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# **ROI: Beyond the Numbers Guide**



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INVESTING IN QUALITY WIL ACROSS CANADA

# **ROI: Beyond the Numbers Guide**

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# Guide Outline

This guide was written to help employers better understand the various factors involved in measuring the return on investment (ROI) of work-integrated learning (WIL). It is meant to be a deeper dive and supplement to our [ROI Guide](#), with a fuller explanation of how WIL can benefit organizations.

While a simple ROI calculation may be limited in its ability to capture all the benefits of WIL, the process of building an ROI framework can go a long way towards making the case for investing in quality WIL opportunities as well as measuring the success of the program you create. Explore the ROI factors and WIL benefits in more detail below to gain a more holistic understanding of ROI in WIL.



# Informing the ROI from WIL

Many factors shape the ROI employers can expect from WIL. While organizations may be less able to influence certain factors like training regulations, there are several factors an organization can influence.<sup>1</sup>

## TYPES OF WIL

Organizations can decide to participate in different types of WIL. The different types of WIL programs will not only affect their benefits, but also the costs of placements. The different types of WIL include structured work experiences (apprenticeships, co-ops, and internships) through to emerging WIL types (competitions, hackathons, events, and micro-placements). See our [WIL Types](#) page on our website for a full list.

Although all types of WIL provide students with experiential learning opportunities in educational and applied work settings, there are varying costs and benefits associated with each type. Whereas apprenticeships typically involve greater cost inputs and take place over a long period (i.e., 2-5 years), micro-placements may take place over as little as 1-2 weeks and involve minimal (if any) costs. Between these extremes, structured work experiences (e.g., co-ops, internships) typically last several months as opposed to years and involve greater costs than emerging WIL models but remain less resource-intensive than a traditional apprenticeship. Although relatively stronger evidence exists on the ROI employers experience from apprenticeships versus other types of WIL, we have insufficient data on costs and benefits at the firm level to appropriately calculate ROI for apprenticeship training in most jurisdictions.<sup>2</sup>

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1 Samuel Muehleemann and Stefan C. Wolter. "Return on Investment of Apprenticeship Systems for Enterprises: Evidence from Cost-Benefit Analyses." *IZA Journal of Labor Policy* 3, no. 1 (November 28, 2014): 25, <https://link.springer.com/article/10.1186/2193-9004-3-25>.

2 Ibid.

Germany and Switzerland are some of the few jurisdictions that consistently collect representative data on the costs and benefits of apprenticeships at the firm level.<sup>3</sup> In Switzerland, employers are able to capture net benefits from apprenticeship training by the end of the training period without relying on public subsidies.<sup>4</sup> Capturing a net benefit by the end of the training period may be especially important for SMEs because they are at a competitive disadvantage to larger firms when it comes to retaining apprentices as full-time employees.<sup>5</sup> German firms, however, have tended to make net investments during the training period and rely more on the long-term benefit of retaining apprentices as full-time employees. Relying on retention to achieve a positive ROI may be even more important for employers involved in co-operative education, since evidence suggests developing and retaining talent is the most important motivator for these organizations.<sup>6</sup>

With the exception of a few small studies on the ROI employers experience from internships in engineering<sup>7</sup> and engineering technology,<sup>8</sup> and professional practice placements in pediatrics<sup>9</sup> and pharmacy, research on ROI for employers involved in structured work experiences remains thin.

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3 Muehleemann and Wolter, "Return on Investment of Apprenticeship Systems for Enterprises."

4 Samuel Muehleemann. "Making Apprenticeships Profitable for Firms and Apprentices: The Swiss Model." *Challenge, Taylor & Francis Journals* 59, no. 5 (September 2016): 390–404

5 Ibid.

6 David Drewery, T Judene Pretti, and Dana Church. "Contributions of Work-Integrated Learning Programs to Organizational Talent Pipelines: Insights from Talent Managers." *International Journal of Work-Integrated Learning* 21, no. 3 (2020): 275–88.

