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The University of Waterloo and Work-Integrated Learning: Three Perspectives

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Contents

Contents 3
Executive Summary 4
1 – Introduction 7
2 – Survey Methodology 12
3 – Demographic Profile 17
4 – Participation in WIL 20
5 – Challenges Associated with WIL 69
6 – Benefits of WIL 77
7 – University of Waterloo Relative to Other Participating Universities 104
8 – Summary of Findings 125
References 128

A separate appendix is available in English only. Visit heqco.ca for more information.

Executive Summary

This report was requested and partially funded by the University of Waterloo's Centre for the Advancement of Co-operative Education (WATCACE), along with funding from the Higher Education Quality Council of Ontario. It presents a customized analysis of findings from three surveys, undertaken in spring 2011 and spring 2012, to gather perspectives from graduating college and university students, postsecondary faculty, and Ontario employers on work-integrated learning (WIL) within a postsecondary program of study. The three surveys were funded by the Higher Education Quality Council of Ontario (HEQCO) and conducted by Academica Group Inc., in partnership with the Ministry of Training, Colleges and Universities (MTCU), the Ministry of Economic Development and Innovation (MEDI), as well as 14 Ontario postsecondary institutions and a variety of student associations and other stakeholders. The surveys were designed to gain a better understanding of student, faculty, and employer experiences with WIL, including motivations and barriers to participation, and perceptions of challenges and benefits. The results presented in this report provide insights into the attitudes and opinions of students and faculty from the University of Waterloo and the Ontario employers most likely to hire University of Waterloo graduates.

Key Findings

Among all students pursuing different kinds of work-integrated learning (WIL), co-op students were the most satisfied with their WIL experiences.

- Co-op students were slightly more satisfied with their overall university experience than students who participated in other types of WIL programs, and were significantly more satisfied than students who did not participate in any type of WIL.
- Co-op students were also more satisfied with their co-op experiences than students who participated in other types of WIL.

Most students would choose WIL if they had to start over.

- Over half of graduating students who did not participate in WIL would choose a program with a WIL component if given the option to start over again.
- Many students who said they would start over in a WIL program were motivated by employment outcomes.
- There were no clear or overarching reasons why students chose not to participate in a WIL program.

Faculty participation in WIL varies by socio-demographic and background characteristics.

- Faculty who taught a course with WIL were more likely to be older and male.
- Those who taught in a program with WIL were also more likely to be male and to hold a full-time position.
- The degree to which faculty integrated student learning with real-world experiences significantly differed by program group and especially according to their own non-academic work experience. For example, faculty with other employment experience related to their program area were often more likely to report integrating student learning with real-world experiences.

Faculty backgrounds affect perceptions of the purposes of postsecondary education (PSE) and WIL.

- All faculty placed considerable importance on the development of students' critical thinking and analytic skills as a primary purpose of PSE. However, there were several significant differences in faculty perceptions of the purposes of PSE and the benefits associated with WIL by socio-demographic characteristics such as gender and employment status.

- Faculty who participated in WIL when they were students and those who taught a course with WIL were more likely to support increasing the availability of WIL opportunities in PSE.

A lack of suitable work prevents interested employers from offering WIL.

- Most employers who have stopped offering or do not offer WIL have done so because of a lack of suitable work opportunities. Staffing issues, including the required time to recruit, train, and supervise students, were also shown to impact employers' decisions not to offer WIL.
- Employers recommended financial incentives and better scheduling student placements to meet business cycle needs as a means of facilitating greater employer participation in WIL.

Student challenges associated with WIL differ by type of WIL.

- The top rated challenges experienced by co-op students during their work terms were not having enough work assigned, being bored at work, and not having a strong enough link between the skills learned in school and workplace assignments.
- Students who participated in other types of WIL indicated that being underprepared, not being able to find suitable placements, and not being paid were the most frequent challenges they experienced.

Ensuring quality placements was a challenge for faculty.

- The most common challenges faced by faculty were ensuring the quantity and quality of placements for students.
- Faculty who taught a course with WIL also reported challenges managing WIL within large classes.

Many employers faced no challenges with WIL.

- Over one-half of co-op employers did not experience any challenges associated with providing WIL experiences for students, while slightly more than one-third of employers involved with other types of WIL reported not facing any challenges.

Co-op students tend to have better personal and professional outcomes.

- Co-op students were significantly more likely than students who participated in other types of WIL to agree that their WIL experiences professionally and personally benefited them.
- Depending on the type and level of WIL involvement, significant differences were observed in the amount of debt students indicated they would graduate with. Because most of their placements were paid, co-op students were more likely to graduate with less debt than students with no WIL participation and those who participated in other types of WIL.

Faculty agreed that students, faculty, and the institution benefit from WIL participation.

- Faculty agreed that student benefits associated with WIL include the opportunity to develop contacts and networks for future employment, and better understand work realities and expectations.
- Faculty with outside work experience and those who taught a course with WIL tended to have better perceptions of the student benefits associated with WIL participation.
- The majority of faculty at both colleges and universities tended to personally view WIL as valuable and believe that WIL strengthens links between the institution and the business community.

Employers can use WIL to their benefit.

- Employers' most prominent reasons for providing WIL were prescreening potential hires, developing industry/profession workforce skills, and bringing in specific skills and talent.

- Co-op employers were more likely than other WIL employers to report hiring WIL students who had done placements in their workplace following the students' graduation from university.

Co-op students graduating from the University of Waterloo tend to perceive themselves as having better outcomes than co-op students at other participating universities.

- Co-op students graduating from the University of Waterloo were more likely than their counterparts at other participating universities to report benefiting both academically and professionally from their WIL participation.
- University of Waterloo co-op students expect to graduate with lower median debt than their counterparts at other participating universities.
- Students graduating from co-op programs at the University of Waterloo have higher levels of satisfaction with their co-op experience than similar students at other participating universities.

University of Waterloo faculty tended to face less challenges when implementing WIL.

- Faculty at the University of Waterloo were, on average, less likely to report facing challenges associated with implementing WIL, and this was especially true for faculty who taught in a program with a WIL component.

1 – Introduction

Background

In February 2012, Don Drummond released the final report of his *Commission on the Reform of Ontario's Public Services*. Included in the long list of recommendations was one which stated that postsecondary institutions "need to devote more resources to experiential learning such as internships."

The Ministry of Training, Colleges and Universities (MTCU) subsequently released a discussion paper (*Strengthening Ontario's Centres of Creativity, Innovation and Knowledge*) that included five policy priorities, including one involving "entrepreneurial and experiential learning." In response to the subsequent round of public consultations, each of the major postsecondary stakeholders in Ontario provided its own recommendations concerning work-integrated learning (WIL):

- **Colleges Ontario:** 25 per cent of clinical-placement hours in existing college programs should be replaced by simulation
- **Council of Ontario Universities (COU):** Universities will continue to expand experiential and entrepreneurial learning opportunities
- **Ontario Undergraduate Student Alliance (OUSA):** Every student should have at least one non-lecture, experiential or high impact classroom experience at some point in their university career
- **Canadian Federation of Students (CFS):** Prohibit institutions from requiring unpaid placements in programs of study or charging placement fees for co-op or internship placements
- **College Student Alliance (CSA):** Lack of definition can misconstrue the meaning and application of applied learning

Much of the public financing of postsecondary education (PSE) – and of direct parental and student funding through tuition and ancillary fees – is founded on the belief that individuals and society as a whole benefit when the knowledge and skills gained by students while undertaking their postsecondary programs are transferrable to productive activities in the workplace and throughout the broader community. Most of Ontario's colleges and universities already recognize the growing importance of integrating workplace-based experiential learning and classroom-based cognitive learning to generate well-rounded and employment-ready postsecondary graduates. Recent economic dislocations and a rapidly changing labour market are also forcing Ontario's colleges and universities to revisit their curricula, and the traditional ways in which they have integrated work experience and postsecondary learning, if at all.

Within Ontario, the University of Waterloo now operates the largest postsecondary co-op program of its kind in the world, and in the winter of 2011 it had more than 5000 students involved in work placements, more than ever before. Meanwhile, the Ontario government has introduced tax credits directed at employers of co-op students which reimburse 25 to 30 per cent of eligible expenses, to a maximum of $3000, for each qualifying employee per work-placement term.

The Higher Education Quality Council of Ontario (HEQCO) was created as a result of the 2005 Rae Review to provide advice to the provincial government on postsecondary policy issues, particularly in the areas of access, quality, and accountability. In 2009, HEQCO launched an extensive "Work-Integrated Learning" (WIL) research project designed to better understand postsecondary initiatives that integrate the classroom with the workplace. After a competitive Request for Proposal (RFP) process, HEQCO contracted with Academica Group Inc. to launch a preliminary study – Phase 1, completed in 2010 – in collaboration with nine Ontario postsecondary institutions: Algonquin College, George Brown College,

Georgian College, Laurentian University, Niagara College, University of Ottawa, University of Waterloo, University of Windsor, and Wilfrid Laurier University. Five additional institutions – Carleton University, La Cité collégiale, Sheridan College, Western University, and York University – became partners for the much broader Phase 2, for which Academica Group Inc. was also contracted and which included separate student, faculty, and employer surveys. The findings of those surveys, particularly as they relate to the WIL experiences of University of Waterloo students, are summarized in this report.

Defining Work-Integrated Learning (WIL)

Several terms are used both separately and interchangeably to describe the process of combining academic and work-relevant learning, including experiential learning, experiential education, workplace learning, work-related learning, work-based learning, vocational learning, cooperative education, clinical education, practicum, fieldwork, internship, work experience, and more. The term "work-integrated learning" (WIL) is increasingly used to describe a range of educational activities within that broader spectrum that integrate learning within an academic institution with practical application in a workplace setting relevant to each student's program of study or career goals. WIL takes many forms, with varying degrees of integration and a multitude of characteristics. There are some common features across the various forms, however, that distinguish WIL from more general work experience and experiential learning.

The final report for Phase A of the multi-year HEQCO project included the following definition of WIL:

> the process whereby students come to learn from experiences in educational and practice settings and integrate the contributions of those experiences in developing the understandings, procedures and dispositions required for effective professional practice, including criticality (Billet, 2009: v).

Types of WIL

The input received from key informants at the partner colleges and universities during Phase A was also used to develop a revised typology of WIL, as set out in the table below. The typology proposes a spectrum of seven types of WIL, each distinguished by a wide range of characteristics, and reinforces the view that there is no single "ideal" form of WIL experience, with different forms offering different benefits. It is hoped that the typology will offer a useful tool to assist educators, students, employers, and government policy makers to better understand the complex array of WIL programs available in higher education. In fact, it is already being employed by MTCU to define WIL options in their Key Performance Indicator (KPI) instrument for Ontario colleges.

Table 1: Typology of Work-Integrated Learning Options

Systematic Training	Structured Work Experience				Institutional Partnerships	
Workplace as the central place of learning	Familiarization with the world of work within a PSE program				PSE activities/programs to achieve industry or community goals	
Apprenticeships	Field Experience	Mandatory Professional Practice	Co-op	Internships	Applied Research Projects	Service-learning

Apprenticeship

Apprenticeships are dominated by on-the-job workplace training, which comprises about 90 per cent of the designated length of the program and is delivered under the guidance and instruction of certified journeypersons or qualified tradespersons. The remaining time in the program consists of periods of in-school training, which are usually brief, provide both theoretical and practical instruction, and are typically offered by community colleges, private career colleges, and through union-based training. The length of apprenticeship in each trade varies, with most programs lasting two to five years. After completing the program, apprentices can write a trade exam to obtain a Certification of Qualification and become certified "journeypersons" or skilled tradespersons. Because of its unique nature and the emphasis on non-school training, apprenticeships were largely excluded from the analysis undertaken in Phase B of HEQCO's WIL study.

Field Experience

Field experience includes placements and other work-related experiences that prepare students for professional or occupational fields but are not required for professional licensure. The placements are "scheduled hours of activities intended to give student hands-on experience in the workplace and for which the students do not typically receive a regular salary or wage from the employer." They are typically core to the curriculum and necessary for the completion of the program. A field experience does not involve the direct supervision of students by institutional staff but may involve periodic site visits, and student performance is evaluated by the institution. Simulated work experiences – computer simulations, workplace practice role-plays, business practice firms, team-based projects – can also provide innovative opportunities for students to apply their acquired knowledge and skills.

Mandatory Professional Practice

This type of WIL includes any professional practice-based arrangements that are necessary for professional licensure or designation, such as internships in law, practica in education, and practica, clinical education, or field placements in medical and health professions. The work may be paid or unpaid and is typically drawn from the range of work contexts graduates may be expected to encounter. It includes "clinical placements," usually in a hospital or health care setting, and is characterized by activities that are core to the program curriculum and necessary for the successful completion of the program. Here again, students are closely supervised by institutional staff or individuals working on behalf of the institution. In some professional occupations, such as teaching and nursing, students participate in highly ordered and regulated practical experiences. In others, such as medicine and law, there are different kinds of long-standing practice-based arrangements.

Co-operative Education (Co-op)

Within the typology, co-op was viewed as one option that could potentially cross almost all categories. Co-op programs are generally closely supervised, as well as being applied toward professional designation, conducted on a project basis, or undertaken to address a community need. Some apprenticeships can even be delivered using a co-op model. Many co-op programs operate year-round, and they also entail significant institutional investments in the administration of job placements, operational costs, and the hiring of additional faculty. The definition of the Canadian Association for Co-Operative Education (CAFCE), which has been endorsed by MTCU, defines a co-operative education program as one that formally integrates a student's academic studies with work experience, usually through alternate periods of experience in career-related fields and in accordance with to the following criteria:

- Each work situation is approved by the education institution as a suitable learning situation
- The student is engaged in productive work rather than merely observing
- The student receives remuneration for the work performed
- The student's performance on the job is monitored by the institution, as well as being supervised and evaluated by the employer
- The time spent in periods of work experience must be at least 30 per cent of the time spent in academic study

Internships

Internships are similar in many ways to co-operative education, but tend to be less structured. Clarifying the distinction between internships and co-op programs is particularly important in order to address imprecisions in the usage of each term at the institutional level and elsewhere. Internships are work experiences, often a year or more in duration, planned to occur at or near the end of a program of study. They are offered in professional fields, with supervisors encouraged to provide mentoring support as well as supervision. They are supposed to engage students in meaningful work, paid or unpaid, but can also include job shadowing. The required workplace experience is typically undertaken either part-time, short-term, or over a specified number of hours, but the term is increasingly being employed more broadly to include unpaid work placements that are not tied to a postsecondary credential.

Applied Research Projects

Project-based learning is used extensively in the humanities, social sciences, and natural/physical sciences, and is based on research suggesting that real-world projects can assist in enhancing students' educational experience. The two key features of project-based learning opportunities are the presence of a problem that drives activities and the inclusion of the results in a final product. Applied research is increasingly being incorporated into college mandates and mission statements, and college research offices are attempting to identify more opportunities to fund and develop formal policies in this area.

Service-Learning

Service-learning programs are more commonly found in universities and are intended to provide equal benefits to both the provider of the service (the student) and the recipient of the service (the community), while ensuring equal focus on both the service being provided and the learning that is occurring. The primary goals of service-learning are positive civic and academic outcomes, and the expectation is that the services provided by the student should meet the goals defined by the community in which they are provided. More than any other type of WIL, this one is intended to include an ongoing structured reflection by the student.

WIL Surveys

After developing the preceding typology in Phase A of its project, HEQCO launched Phase B in the fall of 2010 to more fully explore the benefits of WIL to students, faculty and employers, and the overall quality and outcomes of various WIL options. Phase B included the following components:

- **Faculty:** Because the role of faculty is essential to the development and delivery of effective WIL programs, an online survey of college and university faculty from 13 of the partner institutions was conducted in March/April 2011. In the end, 3600 surveys were completed and a final report was published by HEQCO in early 2012.
- **Employers:** A telephone survey of Ontario employers from all regions and of all sizes was undertaken in March/April 2012, at the same time as the graduating student survey was being completed. Nearly 3400 employers responded to the survey, and the final report was published by HEQCO in October 2012.
- **Students:** The student survey was piloted at three partner institutions (Georgian College, Laurentian University, and Niagara College) in March/April 2011, and full implementation of the survey was undertaken among graduating students at all 14 partner colleges and universities in March/April 2012. The survey explored the experiences of both WIL and non-WIL students from various disciplines across both colleges and universities, and assessed awareness of WIL, motivations and barriers to participation, and perceived benefits. A final report is expected to be published early in 2013.

A follow-up student survey is also planned for the fall of 2013 for the approximately 75 per cent of students who agreed to be contacted when they completed the graduating student survey. This instrument will explore their labour market participation as well as other pathways and outcomes in the first 18 months since graduation from their first college or university program of study.

Three broad themes are addressed in the University of Waterloo report that follows, most of which are examined from the perspective of graduating students, faculty, and employers:

- Participation in WIL
- Challenges associated with WIL
- Benefits of WIL

The remainder of this report is organized as follows:

- Section two highlights the methodology for the graduating student, faculty, and employer surveys.
- Section three provides an overview of the demographic profile of the three groups of interest.
- Section four highlights data about participation in WIL for graduating students, faculty, and employers.
- Section five addresses graduating student, faculty, and employer challenges associated with WIL.
- Section six highlights some of the benefits associated with WIL participation.
- Section seven provides a comparison between the University of Waterloo and all other participating universities.
- Section eight, the final section, provides a summary of findings.

2 – Survey Methodology

This report draws on data from three surveys that were conducted as part of a multi-phase HEQCO research project on WIL within Ontario's postsecondary sector: the Graduating Student Survey, the Faculty Survey, and the Employer Survey. The overall project was guided by a working group of representatives from the partner institutions, who were closely involved in the design of the research study and the development of the data collection tools The working group included representatives from the Ontario Public Service Employees Union (OPSEU), representing college faculty and MTCU, as well as three large organizations representing Ontario postsecondary students: the Canadian Federation of Students (CFS), the Ontario Undergraduate Students' Alliance (OUSA), and the College Student Alliance (CSA). The research firm Academica Group Inc. was contracted to develop the instruments, implement the survey, and report on the results.

