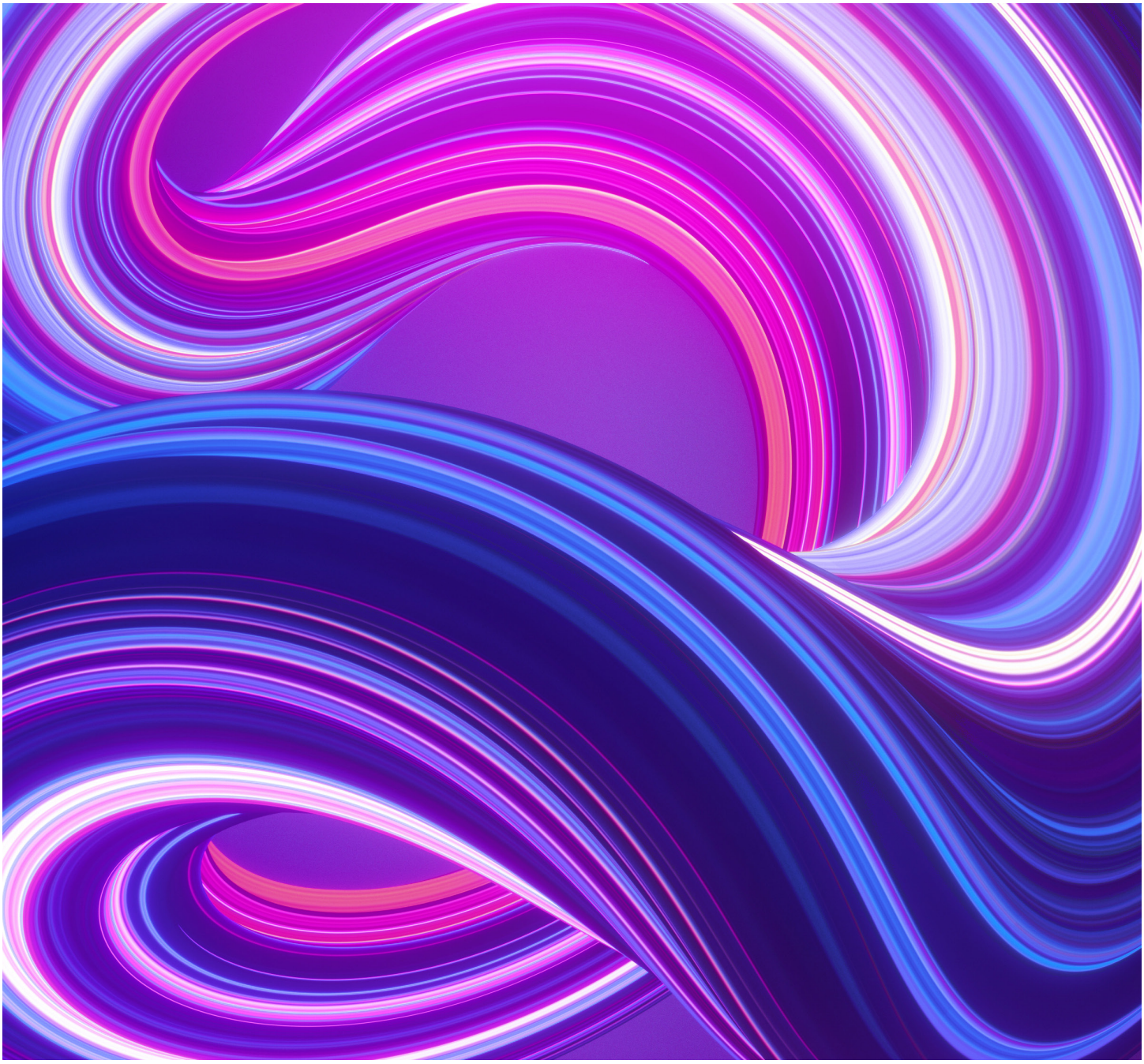

Skilled Jobs & Career Pathways for Mid-Career Workers through Work-Based Learning Project

(WBL for Mid-Career Workers)

Evaluation Report – May 2022

Future Skills Centre | Centre des Compétences futures

Blueprint

This report was produced as part of a project funded by the Future Skills Centre (FSC), with financial support from the Government of Canada's Future Skills Program.

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

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Acknowledgements

About the Future Skills Centre

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FSC was founded by a consortium whose members are Ryerson University, Blueprint and The Conference Board of Canada, and is funded by the Government of Canada's Future Skills Program.

About Blueprint

Blueprint was founded on the simple idea that evidence is a powerful tool for change. We work with policymakers and practitioners to create and use evidence to solve complex policy and program challenges. Our vision is a social policy ecosystem where evidence is used to improve lives, build better systems and policies and drive social change.

Our team brings together a multidisciplinary group of professionals with diverse capabilities in policy research, data analysis, design, evaluation, implementation and knowledge mobilization.

As a consortium partner of the Future Skills Centre, Blueprint works with partners and stakeholders to collaboratively generate and use evidence to help solve pressing future skills challenges.

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Canada

Skilled Jobs & Career Pathways for Mid-Career Workers through Work-Based Learning is funded by the Government of Canada's Future Skills Centre.

Executive Summary

The **Skilled Jobs & Career Pathways for Mid-Career Workers through Work-Based Learning Project** (WBL for Mid-Career Workers) was a training program developed and delivered by the Work Based Learning Consortium (WBLC) and its partners based on a workforce development model in response to a shortage of workers with the right skills for entry- to mid-level jobs in the advanced manufacturing industry in Ontario. This project aimed to bridge those skills gaps by helping mid-career workers with little relevant work experience get hired in mold-maintenance jobs and acquire industry-valued skills and certifications on the job, and by upskilling current workers in mold maintenance.

In the spring of 2019, WBLC received a grant from the **Future Skills Centre (FSC)** and used that grant to support the design and pilot of WBL for Mid-Career Workers. The program was delivered to 31 mid-career workers and 10 advanced manufacturing employers in the Greater Toronto Area (GTA) and the Kitchener-Waterloo area from January 2020 to July 2021.

Blueprint worked with WBLC to evaluate the program from 2019 to 2021. This report summarizes findings from that evaluation, with the objective of understanding participant outcomes and the experiences of participants, program partners and employers.

