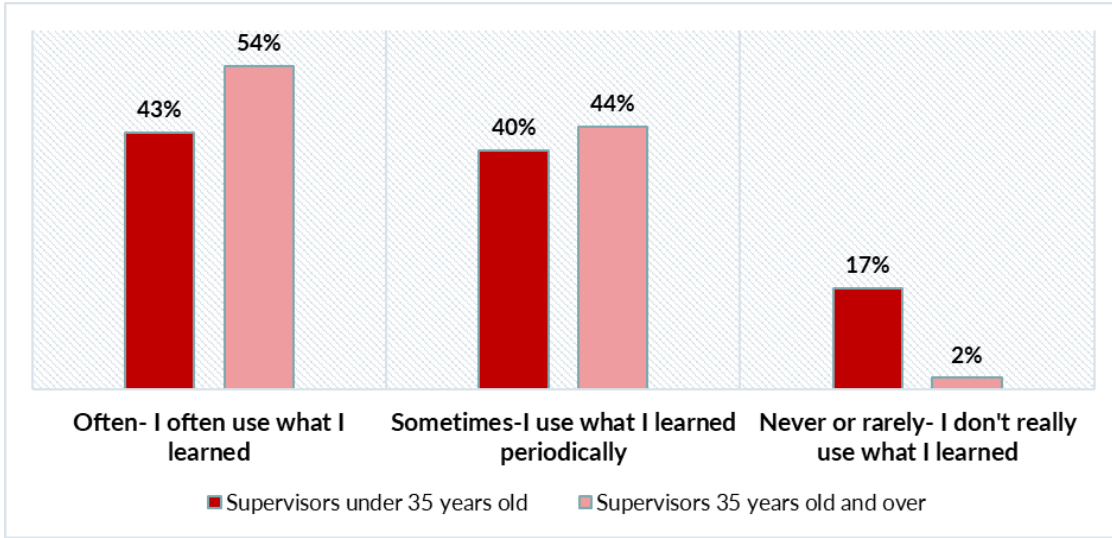


Source: Supervisor Graduate Post-Program Survey (n=84)

Younger Supervisors less likely to reporting using what they learned in STAC

Following the previous pattern for younger supervisors (under 35 years of age), they were less likely to indicate that they were using what they had learned in STAC in their current jobs. As illustrated in Figure 10, when compared with the older supervisors (98%), there were fewer younger supervisors (83%) reporting using what they learned in STAC ($X^2(2,83)=6.07; p=.048$). This may indicate that additional work is needed to assist younger supervisors to apply knowledge and new skills to their roles and responsibilities which is understandable given they generally have less experience in the supervisory role and are at the beginning of their careers. This transition from learning to application may take more time as well so is not captured to the same extent within the limited time available for follow-up (10-12 weeks). As well, it should be noted that even though there was less application of learning to current job when compared to older supervisors, the vast majority of young supervisors (4 out of 5) did report applying what they learned.

Figure 10: How often do you use what you have learned in the STAC Program in your current job? (Supervisor Stream by Age Group – 3-month post-program)

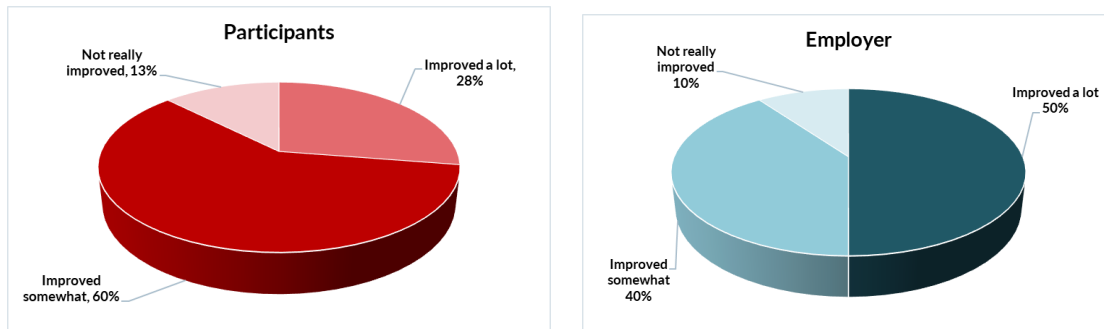


Source: Supervisor Graduate Post-Program Survey (n=84)

4.1.4 Improved individual supervisor job performance

Despite being a relatively short period of time post-program (10-12 weeks on average), the evaluation did find evidence that supervisors' individual job performance was starting to occur and was observed by the supervisors themselves, as well as their employers. As illustrated in Figure 11, the vast majority of supervisors (87%) and employers (90%) noted improvements in individual job performance as a result of participating in the STAC program. Interestingly, there was no statistically significant difference between how younger supervisors rated their individual job performance gains when compared with the ratings of older supervisors.