This section outlines the methodology used for the development and implementation of all three surveys, including instrument design, sampling, and survey procedures. While the Graduating Student Survey and Faculty Survey were conducted at multiple institutions, the methodology below provides details of the sampling and administration process at the University of Waterloo only. Both the Graduating Student Survey and Faculty Survey were reviewed and approved by the University of Waterloo research ethics board prior to implementation. More detailed information about the Faculty and Employer Surveys can be found in reports available on the HEQCO website (www.heqco.ca). The report on the Graduating Student Survey will be completed in early 2013 and posted on the HEQCO website.

Graduating Student Survey

Survey Instrument

The Graduating Student Survey gathered the perspectives of students on the motivations and barriers to participation in work-integrated learning (including co-ops, internships, practicums, field placements, and service-learning), overall satisfaction with their postsecondary education, and perceived outcomes related to learning, self-efficacy, and employability skills. The survey also captured characteristics of work-integrated learning and student experiences with full and/or part-time employment, summer jobs, and voluntary activities. The specific research questions explored in the Graduating Student Survey were:

1. What are the motivations and barriers to student participation in work-integrated learning?
2. To what extent does participation in WIL affect students' satisfaction with their postsecondary education? Do the effects differ by type of WIL, program, or type of institution?
3. To what extent does participation in WIL affect student learning and academic performance? Do the effects differ by type of WIL, program, or type of institution?
4. To what extent does participation in WIL affect student self-efficacy? Do the effects differ by type of WIL, program, or institution?
5. Does participation in WIL have different effects for different groups of learners (gender, ethnicity, disability, income, entry into PSE)?

Instrument Development

The Graduating Student Survey instrument was developed in close collaboration with the working group following an extensive review of the academic and practitioner literature on the issues and outcomes associated with student participation in WIL. The instrument also drew on exploratory research conducted by HEQCO and Academica Group Inc. in 2010 with 25 Ontario employers and 39 staff and faculty at nine postsecondary institutions (including the University of Waterloo) to identify faculty, staff, and employer perceptions of motivations, benefits, and challenges for WIL students. The initial draft instrument incorporated validated questions used in other research studies, as well as input received from members

of the HEQCO working group. The instrument was revised following online pretesting with 44 college and university students, and telephone interviews with ten college and university students to identify where wording required clarification or modification. The instrument was piloted with 1281 graduating students from Laurentian University, Georgian College, and Niagara College in March 2011, and further revised following a review of the data collected during pilot implementation. The final instrument included structured questions to gather demographic information and data on students' postsecondary education and workplace or volunteer experiences, identify motivations and barriers to participation in WIL, and generate detailed profiles of the types of WIL and labour market activity in which students were participating. The final survey instrument required approximately 20 minutes to complete.

Sample

The target population for the overall research study was full- or part-time postsecondary students in their final year of undergraduate study at an Ontario university, or final year of a program of study leading to an Ontario college diploma or certificate, who were expected to graduate in 2012. The University of Waterloo randomly selected half of the graduating student class to participate in the survey. In total, 1464 University of Waterloo students received an invitation to participate. Of these, 535 respondents completed the survey to an acceptable cut-off point for a 36.5 per cent response rate.

Procedure

Academica Group's proprietary Survey Management System™ (SMS™) software was used to program the survey instrument in both English and French and to collect the data. Invitations to participate in the research were sent by the participating institutions in March 2012, and the survey remained open until April 2012. Each invitation contained a unique log-in ID and password and an embedded link to the survey page to ensure that only individuals invited to participate could complete the survey, and to enable the tracking of survey completion rates. The e-mail invitation outlined the purpose of the research, and the survey landing page provided a printable letter of information. While the survey was in the field, two targeted reminders were sent to students who had not yet participated in the survey.

Instead of asking respondents to self-report their academic data, the survey asked respondents for consent to link their responses to three pieces of institutional administrative information: cumulative grade point average, program of study, and credential earned. This information was provided by the University of Waterloo for respondents who consented to the data linking. The data linking process ensured that the university did not have access to any of the respondent data collected in the survey.

Faculty Survey

Survey Instrument

The Faculty Survey instrument was developed following an extensive review of the academic and practitioner literature to identify findings from previous research on the perspectives and experiences of postsecondary faculty with WIL, and the implications of delivering WIL programs for postsecondary institutions and Ontario's postsecondary education system. The instrument drew on HEQCO's 2010 exploratory research with 25 Ontario employers and 39 staff and faculty at nine postsecondary institutions (including the University of Waterloo), and included modified versions of questions used in other research studies. It also incorporated input received from members of the HEQCO working group. The instrument was pretested online with 25 college and university faculty members from a variety of institutions and program areas, enabling improvements to the survey response options to better capture the views and experiences of faculty involved with WIL and those without WIL involvement. The final survey instrument included structured and open-ended questions to collect attitudinal and perceptional data related to WIL, as well as limited demographic information. The survey required approximately 15 to 20 minutes to complete.

Sample

All full-time and part-time faculty at the University of Waterloo who were involved in teaching academic credit courses leading to an undergraduate degree in the 2010-2011 academic year were invited to participate in the survey. Faculty who taught exclusively at the postgraduate level or in professional programs were excluded, given the focus of the study on undergraduate degree programs. In total, 1893 University of Waterloo faculty members were invited to participate in the survey. Of these, 472 responded for a response rate of 24.9 per cent.

Procedure

Academica Group's proprietary Survey Management System™ (SMS™) software was used to program the survey instrument in both English and French and to collect the data. Invitations to participate in the research were sent by the participating institutions in late March and early April, and the survey remained open until May 2011. Each invitation contained a unique log-in ID and password and an embedded link to the survey page to ensure that only individuals invited to participate could complete the survey and to enable the tracking of survey completion rates. The e-mail invitation outlined the purpose of the research, and the survey landing page provided a printable letter of information. While the survey was in the field, two targeted reminders were sent to faculty who had not participated in the survey, and four of the partner institutions sent a third reminder.

Employer Survey

Survey Instrument

The research objectives for the WIL Employer Survey were to gather employer opinions on the preparedness and skills of recent Ontario postsecondary graduates (in particular, graduates who had participated in college or university work-integrated learning programs) and to gain an accurate understanding of employers' current, past, and planned participation in work-integrated learning (including the motivations and barriers to participation).

Instrument Development

The Employer Survey instrument was developed following an extensive review of the academic and practitioner literature to identify findings from previous research on employer experiences with WIL and with the employment of postsecondary graduates. The instrument drew on HEQCO's 2010 exploratory research with 25 Ontario employers and 39 staff and faculty at nine postsecondary institutions (including the University of Waterloo) and included modified versions of questions used in other research studies. Originally intended for online administration using a snowball sampling approach, the instrument was pretested online with 32 Ontario employers representing various sizes and sectors, and revised in response to working group feedback. To improve the reliability and validity of the results, the instrument was further revised to enable telephone administration with randomly selected employers. The final survey required approximately ten minutes to complete.

Sample

A stratified sampling approach was used for this study. To obtain the sampling frame, the Dun and Bradstreet Hoover's database was purchased.[1] The sampling frame was stratified by sector and size. To stratify the sample by sector, NAICS codes were used to create 12 sector groupings, which took into account strategic sector priorities of the Ontario government as well as sectors with higher proportions of youth employment. For each sector, response quotas were established to enable subgroup analysis, ensuring a +/- 5% margin of error in five sectors (Finance; Health and Social Services; Information and Cultural Industries; Manufacturing; and Professional, Scientific and Business Services) and a +/- 7 per cent margin of error in the remaining seven sectors. The overall margin of error is +/- 2 per cent.

Stratification by size used the four size categories of Canadian Industry Statistics, which is based on regrouped size categories from the Canadian Business Patterns database. Micro employers from all but one sector grouping were excluded from the sample.[2] Within each stratum, a random sample was selected. Medium- and large-sized business strata were oversampled to enable analysis by size of organization. The sample was drawn based on a 10:1 sample-to-completion ratio using the quotas for each of the 12 sector groupings. During the study, additional cases were randomly selected and added to the sample as needed to reach the quotas within the specified study period. The final total sample was 43,378 Ontario business and organizations, with a resulting functional sample of 35,133 following the removal of invalid numbers.

Procedure

To select the individual respondent to represent the sampled business or organization, callers asked to speak to the person within the firm who was responsible for human resource decisions or who was involved in the recruitment, screening, or supervision of college and university students in the workplace. Respondents were able to complete the survey in either English or French. Initially, respondents were also offered the option of completing the survey online. However, due to low completion rates among respondents who were e-mailed the survey link during the first week in the field, the option to complete online was used only to secure cooperation if the respondent refused to participate in the telephone survey.

A target respondent was reached at 7881 of the organizations. Of these, 3369 employers completed the survey. This represents an overall response rate of 9.6 per cent and a respondent-level cooperation rate of 42.7 per cent.[3]

Analysis

Prior to analysis, data from the Graduating Student and Employer surveys were weighted to ensure an accurate representation of the University of Waterloo graduating student population (by age and gender) and the population of all Ontario employers (by size and sector). Faculty data was not weighted. This report provides the unweighted counts for student and employer results to indicate the actual numbers of respondents, as well as the weighted percentages. All interpretations provided in the text are based on the weighted data shown in the weighted percentages.

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[1] The Hoover's database lists over 500,000 Ontario businesses and organizations and is continually updated by in-house editorial staff. The database includes industry NAICS codes for each firm, numbers of employees, and contact telephone numbers for individual business locations. Access to individual locations was important to the study, as the questions were designed to gather insights about direct employer experiences with postsecondary graduates at individual establishment sites, rather than from the main offices of organizations with multiple sites.

[2] Given the small number of firms within the Forestry sector, the sample included Forestry sector employers with two to four employees.

[3] The response rate is calculated as the total number of completes divided by the total functional sample. The cooperation rate is calculated as the total number of completes divided by the number of targets reached. Both calculations follow the American Association for Public Opinion Research (2011) standards.

Where possible, the analysis only considers results for Ontario employers who hire university students or work with Ontario universities to provide WIL opportunities for students, since these employers would typically be expected to hire University of Waterloo graduates.

The following analytic protocols apply to all tables with subscripts:

- Values in the same row and sub-table not sharing the same subscript are significantly different at $p<.05$ in the two-sided test of equality for column means.
- Cells with no subscript are not included in the test.
- Tests assume equal variances.
- Tests are adjusted for all pairwise comparisons within a row of each innermost sub-table using the Bonferroni correction.
- Some tables include cell counts in some sub-tables that are not integers. They were rounded to the nearest integer before performing pairwise comparisons.

3 – Demographic Profile

The demographic characteristics for each respondent group analyzed in this report are highlighted in the tables below.

Graduating Student Survey

The results presented in Table 2 have been weighted to reflect the actual gender and age characteristics of University of Waterloo graduating students. University of Waterloo graduating students are more likely to be male and overwhelmingly fall into the 20 to 24 age category. About one in ten graduates are between 25 and 29 years of age, and only 3.3 per cent are 30 years or older. As would be expected given their younger age profile, most graduating students applied directly to the University of Waterloo out of high school, and were unlikely to be married or have dependent children.

Among survey respondents, only 4 per cent of graduating students from the University of Waterloo identified as having a disability, and about one in five was the first in his or her family to attend postsecondary education. More than one-third of respondents were graduates of the faculties of Math, Science or Engineering, and close to two-thirds were graduates of Applied Health Sciences, Arts, or Environment.

Additional demographic information can be found in Appendix C.

Table 2: Graduating Student Profile (University of Waterloo)

	Unweighted n		Weighted %
Gender	527	Male	54.4
		Female	45.6
Age group	525	20-24	85.9
		25-29	10.8
		30-34	1.2
		35-39	0.6
		40+	1.5
Entry type	527	Direct	80.4
		Delayed	19.6
Marital status	519	Single	93.2
		Married/common-law	6.3
		Divorced/separated/widowed	0.5
Dependent children	534	No children	97.0
		1	0.9
		2	0.9
		3	0.6
		4 or more	0.6
Program group	521	Math, Science, Engineering	37.2
		Applied Health Sciences, Arts, Environment	62.8
Students with a disability	517	Yes	3.8
		No	96.2
First-generation student	519	Yes	19.0
		No	81.0

Faculty Survey

About one-third of University of Waterloo faculty survey respondents were female, and respondents were evenly distributed across three age categories. Almost half of the sample was from the Faculty of Arts, with the remainder from Math, Science, and Engineering. More than half of all respondents had participated in WIL when they were students, and close to one in five had extensive employment experience outside the university. About one-quarter of respondents were involved with the delivery of WIL within a course, and more than half taught in programs that included a WIL component (typically co-op). Only one in five respondents from the University of Waterloo reported no involvement with WIL.

Table 3: Faculty Profile

	n		%
Gender	455	Male Female	67.9 32.1
Age group	472	Under 40 40 to 49 50 and Older	33.5 31.4 35.2
Program group	469	Math, Science, Engineering Applied Health Sciences, Arts, Environment	48.8 51.2
Years teaching at the postsecondary level	472	0-5 6-15 16+	29.4 37.1 33.5
Years teaching at current institution	466	Less than one year 1-5 years 6-10 years 11-15 years 16-20 years More than 20 years	11.2 33.7 18.9 12.7 5.2 18.5
Current status as a faculty member at this institution	470	College full-time College partial load or part-time College sessional University tenured University tenure-track University limited-term appointment University contract or sessional Other	1.5 0.2 0.9 42.9 17.2 9.1 27.8 0.4
Non-academic employment experience	472	No experience 0-10 years 11-20 years More than 20 years	37.1 44.5 11.9 6.6
Participated in WIL as a student	468	Yes No	51.3 48.7
Level of WIL involvement	469	Teach course with WIL Teach in program with WIL No WIL	25.2 55.4 19.4

Employer Survey

As described in the methodology, employer respondents were drawn from the twelve sector groupings created to administer the survey. For further information about the industries represented in each sector, see Appendix B. In line with the distribution of sectors within the Ontario economy, employers from the retail trades sector make up the largest proportion of respondents, while employers from the public

administration sector make up the smallest proportion. Company sizes have been divided into four groups, ranging from very small organizations with less than ten employees to large organizations with more than 50 employees. Small employers make up over a third of all employers, as do employers operating in central Ontario.

Table 4: Employer Profile

	Unweighted n		Weighted %
Sector	3369	Accommodation, food and consumer services	14.9
		Arts, entertainment and civic/professional organizations	4.3
		Construction	9.3
		Educational services	1.5
		Finance, insurance, real estate and leasing	7.6
		Forestry, mining, oil and gas extraction, and utilities	2.2
		Health care and social assistance	9.5
		Information and cultural industries	1.4
		Manufacturing	7.7
		Professional, scientific and business services	12.9
		Public administration	0.6
		Transportation, warehousing and trade (wholesale and retail)	28.0
		Total	100.0
Size	3369	5-9[4]	40.3
		10-19	30.9
		20-49	18.1
		50+	10.7
		Total	100.0
Region	3369	Eastern	18.8
		Central	46.4
		Southwestern	23.9
		Northern	10.9
		Total	100.0

[4] As noted in the methodology, this size category includes 56 forestry sector respondents with less than five employees.

4 – Participation in WIL

This section of the report provides insights into the students and faculty who reported having participated in WIL at the University of Waterloo, as well as employers most likely to offer WIL opportunities to University of Waterloo students.

Of particular interest are the proportions of students who participated in WIL, their reasons for doing so, and what socio-demographic differences, if any, exist between them. It is also important to know if students who did not participate in WIL had the option of doing so, why they decided not to participate in WIL, and how many would choose a program with a WIL component if given the option to start over.

Faculty members' participation in WIL is assessed by measuring the extent to which their teaching involves WIL. An informal measure of faculty members' participation in WIL is attained by examining the degree to which their teaching integrates student learning with real-world experiences. Given concerns identified in the literature and in the earlier exploratory study about the impact of WIL on faculty workloads, findings that address the experiences of WIL faculty, including the implementation of WIL and the amount of work required, are also presented. Faculty members' perceptions of the purposes of PSE, and the extent to which their teaching fosters these purposes, are also examined, as is the impact of socio-demographic characteristics on faculty perceptions. Given the widespread availability of co-op programs at the University of Waterloo, this study also explored faculty members' perceptions of whether the amount of WIL offered in PSE should be increased or decreased.

Employers' participation in WIL is assessed by examining how many employers in the past two years have provided WIL and for how long. This section also addresses why employers do not offer WIL and why some have discontinued their involvement in WIL. This analysis considers how company size and, where n-sizes are sufficient, the sector, mediate these reasons. This chapter concludes by presenting ways in which employer participation in WIL could better be facilitated.

Summaries from the three provincial level surveys – Graduating Student, Faculty, and Employer – are provided in each chapter to serve as a point of comparison.

Graduating Student Survey

Provincial Graduating Student Survey

The provincial study found that close to half of graduating university students[5] participated or would be participating in some form of WIL during their PSE. The most common type of WIL that students participated in was practicum or clinical placements, with about one-third of WIL students reporting that they would be taking part in this type of WIL before graduation. About one-quarter of WIL university students participated in an internship and one-fifth participated in a co-op program. Of the university students who did not participate in WIL, one-half said that they would select a program that offered WIL if they could start their PSE over again.