Key findings

The program was largely delivered as planned during COVID-19 despite some adaptations and adjustments.

In response to the pandemic, WBLC increased the number of cohorts in the core program and reduced the size of each cohort. They dropped the planned virtual visits by monitor coaches and piloted the "train the trainer" workshop to improve the shop floor learning. They also added the e-learning program for eligible candidates who could not enter the core program.

The program reached its target population, and the program completion rates were high.

Survey data show that the program reached unemployed mid-career workers with little work experience in mold maintenance. Administrative data showed that over 75% of participants in each training track completed the program.

Participants were in general satisfied with the program.

Interviewees who took e-learning had very positive feedback on it; those from the core program also found the training shop learning effective and saw value in the certification; and interviewees from the bridging competency gaps (BCG) program liked the format of the training and the coaches.

Program partners and employers perceived value in the program.

Interviewees believed the core program was effective for both participants and employers, and the various program components contributed to the program's success. The BCG coach interviewees found the competency assessment particularly useful.

Participants experienced some challenges with the training.

Interviewees from the core program perceived misalignment between their shop floor learning and e-learning. Interviewees from the BCG program felt there was a mismatch between the training and their needs.

There were limited opportunities for eligible candidates to enter or re-enter the core program.

Participant interviewees from the e-learning and BCG programs were disappointed that there were limited opportunities to enter or re-enter the core program. Participating employers were more open to upskilling current employees than hiring and training those with little relevant work experience.

Limitations existed in the virtual components of the program.

Employer interviewees pointed out challenges with accommodating trainees' e-learning on the company site and opportunities for trainees to have more in-person training. In-person visits by WBLC monitor coaches would be more beneficial than virtual visits.

BCG coaches would prefer to have more information about participants and the program.

Beyond the information already provided by WBLC, BCG coach interviewees would have liked to have more information about the program, the participants they were coaching and the other coaches in the program.

Implications

The evaluation findings point to some implications that could inform the design and delivery of this program and similar ones:

Align shop floor training with classroom learning.

Programs need to ensure that practical training on the company shop floor aligns with the materials covered in classroom learning. They can use a technical competency standard to guide this alignment. Employer-provided trainers need to be familiar with this standard and expectations of the shop floor training through orientation sessions or targeted training such as the "train the trainer" workshop delivered in this project.

Build employers' interest and buy-in of the program.

To address employers' overall hesitancy to change current recruiting processes and hire mid-career workers with little relevant work experience, programs need to build employers' awareness of and interest in the program. With more employers participating and the help of targeted recruitment activities, programs can be more successful in matching eligible candidates with employers based on geographical locations.

Facilitate information-sharing with coaches of preparatory training.

Programs need to provide coaches of preparatory training (such as the BCG program) with information about the program model, participants' backgrounds and goals and competency requirements for transitioning to the core technical training. Programs can also consider creating opportunities for coaches to connect and share coaching resources, approaches and lessons learned.

Introduction

The **Skilled Jobs & Career Pathways for Mid-Career Workers through Work-Based Learning Project** (WBL for Mid-Career Workers) was a training program developed and delivered by the Work Based Learning Consortium (WBLC) and its partners. This project aimed to bridge the skills gaps in the advanced manufacturing industry by helping mid-career workers with little relevant work experience get hired in mold-maintenance jobs and acquire industry-valued skills and certifications on the job, and by upskilling current workers in mold maintenance.

WBL for Mid-Career Workers offered the following three training tracks:

- **Core program:** Candidates who passed the competency screening and employer interview received on-the-job technical training after being hired, including online and in-person classroom and practical training.
- **Bridging Competency Gaps (BCG) program:** Candidates who did not pass the competency screening received competency coaching to prepare for re-entering the core program.
- **E-learning program:** Candidates who passed the competency screening but were not hired due to a lack of matching participating employers received the online classroom technical training only, after which they still had the opportunity to re-enter the core program.

This report summarizes findings from the evaluation of this project, with the objective of understanding participant outcomes and the experiences of participants, program partners and employers in interacting with the program.

Context

In the spring of 2019, WBLC received a grant from the **Future Skills Centre (FSC)**. The grant was used to support the design and pilot of WBL for Mid-Career Workers that aimed to re-skill or upskill mid-career workers through on-the-job training.

As a consortium partner of the FSC and the evidence generation lead, **Blueprint** works with partners and stakeholders to generate evidence to help solve pressing future skills challenges. Blueprint worked with WBLC to evaluate the program from 2019 to 2021. This report shares the results of that evaluation.

Report structure

This report is organized as follows:

1 About WBL for Mid-Career Workers:
Overview of the program

2 Evaluation Approach:
Description of our approach to the evaluation

3 Findings from the Outcomes Evaluation:
What employment outcomes were achieved by participants

4 Findings from the Process Evaluation:
How participants, program partners and employers experienced the program and its implementation