7 Il-Seop Shin, Blair J. McDonald, Khaled Zbeeb, and William F. Pratt. "Impact on the Local Industry and Student's Success from Integration of Internship and Senior Design," 26.893.1-26.893.9. Seattle, Washington, 2015.

8 Frank Bartonek, Bruce Dallman, and James Lookadoo. "Quantifying Quality: A Measurement Attempt for Return on Investment for a Small Electronics Engineering Technology Program." presented at 2008 Annual Conference & Exposition, Pittsburgh, Pennsylvania, June 2008.

9 Cara Lichtenstein, Denice Cora-Bramble, Mary Ottolini, and Dewesh Agrawal. "Is There a Return on a Children's Hospital's Investment in a Pediatric Residency's Community Health Track? A Cost Analysis." *Journal of Community Health* 43, no. 2 (April 2018): 372–77.

Nonetheless, the existing evidence is promising. The benefit-to-cost ratio of a pharmacy residency training program at a Veterans Hospital in the US was estimated to be 1.5:1. Resident productivity was estimated to save the institution \$563,936 annually.<sup>10</sup> Another American case study calculated that 22 alumni from the WIL program of a small electronics engineering technology program were linked to over \$100 million of the annual business at an aviation company.<sup>11</sup> In Canada, the Canadian Apprenticeship Forum surveyed employers and found, on average, employers receive \$1.47 for every \$1 spent on apprenticeship training.<sup>12</sup>

Although emerging WIL models such as micro-placements and competitions are typically lower cost opportunities for participating employers, there is relatively less evidence on the efficacy of these models in realizing corporate benefits. But that is not to say these models are ineffective, only that we are still studying their role in contributing to learning outcomes and career pathways. These models do display promising features that could lead to innovation benefits, such as student and industry co-design and multi-disciplinary student teams.<sup>13</sup> If your organization has less capacity to take on post-secondary students, emerging models offer a low-risk, low-cost entryway into the many possible benefits of working with post-secondary students.

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10 Peter A. Pasek, and Carolyn Stephens. "Return on Investment of a Pharmacy Residency Training Program." *American Journal of Health-System Pharmacy* 67, no. 22 (November 15, 2010): 1952–57.

11 Bartonek, Dallman, and Lookadoo, "Quantifying Quality: A Measurement Attempt for Return on Investment for a Small Electronics Engineering Technology Program."

12 "It Pays to Hire an Apprentice." Canadian Apprenticeship Forum, June 2009.

13 Andrew Bieler. "Work-Integrated Learning in a Post COVID-19 World." Conference Board of Canada, 2020.



**WIL-based talent development is a long-term investment that can pay off with reduced hiring and training costs and an improved skill profile at your organization.**



In a tight labour market, WIL can help employers stay competitive in attracting talent. As a senior HR executive in professional, scientific, and technical services shared:

**“In our industry, if we're going to compete [for talent] in the market, we need to have internships, we need to have co-ops. Otherwise we're not going to attract candidates. And so, for us, it's a long-term strategy to remain sustainable and relevant.”**

## **LENGTH OF WIL PLACEMENTS**

Employers point to length of placement as one of the most important factors they consider when investing in WIL. They identify greater benefits with either multiple (e.g., successive co-op terms) or longer WIL placements, such as 8 month versus 4-month work placements. This finding is consistent with previous research on the production-related benefits of apprenticeships, where the higher skill level of apprentices toward the end of training can result in greater production benefits. But length of training also impacts the ability for employers to develop their talent pipeline and realize innovation benefits.

# **Recruitment and Building a Skilled Talent Pipeline**

When reviewing long-term benefits of WIL, consider the following questions:

- To what extent does your organization focus on developing talent for your industry?
- Are you looking to retain diverse talent in your region?
- Are you looking to help young people succeed in your community?
- Are you looking to improve labour market outcomes for young people?