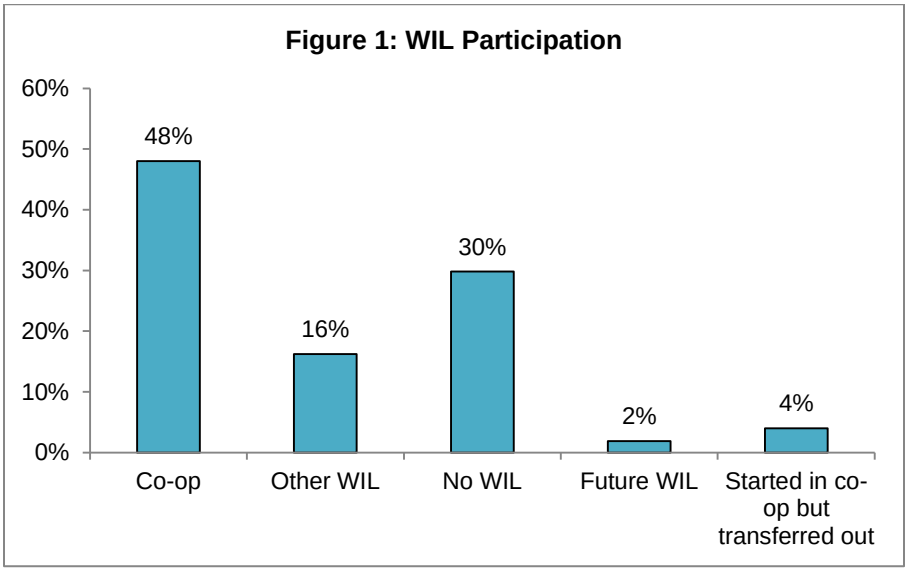
[5] Participating universities: Carleton University, Laurentian University, University of Ottawa, University of Waterloo, Western University, University of Windsor, and York University

University of Waterloo Graduating Students

How many University of Waterloo students participated in WIL?

The majority of University of Waterloo graduating student respondents participated in some type of WIL. Close to half were graduating from a co-op program (48%), and just less than 30 per cent were graduating from a program with no WIL. A very small percentage of students started in co-op and subsequently transferred out (4%).

Figure 1: WIL Participation



Are there any significant differences in WIL participation by socio-demographic characteristics?

Graduates of co-op programs were significantly more likely to be male and to have entered university directly from high school compared to all other University of Waterloo graduates. Co-op graduates were also significantly less likely than non-WIL graduates to be the first in their family to graduate from PSE.

Table 5: WIL Participation by Socio-Demographics

		Type of WIL		
		Co-op	Other WIL	No WIL
		n=255	n=89	n=161
		%		
Gender	Male	64.4_{a}	37.4_{b}	44.7_{b}
	Female	35.6_{a}	62.6_{b}	55.3_{b}
Entry type	Direct entry	89.2_{a}	71.4_{b}	70.5_{b}
	Delayed entry	10.8_{a}	28.6_{b}	29.5_{b}
First-generation status	Yes	15.4_{a}	$16.3_{a,b}$	26.5_{b}
	No	84.6_{a}	$83.7_{a,b}$	73.5_{b}
Program group[6]	Math, SCI, ENG	35.4_{a}	37.6_{a}	39.8_{a}
	AHS, Arts, ENV	64.6_{a}	62.4_{a}	60.2_{a}

[6] Programs in some faculties were placed in two groups because of small sample sizes and because data are adjusted for multiple comparisons using the Bonferroni correction method.

Of those who did not participate in WIL, did their program provide the option?

Given that 80 per cent of the University of Waterloo's undergraduate programs provide a co-op option, it is not surprising that almost two-thirds of the 160 non-WIL students indicated that their program offered a WIL option.

Table 6: Program Option to Participate in WIL

		%	Unweighted n
Does your current postsecondary program offer students the option of participating in WIL?	Yes	63.5	101
	No	24.2	39
	Not sure	12.3	20

What are the most common reasons graduating students provide for not participating in WIL?

Graduating students were provided with a list of factors that may have influenced their decision not to participate in WIL and were asked to indicate the degree to which they felt each factor played a role in their decision. It is clear that none of the factors had a very large impact on students' decisions not to participate, as the highest average rating – attributed to not wanting to delay or disrupt program completion – was said to be only somewhat influential. All other reasons, including the next highest rated (concern about finding a suitable WIL placement), were indicated as being less than somewhat influential.

(1=Not at all; 2=A little; 3=Somewhat; 4=Quite a bit; 5=Very much)

Table 7: Reasons for Not Participating in WIL

	Mean (n=106)
I didn't want to delay or disrupt the completion of my program	3.00
I worried about my ability to find a suitable WIL placement	2.63
I never intended to do WIL when I started my postsecondary program	2.54
I was worried about additional costs or expenses	2.19
The WIL placement was too far from where I live	1.92
I didn't think it would make any difference to my future career prospects	1.89
I wasn't sure what the WIL option would require	1.88
My academic course schedule would not accommodate a WIL option	1.84
I'm not sure if I'm going to work in my program area when I graduate	1.82
There was too much work involved in the WIL option	1.78
The payment for the WIL was not enough	1.64
I heard negative things about the WIL option	1.60
My employment responsibilities did not allow me to participate	1.55
I did not have the prerequisites necessary to apply	1.47
There was no payment for doing the WIL	1.47
My friends were not participating in WIL	1.45
There was no academic credit offered	1.38
I already have enough work experience	1.38
I applied for the WIL option but did not get in	1.36
My family responsibilities did not allow me to participate	1.26
I received Prior Learning Recognition for the work experience I already had	1.13

Do students' reasons for not participating in WIL differ socio-demographically?

Generally speaking, male and female graduating students from the University of Waterloo do not differ significantly in their reasons for not participating in WIL. Where significant differences do exist, female graduating students were more influenced by being unsure as to what the WIL option required, hearing

negative things about the WIL option, and being restricted by employment and family responsibilities. However, these reasons carried little weight, as only uncertainty about what the WIL option required was considered more than a little influential.

(1=Not at all influential; 2=A little influential; 3=Somewhat influential; 4=Quite influential; 5=Very influential)

Table 8: Reasons for Not Participating in WIL by Gender

	Gender	
	Male	Female
	n=29	n=74
	Mean	
I didn't want to delay or disrupt the completion of my program	2.87_a	3.14_a
I worried about my ability to find a suitable WIL placement	2.34_a	2.89_a
I never intended to do WIL when I started my postsecondary program	2.53_a	2.59_a
I was worried about additional costs or expenses	2.20_a	2.16_a
The WIL placement was too far from where I live	1.67_a	2.15_a
I didn't think it would make any difference to my future career prospects	1.90_a	1.89_a
I wasn't sure what the WIL option would require	1.61_a	2.10_b
My academic course schedule would not accommodate a WIL option	1.93_a	1.81_a
I'm not sure if I'm going to work in my program area when I graduate	1.64_a	1.99_a
There was too much work involved in the WIL option	1.76_a	1.80_a
The payment for the WIL was not enough	1.64_a	1.66_a
I heard negative things about the WIL option	1.38_a	1.77_b
My employment responsibilities did not allow me to participate	1.24_a	1.76_b
I did not have the prerequisites necessary to apply	1.49_a	1.49_a
There was no payment for doing the WIL	1.34_a	1.58_a
My friends were not participating in WIL	1.35_a	1.54_a
There was no academic credit offered	1.24_a	1.51_a
I already have enough work experience	1.38_a	1.40_a
I applied for the WIL option but did not get in	1.35_a	1.31_a
My family responsibilities did not allow me to participate	1.03_a	1.38_b
I received Prior Learning Recognition for the work experience I already had	1.14_a	1.13_a

Similar to the results by gender, there are a limited number of significant differences among graduating students by entry type. Where significant differences were found, it was direct entrants who ascribed a greater level of influence than delayed entrants to the barriers presented. In particular, direct entrants were influenced to a greater extent by not wanting to delay or disrupt program completion, finding suitable WIL placements, being unsure about their field of employment, and not being accepted to the WIL option.

(1=Not at all influential; 2=A little influential; 3=Somewhat influential; 4=Quite influential; 5=Very influential)

Table 9: Reasons for Not Participating in WIL by Entry Type

	Entry Type	
	Direct	Delayed
	n=84	n=22
	Mean	
I didn't want to delay or disrupt the completion of my program	3.19_a	2.51_b
I worried about my ability to find a suitable WIL placement	2.91_a	1.89_b
I never intended to do WIL when I started my postsecondary program	2.54_a	2.54_a
I was worried about additional costs or expenses	2.23_a	2.09_a
The WIL placement was too far from where I live	1.92_a	1.90_a
I didn't think it would make any difference to my future career prospects	1.95_a	1.75_a
I wasn't sure what the WIL option would require	1.88_a	1.86_a
My academic course schedule would not accommodate a WIL option	1.72_a	2.16_a
I'm not sure if I'm going to work in my program area when I graduate	2.02_a	1.31_b
There was too much work involved in the WIL option	1.84_a	1.61_a
The payment for the WIL was not enough	1.65_a	1.62_a
I heard negative things about the WIL option	1.69_a	1.34_a
My employment responsibilities did not allow me to participate	1.58_a	1.47_a
I did not have the prerequisites necessary to apply	1.47_a	1.49_a
There was no payment for doing the WIL	1.53_a	1.33_a
My friends were not participating in WIL	1.47_a	1.38_a
There was no academic credit offered	1.48_a	1.12_a
I already have enough work experience	1.28_a	1.63_a
I applied for the WIL option but did not get in	1.48_a	1.03_b
My family responsibilities did not allow me to participate	1.24_a	1.32_a
I received Prior Learning Recognition for the work experience I already had	1.13_a	1.13_a

Only two significant differences were noted between graduating students based on their first-generation status. First-generation students expressed more concern about the additional costs associated with a WIL program, and they were also more likely to indicate that they did not participate in WIL because they already had enough work experience.

(1=Not at all influential; 2=A little influential; 3=Somewhat influential; 4=Quite influential; 5=Very influential)

Table 10: Reasons for Not Participating in WIL by First-generation Student Status

	First-generation Student	
	Yes	No
	n=25	n=77
	Mean	
I didn't want to delay or disrupt the completion of my program	3.02_a	3.01_a
I worried about my ability to find a suitable WIL placement	2.64_a	2.64_a
I never intended to do WIL when I started my postsecondary program	2.71_a	2.50_a
I was worried about additional costs or expenses	2.79_a	2.00_b
The WIL placement was too far from where I live	1.83_a	1.99_a
I didn't think it would make any difference to my future career prospects	2.17_a	1.81_a
I wasn't sure what the WIL option would require	1.80_a	1.91_a
My academic course schedule would not accommodate a WIL option	1.55_a	1.89_a
I'm not sure if I'm going to work in my program area when I graduate	1.70_a	1.85_a
There was too much work involved in the WIL option	1.66_a	1.82_a
The payment for the WIL was not enough	1.91_a	1.58_a
I heard negative things about the WIL option	1.70_a	1.59_a
My employment responsibilities did not allow me to participate	1.63_a	1.51_a
I did not have the prerequisites necessary to apply	1.23_a	1.56_a
There was no payment for doing the WIL	1.58_a	1.46_a
My friends were not participating in WIL	1.36_a	1.46_a
There was no academic credit offered	1.58_a	1.34_a
I already have enough work experience	1.63_a	1.27_b
I applied for the WIL option but did not get in	1.06_a	1.48_a
My family responsibilities did not allow me to participate	1.47_a	1.20_a
I received Prior Learning Recognition for the work experience I already had	1.10_a	1.15_a

When reasons for not participating in WIL are broken down by program group, a few statistically significant differences among graduating students are found. Applied Health Sciences, Arts, and Environment students were influenced to a greater extent by concerns about finding a suitable WIL placement, uncertainty about the requirements of a WIL option, and their friends' participation in WIL.

(1=Not at all influential; 2=A little influential; 3=Somewhat influential; 4=Quite influential; 5=Very influential)

Table 11: Reasons for Not Participating in WIL by Program Group

	Program Group	
	Math, SCI, ENG	AHS, Arts, ENV
	n=45	n=57
	Mean	
I didn't want to delay or disrupt the completion of my program	2.97$_a$	3.02$_a$
I worried about my ability to find a suitable WIL placement	2.28$_a$	2.91$_b$
I never intended to do WIL when I started my postsecondary program	2.55$_a$	2.53$_a$
I was worried about additional costs or expenses	2.21$_a$	2.25$_a$
The WIL placement was too far from where I live	1.99$_a$	1.86$_a$
I didn't think it would make any difference to my future career prospects	1.81$_a$	1.96$_a$
I wasn't sure what the WIL option would require	1.61$_a$	2.07$_b$
My academic course schedule would not accommodate a WIL option	1.59$_a$	2.00$_a$
I'm not sure if I'm going to work in my program area when I graduate	1.85$_a$	1.76$_a$
There was too much work involved in the WIL option	1.65$_a$	1.89$_a$
The payment for the WIL was not enough	1.50$_a$	1.73$_a$
I heard negative things about the WIL option	1.55$_a$	1.61$_a$
My employment responsibilities did not allow me to participate	1.46$_a$	1.54$_a$
I did not have the prerequisites necessary to apply	1.35$_a$	1.59$_a$
There was no payment for doing the WIL	1.34$_a$	1.55$_a$
My friends were not participating in WIL	1.27$_a$	1.61$_b$
There was no academic credit offered	1.26$_a$	1.45$_a$
I already have enough work experience	1.28$_a$	1.42$_a$
I applied for the WIL option but did not get in	1.36$_a$	1.37$_a$
My family responsibilities did not allow me to participate	1.38$_a$	1.18$_a$
I received Prior Learning Recognition for the work experience I already had	1.03$_a$	1.20$_a$

How many students would select a program with a WIL component if they had the option to start over, and what are the most common reasons to do so?

While more than one-quarter of University of Waterloo graduating students who did not participate in WIL indicated that they would not choose a program with a WIL component if given the option to start over, slightly more than one-half indicated that they would.

Table 12: Would Choose WIL if Starting Over

		%	Unweighted n
If you could start over again, would you select a program that offered WIL?	Yes	50.6	84
	No	27.1	41
	Not sure	22.2	36

Graduating students who did not participate in WIL but would if given the option to start PSE over again were asked to indicate the extent to which the reasons in Table 13 would influence their choice. Several reasons were highly influential, including gaining program-related work experience, résumé enhancement, making job search contacts, improving employability skills, increasing earning potential, earning money while doing WIL, and determining career fit.

(1=Not at all influential; 2=A little influential; 3=Somewhat influential; 4=Quite influential; 5=Very influential)

Table 13: Why Choose WIL if Starting Over

	Mean (n=535)
To gain practical work experience related to my field of study	4.73
To enhance my résumé	4.41
To make contacts for my job search after I graduate	4.31
To improve my employability skills (i.e., communication, teamwork, problem-solving)	4.27
To increase my earning potential after I graduate	4.26
To earn money while doing WIL	4.13
To determine my fit with the career or industry I'm considering	4.10
To get a job with the employer providing the WIL	3.94
To experience a professional work environment	3.91
To explore different career options	3.86
To work in a position that gives me greater responsibility	3.78
To apply the theory and skills I learned in the classroom	3.72
To help people in need	3.46
To prepare for further education	3.45
To contribute to my community	3.23

Do significant differences exist between students from different program groups?

University of Waterloo graduates from Applied Health Sciences, Arts, and Environment were more likely than graduating students from Math, Science, and Engineering to indicate that, if given the option to start their program over again, they would choose a program that offered WIL.

(1=Not at all influential; 2=A little influential; 3=Somewhat influential; 4=Quite influential; 5=Very influential)

Table 14: Would Choose WIL if Starting Over by Program Group

		Program Group	
		Math, SCI, ENG	AHS, Arts, ENV
		n=62	n=93
		%	
If you could start over again, would you select a program that offered WIL?	Yes	44.7	55.5
	No	33.9	21.4
	Not sure	21.4	23.1

What are the most common reasons graduating students provide for participating in WIL?

The top rated reasons among graduating students who participated in WIL – to gain practical work experience, and résumé enhancement – are the same reasons as those for graduating students who would choose to do a WIL program if given the opportunity to start their degree over.

(1=Not at all influential; 2=A little influential; 3=Somewhat influential; 4=Quite influential; 5=Very influential)

Table 15: Reasons for Participating in WIL

	Mean (n=374)
To gain practical work experience related to my field of study	4.60
To enhance my résumé	4.40
To determine my fit with the career or industry I'm considering	4.28
To improve my employability skills (i.e., communication, teamwork, problem-solving)	4.24
To earn money while doing WIL	4.02
To experience a professional work environment	3.96
To make contacts for my job search after I graduate	3.92
To explore different career options	3.89
To increase my earning potential after I graduate	3.80
To apply the theory and skills I learned in the classroom	3.67
To work in a position that gives me greater responsibility	3.59
To get a job with the employer providing the WIL	3.54
To meet mandatory program or course requirements	3.15
To prepare for further education	2.95
To contribute to my community	2.60
To help people in need	2.49

Graduating students' motivations for participating in WIL vary significantly according to the type of WIL in which they participated. Some of the more significant differences include co-op students being more motivated than other WIL students by improving employability skills, earning money, experiencing a professional work environment, making job contacts, exploring career options, increasing earning potential, and meeting program requirements. Other WIL graduating students were, however, more motivated by altruistic reasons, including contributing to their community and helping people in need.