5 Conclusions:
Summary of key findings and implications

1. About WBL for Mid-Career Workers

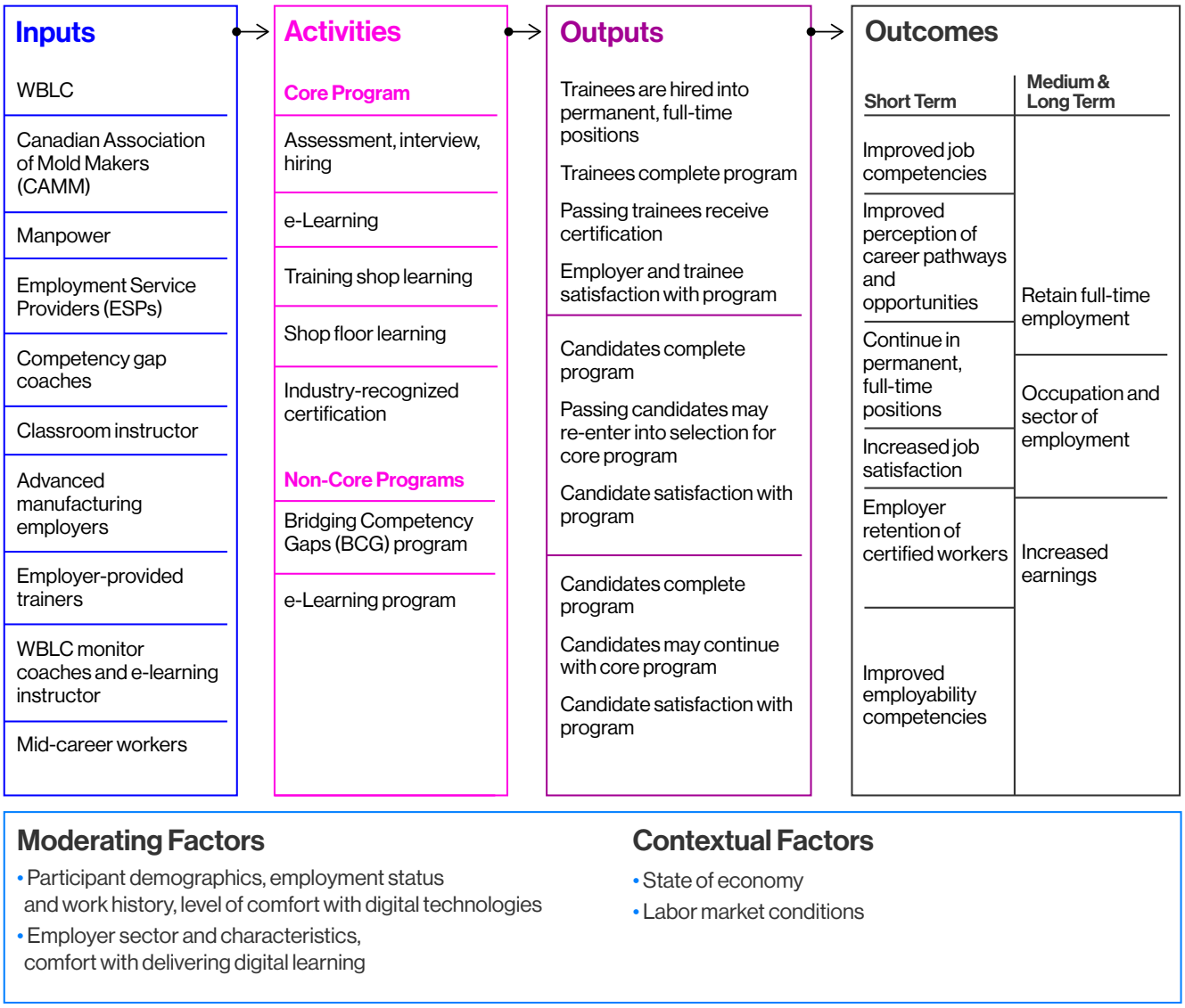
WBL for Mid-Career Workers was developed by WBLC based on a workforce development model they designed, i.e., Work-Based Learning (WBL), in response to a shortage of workers with the right skills for entry- to mid-level jobs in the advanced manufacturing industry in Ontario. The WBL model as a formal on-the-job training method and system aimed to (a) help unemployed or underemployed workers with little relevant work experience get hired in advanced manufacturing, acquire industry-valued skills, achieve industry-recognized certifications and start long-term career pathways; (b) enable employers to select, hire and train new employees who would not traditionally have been considered for hiring due to a lack of relevant skills or work experience.

The key features of the WBL model included:

- **Competency-based:** Program candidates were assessed and screened based on the non-technical competencies or soft skills key to the in-demand skilled jobs. Trainees received technical competency training guided by industry-defined, competency-based Technical Learning Outcomes (TLOs)
- **"Hire and train" & "Earn while you learn":** Workers with little relevant work experience were hired as full-time, permanent employees and trained while being paid, instead of being trained first with the hope of getting hired. They were provided with the opportunity to pursue a career pathway that started with a skilled job.
- **Blended learning:** Trainees took both theoretical and practical classroom training and worked on the company shop floor with a designated trainer to improve their technical knowledge and skills.
- **Demand-driven:** The training started with recruiting employers who had job vacancies and were committed to hiring and training workers or who were committed to upskilling current employees through the WBL model.

Figure 1 illustrates the logic model of the WBL model, including the key program activities and associated outcomes. Building on their earlier successes in delivering the WBL model to youth, WBLC developed WBL for Mid-Career Workers, where participating employers could hire and train new employees and/or upskill their current employees. This program was delivered to 31 mid-career workers and 10 advanced manufacturing employers in the Greater Toronto Area (GTA) and the Kitchener-Waterloo area from January 2020 to July 2021.

Figure 1: Program Logic Model



For participants who were not current employees of participating employers, Figure 2 provides an overview of their journey in the program. Specifically, interested mid-career workers first applied to the program. They were then screened based on their competency assessment and interview results and the fit between their competencies and the competencies critical for the mold-maintenance jobs. Eligible candidates who passed the screening were matched with and interviewed by participating employers. Successful interviewees were hired as trainees and began their six-month **core program** of on-the-job training, including:

- **E-learning:** 40–50 hours of online multimedia learning over the first approximately 10 weeks of their learning program. It included 'passive' virtual reality and was integrated with online meetings with the instructor. It had 11 modules on basic technical knowledge commonly used in mold-maintenance practices.
- **Training shop learning:** Two in-person practical training shop sessions that lasted four days each to complement e-learning. The sessions focused on reviewing the e-learning content and applying the knowledge and skills through hands-on experiences to help trainees become 'workplace-ready.'
- **Shop floor learning:** Three to four months of training in the company production areas so trainees could master all the knowledge and skills needed to become proficient and productive in their jobs. This training was guided by an employer-provided trainer (i.e., an experienced company employee) and supported by WBLC online management system (which trainers used to report and track trainees' progress) and monitor coaches (who regularly visited the sites to monitor trainees' progress).
- **Industry-recognized certification:** Awarded to trainees who completed the training and achieved all required TLOs. Trainees could use this certification, i.e., Mold Maintenance Technicians [Level 1], to seek employment if they chose not to continue with the current one.

Program candidates who did not pass the screening due to gaps in their competencies could take the **BCG program** to bridge the gaps. This program offered short non-technical online coaching modules on interviewing, analytical thinking, problem-solving, safety consciousness, 3D spatial visualization, basic math, verbal communications, detail orientation, reliability and stress management. Candidates only needed to take modules in the competency areas where they had gaps. Upon completion, candidates received a job passport certifying their essential employability competencies and could re-enter the selection process for the core program.