Work-integrated learning (WIL) offers a wide range of corporate benefits. WIL can help your organization attract, identify, develop, and retain talent with the right mix of skills and understanding of your organization's goals. You can balance the long-term benefits (after training) of building a pipeline of skilled talent for your organization with more short-term benefits, such as assigning short term projects to WIL students and enhancing your firm's productivity during the training period. Although the short-term benefits of WIL are not insignificant (i.e., benefits during training), most employers perceive WIL as a long-term investment.

WIL-based talent development is a long-term investment that can pay off with reduced hiring and training costs and an improved skill profile at your organization, among other benefits. By offering WIL placements on a regular basis, you can create a pool of skilled talent that can be drawn from to fill entry level positions. Employers report that using this skilled talent pipeline provides access to talent with firm specific technical skills, knowledge of company goals, and stronger social and emotional skills (SES) than would otherwise be available via conventional recruitment methods. WIL offers advantages for each stage of talent pipeline management.

## CHART 1: WIL TALENT PIPELINE DEVELOPMENT

### WORK-INTEGRATED LEARNING (WIL) TALENT PIPELINE DEVELOPMENT



## PRE-SCREENING POTENTIAL FUTURE EMPLOYEES

WIL can help your organization identify and pre-screen potential future employees. WIL placements can allow you to observe and assess a student's potential productivity, firm specific skills, and transferable skills to see if they are a good fit for your organization.<sup>14</sup> As one business owner shared, "I think at the end of the day, it is a very good opportunity for the company and the student to make the decision about whether that student is the right choice for a permanent hire." In this sense, pre-screening through WIL also benefits students, since they get the opportunity to "test drive" a potential industry and firm.

**"It is a great way to test the engagement, the motivation, the passion and the talent of each of these interns. There are a lot of them that we would have never hired. It has not always been a success but there are some that stood out. It becomes clear very quickly which of the interns are really passionate and talented. These were great entryways into our organization for these people."**

Business Owner

In short, WIL offers the additional corporate benefit of reducing the usual risks associated with hiring.

## INCREASING RETENTION

Retaining WIL students as entry-level workers after graduation is a key corporate benefit. Especially when it means new entry-level hires have been trained in firm-specific skills through WIL placements. They are more likely to hit-the-ground running as full-time employees, which can reduce training costs and improve retention.

As an employer relations specialist shared, "you can build a pipeline of future talent through the co-op student pool you have hired. In effect this will help reduce a company's costs by reducing the amount of time and effort put into advertisement of the role(s), potentially reducing the

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<sup>14</sup> Muehleemann and Wolter, "Return on Investment of Apprenticeship Systems for Enterprises."

amount of interviews needed, and the amount of training and onboarding given that the co-op/WIL graduate will already be familiar with [your organization].”

Evidence from apprenticeships in Germany suggests firms who are unable to recoup the costs of training during a placement can still experience a net benefit in the long run by retaining workers they have already trained.<sup>15</sup> In 2000, German firms had higher net training costs than Swiss firms but were able to recoup these costs by retaining 50 per cent of their apprentices, largely due to stronger training regulations through unions and works councils.<sup>16</sup>

In some instances, employers have reported stronger employee retention for employees that were former WIL students. Some organizations even report their senior leadership is made up of individuals that were once interns or apprentices. On the other end of the spectrum, firms with low retention rates will have to rely to a greater extent on short term production benefits of WIL.

## **EQUITY, DIVERSITY, AND INCLUSION (EDI) BENEFITS**

WIL can be used to attract students from equity-deserving communities, including but not limited to Black students, Indigenous students, and students that identify as a person of colour; 2SLGBTQ+ students; women and gender diverse students; and newcomer, refugee, and international students. By offering placements to students from equity-deserving communities, employers can benefit from a greater diversity of perspectives and can tap into a larger pool of skilled talent. Although EDI benefits are more difficult to calculate from an ROI standpoint, many Canadian employers see the value of focusing on EDI efforts.

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15 Robert Lerman. “Do Firms Benefit from Apprenticeship Investments?” *IZA World of Labor*, October 9, 2019.