(1=Not at all influential; 2=A little influential; 3=Somewhat influential; 4=Quite influential; 5=Very influential)

Table 16: Reasons for Participating in WIL by Type of WIL

	Type of WIL	
	Co-op	Other WIL
	n=255	n=89
	Mean	
To gain practical work experience related to my field of study	4.73_a	4.39_b
To enhance my résumé	4.55_a	4.04_b
To determine my fit with the career or industry I'm considering	4.39_a	4.08_b
To improve my employability skills (i.e., communication, teamwork, problem-solving)	4.37_a	3.97_b
To earn money while doing WIL	4.48_a	2.76_b
To experience a professional work environment	4.06_a	3.80_b
To make contacts for my job search after I graduate	4.09_a	3.59_b
To explore different career options	4.08_a	3.33_b
To increase my earning potential after I graduate	4.10_a	2.98_b
To apply the theory and skills I learned in the classroom	3.70_a	3.74_a
To work in a position that gives me greater responsibility	3.71_a	3.35_b
To get a job with the employer providing the WIL	3.73_a	3.14_b
To meet mandatory program or course requirements	3.29_a	2.89_b
To prepare for further education	2.94_a	3.02_a
To contribute to my community	2.47_a	2.97_b
To help people in need	2.26_a	3.08_b

Are there socio-demographic differences in reasons for participating?

When looking at graduating students' reasons for participating in WIL by gender, some statistically significant differences are found. Males were more likely to be motivated by the opportunity to earn money while in school and to increase their earning potential after graduation, while females were more likely to place a higher value on altruistic reasons (contributing to the community and helping people in need). However, these altruistic reasons were rated as less than somewhat influential by both males and females.

(1=Not at all influential; 2=A little influential; 3=Somewhat influential; 4=Quite influential; 5=Very influential)

Table 17: Reasons for Participating in WIL by Gender

	Gender	
	Male	Female
	n=170	n=201
	Mean	
To gain practical work experience related to my field of study	4.61_a	4.59_a
To enhance my résumé	4.42_a	4.37_a
To determine my fit with the career or industry I'm considering	4.30_a	4.24_a
To improve my employability skills (i.e., communication, teamwork, problem-solving)	4.26_a	4.20_a
To earn money while doing WIL	4.34_a	3.58_b
To experience a professional work environment	3.98_a	3.93_a
To make contacts for my job search after I graduate	3.94_a	3.91_a
To explore different career options	3.90_a	3.86_a
To increase my earning potential after I graduate	4.03_a	3.47_b
To apply the theory and skills I learned in the classroom	3.61_a	3.75_a
To work in a position that gives me greater responsibility	3.68_a	3.46_a
To get a job with the employer providing the WIL	3.63_a	3.41_a
To meet mandatory program or course requirements	3.13_a	3.21_a
To prepare for further education	2.90_a	3.01_a
To contribute to my community	2.43_a	2.84_b
To help people in need	2.28_a	2.79_b

There are several significant differences between direct-entry and delayed-entry graduating students in their motivations for participating in WIL. Compared to delayed entrants, direct entrants were influenced to a greater extent by earning money while doing WIL and increasing their earning potential after graduation. Delayed entrants were more motivated by a desire to apply classroom theory and skills, meeting mandatory program or course requirements, preparing for further education, contributing to the community, and helping people in need.

(1=Not at all influential; 2=A little influential; 3=Somewhat influential; 4=Quite influential; 5=Very influential)

Table 18: Reasons for Participating in WIL by Entry Type

	Entry Type	
	Direct	Delayed
	n=317	n=57
	Mean	
To gain practical work experience related to my field of study	4.59_a	4.67_a
To enhance my résumé	4.42_a	4.30_a
To determine my fit with the career or industry I'm considering	4.28_a	4.25_a
To improve my employability skills (i.e., communication, teamwork, problem-solving)	4.22_a	4.32_a
To earn money while doing WIL	4.13_a	3.42_b
To experience a professional work environment	3.96_a	3.97_a
To make contacts for my job search after I graduate	3.93_a	3.91_a
To explore different career options	3.88_a	3.91_a
To increase my earning potential after I graduate	3.89_a	3.31_b
To apply the theory and skills I learned in the classroom	3.59_a	4.10_b
To work in a position that gives me greater responsibility	3.59_a	3.53_a
To get a job with the employer providing the WIL	3.51_a	3.69_a
To meet mandatory program or course requirements	3.04_a	3.76_b
To prepare for further education	2.89_a	3.32_b
To contribute to my community	2.50_a	3.16_b
To help people in need	2.36_a	3.22_b

While first-generation students were similar to non-first-generation students in their motivations for participating in WIL, they were more influenced by exploring different career options and determining career fit in their decision to participate in WIL.

(1=Not at all influential; 2=A little influential; 3=Somewhat influential; 4=Quite influential; 5=Very influential)

Table 19: Reasons for Participating in WIL by First-generation Student Status

	First-generation Student	
	Yes	No
	n=61	n=304
	Mean	
To gain practical work experience related to my field of study	4.52_a	4.63_a
To enhance my résumé	4.52_a	4.38_a
To determine my fit with the career or industry I'm considering	4.53_a	4.24_b
To improve my employability skills (i.e., communication, teamwork, problem-solving)	4.40_a	4.22_a
To earn money while doing WIL	4.13_a	4.02_a
To experience a professional work environment	4.13_a	3.94_a
To make contacts for my job search after I graduate	4.12_a	3.88_a
To explore different career options	4.20_a	3.83_b
To increase my earning potential after I graduate	4.06_a	3.74_a
To apply the theory and skills I learned in the classroom	3.88_a	3.63_a
To work in a position that gives me greater responsibility	3.74_a	3.55_a
To get a job with the employer providing the WIL	3.48_a	3.55_a
To meet mandatory program or course requirements	3.02_a	3.18_a
To prepare for further education	3.20_a	2.91_a
To contribute to my community	2.69_a	2.57_a
To help people in need	2.63_a	2.45_a

Analysis by program group shows that graduating students in Applied Health Sciences, Arts, and Environment were more likely than Math, Science, and Engineering graduates to participate in WIL in order to determine career fit.

(1=Not at all influential; 2=A little influential; 3=Somewhat influential; 4=Quite influential; 5=Very influential)

Table 20: Reasons for Participating in WIL by Program Group

	Program Group	
	Math, SCI, ENG	AHS, Arts, ENV
	n=133	n=233
	Mean	
To gain practical work experience related to my field of study	4.59$_a$	4.62$_a$
To enhance my résumé	4.35$_a$	4.44$_a$
To determine my fit with the career or industry I'm considering	4.12$_a$	4.35$_b$
To improve my employability skills (i.e., communication, teamwork, problem-solving)	4.20$_a$	4.27$_a$
To earn money while doing WIL	4.06$_a$	4.00$_a$
To experience a professional work environment	3.87$_a$	4.03$_a$
To make contacts for my job search after I graduate	3.81$_a$	3.98$_a$
To explore different career options	3.89$_a$	3.89$_a$
To increase my earning potential after I graduate	3.76$_a$	3.82$_a$
To apply the theory and skills I learned in the classroom	3.59$_a$	3.73$_a$
To work in a position that gives me greater responsibility	3.56$_a$	3.61$_a$
To get a job with the employer providing the WIL	3.37$_a$	3.62$_a$
To meet mandatory program or course requirements	3.21$_a$	3.13$_a$
To prepare for further education	2.96$_a$	2.95$_a$
To contribute to my community	2.55$_a$	2.62$_a$
To help people in need	2.49$_a$	2.49$_a$

Faculty Survey

Provincial Faculty Survey

Over two-thirds of university faculty who participated in the provincial-level study[7] taught in co-op programs, and almost 30 per cent taught a course with a WIL component. Many faculty incorporated activities designed to integrate real-world work experiences with student learning into their courses, which can be considered an informal type of WIL. However, faculty indicated that they were most likely to engage in activities that involved limited contact with employers or the local community, and that did not require a greater degree of planning, such as class visits to local businesses. Faculty who taught a course with WIL were the most likely to undertake activities to integrate student learning with real-world work experiences.

To assess the workload implications of delivering WIL programs, faculty respondents who taught a course with a WIL component were presented with 17 different WIL-related tasks. For each task they performed, faculty were asked the extent to which they were able to manage the task within their regular workload responsibilities. Almost all university faculty reported performing at least some of the activities, with close to half reporting that they carried out 11 or more tasks. Almost 60 per cent of university faculty indicated

[7] Participating universities: Laurentian University, University of Ottawa, University of Waterloo, Western University, University of Windsor, and York University

that six or more of the activities were completed as part of their regular duties – typically classroom-focused tasks – while 21 per cent reported completing six or more of the activities – typically career and employer-related tasks – in addition to their regular duties.

Faculty were also asked their views about the purposes of PSE and the degree to which their teaching was intended to contribute to these purposes. There was strong agreement about developing students' ability to think critically and analytically as a primary purpose of PSE, with more than 90 per cent of university faculty identifying this as an important goal of their teaching. This was followed by applying skills and knowledge in different situations, working independently, and writing clearly and effectively.

When asked about the appropriate level of WIL in PSE, less than 5 per cent of university faculty felt there should be a decrease, and 44 per cent supported increasing the number of WIL opportunities for students. The remaining faculty were evenly divided between those who believed that no change in the amount of WIL was needed, and those who were unsure as to the appropriate level of WIL.

University of Waterloo Faculty

What types of faculty members were more likely to be involved with WIL?

More than one-half of the 469 University of Waterloo faculty survey respondents indicated that they taught in a program with WIL (55%), exactly one-quarter taught in a course with WIL, and just less than one-fifth reported no WIL involvement (19%).

Looking at differences by age group, faculty 50 years or older were significantly more likely to have taught a course with a WIL component, while faculty below the age of 40 were significantly more likely not to be involved with WIL.

Table 21: Faculty WIL Involvement by Age Group

		Age Group		
		Under 40	40 to 49	50 and Older
		n=158	n=145	n=166
		%		
Level of WIL involvement	Teach course with WIL	13.9_a	24.1_a	36.7_b
	Teach in program with WIL	57.0_a	58.6_a	51.2_a
	No WIL	29.1_a	17.2_b	12.0_b

Female faculty were significantly more likely to have taught a course with a WIL component, while male faculty were significantly more likely to have taught in a program with WIL.

Table 22: Faculty WIL Involvement by Gender

		Gender	
		Male	Female
		n=308	n=144
		%	
Level of WIL involvement	Teach course with WIL	22.7_a	31.9_b
	Teach in program with WIL	59.7_a	45.1_b
	No WIL	17.5_a	22.9_a

Faculty members' level of involvement with WIL differs significantly by program group. While faculty in Math, Science, and Engineering were more likely to be involved in WIL in some way, their involvement

was primarily through teaching in a program with WIL. Faculty in Applied Health Sciences, Arts, and Environment were less involved in WIL overall but were more likely to teach a course with a WIL component.

Table 23: Faculty WIL Involvement by Program Group

		Program Group	
		Math, SCI, ENG	AHS, Arts, ENV
		n=228	n=238
		%	
Level of WIL involvement	Teach course with WIL	18.4$_a$	31.5$_b$
	Teach in program with WIL	70.2$_a$	41.2$_b$
	No WIL	11.4$_a$	27.3$_b$

Full-time faculty were significantly more likely to have taught in a program with a WIL component, while part-time faculty were significantly more likely to have no involvement with WIL.

Table 24: Faculty WIL Involvement by Employment Status

		Employment Status	
		Full-time	Part-time
		n=286	n=175
		%	
Level of WIL involvement	Teach course with WIL	24.8$_a$	24.0$_a$
	Teach in program with WIL	63.3$_a$	43.4$_b$
	No WIL	11.9$_a$	32.6$_b$

Faculty with non-academic work experience were significantly more likely than faculty without such experience to have taught a course with WIL, but were less likely to have taught in a program with a WIL component and to have no WIL involvement.

Table 25: Faculty WIL Involvement by Non-Academic Work Experience

		Non-Academic Work Experience	
		Yes	No
		n=292	n=175
		%	
Level of WIL involvement	Teach course with WIL	31.6$_a$	14.3$_b$
	Teach in program with WIL	51.7$_a$	61.7$_b$
	No WIL	16.1$_a$	24.0$_b$

What types of faculty members are more likely to integrate student learning with real-world work experiences?

Formal WIL opportunities are only one way in which postsecondary institutions and faculty connect learning with the world of work. Faculty survey participants were asked about the extent to which they participated in a range of other activities that integrate student learning with real-world work experiences. The results in the tables below show the mean frequency scores for the number of times, on average, that faculty perform a range of activities during a typical academic term.

Talking to students individually about their career goals and concerns is cited as the most frequent means of integrating student learning with real-world work experiences, followed closely by using business/community/workplace examples to illustrate concepts in class, and talking to students individually about their work experiences.

(1=Never; 2=1-4 times; 3=6-10 times; 4=11-20 times; 5=More than 20 times)

Table 26: Integrate Student Learning with Real-World Work Experiences

	Mean (n=456)
Talk to students individually about their career goals/concerns	2.89
Use business/community/workplace examples to illustrate concepts in class	2.85
Talk to students individually about their work experiences	2.62
Use business/community/workplace case studies for student assignments	1.97
Invite students to share their work experiences with the class	1.84
Use authentic assessment strategies to assess students' ability to perform real-world tasks	1.84
Design academic course content (readings, discussions) to integrate with students' work experiences	1.80
Provide class time for students to reflect on their work experiences	1.52
Invite business, government, or community guest speakers into the classroom	1.52
Assign projects that require students to interact with local business, government or community organizations	1.51
Invite students to share their career goals with the class	1.48
Arrange job shadowing opportunities for students	1.23
Organize class visits to local business, government, or community workplaces	1.20

Three significant differences in the frequency with which faculty integrate student learning with real-world work experiences were found when comparing results by age. Faculty under the age of 40 were less likely than faculty between the ages of 40 and 49 to talk to students individually about their work experiences and to use authentic assessment strategies to assess students' ability to perform real-world tasks. They were also less likely than faculty 50 years and older to assign projects that require students to interact with local business, government, or community organizations, and to organize class visits to these same types of establishments.

(1=Never; 2=1-4 times; 3=6-10 times; 4=11-20 times; 5=More than 20 times)

Table 27: Integrate Student Learning with Real-World Work Experiences by Age Group

	Age Group		
	Under 40	40-49	50 and Older
	n=158	n=120	n=166
	Mean		
Talk to students individually about their career goals/concerns	2.73_a	3.02_a	2.91_a
Use business/community/workplace examples to illustrate concepts in class	2.75_a	2.79_a	2.98_a
Talk to students individually about their work experiences	2.41_a	2.76_b	$2.68_{a,b}$
Use business/community/workplace case studies for student assignments	1.90_a	2.02_a	1.99_a
Invite students to share their work experiences with the class	1.68_a	1.95_a	1.90_a
Use authentic assessment strategies to assess students' ability to perform real-world tasks	1.65_a	1.99_b	$1.88_{a,b}$
Design academic course content (readings, discussions) to integrate with students' work experiences	1.65_a	1.89_a	1.85_a
Provide class time for students to reflect on their work experiences	1.44_a	1.59_a	1.55_a
Invite students to share their career goals with the class	1.41_a	1.59_a	1.45_a
Assign projects that require students to interact with local business, government or community organizations	1.35_a	$1.56_{a,b}$	1.61_b
Invite business, government, or community guest speakers into the classroom	1.44_a	1.54_a	1.58_a
Arrange job shadowing opportunities for students	1.16_a	1.30_a	1.24_a
Organize class visits to local business, government, or community workplaces	1.10_a	$1.21_{a,b}$	1.29_b

There are a number of significant differences in the degree to which faculty integrate student learning with real-world experiences by gender. Where significant differences were found, female faculty consistently reported higher mean scores than male faculty. For example, female faculty more frequently asked students to use business/community/workplace case studies for student assignments, and invited students to share their work experiences with the class more often than male faculty.

(1=Never; 2=1-4 times; 3=6-10 times; 4=11-20 times; 5=More than 20 times)

Table 28: Integrate Student Learning with Real-World Work Experiences by Gender

	Gender	
	Male	Female
	n=309	n=146
	Mean	
Talk to students individually about their career goals/concerns	2.87_a	2.98_a
Use business/community/workplace examples to illustrate concepts in class	2.85_a	2.91_a
Talk to students individually about their work experiences	2.59_a	2.70_a
Use business/community/workplace case studies for student assignments	1.89_a	2.18_b
Invite students to share their work experiences with the class	1.72_a	2.14_b
Use authentic assessment strategies to assess students' ability to perform real-world tasks	1.79_a	1.92_a
Design academic course content (readings, discussions) to integrate with students' work experiences	1.75_a	1.90_a
Provide class time for students to reflect on their work experiences	1.42_a	1.74_b
Invite students to share their career goals with the class	1.41_a	1.64_b
Assign projects that require students to interact with local business, government or community organizations	1.38_a	1.78_b
Invite business, government, or community guest speakers into the classroom	1.48_a	1.63_b
Arrange job shadowing opportunities for students	1.18_a	1.34_b
Organize class visits to local business, government, or community workplaces	1.19_a	1.25_a

While there was considerable variation in the degree to which faculty engaged in the activities listed by program group, faculty did not significantly differ in the time that they spent talking to students individually about their career goals and their work experiences.

When faculty do significantly differ by program group, those teaching in Applied Health Sciences, Arts, and Environment programs report more frequent engagement in the activities listed than faculty in Math, Science, and Engineering. There were, however, no significant differences in the three activities that were most often performed – talking to students individually about their career goals/concerns, using business/ community/workplace examines to illustrate concepts in class, and talking individually to students about their work experiences.