In January 2021, eligible candidates who met the competency requirements but were not hired as trainees due to a lack of matching participating employers could take a newly created program: the **e-learning program** for mold maintenance. It only included the e-learning component of the core program and was aimed at helping participants acquire basic technical knowledge and skills while seeking employment opportunities. These participants could still re-enter the core program if there were matching participating employers.

Current employees nominated by participating employers for upskilling also went through the competency screening, and if qualified, they could take the core program without the interview and hiring process. They completed the program in about half of the average time for new employees.

While WBLC utilized its technical resources and provided central oversight for all the project activities, multiple partner organizations and individual contractors also played critical roles in implementing and delivering this program.

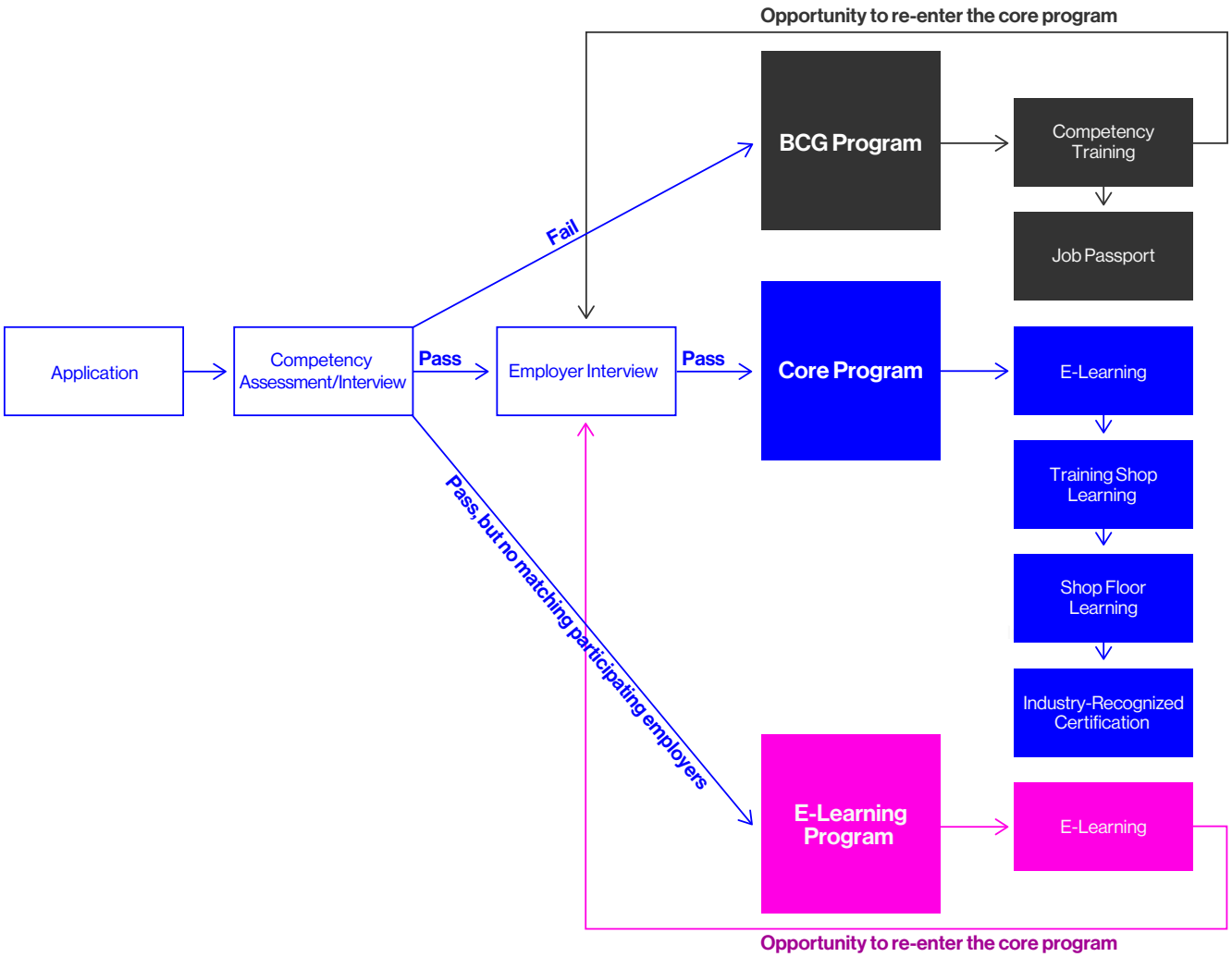
The partner organizations included:

- **Canadian Association of Mold Makers (CAMM):** engaged mold-maintenance employers.
- **Manpower:** supported recruiting and screening of program applicants.
- **Employment Service Providers (ESPs):** held information sessions to inform interested mid-career workers about the program and encourage them to apply.

The individual contractors included:

- **Competency gap coaches:** delivered the BCG program.
- **Classroom instructor:** delivered the training shop learning of the core program.

Figure 2: Participant Journey (if not a current employee of a participating employer)



2. Evaluation Approach

Overview of approach

During the fall of 2019, Blueprint held discovery workshops with the WBLC team to learn more about WBL for Mid-Career Workers, understand WBLC's evidence needs and goals and collaboratively design the evaluation plan.

Based on the discovery workshops, we designed an evaluation plan that reflected the program's needs, the program model's maturity and the capacity of WBLC and its partners for data collection and evaluation. Since this program was being delivered for the first time, we decided to pursue a combination of outcomes and process evaluations to collect early data on the program's effectiveness and implementation with an eye toward improving the program model.

To support continuous learning and ongoing program improvement, we shared a learning report with WBLC halfway through the program, i.e., in October 2020, summarizing preliminary findings from the interview data we collected from selected participants and program partners. Based on our recommendations and learnings from their research, WBLC developed and delivered a "train the trainer" workshop to enhance the coaching skills of employer-provided trainers.

Our outcomes evaluation was guided by our **Common Outcomes Framework**, which is a set of participant socio-demographics and outcomes that can be used to generate consistent, comparable evidence across projects. We are also currently pursuing longitudinal data collection, working with Statistics Canada to use their Social Data Linkage Environment to measure long-term participant employment and education outcomes for FSC project participants using administrative data. We anticipate that results from this long-term outcomes monitoring will be available in early 2023.