Figure 11: How has individual job performance improved as result of the STAC Program?



Sources: Supervisor Graduate Post-Program Survey (n=84); Interviews with Employers Post-program (n=10)

4.1.5 Increased supervisors' job satisfaction levels

In addition to the anticipated results chain for STAC, the logic model predicted that participating in the pilot would positively impact supervisors' job satisfaction levels overall and for some specific components of job satisfaction. Overall, supervisors at the post-program follow-up stage attributed positive changes in job satisfaction levels to STAC participation (see Figure 12). Given the importance of job satisfaction as it relates to retention, workplace culture, and productivity, this is an important finding at this early stage.

Figure 12: Has participating in the STAC Program improved your satisfaction with any of these areas? (% "yes) (Supervisor Stream – 3-month post-program)

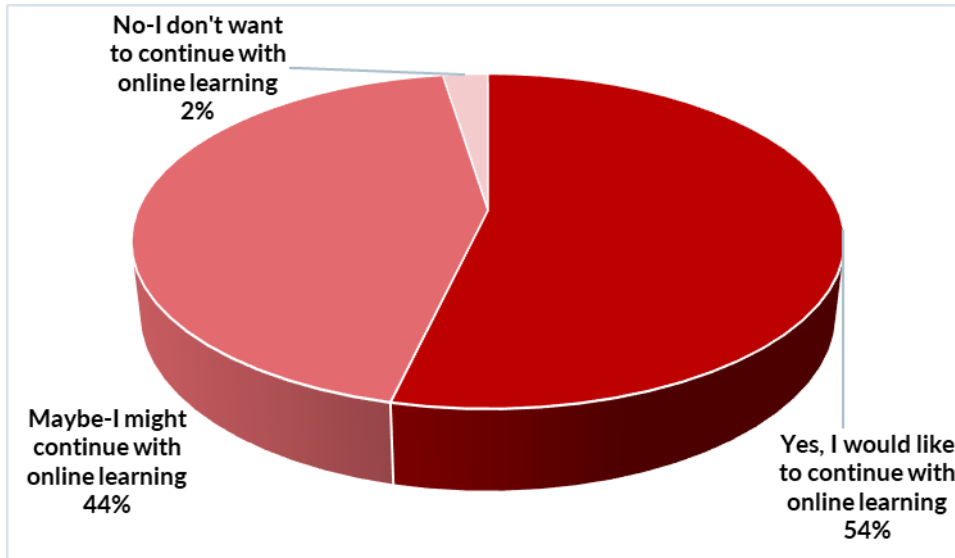


Source: Supervisor Graduate Post-Program Survey (n=84)

4.1.6 Contribution to employees' future training/development plans

Another interesting finding was that the most participants indicated that they are likely to continue with on-line learning. From the profiles of supervisors, only 28% indicated that they had previously taken an on-line course prior to STAC. At the follow up point post-program, the majority of graduates reported that they were likely to continue with online learning, with only 2% reporting that they clearly did not intend to continue with the online learning format (see Figure 13).

Figure 13: In the future, are you planning on taking more online learning courses? (Supervisor Stream – 3-month post-program)



Source: Supervisor Graduate Post-Program Survey (n=84)

4.2 Employer/Organizational Level Outcomes

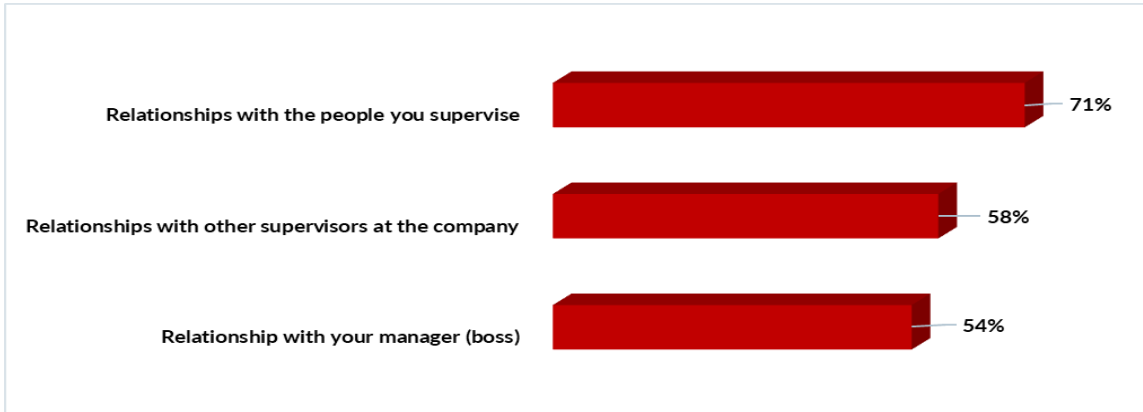
For the STAC model, there were various anticipated outcomes at the employer or organizational level. Given the limited follow-up period post-program and the complexity of some of these outcomes with multiple contributing factors outside of the STAC intervention, the evaluation team did not expect to find strong indications of these outcomes at this early stage; however, early indications are positive that STAC is contributing to some of these anticipated outcomes at the organizational level.