(1=Never; 2=1-4 times; 3=6-10 times; 4=11-20 times; 5=More than 20 times)

Table 29: Integrate Student Learning with Real-World Work Experiences by Program Group

	Program Group	
	Math, SCI, ENG	AHS, Arts, ENV
	n=229	n=240
	Mean	
Talk to students individually about their career goals/concerns	2.86_a	2.91_a
Use business/community/workplace examples to illustrate concepts in class	2.75_a	2.94_a
Talk to students individually about their work experiences	2.61_a	2.63_a
Use business/community/workplace case studies for student assignments	1.86_a	2.07_a
Invite students to share their work experiences with the class	1.62_a	2.06_b
Use authentic assessment strategies to assess students' ability to perform real-world tasks	1.72_a	1.95_b
Design academic course content (readings, discussions) to integrate with students' work experiences	1.66_a	1.92_b
Provide class time for students to reflect on their work experiences	1.33_a	1.71_b
Invite students to share their career goals with the class	1.30_a	1.66_b
Assign projects that require students to interact with local business, government or community organizations	1.32_a	1.68_b
Invite business, government, or community guest speakers into the classroom	1.45_a	1.60_b
Arrange job shadowing opportunities for students	1.18_a	1.27_a
Organize class visits to local business, government, or community workplaces	1.18_a	1.23_a

There is only one statistically significant difference between full- and part-time faculty with respect to the activities used to integrate student learning with real-world work experiences: part-time faculty were slightly more likely to invite students to share their career goals with the class.

(1=Never; 2=1-4 times; 3=6-10 times; 4=11-20 times; 5=More than 20 times)

Table 30: Integrate Student Learning with Real-World Work Experiences by Employment Status

	Employment Status	
	Full-time	Part-time
	n=286	n=178
	Mean	
Talk to students individually about their career goals/concerns	2.91_a	2.82_a
Use business/community/workplace examples to illustrate concepts in class	2.84_a	2.85_a
Talk to students individually about their work experiences	2.57_a	2.67_a
Use business/community/workplace case studies for student assignments	1.99_a	1.95_a
Invite students to share their work experiences with the class	1.78_a	1.92_a
Use authentic assessment strategies to assess students' ability to perform real-world tasks	1.77_a	1.94_a
Design academic course content (readings, discussions) to integrate with students' work experiences	1.75_a	1.87_a
Provide class time for students to reflect on their work experiences	1.47_a	1.60_a
Invite students to share their career goals with the class	1.40_a	1.58_b
Assign projects that require students to interact with local business, government or community organizations	1.48_a	1.53_a
Invite business, government, or community guest speakers into the classroom	1.54_a	1.48_a
Arrange job shadowing opportunities for students	1.20_a	1.26_a
Organize class visits to local business, government, or community workplaces	1.23_a	1.17_a

Faculty with non-academic work experience were significantly more likely than faculty without non-academic work experience to report much more frequent use of activities aimed to help integrate student learning with real-world work experiences. Arranging job shadowing opportunities for students – something rarely done by faculty – was the only task with no significant difference.

(1=Never; 2=1-4 times; 3=6-10 times; 4=11-20 times; 5=More than 20 times)

Table 31: Integrate Student Learning with Real-World Work Experiences by Non-Academic Work Experience

	Non-Academic Work Experience	
	Yes	No
	n=295	n=175
	Mean	
Talk to students individually about their career goals/concerns	3.00_a	2.70_b
Use business/community/workplace examples to illustrate concepts in class	3.19_a	2.26_b
Talk to students individually about their work experiences	2.81_a	2.29_b
Use business/community/workplace case studies for student assignments	2.15_a	1.67_b
Invite students to share their work experiences with the class	2.02_a	1.54_b
Use authentic assessment strategies to assess students' ability to perform real-world tasks	2.04_a	1.49_b
Design academic course content (readings, discussions) to integrate with students' work experiences	2.00_a	1.45_b
Provide class time for students to reflect on their work experiences	1.68_a	1.26_b
Invite students to share their career goals with the class	1.56_a	1.36_b
Assign projects that require students to interact with local business, government or community organizations	1.66_a	1.25_b
Invite business, government, or community guest speakers into the classroom	1.67_a	1.27_b
Arrange job shadowing opportunities for students	1.27_a	1.16_a
Organize class visits to local business, government, or community workplaces	1.25_a	1.13_b

Compared to other faculty, faculty who taught a course with a WIL component reported more frequent use of all of the activities aimed to integrate student learning with real-world work experiences. In two instances, there were further significant differences between faculty who taught in a program with WIL and those with no WIL involvement, with faculty who taught in a program with WIL being more likely to talk to students individually about their career goals/concerns and to use business/community/workplace case studies to illustrate concepts in class.

(1=Never; 2=1-4 times; 3=6-10 times; 4=11-20 times; 5=More than 20 times)

Table 32: Integrate Student Learning with Real-World Work Experiences by WIL Involvement

	Level of WIL Involvement		
	Teach Course with WIL	Teach in program with WIL	No WIL
	n=118	n=260	n=91
	Mean		
Talk to students individually about their career goals/concerns	3.23_a	2.86_b	2.50_c
Use business/community/workplace examples to illustrate concepts in class	3.46_a	2.77_b	2.24_c
Talk to students individually about their work experiences	3.11_a	2.52_b	2.20_b
Use business/community/workplace case studies for student assignments	2.50_a	1.85_b	1.57_b
Invite students to share their work experiences with the class	2.44_a	1.63_b	1.64_b
Use authentic assessment strategies to assess students' ability to perform real-world tasks	2.42_a	1.70_b	1.46_b
Design academic course content (readings, discussions) to integrate with students' work experiences	2.52_a	1.53_b	1.59_b
Provide class time for students to reflect on their work experiences	2.15_a	1.27_b	1.43_b
Invite students to share their career goals with the class	1.75_a	1.36_b	1.48_b
Assign projects that require students to interact with local business, government or community organizations	2.14_a	1.26_b	1.38_b
Invite business, government, or community guest speakers into the classroom	1.91_a	1.42_b	1.30_b
Arrange job shadowing opportunities for students	1.53_a	1.14_b	1.08_b
Organize class visits to local business, government, or community workplaces	1.44_a	1.13_b	1.10_b

Faculty who participated in WIL when they themselves were students again reported greater use of the activities aimed at integrating student learning with real-world work experiences. For example, faculty who participated in WIL when they were students were significantly more likely to use business/community/workplace examples and case studies to illustrate concepts in class and for student assignments.

(1=Never; 2=1-4 times; 3=6-10 times; 4=11-20 times; 5=more than 20 times)

Table 33: Integrate Student Learning with Real-World Work Experiences by Student Participation in WIL

	Participated in WIL as a Student	
	Yes	No
	n=240	n=228
	Mean	
Talk to students individually about their career goals/concerns	2.90$_a$	2.87$_a$
Use business/community/workplace examples to illustrate concepts in class	3.15$_a$	2.54$_b$
Talk to students individually about their work experiences	2.72$_a$	2.50$_b$
Use business/community/workplace case studies for student assignments	2.15$_a$	1.79$_b$
Invite students to share their work experiences with the class	1.98$_a$	1.70$_b$
Use authentic assessment strategies to assess students' ability to perform real-world tasks	1.96$_a$	1.70$_b$
Design academic course content (readings, discussions) to integrate with students' work experiences	1.94$_a$	1.65$_b$
Provide class time for students to reflect on their work experiences	1.62$_a$	1.43$_b$
Invite students to share their career goals with the class	1.51$_a$	1.45$_a$
Assign projects that require students to interact with local business, government or community organizations	1.62$_a$	1.39$_b$
Invite business, government, or community guest speakers into the classroom	1.56$_a$	1.48$_a$
Arrange job shadowing opportunities for students	1.32$_a$	1.14$_b$
Organize class visits to local business, government, or community workplaces	1.22$_a$	1.18$_a$

What is the impact on faculty members' workloads of teaching a course with a WIL component?

To explore the workload implications of delivering WIL, faculty respondents who taught a course in which students participate in WIL were presented with a list of 17 different WIL-related activities and asked which of the activities they carried out while delivering WIL. For each activity performed, faculty respondents could indicate whether they performed the activity in addition to or as part of their regular duties, or not at all.

In general, the majority of the activities in

Table **34** were either not required of faculty or were already part of their regular duties, suggesting that faculty workloads were not substantially impacted by teaching a course with a WIL component.

More than one-third of faculty who taught a course with a WIL component reported that providing career/employment counseling or mentoring students was required in addition to their regular duties. Between one-fifth and one-quarter of faculty reported developing WIL-related curricula or course content, establishing WIL-student learning objectives, recruiting WIL partners/host sites, and completing paperwork and documentation specific to WIL contracts as additional to their regular duties.

Table 34: Impact of WIL on Faculty Workloads

	Impact on Workload		
	n=114		
	Did not do this	Part of regular duties	Addition to regular duties
	%		
Provided career/employment counseling or mentoring for students	33.1	30.5	36.4
Recruited WIL partners/host sites	52.2	23.5	24.3
Developed WIL-related curricula or course content	31.4	46.6	22.0
Managed relationships with host employers and community partners	48.7	29.4	21.8
Established WIL student learning objectives	28.8	50.8	20.3
Completed paperwork and documentation specific to WIL contracts	55.9	24.6	19.5
Prepared or oriented host employers and community partners	54.2	26.7	19.2
Prepared WIL-related lectures, tutorials, workshops	34.5	48.7	16.8
Gathered feedback from employers/community partners on their experience with WIL students	52.5	31.4	16.1
Gathered feedback from students on the quality of their WIL experience	35.6	49.2	15.3
Prepared or oriented students into industry/sector	46.7	39.2	14.2
Evaluated students' WIL-related classroom assignments	35.3	52.1	12.6
Assessed students for their workplace activities	47.1	40.3	12.6
Supervised/interacted with WIL administrative staff/coordinators	52.1	35.3	12.6
Coordinated risk management and insurance details	76.7	15.5	7.8
Conducted site visits and monitored students in the workplace	76.1	17.9	6.0
Provided training and support for employers/site supervisors	78.0	16.1	5.9

Are there significant socio-demographic differences?

Three statistically significant differences were found when comparing the impact of WIL on faculty workloads by age group. Faculty between 40 and 49 years of age were more likely than faculty 50 years and older to report providing career/employment counseling or mentoring for students and coordinating risk management and insurance details as additional duties. Faculty 50 years and older were more likely to report completing paperwork and documentation specific to WIL contracts as part of their regular duties when compared to faculty between the ages of 40 and 49.

Table 35: Impact of WIL on Workloads by Age Group

		Age Group					
		Under 40		40 to 49		50 and Older	
		%	n	%	n	%	n
Provided career/employment counseling or mentoring for students	Did not do this	40.0_{a}	8	24.2_{a}	8	37.3_{a}	22
	Part of regular duties	20.0_{a}	4	18.2_{a}	6	39.0_{a}	23
	Addition to reg duties	$40.0_{a,b}$	8	57.6_{a}	19	23.7_{b}	14
Recruited WIL partners/host sites	Did not do this	55.6_{a}	10	56.2_{a}	18	45.8_{a}	27
	Part of regular duties	22.2_{a}	4	12.5_{a}	4	32.2_{a}	19
	Addition to reg duties	22.2_{a}	4	31.2_{a}	10	22.0_{a}	13
Developed WIL-related curricula or course content	Did not do this	38.1_{a}	8	33.3_{a}	11	25.9_{a}	15
	Part of regular duties	42.9_{a}	9	36.4_{a}	12	55.2_{a}	32
	Addition to reg duties	19.0_{a}	4	30.3_{a}	10	19.0_{a}	11
Managed relationships with host employers and community partners	Did not do this	57.1_{a}	12	39.4_{a}	13	45.8_{a}	27
	Part of regular duties	23.8_{a}	5	27.3_{a}	9	35.6_{a}	21
	Addition to reg duties	19.0_{a}	4	33.3_{a}	11	18.6_{a}	11
Established WIL student learning objectives	Did not do this	42.9_{a}	9	31.2_{a}	10	20.3_{a}	12
	Part of regular duties	33.3_{a}	7	43.8_{a}	14	62.7_{a}	37
	Addition to reg duties	23.8_{a}	5	25.0_{a}	8	16.9_{a}	10
Completed paperwork and documentation specific to WIL contracts	Did not do this	52.4_{a}	11	56.2_{a}	18	52.5_{a}	31
	Part of regular duties	$28.6_{a,b}$	6	9.4_{a}	3	33.9_{b}	20
	Addition to reg duties	19.0_{a}	4	34.4_{a}	11	13.6_{a}	8
Prepared or oriented host employers and community partners	Did not do this	71.4_{a}	15	54.5_{a}	18	45.0_{a}	27
	Part of regular duties	14.3_{a}	3	24.2_{a}	8	35.0_{a}	21
	Addition to reg duties	14.3_{a}	3	21.2_{a}	7	20.0_{a}	12
Prepared WIL-related lectures, tutorials, workshops	Did not do this	33.3_{a}	7	34.4_{a}	11	35.0_{a}	21
	Part of regular duties	38.1_{a}	8	40.6_{a}	13	56.7_{a}	34
	Addition to reg duties	28.6_{a}	6	25.0_{a}	8	8.3_{a}	5
Gathered feedback from employers/community partners on their experience with WIL students	Did not do this	61.9_{a}	13	54.5_{a}	18	44.8_{a}	26
	Part of regular duties	28.6_{a}	6	27.3_{a}	9	37.9_{a}	22
	Addition to reg duties	9.5_{a}	2	18.2_{a}	6	17.2_{a}	10
Gathered feedback from students on the quality of their WIL experience	Did not do this	47.6_{a}	10	36.4_{a}	12	25.9_{a}	15
	Part of regular duties	47.6_{a}	10	39.4_{a}	13	60.3_{a}	35
	Addition to reg duties	4.8_{a}	1	24.2_{a}	8	13.8_{a}	8
Prepared or oriented students into industry/sector	Did not do this	42.9_{a}	9	37.5_{a}	12	49.2_{a}	30
	Part of regular duties	42.9_{a}	9	37.5_{a}	12	41.0_{a}	25
	Addition to reg duties	14.3_{a}	3	25.0_{a}	8	9.8_{a}	6
Evaluated students' WIL-related classroom assignments	Did not do this	42.9_{a}	9	32.4_{a}	11	31.0_{a}	18
	Part of regular duties	42.9_{a}	9	50.0_{a}	17	60.3_{a}	35
	Addition to reg duties	14.3_{a}	3	17.6_{a}	6	8.6_{a}	5
Assessed students for their workplace activities	Did not do this	65.0_{a}	13	47.1_{a}	16	39.0_{a}	23
	Part of regular duties	25.0_{a}	5	35.3_{a}	12	49.2_{a}	29
	Addition to reg duties	10.0_{a}	2	17.6_{a}	6	11.9_{a}	7
Supervised/interacted with WIL administrative staff/coordinators	Did not do this	71.4_{a}	15	48.5_{a}	16	49.2_{a}	29
	Part of regular duties	23.8_{a}	5	33.3_{a}	11	40.7_{a}	24
	Addition to reg duties	4.8_{a}	1	18.2_{a}	6	10.2_{a}	6
Coordinated risk management and insurance details	Did not do this	81.0_{a}	17	65.6_{a}	21	78.9_{a}	45
	Part of regular duties	14.3_{a}	3	15.6_{a}	5	17.5_{a}	10
	Addition to reg duties	$4.8_{a,b}$	1	18.8_{a}	6	3.5_{b}	2
Conducted site visits and monitored students in the workplace	Did not do this	76.2_{a}	16	69.7_{a}	23	77.6_{a}	45
	Part of regular duties	19.0_{a}	4	18.2_{a}	6	19.0_{a}	11
	Addition to reg duties	4.8_{a}	1	12.1_{a}	4	3.4_{a}	2
Provided training and support for employers/site supervisors	Did not do this	76.2_{a}	16	63.6_{a}	21	84.5_{a}	49
	Part of regular duties	9.5_{a}	2	24.2_{a}	8	15.5_{a}	9
	Addition to reg duties	14.3_{a}	3	12.1_{a}	4	0.0^{1}	0

1. This category is not used in comparisons because its column proportion is equal to zero or one.

There were only three significant differences in the impact of WIL on faculty members' workloads when results were compared by gender. Female faculty were more likely to indicate that recruiting WIL partners

and host sites was an additional duty associated with teaching a course with WIL, as was evaluating students' WIL-related classroom assignments. Male faculty were more likely to indicate that they did not provide any industry or sector orientation for their students.