16 Ibid.

Employers have identified the following talent attraction benefits:

- Attracting talent with a range of skills needed in an industry, especially skills and/or qualifications young people may not perceive as in-demand in an industry
- Tapping into a larger talent pool and improving representation of different equity-deserving communities in your industry
- Students from equity-deserving communities that have had a positive, inclusive experience can act as ambassadors that spread the word about your organization among student networks

WIL is also an opportunity for organizations to realize their commitment to equity, diversity, and inclusion. Responding to the rise of the Black Lives Matter movement, one WIL practitioner observed: “Our financial services partners are really thinking, given the current environment, about how they can get Black, Indigenous, and people of colour into their organizations and give them a start in the world of financial services.”

**“WIL helps us to evolve in terms of diversity. These new talents change us. That’s how we develop diversity, we can accelerate transition through these different programs.”**

Senior Executive, Manufacturing

For more information on the benefits of EDI, refer to BHER’s [Equity, Diversity and Inclusion Strategies in WIL](#) guide.

## **USING WIL TO ENHANCE PRODUCTIVITY**

Productivity benefits refer to valuable output during a WIL placement at a reduced wage relative to tenured employees. Productivity benefits can also be realized post-placement, since students who have completed WIL programs and are hired afterwards are typically more productive than entry-level hires who have not completed a WIL program. In addition, production benefits can be gained by giving students projects or tasks that free up full-time employees to focus on higher-value work.

That said, employers also need to consider the opportunity cost of undertaking a WIL program. It is important to account for production that may be forgone in order to run WIL programs. For example, a WIL program may take supervisory staff and other resources away from other projects in the organization. However, productivity benefits received from a WIL program will help offset the potential loss of productivity from other employees.

The industry and occupation also play a role when it comes to realizing productivity benefits. Certain occupations, for example those in trades, healthcare, and engineering, tend to require more training and supervision before students can make their own meaningful contributions. There are also health and safety requirements that may limit a student’s ability to be productive. Employers need to keep these restrictions in mind when setting realistic productivity goals and tasks.

In apprenticeships, the cost-benefit model examines production benefits in relation to both skilled and unskilled tasks.<sup>17</sup>

## CHART 2: VALUE OF PRODUCTIVITY BENEFITS

PRODUCTIVE TASK	VALUATION
Skilled tasks	The value of having students perform skilled tasks equals the time students spend on skilled tasks multiplied by the wage a firm would need to pay skilled workers (if no students were hired). Then multiply the value by the productivity (generally measured at output per worker) of the student relative to that of a skilled worker.
Unskilled Tasks	The value of having students perform unskilled tasks equals the time students spend on unskilled tasks multiplied by the wage a firm would need to pay unskilled workers (if no students were hired). This calculation assumes that students and unskilled workers are equally productive.

Source: Table is an adaptation of the cost-benefit model presented in Muehleemann and Wolter (2014).

17 Muehleemann and Wolter, “Return on Investment of Apprenticeship Systems for Enterprises.”

Students' productivity increases over time as they gain skills. In turn, production benefits are typically more apparent near the end of a longer work placement because students become more productive but are still paid a lower wage than tenured employees. Research on apprenticeships in Germany and Switzerland shows apprentices become profitable in the third or fourth year of their program.<sup>18</sup> For example, in a four year apprenticeship program in Switzerland, placements generate an average ROI of 13.4 per cent in the third year and 35.0 per cent in the fourth year.

### CHART 3: ROI FROM WIL PLACEMENTS, INTERNATIONAL EXAMPLE

Switzerland: Average ROI of apprenticeship training by duration and training year.

	YEAR 1	YEAR 2	YEAR 3	YEAR 4
ROI	-20.54%	-4.73%	13.40%	34.97%

Source: Calculated ROI with data from Mühlemann (2016).

<sup>18</sup> Samuel Mühlemann. "The Cost and Benefits of Work-Based Learning." *OECD Publishing*, OECD Education Working Papers, October 20, 2016.