Evaluation questions

Our evaluation sought to answer the following questions:

Outcomes evaluation

1. **Program reach:** Who did the program reach? Was the program successful in recruiting participants from the target population?
2. **Program completion:** Did participants complete all aspects of the training?
3. **Employment outcomes:** What employment outcomes did participants achieve?

Process evaluation

4. **Program experience of participants:** Were participants satisfied with the program? What did they see as program strengths and areas for improvement?
5. **Program experience of program partners and employers:** Was the program implemented as intended and what adaptations were made relative to the original design? What did program partners and employers see as program strengths and areas for improvement?

Data collection and analysis

We used a **mixed-methods approach** to evaluate WBL for Mid-Career Workers, where we collected and analyzed both quantitative and qualitative data (see Table 1). The quantitative data include program administrative data shared by WBLC and participant surveys administered by Blueprint. The qualitative data include Blueprint's interviews with selected participants and program partners and WBLC's interviews with employers. More details about our approach and data sources can be found in Appendix A.

Table 1: Data Sources and Sample Size

Data Sources (Participants)	**IT Project Management**	**Data Analytics**
Administrative Data	**26** (**core program:** 18 with 7 new employees and 11 current ones) (**e-learning program:** 8 and none was a current employee[1])	**9**[2]
Baseline Survey (at program start)	**94%** (15/16[3])	n/a[4]
Interview (upon program completion)	**32%** (7/22[5])	**33%** (3/9)
3 Month Follow-Up Survey (3 months after program end)	**33%** (5/15)	n/a

Data Sources (Program Partners & Employers)	**WBLC Management Staff**	**WBLC E-learning Instructor**	**Training Shop Instructor**	**WBLC Monitor Coaches**	**BCG Coaches**	**Manpower**	**Employer**	**Total**
Interviews (at mid-program)	**1**	**1**	**1**	**2**	**3**	**0**	**0**	**8**
Interviews (at program end)	**2**	**0**	**0**	**0**	**0**	**1**	**3**	**6**

1 Two participants were hired by participating employers and re-entered the core program after finishing the e-learning program.

2 One participant, who passed the competency assessment but was not hired by a participating employer after finishing BCG, took the e-learning program, while three others were hired by participating employers and re-entered the core program.

3 WBLC forwarded our invitation for participating in the evaluation to all 26 participants, 16 of whom consented and were sent the baseline survey.

4 Since the BCG program did not deliver any training in mold maintenance, we did not expect it to produce measurable participant outcomes that were key to this project. As a result, we did not administer any baseline or follow-up surveys.

5 Of the 26 participants in the core or e-learning program, 22 completed the program, to whom WBLC forwarded our invitation for participating in an interview (regardless of whether they already participated in the evaluation or not).

3. Findings from the Outcomes Evaluation

This section presents findings from our outcomes evaluation of WBL for Mid-Career Workers.

Our evaluation explored the following questions:

1. **Program reach:** Who did the program reach? Was the program successful in recruiting participants from the target population?
2. **Program completion:** Did participants complete all aspects of the training?
3. **Employment and education outcomes:** What employment outcomes did participants achieve?

We measured outcomes using participant surveys and program administrative data.

Program reach

The program successfully reached its primary target population, i.e., unemployed mid-career workers with little relevant work experience in mold maintenance. Specifically, the socio-demographic information of the core and e-learning program participants who responded to the baseline survey (see Table 2) reveals that:

- All **(100%)** were male
- The average age was **35**, with **47%** between 30 and 39.
- A large proportion **(67%)** had an education degree below the Bachelor's level
- Most **(73%)** were unemployed at program start and had previously been employed, with **91%** working in non-mold-related jobs and **73%** making less than $40K a year.

Table 2: Socio-demographics - core and e-learning programs

Socio-demographics		% of Respondents
Gender	Female	**0%** (0/15)
	Male	**100%** (15/15)
Age	20–29	**27%** (4/15)
	30–39	**47%** (7/15)
	40+	**27%** (4/15)
Highest level of education	High school or less	**20%** (3/15)
	College level	**33%** (5/15)
	University below Bachelor's level	**13%** (2/15)
	Bachelor's level and above	**33%** (5/15)
Racialized		**40%** (6/15)
Indigenous		**13%** (2/15)
New Immigrant (landed in the last 5 years)		**67%** (6/9)
Unemployed at program start but previously employed		**73%** (11/15)
Previous Salary	Under $20,000	**18%** (2/11)
	$20,000–$40,000	**55%** (6/11)
	$40,000–$60,000	**18%** (2/11)
	$60,000–$80,000	**0%** (0/11)
	$80,000–$100,000	**9%** (1/11)
Industry of Previous Employment	Manufacturing	**46%** (5/11)
	Mold Making	**9%** (1/11)
	Construction	**36%** (4/11)
	Logistics/Distribution	**9%** (1/11)
Satisfaction with Previous Job (agree or strongly agree)	Satisfied with the job overall	**64%** (7/11)
	Able to advance in career	**46%** (5/11)
	Worried about losing the job	**50%** (5/10)

Program completion

The completion rates were above 75% for each of the three training tracks. Specifically, our analysis of the administrative data shared by WBLC shows that:

- **94%** (15/16[6]) of the core program participants completed the program and received the certification. One participant did not complete the program due to unacceptable performance or inability to learn.
- **88%** (7/8) of the e-learning program participants completed the program, with one participant leaving due to being hired as a trainee in another WBL program.
- **78%** (7/9) of BCG participants completed the program, with two participants leaving due to COVID-19 related issues.

Participant employment and education outcomes

We analyzed employment outcomes data of core and e-learning program participants collected at three months following program completion via a follow-up survey. We explored participants' employment status, salary and job satisfaction. Given the low response rate, the following analysis should be treated with caution.

Table 3: Employment Outcomes - core and e-learning programs

Employment Outcomes (Three months after program completion)		**% of Respondents**
Employed		**80%** (4/5)
Current Salary	**$20,000–$40,000**	**67%** (2/3)
	$40,000–$60,000	**0%** (0/3)
	$60,000–$80,000	**33%** (1/3)
Satisfaction with Current Job (agree or strongly agree)	**Satisfied with the job overall**	**75%** (3/4)
	Able to advance in career	**75%** (3/4)
	Worried about losing the job	**0%** (0/4)

6 Among the 18 participants enrolled in the core program, two exited the program early due to personal (e.g., health or family) reasons.