Table 36: Impact of WIL on Faculty Workloads by Gender

		Gender			
		Male		Female	
		%	n	%	n
Provided career/employment counseling or mentoring for students	Did not do this	32.8$_a$	21	37.0$_a$	17
	Part of regular duties	37.5$_a$	24	15.2$_b$	7
	Addition to reg duties	29.7$_a$	19	47.8$_a$	22
Recruited WIL partners/host sites	Did not do this	55.6$_a$	35	43.2$_a$	19
	Part of regular duties	27.0$_a$	17	20.5$_a$	9
	Addition to reg duties	17.5$_a$	11	36.4$_b$	16
Developed WIL-related curricula or course content	Did not do this	32.8$_a$	21	26.1$_a$	12
	Part of regular duties	48.4$_a$	31	45.7$_a$	21
	Addition to reg duties	18.8$_a$	12	28.3$_a$	13
Managed relationships with host employers and community partners	Did not do this	49.2$_a$	32	43.5$_a$	20
	Part of regular duties	32.3$_a$	21	28.3$_a$	13
	Addition to reg duties	18.5$_a$	12	28.3$_a$	13
Established WIL student learning objectives	Did not do this	28.1$_a$	18	26.1$_a$	12
	Part of regular duties	51.6$_a$	33	52.2$_a$	24
	Addition to reg duties	20.3$_a$	13	21.7$_a$	10
Completed paperwork and documentation specific to WIL contracts	Did not do this	54.7$_a$	35	50.0$_a$	23
	Part of regular duties	26.6$_a$	17	26.1$_a$	12
	Addition to reg duties	18.8$_a$	12	23.9$_a$	11
Prepared or oriented host employers and community partners	Did not do this	51.5$_a$	34	54.3$_a$	25
	Part of regular duties	31.8$_a$	21	21.7$_a$	10
	Addition to reg duties	16.7$_a$	11	23.9$_a$	11
Prepared WIL-related lectures, tutorials, workshops	Did not do this	32.3$_a$	21	37.0$_a$	17
	Part of regular duties	55.4$_a$	36	39.1$_a$	18
	Addition to reg duties	12.3$_a$	8	23.9$_a$	11
Gathered feedback from employers/community partners on their experience with WIL students	Did not do this	56.9$_a$	37	44.4$_a$	20
	Part of regular duties	30.8$_a$	20	35.6$_a$	16
	Addition to reg duties	12.3$_a$	8	20.0$_a$	9
Gathered feedback from students on the quality of their WIL experience	Did not do this	32.8$_a$	21	34.8$_a$	16
	Part of regular duties	56.2$_a$	36	45.7$_a$	21
	Addition to reg duties	10.9$_a$	7	19.6$_a$	9
Prepared or oriented students into industry/sector	Did not do this	52.2$_a$	35	33.3$_b$	15
	Part of regular duties	34.3$_a$	23	48.9$_a$	22
	Addition to reg duties	13.4$_a$	9	17.8$_a$	8
Evaluated students' WIL-related classroom assignments	Did not do this	39.4$_a$	26	26.7$_a$	12
	Part of regular duties	54.5$_a$	36	53.3$_a$	24
	Addition to reg duties	6.1$_a$	4	20.0$_b$	9
Assessed students for their workplace activities	Did not do this	42.4$_a$	28	53.3$_a$	24
	Part of regular duties	42.4$_a$	28	37.8$_a$	17
	Addition to reg duties	15.2$_a$	10	8.9$_a$	4
Supervised/interacted with WIL administrative staff/coordinators	Did not do this	52.3$_a$	34	54.3$_a$	25
	Part of regular duties	40.0$_a$	26	28.3$_a$	13
	Addition to reg duties	7.7$_a$	5	17.4$_a$	8
Coordinated risk management and insurance details	Did not do this	81.0$_a$	51	68.9$_a$	31
	Part of regular duties	12.7$_a$	8	20.0$_a$	9
	Addition to reg duties	6.3$_a$	4	11.1$_a$	5
Conducted site visits and monitored students in the workplace	Did not do this	75.4$_a$	49	75.6$_a$	34
	Part of regular duties	18.5$_a$	12	17.8$_a$	8
	Addition to reg duties	6.2$_a$	4	6.7$_a$	3
Provided training and support for employers/site supervisors	Did not do this	75.4$_a$	49	82.2$_a$	37
	Part of regular duties	20.0$_a$	13	11.1$_a$	5
	Addition to reg duties	4.6$_a$	3	6.7$_a$	3

There are a handful of statistically significant differences between faculty members based on program group. Faculty in Applied Health Sciences, Arts, and Environment were more likely than faculty in Math, Science, and Engineering to report that they did not provide career counselling for students. Math, Science, and Engineering faculty were more likely to report that they did not gather feedback from employers/community partners on their experience with WIL students, or from students on the quality of their WIL experience. This is likely a reflection of the different level of WIL involvement predominant in each faculty group that was reported earlier. Recall that Math, Science, and Engineering faculty were more likely to have taught in a program with a WIL component, while Applied Health Science, Arts, and Environment faculty were more likely to have taught a course with WIL.

Table 37: Impact of WIL on Faculty Workloads by Program Group

		Program Group	
		Math, SCI, ENG	AHS, Arts, ENV
		n=40	n=78
		%	
Provided career/employment counseling or mentoring for students	Did not do this	20.5$_a$	39.0$_b$
	Part of regular duties	38.5$_a$	26.0$_a$
	Addition to reg duties	41.0$_a$	35.1$_a$
Recruited WIL partners/host sites	Did not do this	57.9$_a$	48.0$_a$
	Part of regular duties	21.1$_a$	25.3$_a$
	Addition to reg duties	21.1$_a$	26.7$_a$
Developed WIL-related curricula or course content	Did not do this	40.0$_a$	25.0$_a$
	Part of regular duties	45.0$_a$	48.7$_a$
	Addition to reg duties	15.0$_a$	26.3$_a$
Managed relationships with host employers and community partners	Did not do this	55.0$_a$	44.2$_a$
	Part of regular duties	20.0$_a$	35.1$_a$
	Addition to reg duties	25.0$_a$	20.8$_a$
Established WIL student learning objectives	Did not do this	33.3$_a$	26.0$_a$
	Part of regular duties	46.2$_a$	53.2$_a$
	Addition to reg duties	20.5$_a$	20.8$_a$
Completed paperwork and documentation specific to WIL contracts	Did not do this	56.4$_a$	54.5$_a$
	Part of regular duties	17.9$_a$	28.6$_a$
	Addition to reg duties	25.6$_a$	16.9$_a$
Prepared or oriented host employers and community partners	Did not do this	55.0$_a$	52.6$_a$
	Part of regular duties	20.0$_a$	30.8$_a$
	Addition to reg duties	25.0$_a$	16.7$_a$
Prepared WIL-related lectures, tutorials, workshops	Did not do this	38.5$_a$	32.1$_a$
	Part of regular duties	48.7$_a$	48.7$_a$
	Addition to reg duties	12.8$_a$	19.2$_a$
Gathered feedback from employers/community partners on their experience with WIL students	Did not do this	69.2$_a$	42.9$_b$
	Part of regular duties	20.5$_a$	37.7$_a$
	Addition to reg duties	10.3$_a$	19.5$_a$
Gathered feedback from students on the quality of their WIL experience	Did not do this	48.7$_a$	27.3$_b$
	Part of regular duties	43.6$_a$	53.2$_a$
	Addition to reg duties	7.7$_a$	19.5$_a$
Prepared or oriented students into industry/sector	Did not do this	50.0$_a$	43.6$_a$
	Part of regular duties	35.0$_a$	42.3$_a$
	Addition to reg duties	15.0$_a$	14.1$_a$
Evaluated students' WIL-related classroom assignments	Did not do this	45.0$_a$	28.6$_a$
	Part of regular duties	42.5$_a$	58.4$_a$
	Addition to reg duties	12.5$_a$	13.0$_a$
Assessed students for their workplace activities	Did not do this	53.7$_a$	42.1$_a$

	Part of regular duties	34.1$_a$	44.7$_a$
	Addition to reg duties	12.2$_a$	13.2$_a$
Supervised/interacted with WIL administrative staff/coordinators	Did not do this	55.0$_a$	49.4$_a$
	Part of regular duties	35.0$_a$	36.4$_a$
	Addition to reg duties	10.0$_a$	14.3$_a$
Coordinated risk management and insurance details	Did not do this	82.1$_a$	73.3$_a$
	Part of regular duties	12.8$_a$	17.3$_a$
	Addition to reg duties	5.1$_a$	9.3$_a$
Conducted site visits and monitored students in the workplace	Did not do this	74.4$_a$	76.3$_a$
	Part of regular duties	20.5$_a$	17.1$_a$
	Addition to reg duties	5.1$_a$	6.6$_a$
Provided training and support for employers/site supervisors	Did not do this	85.0$_a$	73.7$_a$
	Part of regular duties	7.5$_a$	21.1$_a$
	Addition to reg duties	7.5$_a$	5.3$_a$

Faculty perspectives concerning the impact of WIL on workloads vary little by employment status. However, full-time faculty were more likely to indicate that recruiting WIL partners and host sites was an additional duty, as was preparing or orienting host employers and community partners.

Table 38: Impact of WIL on Workloads by Employment Status

		Employment Status			
		Full-time		Part-time	
		%	n	%	n
Provided career/employment counseling or mentoring for students	Did not do this	32.8$_a$	22	30.0$_a$	12
	Part of regular duties	32.8$_a$	22	25.0$_a$	10
	Addition to reg duties	34.3$_a$	23	45.0$_a$	18
Recruited WIL partners/host sites	Did not do this	46.2$_a$	30	56.4$_a$	22
	Part of regular duties	21.5$_a$	14	33.3$_a$	13
	Addition to reg duties	32.3$_a$	21	10.3$_b$	4
Developed WIL-related curricula or course content	Did not do this	25.4$_a$	17	37.5$_a$	15
	Part of regular duties	53.7$_a$	36	40.0$_a$	16
	Addition to reg duties	20.9$_a$	14	22.5$_a$	9
Managed relationships with host employers and community partners	Did not do this	42.6$_a$	29	50.0$_a$	20
	Part of regular duties	29.4$_a$	20	35.0$_a$	14
	Addition to reg duties	27.9$_a$	19	15.0$_a$	6
Established WIL student learning objectives	Did not do this	22.4$_a$	15	35.0$_a$	14
	Part of regular duties	59.7$_a$	40	42.5$_a$	17
	Addition to reg duties	17.9$_a$	12	22.5$_a$	9
Completed paperwork and documentation specific to WIL contracts	Did not do this	47.8$_a$	32	57.5$_a$	23
	Part of regular duties	29.9$_a$	20	22.5$_a$	9
	Addition to reg duties	22.4$_a$	15	20.0$_a$	8
Prepared or oriented host employers and community partners	Did not do this	47.8$_a$	33	57.5$_a$	23
	Part of regular duties	24.6$_a$	17	35.0$_a$	14
	Addition to reg duties	27.5$_a$	19	7.5$_b$	3
Prepared WIL-related lectures, tutorials, workshops	Did not do this	29.4$_a$	20	37.5$_a$	15
	Part of regular duties	50.0$_a$	34	52.5$_a$	21
	Addition to reg duties	20.6$_a$	14	10.0$_a$	4
Gathered feedback from employers/community partners on their experience with WIL students	Did not do this	46.3$_a$	31	57.5$_a$	23
	Part of regular duties	35.8$_a$	24	30.0$_a$	12
	Addition to reg duties	17.9$_a$	12	12.5$_a$	5
Gathered feedback from students on the quality of their WIL experience	Did not do this	29.4$_a$	20	38.5$_a$	15
	Part of regular duties	55.9$_a$	38	46.2$_a$	18
	Addition to reg duties	14.7$_a$	10	15.4$_a$	6

Prepared or oriented students into industry/sector	Did not do this	46.4$_a$	32	40.0$_a$	16
	Part of regular duties	39.1$_a$	27	45.0$_a$	18
	Addition to reg duties	14.5$_a$	10	15.0$_a$	6
Evaluated students' WIL-related classroom assignments	Did not do this	26.5$_a$	18	42.5$_a$	17
	Part of regular duties	61.8$_a$	42	45.0$_a$	18
	Addition to reg duties	11.8$_a$	8	12.5$_a$	5
Assessed students for their workplace activities	Did not do this	42.6$_a$	29	50.0$_a$	20
	Part of regular duties	45.6$_a$	31	35.0$_a$	14
	Addition to reg duties	11.8$_a$	8	15.0$_a$	6
Supervised/interacted with WIL administrative staff/coordinators	Did not do this	54.4$_a$	37	47.5$_a$	19
	Part of regular duties	29.4$_a$	20	47.5$_a$	19
	Addition to reg duties	16.2$_a$	11	5.0$_a$	2
Coordinated risk management and insurance details	Did not do this	74.2$_a$	49	76.9$_a$	30
	Part of regular duties	16.7$_a$	11	17.9$_a$	7
	Addition to reg duties	9.1$_a$	6	5.1$_a$	2
Conducted site visits and monitored students in the workplace	Did not do this	73.1$_a$	49	77.5$_a$	31
	Part of regular duties	20.9$_a$	14	17.5$_a$	7
	Addition to reg duties	6.0$_a$	4	5.0$_a$	2
Provided training and support for employers/site supervisors	Did not do this	80.6$_a$	54	70.0$_a$	28
	Part of regular duties	11.9$_a$	8	25.0$_a$	10
	Addition to reg duties	7.5$_a$	5	5.0$_a$	2

There were few differences in the impact of WIL on faculty workloads when non-academic work experience was taken into account. However, faculty without non-academic work experience were more likely to report that they did not develop WIL-related course content, while faculty with non-academic work experience were more likely to report that they did this as part of their regular duties. Faculty without non-academic work experience were less likely to establish WIL student learning objectives, to prepare WIL-related lectures, tutorials, and workshops, and to provide training and support for employers/site supervisors.

Table 39: Impact of WIL on Workloads by Non-Academic Work Experience

		Non-Academic Work Experience			
		Yes		No	
		%	n	%	n
Provided career/employment counseling or mentoring for students	Did not do this	29.5$_a$	26	50.0$_a$	12
	Part of regular duties	30.7$_a$	27	25.0$_a$	6
	Addition to reg duties	39.8$_a$	35	25.0$_a$	6
Recruited WIL partners/host sites	Did not do this	50.0$_a$	43	52.2$_a$	12
	Part of regular duties	25.6$_a$	22	21.7$_a$	5
	Addition to reg duties	24.4$_a$	21	26.1$_a$	6
Developed WIL-related curricula or course content	Did not do this	22.7$_a$	20	58.3$_b$	14
	Part of regular duties	53.4$_a$	47	25.0$_b$	6
	Addition to reg duties	23.9$_a$	21	16.7$_a$	4
Managed relationships with host employers and community partners	Did not do this	43.8$_a$	39	54.2$_a$	13
	Part of regular duties	32.6$_a$	29	25.0$_a$	6
	Addition to reg duties	23.6$_a$	21	20.8$_a$	5
Established WIL student learning objectives	Did not do this	22.7$_a$	20	45.8$_b$	11
	Part of regular duties	54.5$_a$	48	41.7$_a$	10
	Addition to reg duties	22.7$_a$	20	12.5$_a$	3
Completed paperwork and documentation specific to WIL contracts	Did not do this	53.4$_a$	47	54.2$_a$	13
	Part of regular duties	25.0$_a$	22	29.2$_a$	7
	Addition to reg duties	21.6$_a$	19	16.7$_a$	4
Prepared or oriented host employers and	Did not do this	51.7$_a$	46	56.0$_a$	14

community partners	Part of regular duties	29.2$_a$	26	24.0$_a$	6
	Addition to reg duties	19.1$_a$	17	20.0$_a$	5
Prepared WIL-related lectures, tutorials, workshops	Did not do this	28.1$_a$	25	58.3$_b$	14
	Part of regular duties	52.8$_a$	47	33.3$_a$	8
	Addition to reg duties	19.1$_a$	17	8.3$_a$	2
Gathered feedback from employers/ community partners on their experience with WIL students	Did not do this	47.7$_a$	42	62.5$_a$	15
	Part of regular duties	36.4$_a$	32	20.8$_a$	5
	Addition to reg duties	15.9$_a$	14	16.7$_a$	4
Gathered feedback from students on the quality of their WIL experience	Did not do this	28.7$_a$	25	48.0$_a$	12
	Part of regular duties	55.2$_a$	48	40.0$_a$	10
	Addition to reg duties	16.1$_a$	14	12.0$_a$	3
Prepared or oriented students into industry/sector	Did not do this	41.6$_a$	37	56.0$_a$	14
	Part of regular duties	43.8$_a$	39	28.0$_a$	7
	Addition to reg duties	14.6$_a$	13	16.0$_a$	4
Evaluated students' WIL-related classroom assignments	Did not do this	30.3$_a$	27	45.8$_a$	11
	Part of regular duties	57.3$_a$	51	41.7$_a$	10
	Addition to reg duties	12.4$_a$	11	12.5$_a$	3
Assessed students for their workplace activities	Did not do this	47.8$_a$	43	39.1$_a$	9
	Part of regular duties	40.0$_a$	36	43.5$_a$	10
	Addition to reg duties	12.2$_a$	11	17.4$_a$	4
Supervised/interacted with WIL administrative staff/coordinators	Did not do this	52.8$_a$	47	54.2$_a$	13
	Part of regular duties	37.1$_a$	33	29.2$_a$	7
	Addition to reg duties	10.1$_a$	9	16.7$_a$	4
Coordinated risk management and insurance details	Did not do this	76.7$_a$	66	70.8$_a$	17
	Part of regular duties	17.4$_a$	15	12.5$_a$	3
	Addition to reg duties	5.8$_a$	5	16.7$_a$	4
Conducted site visits and monitored students in the workplace	Did not do this	73.9$_a$	65	79.2$_a$	19
	Part of regular duties	20.5$_a$	18	12.5$_a$	3
	Addition to reg duties	5.7$_a$	5	8.3$_a$	2
Provided training and support for employers/site supervisors	Did not do this	71.6$_a$	63	95.8$_b$	23
	Part of regular duties	21.6$_a$	19	0.0[1]	0
	Addition to reg duties	6.8$_a$	6	4.2$_a$	1

1. This category is not used in comparisons because its column proportion is equal to zero or one.

What are faculty members' opinions about the purposes of PSE and the degree to which they contribute to these purposes?

Faculty were provided with 19 statements about the purposes of PSE – addressing student knowledge, skills, and personal development – and were asked to indicate the extent to which their teaching is intended to contribute to those areas. Generally speaking, faculty indicated that most aspects were somewhat addressed through their teaching.

Faculty considered thinking critically and analytically to be very much a purpose of PSE and something they try to foster with their teaching, followed by working independently and applying skills and knowledge in different situations.

Focusing on aspects of teaching meant to contribute to career development, it is seen that teaching objectives tend to cluster in the middle of the distribution with solving complex, real-world problems, acquiring job-related knowledge and skills, and working effectively with others viewed by faculty as being somewhat addressed through their teaching. Securing relevant work after graduation, the final PSE purpose related to career development, was considered to be less than somewhat addressed by faculty through their teaching.

(1=Not at all; 2=Very little; 3=Somewhat; 4=Very much)

Table 40: Faculty Perceptions of the Purposes of PSE

	Mean
Thinking critically and analytically	3.87
Working independently	3.55
Applying skills and knowledge in different situations	3.55
Writing clearly and effectively	3.48
Solving complex, real-world problems	3.41
Becoming lifelong learners	3.39
Using data to analyze problems	3.31
Acquiring job-related or work-related knowledge and skills	3.20
Speaking clearly and effectively	3.19
Acquiring a broad general education	3.14
Working effectively with others	3.13
Developing a personal code of ethics and values	2.93
Securing relevant work after graduation	2.86
Understanding themselves	2.77
Contributing to the welfare of their community	2.73
Using computing and information technology	2.66
Developing leadership skills	2.66
Understanding people of other racial and ethnic backgrounds	2.47
Participating as informed voters in local, provincial, and federal elections	1.92

Do opinions about the purposes of PSE and the degree to which faculty contribute to them differ socio-demographically?