4.2.1 Improved working relationships

Based on the anticipated chain of results, the STAC model has the expectation that if supervisory skills and knowledge are enhanced, and supervisors have opportunities to practice and apply these, then this should result in improved supervisor job performance which in turn should positively impact working relationships between supervisors, teams and managers (see Figure 1). Although the evaluation team did not expect to be able to observe this outcome necessarily within the timeframe of the evaluation (10-12 weeks post-graduation), there are some indications that this is taking place, particularly between supervisors and their own teams. Specific relationships that were noted by participants as having been positively impacted by STAC are outlined in Figure 14. Pre-post program differences in self-assessments of specific relationships were not found to be statistically significant at this stage. This may have been in part due to the quality of the measure (agree/disagree categorical scale) and/or the limited time elapsed since the intervention in order to be able to observe the outcome. As well, the younger supervisors' responses

followed similar patterns to those expressed by the older supervisors in describing working relationships.

Figure 14: Has participating in the STAC Program contributed to improving these relationships? (%“yes) (Supervisor Stream – 3-month post-program)

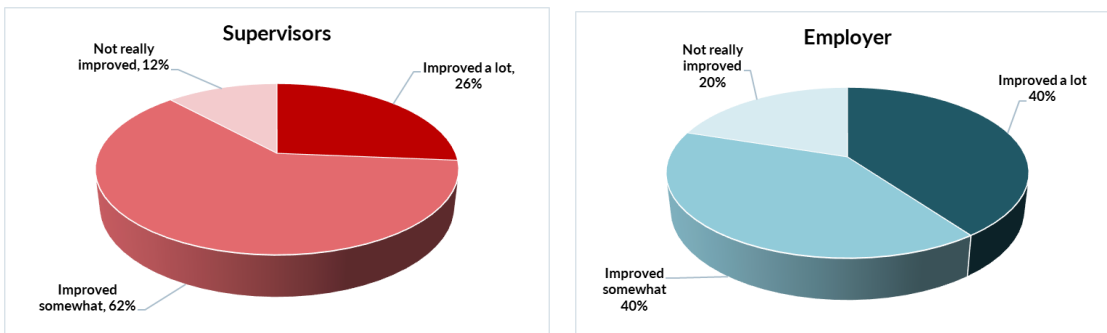


Source: Supervisor Graduate Post-Program Survey (n=84)

4.2.2 Improved team performance and productivity

In addition to individual job performance, both supervisors and employers noted positive changes overall in team productivity and performance. This is a logical outcome, as one would expect that as supervisors improve their supervisory skills, this will in turn impact overall team performance. As illustrated in Figure 15, the vast majority of both supervisors (88%) and employers (80%) identified at least some improvements in team performance that they attributed to participating in STAC, even at this early stage post-program.

Figure 15: How has team performance improved as result of the STAC Program?