4. Findings from the Process Evaluation

Our process evaluation of WBL for Mid-Career Workers explored the following questions:

- **Program experience of participants:** Were participants satisfied with the program? What did they see as program strengths and areas for improvement?
- **Program experience of program partners and employers:** Was the program implemented as intended and what adaptations were made relative to the original design? What did program partners and employers see as program strengths and areas for improvement?

We explored these questions through the administrative and survey data and interviews with participants, program partners and employers.

Program experience of participants

To understand participants' experience with this program, we included several questions in the three-month follow-up survey to capture the satisfaction of participants in the core and e-learning programs. We also interviewed a selected sample of seven[7] core and e-learning program participants and three BCG program participants about their experience with the program. Due to the low response rate of the follow-up survey, this sub-section only summarizes the interview data about participants' perceptions of program strengths and challenges.

"[I] could contact about any issue [during e-learning] and it gave me a boost. A lot of good people who want to see us succeed ... Great how it is set up... badges and times spent, points, and other features were helpful."

-

Core/E-learning Program Participant

"If there is another program like that [e-learning], I would definitely like to enrol in it."

-

Core/E-learning Program Participant

Perceptions of program strengths

In general, participants across the three training tracks had positive reviews of the program(s) they took. Specifically, participant interviewees reported the following:

- **High satisfaction with e-learning.** Almost all interviewees from both the core and e-learning programs were highly satisfied with e-learning. They generally found it well organized, well-paced and supported by the instructor and staff. They also liked that it helped them understand the complete picture of their career path and increased their commitment to their job. Many found the mix of learning modalities (i.e., self-learning and regular meetings with the instructor) and the interactive features of the learning site particularly helpful.
- **Effective training shop learning.** Interviewees from the core program indicated that the theoretical knowledge learned in e-learning was complemented effectively by the hands-on training shop learning. The training shop materials were aligned with their learning goals, background, prior knowledge and skills.
- **Perceived value in certification.** Interviewees from the core program believed that the certification of Mold Maintenance Technicians [Level 1] would be helpful in the next phase of their careers.

7 One participant took both BCG and e-learning programs. This participant was interviewed to provide feedback on both.

- **Satisfaction with BCG coaching.** Interviewees from the BCG program were generally satisfied with the one-on-one instruction and support they received from the coaches, feeling well prepared for re-entering the core program. According to these interviewees, the coaches could break down complex concepts, provide additional resources and train participants on what they wanted to learn the most. The online training was also flexible, convenient and accessible to participants from different locations.

> "It [BCG program] was great! I used everything that they taught me in the interview ... Everything is stuck in my head from coaching, even though it was over the phone... It was like everything they told me about was what they asked in the interview... It was like [my coach] was right there beside me."
>
> -
>
> **Core/E-learning Program Participant**

Perceived challenges with program

In addition to identifying program strengths, participant interviewees also provided feedback about the **challenges or difficulties** they experienced during the program, which we summarize below:

- **Misalignment between shop floor learning and e-learning.** A few interviewees from the core program found that the training they received from the employer-provided trainer on the company shop floor did not necessarily match the materials previously covered in e-learning. Also, the type of work the trainer assigned was low-skilled and not relevant to mold maintenance. We suspect this could be due to trainers' unfamiliarity with the program requirements as laid out in the TLOs.[8]
- **Limited opportunities to enter or re-enter the core program.** Interviewees from the e-learning program located outside of the GTA vocalized that few employers at their locations participated in this project, which presented few opportunities for them to enter or re-enter the core program. Interviewees from the BCG program were disappointed that the competency training did not lead directly to employment through the program.

> "The skills required by this facility and what they do on the shop do not match with the program content [e-learning and in class]... the technologies and skills are different, not all covered by online materials. [There is] some overlap, but don't perfectly match."
>
> -
>
> **Core Program Participant**

> "Some of the training he [shop floor trainer] provided me didn't match up with industry standards I had learned about elsewhere."
>
> -
>
> **Core Program Participant**

8 This piece of learning, combined with WBLC's own research findings, led WBLC to deliver the "train the trainer" workshop to enhance the effectiveness and efficiency of the shop floor learning.

Such feedback is consistent with the administrative data. Eight eligible candidates were not accepted to the core program due to no matching participating employers. They took the e-learning program instead, and only 25% (2/8) of them were hired into the core program after the training. Additionally, only 33% (3/9) of the BCG participants re-entered the core program.

- **Perceived lack of fit for BCG training.** A few interviewees from the BCG program felt the level of some of the training did not match their goals or education and work experience. These interviewees decided this trajectory was not for them as it did not provide them with the technical skills most needed to find stable employment.

"Program helped me to secure some interviews but I moved from Brampton to Kitchener so I was not able to go all the way to York so I missed a couple of technician interviews ... Jobs aren't here."

-

E-learning Program Participant

"[I] needed to get a job right away [but] felt like it [BCG training] was wasting time that could have been better spent looking for a job ... because it wasn't directly tied to work, or directly linked to past education. This program would be good for a newcomer, or someone who had not worked in Canada, but it wasn't good for me."

-

BCG Program Participant

Program experience of program partners and employers

This sub-section summarizes insights from the 11 interviews we conducted with program partners and three interviews WBLC conducted with employers. Interviewees were asked about their experiences with this program, including what adaptations were made to the original program design to meet emerging needs and what they perceived to be program strengths and areas for improvement. Some of the findings in this sub-section were also based on the administrative data WBLC shared with us throughout this project.