Age plays somewhat of a mediating role in faculty members' opinions about the purposes of PSE and the goals of their teaching. Most of the significant differences found were between faculty below the age of 40 and faculty aged 50 years or older. For example, older faculty were more likely to indicate that their teaching attempts to develop a personal code of ethics in students and to enable them to work effectively with others. Faculty under the age of 40 were less likely than all other faculty to view their teaching as being intended to develop students in contributing to the welfare of their community.

Drawing attention to career-related aspects, faculty under the age of 40 were less likely than faculty 50 years and older to contribute to student development in the areas of working effectively with others and securing relevant work after graduation. They were also less likely than all faculty 40 years and older to report that their teaching is intended to develop students' ability to solve complex, real-world problems.

(1=Not at all; 2=Very little; 3=Somewhat; 4=Very much)

Table 41: Faculty Perceptions of the Purposes of PSE by Age Group

	Age Group		
	Under 40	40 to 49	50 and Older
	n=158	n=148	n=166
	Mean		
Thinking critically and analytically	3.88_{a}	3.86_{a}	3.86_{a}
Working independently	3.54_{a}	3.56_{a}	3.55_{a}
Applying skills and knowledge in different situations	3.49_{a}	3.61_{a}	3.57_{a}
Writing clearly and effectively	3.53_{a}	3.40_{a}	3.49_{a}
Solving complex, real-world problems	3.22_{a}	3.54_{b}	3.46_{b}
Becoming lifelong learners	3.34_{a}	3.41_{a}	3.43_{a}
Using data to analyze problems	3.19_{a}	$3.28_{a,b}$	3.45_{b}
Acquiring job-related or work-related knowledge and skills	3.08_{a}	3.23_{a}	3.27_{a}
Speaking clearly and effectively	3.14_{a}	3.23_{a}	3.20_{a}
Acquiring a broad general education	3.06_{a}	3.15_{a}	3.21_{a}
Working effectively with others	2.96_{a}	$3.19_{a,b}$	3.24_{b}
Developing a personal code of ethics and values	2.73_{a}	$2.89_{a,b}$	3.15_{b}
Securing relevant work after graduation	2.71_{a}	$2.88_{a,b}$	2.99_{b}
Understanding themselves	2.62_{a}	2.81_{a}	2.88_{a}
Contributing to the welfare of their community	2.49_{a}	2.78_{b}	2.93_{b}
Using computing and information technology	2.65_{a}	2.68_{a}	2.66_{a}
Developing leadership skills	2.49_{a}	$2.73_{a,b}$	2.76_{b}
Understanding people of other racial and ethnic backgrounds	2.31_{a}	2.55_{a}	2.57_{a}
Participating as informed voters in local, provincial, and federal elections	1.83_{a}	1.91_{a}	2.01_{a}

Male and female faculty tend to differ in their opinions about how their teaching should contribute to student development. When significant differences were found, female faculty tended to indicate that their teaching is intended to contribute to student development to a greater extent than male faculty. This is especially true for developing a personal code of ethics and values, understanding people of other racial and ethnic backgrounds, and participating as informed voters. Male faculty were more likely to indicate that their teaching is intended to contribute to student development in using data to analyze problems and using computing and IT.

Focusing only on aspects related to career development, male faculty were more likely to report that their teaching is intended to contribute to student development in solving complex, real-world problems and securing relevant work after graduation.

(1=Not at all; 2=Very little; 3=Somewhat; 4=Very much)

Table 42: Faculty Perceptions of the Purpose of PSE by Gender

	Gender	
	Male	Female
	n=309	n=146
	Mean	
Thinking critically and analytically	3.85$_a$	3.89$_a$
Working independently	3.50$_a$	3.62$_a$
Applying skills and knowledge in different situations	3.49$_a$	3.68$_b$
Writing clearly and effectively	3.37$_a$	3.68$_b$
Solving complex, real-world problems	3.48$_a$	3.24$_b$
Becoming lifelong learners	3.29$_a$	3.58$_b$
Using data to analyze problems	3.38$_a$	3.17$_b$
Acquiring job-related or work-related knowledge and skills	3.20$_a$	3.20$_a$
Speaking clearly and effectively	3.11$_a$	3.32$_b$
Acquiring a broad general education	3.11$_a$	3.20$_a$
Working effectively with others	3.08$_a$	3.25$_a$
Developing a personal code of ethics and values	2.85$_a$	3.08$_b$
Securing relevant work after graduation	2.92$_a$	2.73$_b$
Understanding themselves	2.63$_a$	3.06$_b$
Contributing to the welfare of their community	2.66$_a$	2.85$_a$
Using computing and information technology	2.76$_a$	2.45$_b$
Developing leadership skills	2.58$_a$	2.84$_b$
Understanding people of other racial and ethnic backgrounds	2.28$_a$	2.87$_b$
Participating as informed voters in local, provincial, and federal elections	1.85$_a$	2.08$_b$

There were a number of significant differences in faculty perceptions when examined according to the program group in which faculty teach. In most cases, these differences fall along traditional program lines. For example, faculty in Math, Science, and Engineering ascribed a greater level of importance to using data to analyze problems and using computing and IT, while faculty in Applied Health Sciences, Arts, and Environment were more likely to indicate that writing clearly and effectively and acquiring a broad general education were purposes of PSE and goals of their teaching. There was, however, general agreement among faculty about the three skills they most tried to develop in students with their teaching: thinking critically and analytically, applying skills and knowledge in different situations, and working independently.

By program group, faculty differ significantly in the extent to which their teaching is intended to contribute to student development in career-related areas. Faculty in Applied Health Science, Arts, and Environment were more likely to report that their teaching is intended to develop in students the skills needed to work effectively with others, while Math, Science, and Engineering faculty were more likely to report that their teaching attempts to help students secure relevant work after graduation.

(1=Not at all; 2=Very little; 3=Somewhat; 4=Very much)

Table 43: Faculty Perceptions of the Purposes of PSE by Program Group

	Program Group	
	Math, SCI, ENG	AHS, Arts, ENV
	n=229	n=240
	Mean	
Thinking critically and analytically	3.85$_a$	3.88$_a$
Applying skills and knowledge in different situations	3.50$_a$	3.60$_a$
Working independently	3.53$_a$	3.57$_a$
Writing clearly and effectively	3.23$_a$	3.70$_b$
Solving complex, real-world problems	3.44$_a$	3.37$_a$
Becoming lifelong learners	3.29$_a$	3.49$_b$
Using data to analyze problems	3.53$_a$	3.12$_b$
Acquiring job-related or work-related knowledge and skills	3.17$_a$	3.23$_a$
Speaking clearly and effectively	2.95$_a$	3.41$_b$
Acquiring a broad general education	2.99$_a$	3.29$_b$
Working effectively with others	3.04$_a$	3.22$_b$
Developing a personal code of ethics and values	2.69$_a$	3.14$_b$
Securing relevant work after graduation	2.99$_a$	2.74$_b$
Understanding themselves	2.24$_a$	3.26$_b$
Contributing to the welfare of their community	2.48$_a$	2.97$_b$
Using computing and information technology	3.00$_a$	2.34$_b$
Developing leadership skills	2.45$_a$	2.84$_b$
Understanding people of other racial and ethnic backgrounds	1.86$_a$	3.04$_b$
Participating as informed voters in local, provincial, and federal elections	1.59$_a$	2.22$_b$

Analysis of faculty results by employment status show that full-time faculty were more likely than part-time faculty to indicate that their teaching attempts to develop critical and analytical thinking skills and an ability to work independently – two of the most highly-valued purposes of PSE among all faculty respondents. Some additional significant differences were noted between full-time and part-time faculty, with full-time faculty being more likely to perceive writing and speaking clearly and using data as purposes of PSE and goals of their teaching.

When focusing on career-related aspects, there was only one statistically significant difference between faculty based on their employment status. Part-time faculty were less likely to report that their teaching is intended to contribute to students securing relevant work after graduation.

(1=Not at all; 2=Very little; 3=Somewhat; 4=Very much)

Table 44: Faculty Perceptions of the Purposes of PSE by Employment Status

	Employment Status	
	Full-time	Part-time
	n=286	n=178
	Mean	
Thinking critically and analytically	3.92_a	3.78_b
Working independently	3.60_a	3.47_b
Applying skills and knowledge in different situations	3.54_a	3.59_a
Writing clearly and effectively	3.53_a	3.39_b
Solving complex, real-world problems	3.42_a	3.37_a
Becoming lifelong learners	3.38_a	3.41_a
Using data to analyze problems	3.39_a	3.19_b
Acquiring job-related or work-related knowledge and skills	3.20_a	3.20_a
Speaking clearly and effectively	3.26_a	3.08_b
Acquiring a broad general education	3.17_a	3.10_a
Working effectively with others	3.14_a	3.12_a
Developing a personal code of ethics and values	2.90_a	2.97_a
Securing relevant work after graduation	2.94_a	2.73_b
Understanding themselves	2.71_a	2.87_a
Contributing to the welfare of their community	2.77_a	2.67_a
Using computing and information technology	2.72_a	2.59_a
Developing leadership skills	2.70_a	2.59_a
Understanding people of other racial and ethnic backgrounds	2.40_a	2.57_a
Participating as informed voters in local, provincial, and federal elections	1.91_a	1.92_a

There were several statistically significant differences between faculty perceptions of the purposes of PSE by non-academic work experience. In all but one instance – acquiring a broad general education – where significant differences were found, faculty with non-academic work experience were more likely to identify the skills listed as purposes of PSE and goals of their teaching. For example, faculty with non-academic work experience were more likely to report acquiring job-related knowledge and skills, working effectively with others, and developing a personal code of ethics and values as purposes of PSE and aspects they try to foster with their teaching.

(1=Not at all; 2=Very little; 3=Somewhat; 4=Very much)

Table 45: Faculty Perceptions of the Purposes of PSE by Non-Academic Work Experience

	Non-Academic Work Experience	
	Yes	No
	n=295	n=175
	Mean	
Thinking critically and analytically	3.86$_a$	3.87$_a$
Working independently	3.53$_a$	3.58$_a$
Applying skills and knowledge in different situations	3.61$_a$	3.46$_b$
Writing clearly and effectively	3.47$_a$	3.48$_a$
Solving complex, real-world problems	3.51$_a$	3.23$_b$
Becoming lifelong learners	3.42$_a$	3.36$_a$
Using data to analyze problems	3.40$_a$	3.18$_b$
Acquiring job-related or work-related knowledge and skills	3.35$_a$	2.94$_b$
Speaking clearly and effectively	3.20$_a$	3.16$_a$
Acquiring a broad general education	3.07$_a$	3.26$_b$
Working effectively with others	3.29$_a$	2.87$_b$
Developing a personal code of ethics and values	3.01$_a$	2.78$_b$
Securing relevant work after graduation	2.98$_a$	2.66$_b$
Understanding themselves	2.80$_a$	2.72$_a$
Contributing to the welfare of their community	2.85$_a$	2.54$_b$
Using computing and information technology	2.74$_a$	2.53$_b$
Developing leadership skills	2.79$_a$	2.43$_b$
Understanding people of other racial and ethnic backgrounds	2.47$_a$	2.47$_a$
Participating as informed voters in local, provincial, and federal elections	1.86$_a$	2.02$_a$

There were several statistically significant differences between faculty members based on their level of involvement with WIL, though the magnitude of these differences is minimal. Faculty who taught a course with WIL placed greater importance on developing students' leadership skills and were also more likely than faculty who taught in a program with WIL to identify developing a personal code of ethics and contributing to the welfare of their community as purposes of PSE and goals of their teaching. Faculty with no WIL involvement placed somewhat less importance on solving complex, real-world problems and using data.

Faculty significantly differed on all four aspects of PSE related to career development. Faculty with no WIL involvement were less likely than other faculty to indicate that their teaching is intended to contribute to student development in solving complex, real-world problems and securing relevant work after graduation. Faculty who taught a course with WIL were more likely to report that their teaching attempts to develop students in the areas of acquiring job-related knowledge and skills and working effectively with others.

(1=Not at all; 2=Very little; 3=Somewhat; 4=Very much)

Table 46: Faculty Perceptions of the Purposes of PSE by WIL Involvement

	Level of WIL Involvement		
	Teach course with WIL	Teach in program with WIL	No WIL
	n=118	n=260	n=91
	Mean		
Thinking critically and analytically	3.87_{a}	3.89_{a}	3.79_{a}
Applying skills and knowledge in different situations	3.69_{a}	3.52_{a}	3.47_{a}
Working independently	$3.50_{a,b}$	3.61_{a}	3.42_{b}
Writing clearly and effectively	3.56_{a}	3.41_{a}	3.54_{a}
Solving complex, real-world problems	3.51_{a}	3.45_{a}	3.15_{b}
Becoming lifelong learners	3.48_{a}	3.36_{a}	3.38_{a}
Using data to analyze problems	3.39_{a}	3.40_{a}	2.97_{b}
Acquiring job-related or work-related knowledge and skills	3.44_{a}	3.14_{b}	3.03_{b}
Speaking clearly and effectively	3.28_{a}	3.12_{a}	3.29_{a}
Acquiring a broad general education	2.98_{a}	$3.15_{a,b}$	3.33_{b}
Working effectively with others	3.43_{a}	3.04_{b}	3.02_{b}
Developing a personal code of ethics and values	3.16_{a}	2.82_{b}	$2.92_{a,b}$
Securing relevant work after graduation	3.00_{a}	2.89_{a}	2.60_{b}
Understanding themselves	2.91_{a}	2.60_{b}	3.06_{a}
Contributing to the welfare of their community	2.99_{a}	2.63_{b}	$2.71_{a,b}$
Using computing and information technology	$2.61_{a,b}$	2.77_{a}	2.41_{b}
Developing leadership skills	3.00_{a}	2.57_{b}	2.49_{b}
Understanding people of other racial and ethnic backgrounds	2.77_{a}	2.19_{b}	2.91_{a}
Participating as informed voters in local, provincial, and federal elections	$1.95_{a,b}$	1.83_{a}	2.13_{b}

Differences between faculty members were also found based on their prior participation in WIL as students. Faculty who participated in WIL when they were students were more likely to indicate that solving complex problems, using data to analyze problems, acquiring work-related knowledge and skills, and securing relevant work after graduation are purposes of PSE and goals of their teaching. Faculty who did not participate in WIL as students placed greater importance on acquiring a broad general education and participating as informed voters.

Similar to the results by level of WIL involvement, faculty differed significantly on all four aspects of PSE related to career development. Faculty who did not participate in WIL when they were students were consistently less likely to report that they try to address student development in areas related to career development.

(1=Not at all; 2=Very little; 3=Somewhat; 4=Very much)

Table 47: Faculty Perceptions of the Purposes of PSE by Participation in WIL as a Student

	Participated in WIL as a Student	
	Yes	No
	n=240	n=228
	Mean	
Thinking critically and analytically	3.87$_a$	3.86$_a$
Applying skills and knowledge in different situations	3.60$_a$	3.51$_a$
Working independently	3.58$_a$	3.52$_a$
Writing clearly and effectively	3.46$_a$	3.50$_a$
Solving complex, real-world problems	3.50$_a$	3.30$_b$
Becoming lifelong learners	3.35$_a$	3.46$_a$
Using data to analyze problems	3.43$_a$	3.19$_b$
Acquiring job-related or work-related knowledge and skills	3.38$_a$	3.00$_b$
Speaking clearly and effectively	3.13$_a$	3.26$_a$
Acquiring a broad general education	2.99$_a$	3.30$_b$
Working effectively with others	3.21$_a$	3.04$_b$
Developing a personal code of ethics and values	2.94$_a$	2.90$_a$
Securing relevant work after graduation	3.00$_a$	2.72$_b$
Understanding themselves	2.68$_a$	2.86$_a$
Contributing to the welfare of their community	2.80$_a$	2.65$_a$
Using computing and information technology	2.71$_a$	2.61$_a$
Developing leadership skills	2.73$_a$	2.58$_a$
Understanding people of other racial and ethnic backgrounds	2.40$_a$	2.56$_a$
Participating as informed voters in local, provincial, and federal elections	1.80$_a$	2.04$_b$

Were faculty members with WIL experience more likely to indicate that there should be more WIL in PSE?

Throughout this report, WIL experience for faculty is measured by two factors: participation in WIL as a student, and teaching in a course or program with a WIL component.

Prior to examining the differences in faculty perceptions about the amount of WIL in PSE by WIL experience, results for faculty as a whole are examined. Almost three-quarters of University of Waterloo faculty respondents supported increasing or maintaining the amount of WIL in PSE, with slightly greater support for keeping it the same. A very small proportion felt that the amount of WIL in PSE should be decreased, and more than one-fifth of University of Waterloo faculty were not sure.

Table 48: Faculty Perceptions of the Amount of WIL in PSE

		n=457
		%
Appropriate levels of WIL	Increased	35.2
	Decreased	4.8
	Kept about the same	37.2
	Not sure	22.8

Faculty members who taught courses with WIL were significantly more likely to indicate that the amount of WIL in PSE should be increased and were also less likely to support decreasing the amount of WIL in PSE. Non-WIL faculty members were significantly more likely than faculty who taught courses with WIL to indicate that they are unsure as to whether the amount of WIL in PSE should change.