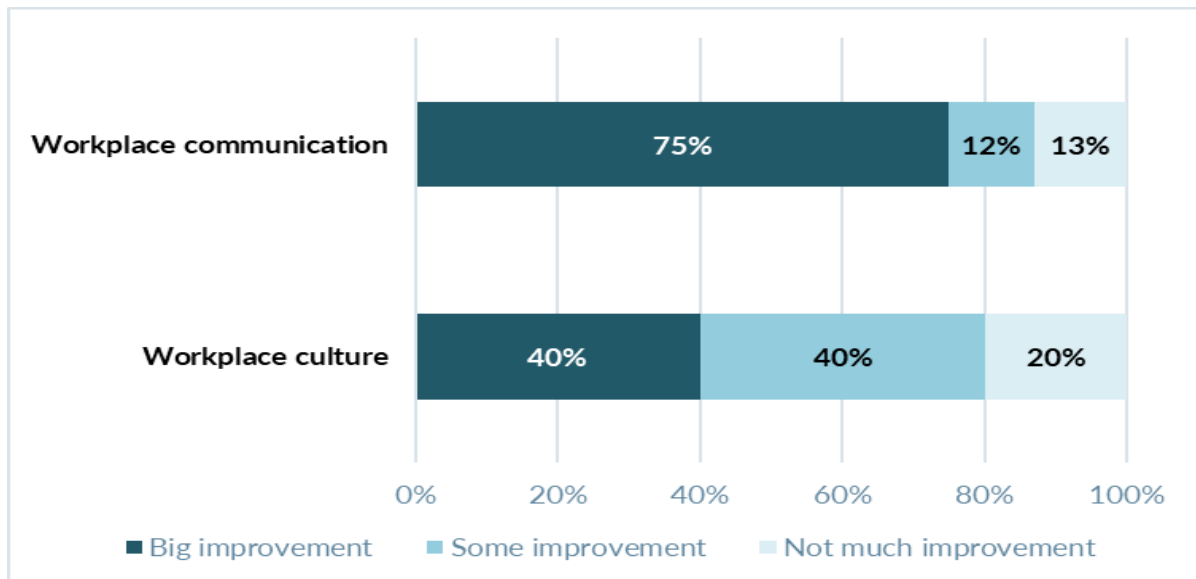
Sources: Supervisor Graduate Post-Program Survey (n=84); Interviews with Employers Post-program (n=10)

4.2.3 Improved workplace culture

Workplace culture is a key contributor to many important aspects such as productivity, retention, absenteeism, workplace safety, etc. The model for STAC included anticipated contributions to changes in workplace culture overall, although these were expected to be observed at time periods beyond the current evaluation. Early indications of positive shifts in culture were evident among some of the analyses conducted.

Employers interviewed post-program who had multiple graduate supervisors from the program observed some changes which they attributed to their company participating in STAC (see Figure 16). In addition, supervisors also noted changes in workplace culture, with over one-half (58%) reporting increased satisfaction with the workplace culture that they attributed to STAC.

Figure 16: Have you noticed any impacts that STAC has had on your workplace culture?
(Employers with Supervisor Graduates)

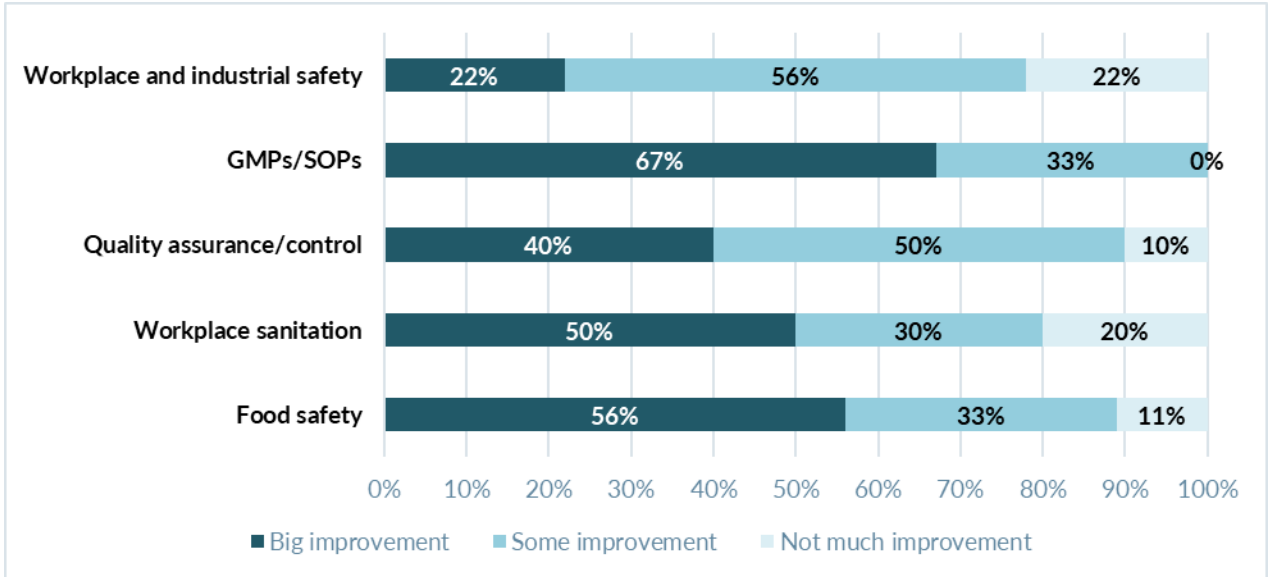


Source: Interviews with Employers Post-program (n=11)

4.2.4 Improved operations

In addition to changes in workplace culture, employers interviewed post-program were also asked to identify any other operational or environmental workplace changes that they had noted and attributed to their company’s participation in the STAC program. At this early stage (approximately 2-3 months post-program) a variety of changes were noted as illustrated in Figure 17, all highly important for the food and beverage processing industry.