Program adaptations

In general, the program was delivered amidst COVID-19 as per the original design of the WBL model, although adaptations and adjustments were made in response to the pandemic or based on insights from continuous learning. Specifically, the administrative and program partner interview data indicate the following:

- **Increased number of core program cohorts with reduced cohort size.** WBLC had planned to have two core program intakes with 12 participants for each. However, due to delays in the recruitment and hiring process and the reduced number of participants permitted in the same classroom for the training shop learning as a result of COVID-19, it took WBLC seven intakes to achieve their target enrolment number of 24 participants.
- **Virtual visits by WBLC monitor coaches not implemented.** To increase the geographical coverage and reduce costs, WBLC had planned to use digital communication technologies as part of program innovation to record videos so monitor coaches could virtually monitor core program participants' progress throughout their shop floor learning at the employer sites. However, this innovation was not implemented due to participating employers' concerns with proprietary products and processes.
- **"Train the trainer" workshop piloted.** Findings from our learning report and WBLC's research pointed out gaps in the coaching skills of employer-provided trainers. Therefore, WBLC delivered a four-hour online "train the trainer" workshop in the spring of 2021 to seven trainers from two participating employers. This workshop was aimed at enhancing the effectiveness and efficiency of the shop floor learning through training trainers on how to instruct participants to perform specific tasks and how to use interpersonal techniques in working with them.

> "Most firms are subcontractors- producing a mold for someone else's design ... Companies are contractually bound to not allow any of these things [photography, videos, etc.]."
>
> -
>
> **WBLC Staff**

> "No consideration [was] given to if this individual [trainer] has teaching abilities ... [They were] only selected based on their technical skills... [After taking "train the trainer" workshop] they would be able to learn to teach quicker so less time with trainees."
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> **WBLC Staff**

- **E-learning program created as an abbreviated version of the core program.** In January 2021, WBLC created the e-learning program, which only included the e-learning component of the core program. The goal was to provide some technical training to eligible candidates who passed the competency screening but were not hired due to a lack of matching participating employers. WBLC hoped these candidates could become even more attractive to employers after finishing the e-learning program.

"We were frustrated because we had individuals that ... would be good candidates for employers, but for several reasons we couldn't find matches depending on location... [E-learning may] help good candidates become more attractive."

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WBLC Staff

Program strengths

- **Effective training model. Program** Program partner and employer interviewees were generally enthusiastic about the overall value of the WBL model and its impact on the advanced manufacturing industry. Program partner interviewees emphasized that very few programs offer a similar level of technical knowledge and skills in such a short period. Most employer interviewees showed interest in participating in the future deliveries of this training model, especially in training their existing employees to replace retiring ones.
- **Valuable program components.** Program partner interviewees pointed out the program components that contributed the most to the success of this project, including competency screening, matching of eligible candidates with employers, the interactive nature of the e-learning content and in-person visits

"The model makes sense ... [and] concept is well accepted... For other programs, the lead time for training is too long. Ours is a more agile, quick model."

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WBLC Staff

"[It was] valuable training as long as our sites have the needs. We were looking to replace people to retire and want to gear up people with quality training."

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Employer

and ongoing observation by WBLC monitor coaches. Employer interviewees indicated that their trainees perceived e-learning to be thorough and easy to navigate. Employer interviewees also reported that WBLC monitor coaches' visits were beneficial and flexible and the on-the-job training was valuable.

- **Helpful competency assessment.** Interviewees who were BCG coaches found the competency assessment useful in helping them understand their participants' competency gaps and the expected outcomes and tailor their coaching approaches to suit individual needs accordingly.

Areas for program improvement

- **Employers' hesitancy to hire and train employees with little relevant work experience.** Program partner interviewees indicated that employers were more hesitant to hire and train employees with little relevant work experience than to upskill current employees due to (a) an overall hiring freeze and priority shifts in response to COVID-19 and the associated uncertainties about future economic conditions in the advanced manufacturing industry; and (b) employers' unwillingness to adjust their hiring criteria or interview practices to hire workers who did not have relevant skills or work experiences. These interviewees suggested increasing employer subsidies to promote their buy-in of the program.
- **Challenges with geographically matching eligible candidates with employers.** Program partner interviewees reported constraints in aligning the geographical locations of participating employers with eligible candidates, resulting in delays or failures in hiring. These interviewees suggested recruiting participants where the participating

"Companies have been dealing with a lot of uncertainty [during COVID], which gives them pause when bringing on new trainees or new employees ... Unless they have a critical gap, their preference is to use someone internally."

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WBLC Staff

"[Employers] say they want experienced people, [so] selling to employers ... is a challenge ... If we can convince them to upskill first, then we can have them hire from the program."

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WBLC Staff

"[It was hard to] convince clients [employers] that they have to do things differently or change their mindset to think more innovatively. They get it theoretically, but operationalizing it makes them nervous ... They revert to their old ways of looking for people".

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Manpower Staff

employers were located or recruiting employers where eligible candidates were located.

- **Limitations in virtual programming.** According to employer interviewees, it was sometimes challenging to accommodate trainees' e-learning on the company site due to a lack of workstations equipped with desktop computers. Their trainees would also appreciate even more opportunities for in-person training, and it would be beneficial if the WBLC monitor coaches could physically visit the company sites more often (although it was understood that these limitations were primarily due to the COVID-19 pandemic). To address the limitations of e-learning, interviewees recommended making the e-learning materials accessible via mobile phones and more interactive and personalized with artificial intelligence technologies.
- **More participant and program information desired by BCG coaches.** Some of the BCG coaches we interviewed mentioned that they would prefer to have more information about their participants and the program to be more effective in delivering the coaching. For example, these coaches wanted to know more about the participants' backgrounds, the competency modules they were taking, the content and methods the other coaches used, or how the BCG training fit into the broader program.

According to the WBLC staff we interviewed, they provided the BCG coaches with sufficient key information needed to achieve the desired coaching outcomes. The information included details on the competency coaching and the jobs participants were applying for. Participants' resumes were also available to the BCG coaches upon request.

"Employers would get subsidized through program involvement but pretty small in terms of what they spend in wages... still a big commitment on the employer's part ... [Increasing subsidies] certainly helps getting more employers involved."

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WBLC Staff

"None of the [participant] information was shared with us by WBLC ... [It] would be helpful to have this info to provide more focused training, not generic."

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BCG Coach

"[There was a] lack of interaction with other coaches ... [and a lack of] standardization in curriculum... Coaches should share the content."

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BCG Coach

5. Conclusions

This section summarizes the key findings of our evaluation of WBL for Mid-Career Workers and the implications for the design and delivery of this project and similar programs that re-skill and/or upskill mid-career workers and help them get hired or get ahead in the advanced manufacturing industry.