## USING WIL TO ACCELERATE INNOVATION

Innovation and knowledge transfer benefits are benefits related to the ideas and/or innovations that students contribute to your organization during their work placement. As a major Canadian CEO shared, “Sometimes employers like us are not even aware of what we need, until someone younger, with knowledge we don’t have, introduces us to something new that can better our company.”

**“Another advantage that I’ve seen with all the students I’ve hosted to date is that we gain access to the most cutting-edge knowledge coming out of the universities...This helps us to evolve, and it helps them to evolve too, to understand. It’s a win-win situation, so to speak.”**

Senior Executive, Manufacturing

Innovation benefits are realized when students contribute new ideas and approaches, along with motivation and enthusiasm. As students cross the boundaries between post-secondary institutions and work sites, they have the opportunity to translate ideas or theories from their coursework and/or from working with peers and faculty members to organizational challenges.

In applied research projects and emerging forms of WIL, such as consultancies, students may work in interdisciplinary teams alongside peers and faculty members, which can facilitate knowledge transfer and diffusion. In this context, employers benefit by gaining access to fresh ideas from multiple post-secondary students and faculty members working across departments.<sup>19</sup> Multi-disciplinary teams with students and researchers may be especially helpful for start-ups and entrepreneurs working on thorny business challenges.

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19 Judie Kay et al. “The Emerging Future: Innovative Models of Work-Integrated Learning.” *International Journal of Work-Integrated Learning*, 2019, 17.



**"Sometimes employers like us are not even aware of what we need, until someone younger, with knowledge we don't have, introduces us to something new that can better our company."**

# Methodology

We facilitated nine 90-minute live online focus groups with business owners, CEOs, and senior executives including five groups with representatives from SMEs (<200) and four with representatives from larger organizations (200+). Virtual focus groups integrated live polling and discussion with a small group of owners, CEOs, and senior leaders at host organizations.

This work was part of a larger consultation project on employer participation in WIL. In this project, we conducted 44 group consultations and 23 individual consultations on WIL. In total, we engaged 620 individual participants in this consultation project.

Focus group discussions addressed factors that inform ROI from WIL, as well as broader topics related to barriers and enablers of employer participation in WIL. Focus group participants ranked the benefits of WIL during the focus groups using a live poll. Participants were asked to complete a brief survey prior to attending a focus group.

Canadian business owners and senior executives ranked the following as the three most important corporate benefits of WIL:

- Skilled talent pipeline
- Production benefits
- Innovation

During focus group conversations with senior business leaders, 41 per cent ranked developing a skilled talent pipeline as the most important benefit of WIL, 28 per cent identified production benefits, and 23 per cent innovation and knowledge translation benefits. For many small and medium enterprises (SMEs), student productivity and the ability to contribute fresh ideas remain top of mind when thinking about the value add of WIL.

To a lesser extent, some participants saw the development of future managers and related workforce management benefits (8 per cent) and advancing workplace equity, diversity, and inclusion (2 per cent) as the most important benefits. Corporate social responsibility was not seen as the most important benefit by anyone, but many participants identified it as the fourth (21 per cent), fifth (37 per cent), or sixth (16 per cent) most important benefit.

The top secondary benefits identified by participants included developing a skilled talent pipeline (24 per cent), equity, diversity, and inclusion (22 per cent), innovation (21 per cent), production (18 per cent), and corporate social responsibility (11 per cent). For many participants, equity, diversity, and inclusion was top-of-mind as a secondary benefit and closely related to developing talent pipelines. Realizing the talent pipeline benefits of WIL may overlap with experiencing related benefits, such as attracting underrepresented students.

Alongside the consultations, we conducted a literature review looking at peer reviewed articles and sector resources related to corporate ROI from WIL.

### **Data analysis**

Focus groups were recorded, transcribed, and analyzed using NVivo 12 qualitative data management software. A thematic coding process was used to analyze the transcript content.

We administered surveys online using the VOXCO survey platform. Survey analysis was undertaken using SPSS version 22.



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