Figure 17: Have you noticed any impacts that STAC has had on your company/workplace?
 (Employers with Supervisor Graduates)



Source: Interviews with Employers Post-program (n=11)

Section 5: Discussion and Implications

From Guidance and Questions for Evaluators of FSC-Supported Projects

We welcome any discussion of potential larger lessons to be drawn from this evaluation, with appropriate caveats clearly articulated. FSC is, in particular, interested in highlighting potential broader implications along the following dimensions (while recognizing that not all evaluations will be equally available to address the questions articulated)

5.1 Expansion

From Guidance and Questions for Evaluators of FSC-Supported Projects

Is there a need to expand the program or project to reach new population groups or different geographies? Why or why not?

The STAC Pilot has demonstrated positive outcomes at the individual and organizational levels, even greater than originally anticipated and despite various challenges that the sector encountered because of the COVID pandemic, supply chain issues, labour supply issues and increasingly challenging profitability levels in many subsectors. The early results combined with substantial interest among other regions for a STAC-like program led FPSC to apply with various partners to Employment and Skills Development Canada's *Sectoral Workforce Solutions Program* for funding and support to develop and implement an improved, expanded version of STAC for Supervisors to be delivered in all regions. The funding proposal was successful, and the National STAC Program will be launched in June 2023. In addition to expanding the reach of STAC, additional work will be completed in expanding the scope to begin piloting adjusted programming that has been adapted for managers.

5.2 Adoption

From Guidance and Questions for Evaluators of FSC-Supported Projects

Are opportunities for other organizations serving the populations in question to adopt elements of what was being explored here? Why or why not? What factors are critical here and in what context?

Ultimately the STAC pilot was an opportunity to apply and test some components of the industry-validated Learning Recognition Framework (LRF) based on National Occupational Standards (NOS) that has been an ongoing project and considerable investment over the past number of years for the FPSC and sector partners. Key to the LRF and consistently highlighted in ongoing LMI research for the sector has been the importance and priority of social emotional learning (SEL) in addition to technical skills and knowledge at all levels within companies. This is not specific to the Food and Beverage Manufacturing Sector and is likely adaptable to many other sectors that face similar challenges with labour supply (e.g., recruitment, retention, turnover) while having limited

HR capacity given the size of companies and challenges maintaining reasonable returns on investments.

5.3 Investment or Partnership

From Guidance and Questions for Evaluators of FSC-Supported Projects

Did the project in question attract additional investment or partnership support over the course of the FSC engagement (actual or potential)? If so, what factors might have contributed?

Many organizations and associations expressed interest in learning more about the STAC Pilot and, as a result, have joined in partnership to support FPSC to develop and expand STAC to a national level. This expansion in partnerships has included industry associations, large employers, and post-secondary institutions. A number of contributing factors are likely at play in this increase in partnership and interest including early results, the sense of “fit” for the industry by aligning with previous research and industry validated frameworks and standards, and the perceived capacity of STAC to fill numerous gaps that have been apparent in attempts to professionalize the industry as it continues to grow and become increasingly complex.

5.4 Lessons for service delivery

From Guidance and Questions for Evaluators of FSC-Supported Projects

What larger lessons for service delivery did this project provide?

Many of the lessons for service delivery have been documented in the quarterly and annual progress reporting to FSC throughout the duration of the pilot project. Some of these include:

Some key considerations in the delivery of the program included:

- Recognizing that most of the employers in the food and beverage processing industry are SMEs with limited in-house human resources. Recent LMI demonstrates that 41% of employers do not have an HR department or HR staff. This means that companies participating in training need considerable support in the implementation and delivery of training to their staff members. As a result, we designed STAC to be relatively easy to participate from the perspective of the employer, with a dedicated team of resource persons assigned to various regions and employers to assist with all of the registration, follow-ups, and communications. The learning coordination dashboard for employers was set up according to levels of detail, so those who were more interested in individuals’ progress, courses completed, etc. could access detailed data. In contrast, for those preferring more summary information, they could rely on a higher level of summarized data for their company.