Key findings

The evaluation findings show that WBL for Mid-Career Workers fills a clear need of both mid-career workers and employers. The blended learning modality and the iterative adaptations and improvements WBLC and its partners made throughout the program provided mid-career workers with opportunities to work or advance in mold-maintenance jobs. Despite some delays and challenges in the recruitment process, the program was successfully delivered during the COVID-19 pandemic.

The key findings from this evaluation include:

The program was largely delivered as planned during COVID-19 despite some adaptations and adjustments

In response to the pandemic and delays in recruitment and hiring, WBLC increased the number of cohorts in the core program and reduced the size of each cohort. They dropped the planned virtual visits by monitor coaches due to participating employers' concerns with proprietary products and processes. Based on continuous learning, WBLC piloted the "train the trainer" workshop to enhance the effectiveness and efficiency of the shop floor learning. Additionally, they added the e-learning program to provide some technical training to eligible candidates who could not enter the core program.

The program reached its target population, and the program completion rates were high

Survey respondents' socio-demographic data show that the program reached unemployed mid-career workers with little work experience in mold maintenance. According to the administrative data, over 75% of participants in each training track completed the program.

Participants were in general satisfied with the program

Interviewees who took e-learning had overwhelmingly positive feedback on it. Interviewees from the core program also found the training shop learning effective and saw value in the certification. Interviewees from the BCG program liked the format of the training and the coaches.

Program partners and employers perceived value in the program

Interviewees believed the core program was effective for both participants and employers, and the various program components contributed to the program's success. The BCG coach interviewees found the competency assessment particularly useful.

Participants experienced some challenges or difficulties with the training

Interviewees from the core program perceived misalignment between their shop floor learning and e-learning. Interviewees from the BCG program felt there was a mismatch between the training and their needs.

There were limited opportunities for eligible candidates to enter or re-enter the core program

Participant interviewees from the e-learning and BCG programs were disappointed that there were limited opportunities to enter or re-enter the core program. Program partner interviewees explained that participating employers were more open to upskilling current employees than hiring and training those with little relevant work experience. This hesitation was a result of their priority shifts during COVID-19 and hesitancy to change their existing hiring process. Additionally, there were constraints in geographically matching participating employers with eligible candidates, which caused delays or failures in hiring.

Limitations existed in the virtual components of the program

Employer interviewees pointed out the challenges with accommodating trainees' e-learning on the company site and the opportunities for trainees to have more in-person training. In-person visits by WBLC monitor coaches would also be more beneficial than virtual visits.

BCG coaches would prefer to have more information about participants and the program

Beyond the information already provided by WBLC, BCG coach interviewees would have liked to have more information about the program, the participants they were coaching and the other coaches in the program. These interviewees believed such information would help them deliver the program more effectively.

Implications

WBL for Mid-Career Workers was a workforce development program built on a competency-based, demand-driven WBL model to re-skill and/or upskill mid-career workers for in-demand entry-level skilled jobs in the advanced manufacturing industry. The key findings from the evaluation of this program presented in the previous section showed the overall effectiveness of this model in delivering a rich and targeted learning experience to participants while working at full-time, permanent jobs. The evaluation findings also point to some implications that could inform the design and delivery of this program and similar ones to help participants achieve desired learning and employment outcomes and optimal program experiences and help employers fill gaps in skilled jobs.

Specifically, for programs built on the WBL or a similar model, they need to focus on the following areas to maximize the potential benefits:

Align shop floor training with classroom learning

Programs need to ensure that practical training on the company shop floor aligns with the theoretical and hands-on materials covered in classroom learning. They can use a technical competency standard to guide this alignment. The TLOs used by WBLC constitute such a standard that provides concrete, applicable and measurable workplace milestones for technical training. Employer-provided trainers need to be familiar with this standard and expectations of the shop floor training through orientation sessions or targeted training such as the "train the trainer" workshop delivered in this project.

Build employers' interest and buy-in of the program

To address employers' overall hesitancy to change current recruiting processes and hire mid-career workers with little relevant work experience, programs need to build employers' awareness of and interest in the program through communicating to employers evidence-based program benefits and incentives for participation where applicable. Such communications need to target both management-level staff and experienced employees (who may become trainers). With more employers participating and the help of targeted recruitment activities, programs can be more successful in matching eligible candidates with employers based on geographical locations.

Facilitate information-sharing with coaches of preparatory training

Programs need to provide coaches of preparatory training (such as the BCG program) with information about the program model, participants' backgrounds and goals and competency requirements for transitioning to the core technical training. Such information-sharing can help coaches understand their role in the participants' journey and tailor their coaching to participant and program needs. Programs can also consider creating opportunities for coaches (especially when they are individual contractors) to connect and share coaching resources, approaches and lessons learned.

Appendix A

Our Approach

Quantitative data

Participant administrative data

We analyzed the administrative data WBLC collected and shared with us. It included enrolment and completion rates for each step or component of the program. A total of 204 candidates took the initial competency assessment, with 136 (67%) passing. Of these candidates, 101 took the competency interview, and 65 (64%) passed. Nineteen (29%) out of the 65 candidates passed the employer interview, and 18 of them got hired by participating employers as trainees.

Participant surveys

We also collected and analyzed quantitative data from the baseline and follow-up surveys administered to consenting participants in the core and e-learning programs. These surveys included questions that measured the participant outcomes common to all FSC projects to support aggregate analysis in the future. We sent the baseline survey when participants started the program and the follow-up survey three months after their program completion.

Qualitative data

Two of our team members conducted each participant and program partner interview by phone or on Zoom, while WBLC conducted all employer interviews online where one of our team members was present and took notes.

Each interview lasted for approximately 30–45 minutes. We did not record the interviews but captured the interviewees' paraphrased or verbatim responses. Guided by the interview protocol, we coded the interview notes and conducted the qualitative thematic analysis to identify patterns and recurring themes.

Participant interviews

WBLC reached out to all participants upon their program completion to connect them with the evaluation team. The evaluation team followed up with an interview invitation. Seven core or e-learning program participants and three BCG participants responded to the invitation and agreed to participate in the interview.

Program partner interviews

WBLC helped identify the staff from program partners who played a key role in program design, implementation and delivery. The evaluation team contacted them and the key WBLC staff with an interview invitation. All 11 staff members invited agreed to participate in the interview.

Employer interviews

WBLC invited and interviewed representatives from three selected employers who had core program participants as their employees.

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