- Self-paced learning requires ongoing feedback on progress. Considerable effort was also made in the development of the learner user-interface to ensure the individual participants could find their way through the system, have access to their own learning pathway, and updates on their progress. In addition, a learner support system was implemented to enable easy access to STAC resource people for technical or content questions.
- Originally, we had considered a more blended training model combining in-person facilitated training sessions with on-line courses. This was not possible due to the coinciding launch dates and start of the COVID-19 pandemic. We did transition quickly to an exclusively on-line model given the public health requirements within the Atlantic provinces, and the employers' challenges in maintaining an on-site workforce and avoiding plant closures. In retrospect, the transition to on-line learning proved useful in managing the self-pace nature of learning for some participants and for accommodating training within busy schedules and workplace requirements; however, there may be some components of the STAC program and in particular some participants who may have benefitted from in-person training facilitation. We observed that in some workplaces, learning "pods" naturally formed among staff groups to provide peer-supported learning to supplement the relatively solitary nature of individual on-line learning. Similarly, the participation in live webinars (although challenging to schedule) were identified by participants as highlights in the program, likely a combination of both the content and the interactive nature of the learning experience.

5.5 Lessons for policy

From Guidance and Questions for Evaluators of FSC-Supported Projects

What larger lessons for policies at various levels of government should be discussed?

Some considerations that the FPSC team has noted regarding policy discussions based on the learnings from STAC include:

- Continued support for industry-validated attempts to address skill gaps among the current labour supply. Given the challenges with labour supply and the new sources for labour, these skill gaps will likely continue to grow and change as sources evolve. By relying on standards-based frameworks for industry, these gaps in skills and competencies are more easily identified and addressed through initiatives such as STAC-like programming.
- The increasing diversity of workplaces can be both beneficial and challenging for employers as they work to understand the considerations and needs that diversity requires. Increasing levels of social emotional learning at all levels of an organization are key success factors in addressing not only the challenges that diversity can present for workplaces, but also in being able to fully take advantage of the multitude of opportunities that diverse workplaces offer for industry.

Programs like STAC with a heavy emphasis on social emotional learning is a key tool for assisting companies be successful in this transition.

Appendices

Appendix A – STAC Project Design and Components

Learning Recognition Framework (LRF)

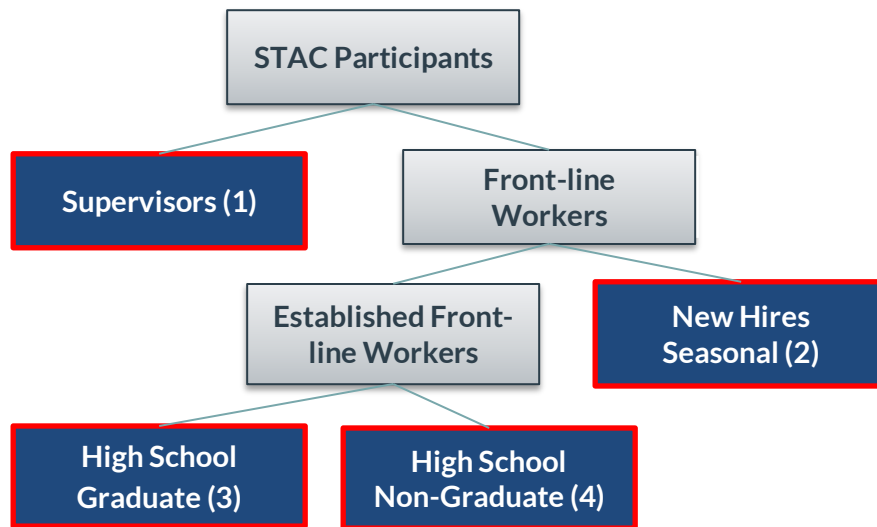
Forming the theoretical basis and curriculum guide for the STAC Program was the LRF. The LRF is an industry-validated framework that defines learning and development pathways for the food and beverage processing sector's workforce across occupations, levels, and industry sub-sectors. The LRF delineates a series of courses and trainings at different levels to help streamline learning in the food and beverage processing sector and improve the skills of workforce. The purpose of the project is to test select training components of the LRF to develop the skills of current employees (new hires/seasonal workers; established front-line workers; and, supervisors) of the Atlantic food and beverage processing industry. Courses offered include foundational training, workplace essentials, and courses at the supervisory level. The project will determine the effectiveness of the training interventions in augmenting the skills and capacity of employees and the further effects of increased skills for both employees and employers. Because the LRF is meant to be applied across sub-sectors, testing specific training components with different target groups helps determine the applicability and value of the LRF for the food and beverage processing sector currently and in view of the anticipated and ongoing challenges associated with substantial increased industry growth and disruption due to technological industry advancements and an aging workforce (see Appendix A for a copy of the LRF).

Participant Groups and Learning Streams

The STAC Program has aligned detailed learning streams that meet the skill requirements of the LRF for specific levels. The program has enrolled individual participants in one of four groups based on level, experience, and previous education. As illustrated in Figure 1, the four groups are defined as:

1. **Supervisors** – has worked in a supervisory position directly or indirectly overseeing the work of at least 3 employees for at least 6 months or more.
2. **New Hires / Seasonal workers** – hired within the past 12 months or works at facility less than 7 months of the year
3. **Established Front-Line Workers (High School Graduate)** – has worked in a front-line position at this facility for more than 12 months and has a High School Diploma (or equivalent)
4. **Established Front-Line Workers (High School non-Graduate)** - has worked in a front-line position at this facility for more than 12 months and does not have a High School Diploma (or equivalent)

STAC Participant Groups



The learning streams for each participant group correspond directly to the LRF. Each level of the LRF provides a clear set of learning pathways and skill requirements, which STAC courses are designed to directly address. A brief description of each learning stream and its correlation to the LRF is described below according to participant group (specific details on courses are provided in Appendix B and C):

- **Supervisors** – Supervisors are recommended to have at least 6 months of technical experience in food and beverage processing and a minimum of one year of work experience in any sector. Participants take all of the mandatory common core courses from both Level 3 (Supervisors) and Level 1 (Foundations), including several of the workplace essentials courses. Participants complete 23 courses across four semesters for a total of 62 total training hours.
- **New Hires / Seasonal workers** – This learning stream is designed to support food and beverage employees with little or no previous work experience, those who are new to Canadian workplace culture and those who are new to Canadian food safety culture. Participants in this stream may not have a Canadian high school diploma.² Courses in this stream provide the foundational skills for working in the food and beverage processing sector. Participants in this learning stream complete 22 courses for a total of 56 training hours.
- **Established Front-Line Workers (High School Graduate)** – Participants in this learning stream have a Canadian high school/CEGEP diploma or equivalent. They take courses that correspond to the LRF’s Level 1 components, including a few of the Workplace Essentials modules, such as empathy, interpersonal skills, and thinking

² <https://stac-fpsc.com/how-it-works/#the-framework>

skills. Participants in this learning stream complete 18 courses across three semesters for a total of 52.5 total training hours.

- **Established Front-Line Workers (High School non-Graduate)** - For participants without a Canadian high school/CEGEP diploma or equivalent, this learning stream offers the same foundational courses as the high school stream but also includes many of the workplace essentials courses. Participants in this stream complete 26 courses for a total of 66.5 total training hours.

Acahkos Program

A unique component of the STAC project is the development and implementation of a comprehensive program focused on social emotional learning skills for various levels. The goal of the Acahkos program is to help participants learn new emotional intelligence skills through online courses and apply them in the workplace with the ongoing support through live interactive sessions. Acahkos is a goal-driven learning experience, which enables participants to set their own learning goals, to track their progress towards those goals, to be flexible with the study sessions, and to stay motivated along the way. Acahkos uses a blended learning approach. Along with specific online courses, the program includes virtual instructor-led training sessions (webinars), and ongoing learning support through downloadable toolkits, workbooks and email communications with reminders and additional resources. During the STAC program, all participants are required attend two Acahkos webinars. These learning stream specific, 90-minute webinars help facilitate learning and applying the material learned through courses and give participants the opportunity to explore concepts and share ideas in small groups.

STAC Employer Onboarding Sessions

The STAC Program management team offered onboarding sessions for employers. This was an opportunity for STAC employer administrators to learn about the program outcomes, training components, and evaluation. Sessions were presented as a video meeting through Zoom and were also recorded.

Workbooks and Printed Materials

Supporting employers and employees on their e-learning journey requires tools and guidance (such as Chromebooks, workbooks & checklists). Employees receive a kitfolder that houses workbooks per each technical and social emotional (Acahkos) learning stream, reference cards, a magnet, and a pen for employees. The workbooks provide a space with leading questions for employee online learning and career development notes. It is a go-to guide for curriculum descriptions, login information, strategies on best practices for a successful online learning and development program.

The Employer receives a full kit for each learning stream as well as a;

- Checklist on how to successfully deploy an online learning program,
- Brochure on the overall program,
- Flyer on How to Navigate the Employer Dashboard,

- Report, Poster, and a Quick Reference Guide for the Learning & Recognition Framework.

STAC Kitfolder, Workbooks & Assets



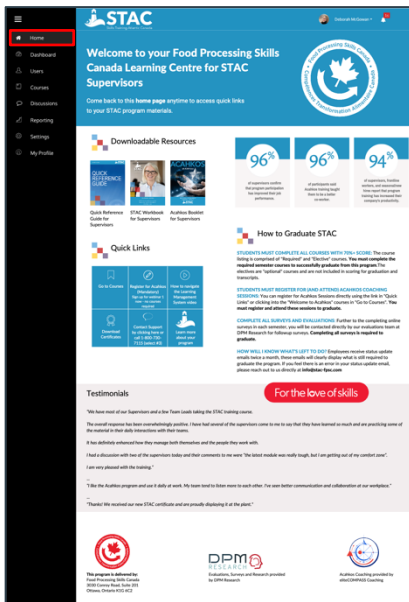
Delivery Platform - Online Learning Management System (LMS)

Extensive developmental work went into the design and development of an online learning management system (LMS) once it was determined early in the development stage in 2020 that training and support would have to be delivered 100% online given the impacts of the COVID pandemic. Many of the successes and learnings to date for the STAC project have been related to this rapid transition. The current LMS and related components are described in this section to capture some of the main features.

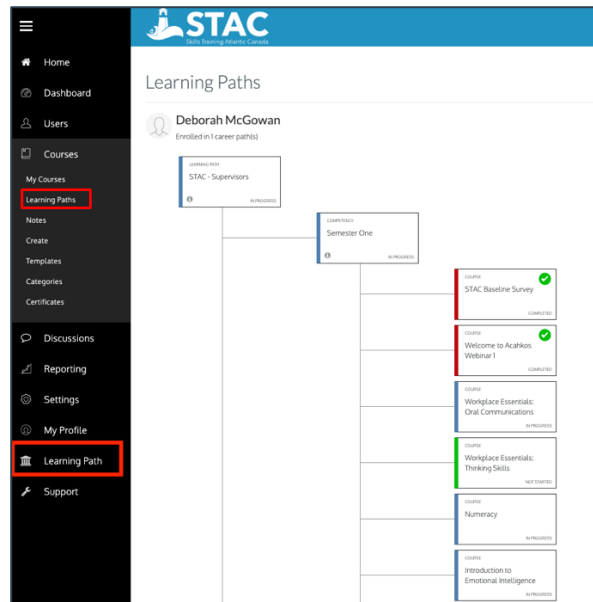
The STAC Program LMS is hosted on a cloud-based eLearning HUB, *znanja*. The platform allows STAC participants to:

- View their profile and certificates for completed courses.
- Complete courses and see an at-a-glance summary of their course progress.
- Access evaluation surveys.
- Report any technical issues.

LMS Dashboard (Screenshot)



Home Page with quick links



Learning Path with easy visibility to courses and status

When users first log into the LMS, they are taken to a home page for easy navigation where they can access curriculum, quick reference guides, digital format of the workbooks, support, and view a quick introductory video on how to use the platform. This video takes users through the navigation panel, reporting issues, and accessing courses.

Participants complete assigned courses and access evaluation surveys through the “Courses” section of the LMS. Courses and surveys are listed as part of a user’s learning stream in the order that they should be completed but does not prevent participants from completing courses in any order they choose.

Users who encounter technical issues with the LMS can access the Online Learning Support Tool through their LMS dashboard. This tool walks users through a series of steps to document their issue so the STAC support team can reach out to them, if necessary. Users can report on any of the following technical issues:

- Name or email is incorrect
- Course access has expired
- Unable to print or view certificates
- Support using the platform
- Issues completing course tests
- Progress bar has not reached 100%
- Possible system bug
- Another issue not specific above

Issues reported using this tool are sent to the STAC support team for further investigation.

Employer Portal

Employers can access details about the progress of their participants through the online employer portal. Users can access a number of features, including:

- Report and transcripts**
 Users can download participant reports including course progress and final scores, along with PDF versions of the dashboard view.
- Enrollments by learning stream**
 The dashboard includes a breakdown of total enrollments by learning stream.
- Performance charts**
 The dashboard includes overall course progress for all participants, average scores, and top courses according to participants' final scores.
- Participant raw data**
 Users can create their own reports by searching for specific participants, courses, cohorts, or other variables. Reports are available in Excel or PDF formats.

Features of the employer portal