Table 49: Faculty Perceptions of the Amount of WIL in PSE by WIL Involvement

		Level of WIL Involvement		
		Teach course with WIL	Teach in program with WIL	No WIL
		n=115	n=255	n=85
		%		
Appropriate levels of WIL	Increased	52.2_{a}	29.0_{b}	29.4_{b}
	Decreased	0.9_{a}	6.7_{b}	$4.7_{a,b}$
	Kept about the same	33.0_{a}	40.8_{a}	32.9_{a}
	Not sure	13.9_{a}	$23.5_{a,b}$	32.9_{b}

As may be expected, faculty members who participated in WIL as students were significantly more likely than those who did not participate in WIL as students to indicate that there should be more WIL in PSE. While very few faculty felt that the amount of WIL in PSE should be decreased, those who did not participate in WIL as students were more likely to support a decrease.

Table 50: Faculty Perceptions of the Amount of WIL in PSE by Participation in WIL as a Student

		Participated in WIL as a Student	
		Yes	No
		n=233	n=221
		%	
Appropriate levels of WIL	Increased	41.2_{a}	29.4_{b}
	Decreased	1.7_{a}	8.1_{b}
	Kept about the same	37.3_{a}	37.1_{a}
	Not sure	19.7_{a}	25.3_{a}

Employer Survey

Provincial Employer Survey

The provincial-level study of Ontario employers revealed that the average length of employer participation in WIL was 11.4 years, with ten per cent indicating that they have provided WIL for more than 20 years. At the same time, many WIL employers are relatively recent, with close to 40 per cent indicating that they have been providing WIL for five years or less. Since January 2010, more than one-third of employer respondents have offered WIL to PSE students.

Employers who no longer offer WIL were asked why they decided to discontinue providing workplace experiences for students. A lack of suitable work was by far the most common reason provided, followed by the recession or other economic pressures, and not being able to find students with the skills needed. Employers who did not plan to offer WIL were asked why they were not planning on doing so. Similar to employers who no longer offer WIL, the most common reason was a lack of suitable work, with approximately two-thirds indicating this as a reason, followed by a lack of students with the required skills and the staff time needed to recruit, train, and supervise students.

Employer respondents were also asked how participation in WIL could be facilitated. More than one-half of respondents indicated that providing financial incentives for employers would facilitate participation, and just under one-half of employers believed that providing more information for employers and scheduling student placements to meet business cycle needs would assist more employers to become involved.

Employer Survey

In the past two years how many employers have provided WIL for students and for how long?

The majority of employer respondents indicated that they did not provide WIL to university students in the past two years. The proportion of employers who provided other types of WIL was almost double the proportion of employers who provided co-op experiences for students.

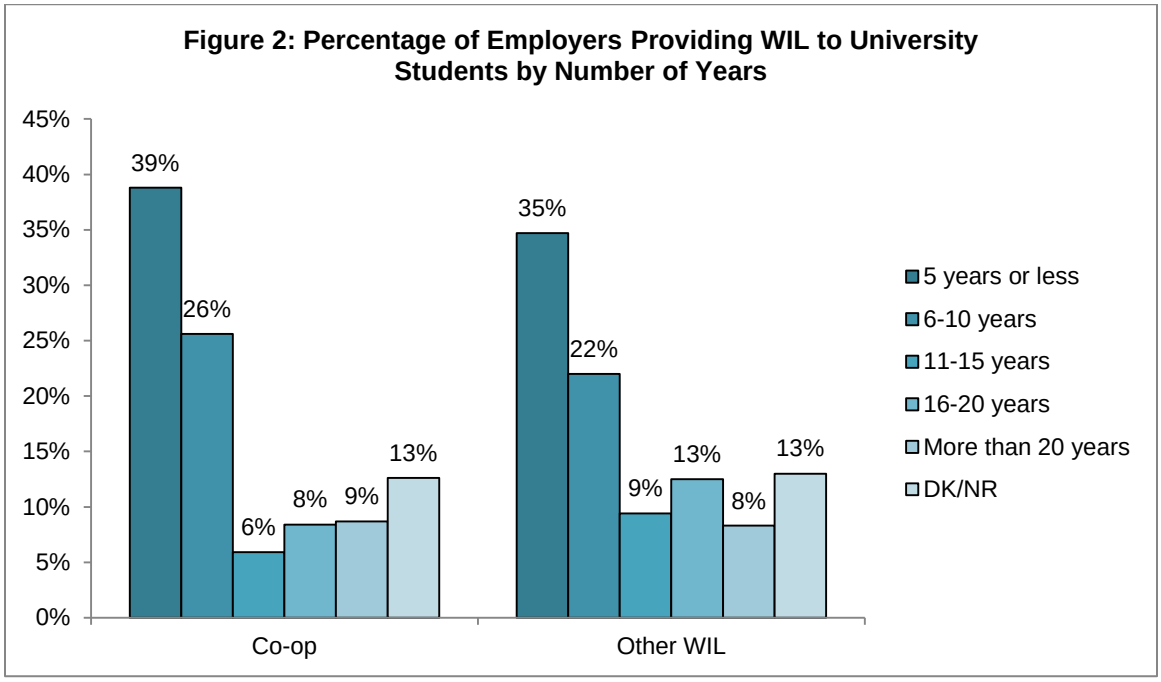
Table 51: Number of Employers Providing WIL*

	%	Unweighted n
University co-op	6.1	350
University other WIL	11.8	579
Did not provide WIL to university students	79.2	2320
Don't know	3.0	120

*Includes only employers providing WIL to university students

More than one-third of both co-op and other WIL employers reported that their involvement with postsecondary WIL began within the last five years.[8] On average, co-op employers reported slightly fewer years of involvement with WIL than other WIL employers.

8 The number of years WIL has been provided by employers cannot be narrowed down to include only university students as a result of the structure of the survey.



Why have employers stopped offering WIL? Do reasons vary by company size?

The majority of the 321 employers who used to provide WIL but have since discontinued their involvement were small companies. More than one-third employed less than ten employees, and approximately one-quarter had ten to 19 employees. By far the most common reason for no longer providing WIL was a lack of suitable work for students. This was followed by economic pressures, lack of students with the necessary skills, and the staff time involved in recruiting, training, and supervising students.

In addition to selecting all the reasons for discontinuing their involvement, employers were asked their top reason for no longer providing WIL (Appendix A). The lack of suitable work for students was the top reason for more than one in five employers (22%), followed closely by the recession or other economic pressures (17%).

Table 52: Reasons for No Longer Providing WIL

	%	Unweighted n
No suitable work for students	59.0	169
Recession or other economic pressures	38.5	155
Couldn't get students with the skills needed	38.1	83
Staff time to recruit/train/supervise students	28.9	105
Professional, regulatory, or staffing issues	20.9	75
College/university stopped offering program	16.8	40
Negative experiences with previous students	15.7	44
Too much administration/paperwork	14.8	55
Change in business direction	13.9	58
Costs due to student errors/inexperience	10.4	37
Concern about competitors hiring trained students	5.0	13
Other	15.7	45
Don't know	1.4	9

On average, there was little variation in responses by company size. Employers with 20 to 49 employees were significantly more likely than employers with less than ten employees to indicate that they did not provide WIL to students because of professional, regulatory, or staffing issues and because of the staff time needed to recruit, train, and supervise students.

Top reasons for no longer providing WIL also do not vary much by company size (Appendix A). Compared to others, large companies seem to have been affected to a greater extent by the recent recession, as they were more likely to cite economic pressures as their top reason for no longer providing WIL. Again, firms with 20 to 49 employees were more likely to discontinue their involvement because of professional, regulatory, or staffing issues. Firms with ten to 19 employees were twice as likely as other employers to identify the cancellation of the program by the postsecondary institution as their top reason for discontinuing their involvement with WIL.

Table 53: Reasons for No Longer Providing WIL by Company Size

	Company Size			
	2-9	10-19	20-49	50+
	n=115	n=79	n=57	n=70
	%			
No suitable work for students	62.6$_{a}$	58.1$_{a}$	54.4$_{a}$	50.5$_{a}$
Recession or other economic pressures	39.0$_{a}$	28.8$_{a}$	49.9$_{a}$	54.6$_{a}$
Couldn't get students with the skills needed	38.1$_{a}$	46.4$_{a}$	30.2$_{a}$	20.0$_{a}$
Staff time to recruit/train/supervise students	23.5$_{a}$	32.2$_{a,b}$	43.9$_{b}$	21.6$_{a,b}$
Professional, regulatory, or staffing issues	14.3$_{a}$	18.5$_{a}$	45.3$_{b}$	25.8$_{a,b}$
College/university stopped offering program	12.1$_{a}$	24.4$_{a}$	15.8$_{a}$	15.4$_{a}$
Negative experiences with previous students	15.9$_{a}$	15.6$_{a}$	14.1$_{a}$	17.1$_{a}$
Too much administration/paperwork	11.7$_{a}$	18.0$_{a}$	19.2$_{a}$	12.8$_{a}$
Change in business direction	14.0$_{a}$	15.3$_{a}$	7.9$_{a}$	18.8$_{a}$
Costs due to student errors/inexperience	6.9$_{a}$	12.4$_{a}$	16.0$_{a}$	12.7$_{a}$
Concern about competitors hiring trained students	2.5$_{a}$	8.2$_{a}$	7.0$_{a}$	3.6$_{a}$
Other	8.9$_{a}$	23.0$_{b}$	21.3$_{a,b}$	15.2$_{a,b}$
Don't know	1.2$_{a}$	0.9$_{a}$	2.2$_{a}$	2.8$_{a}$

Why do employers not offer WIL? Does this vary by company size or sector?

Consistent with employers' reasons for no longer offering WIL, a lack of suitable work was also the most frequently mentioned reason for employers not to participate at all in WIL. Close to one-third of employers mentioned the staff time needed to recruit, train, and supervise students and a lack of students with the skills required. More than one-quarter of employers were unaware of WIL programs, and just less than one-quarter cited professional, regulatory, or staffing issues, as well as financial concerns.

As may be expected, employers' top reason for not offering WIL was a lack of suitable work, cited by more than one-third of employers (see Appendix A). About one in ten employers identified demands on staff time and lack of students with the right skills as the major barriers to their participation.

Table 54: Reasons for Not Offering WIL

	%	Unweighted n
No suitable work available	66.3	567
Staff time to recruit/train/supervise students	31.4	290
No students with the skills needed	31.4	274
Not aware of any such programs	27.3	188
Professional, regulatory, or staffing issues	22.9	229
Recession or other economic pressures	22.1	200
Too much administration/paperwork	19.2	158
Financial costs involved	16.8	174
Concern about competitors hiring trained students	4.6	36
Heard negative things from other employers	3.1	25
Other	3.9	33
Don't Know	4.3	39

There were a few significant differences between employers by company size concerning reasons for not offering WIL. Companies with ten to 19 employees were more likely to report not offering WIL because of a lack of suitable work. Companies with less than ten employees were significantly more likely than companies with ten to 19 employees to cite that they did not offer WIL because they were unaware of such programs and because of concerns about competitors hiring trained students.

The most common top reason for not offering WIL by company size (Appendix A) was the lack of suitable work. This was a particular barrier for the smallest employers, but less of a barrier for firms with 20 to 49 employees. While the absence of students with the right skills was more likely to be mentioned as the main barrier by firms with ten to 19 employees, these firms were less likely to cite a lack of awareness of WIL programs. The smallest firms were the least affected by economic pressures and by paperwork burdens.

Table 55: Reasons for Not Offering WIL by Company Size

	Company Size			
	2-9	10-19	20-49	50+
	n=355	n=211	n=109	n=172
	%			
No suitable work available	63.6_{a}	75.5_{b}	61.8_{a}	56.0_{a}
Staff time to recruit/train/supervise students	30.3_{a}	35.0_{a}	27.7_{a}	31.9_{a}
No students with the skills needed	34.1_{a}	30.7_{a}	24.0_{a}	33.9_{a}
Not aware of any such programs	31.0_{a}	22.0_{b}	$28.5_{a,b}$	$24.4_{a,b}$
Professional, regulatory, or staffing issues	22.6_{a}	21.1_{a}	24.6_{a}	28.2_{a}
Recession or other economic pressures	19.9_{a}	25.5_{a}	20.8_{a}	24.4_{a}
Too much administration/paperwork	16.1_{a}	21.8_{a}	23.2_{a}	19.2_{a}
Financial costs involved	18.8_{a}	17.1_{a}	10.4_{a}	16.2_{a}
Concern about competitors hiring trained students	6.5_{a}	2.0_{b}	$3.0_{a,b}$	$7.0_{a,b}$
Heard negative things from other employers	4.0_{a}	3.3_{a}	0.0^{1}	3.2_{a}
Other	3.2_{a}	0.2_{b}	11.7_{c}	$6.9_{a,c}$
Don't know	4.7_{a}	5.2_{a}	1.2_{a}	4.8_{a}

There were a number of significant differences in employers' reasons for not offering WIL by sector. Manufacturing sector employers were more likely than accommodation and food employers to cite a lack

of suitable work. Demands on staff time were a greater concern for employers from the professional services sector than the retail trades sector. Construction sector employers were more influenced by the lack of students with the right skills than employers in the manufacturing, professional, and retail trades sectors, and the financial costs involved in offering WIL were greater concerns for employers in the construction, manufacturing, and professional sectors than retail trades sector employers.

Table 56: Reasons for Not Offering WIL by Sector

	Sector											
	Accom/ Food	Arts, Ent. & Civic	Construction	Ed.	Finance	Forestry, Mining, Oil & Gas	Info & Culture	Manufacturing	Prof Sci.	Public Admin.	Retail Trades	Health
	n=73	n=30	n=82	n=28	n=139	n=91	n=73	n=124	n=102	n=25	n=66	n=34
	%											
No suitable work available	57.2$_{a}$	79.9$_{a,b}$	69.6$_{a,b}$	57.1$_{a,b}$	67.0$_{a,b}$	74.6$_{a,b}$	59.4$_{a,b}$	78.0$_{b}$	73.0$_{a,b}$	58.8[1]	64.4$_{a,b}$	50.7$_{a,b}$
Staff time to recruit/train/supervise students	29.3$_{a,b}$	40.0$_{a,b}$	35.0$_{a,b}$	37.0$_{a,b}$	33.2$_{a,b}$	25.4$_{a,b}$	46.3$_{a,b}$	35.7$_{a,b}$	41.4$_{a}$	48.2[1]	24.2$_{b}$	33.6$_{a,b}$
No students with the skills needed	21.1$_{a}$	43.1$_{a,b}$	55.8$_{b}$	25.0$_{a,b}$	27.4$_{a}$	31.0$_{a,b}$	34.8$_{a,b}$	30.7$_{a}$	34.8$_{a}$	3.5[1]	27.5$_{a}$	27.0$_{a,b}$
Not aware of any such programs	27.3$_{a}$	13.5$_{a}$	25.0$_{a}$	25.0$_{a}$	25.0$_{a}$	12.7$_{a}$	23.2$_{a}$	25.2$_{a}$	28.4$_{a}$	7.0[1]	33.4$_{a}$	13.2$_{a}$
Professional, regulatory, or staffing issues	15.5$_{a}$	26.7$_{a,b}$	27.9$_{a,b}$	42.0$_{a,b}$	38.9$_{b}$	16.9$_{a,b}$	24.5$_{a,b}$	23.7$_{a,b}$	24.3$_{a,b}$	40.5[1]	16.6$_{a}$	44.1$_{b,c}$
Recession or other economic pressures	23.1$_{a,c,d}$	13.3$_{a,c,d}$	26.3$_{a,c,d}$	8.0$_{a,c,d}$	15.4$_{a,b}$	22.5$_{a,c,d}$	26.5$_{a,c,d}$	36.9$_{c}$	20.6$_{a,c,d}$	41.2[1]	19.5$_{b,d}$	10.5$_{a,c,d}$
Too much administration/paperwork	11.6$_{a}$	26.7$_{a,b}$	17.5$_{a,b}$	17.0$_{a,b}$	15.6$_{a,b}$	9.9$_{a,b}$	20.7$_{a,b}$	27.7$_{b}$	21.5$_{a,b}$	10.5[1]	22.8$_{a,b}$	16.4$_{a,b}$
Financial costs involved	17.2$_{a,b}$	23.2$_{a,b}$	21.3$_{a}$	28.1$_{a,b}$	14.8$_{a,b}$	14.1$_{a,b}$	28.5$_{a,b}$	24.2$_{a}$	26.3$_{a}$	44.7[1]	8.9$_{b}$	7.3$_{a,b}$
Concern about competitors hiring trained students	4.2$_{a}$	3.3$_{a}$	5.0$_{a}$	4.0$_{a}$	0.8$_{a}$	5.6$_{a}$	2.6$_{a}$	6.3$_{a}$	8.1$_{a}$	0.0[1,2]	3.7$_{a}$	6.6$_{a}$
Heard negative things from other employers	2.8$_{a}$	6.6$_{a}$	3.8$_{a}$	8.0$_{a}$	1.5$_{a}$	2.8$_{a}$	2.6$_{a}$	0.0[2]	4.1$_{a}$	3.5[1]	3.7$_{a}$	3.3$_{a}$
Other	6.2$_{a}$	0.0[2]	2.5$_{a}$	5.0$_{a}$	4.4$_{a}$	4.2$_{a}$	2.6$_{a}$	3.0$_{a}$	1.5$_{a}$	3.5[1]	4.9$_{a}$	0.0[2]
Don't Know	4.8$_{a,b}$	0.0[2]	1.3$_{a}$	8.0$_{a,b}$	6.9$_{a,b}$	4.2$_{a,b}$	5.2$_{a,b}$	3.0$_{a,b}$	4.1$_{a,b}$	0.0[1,2]	4.0$_{a,b}$	15.1$_{b}$

1. This category is not used in comparisons because the sum of case weights is less than two.

How could participation in WIL be better facilitated?

Approximately two-thirds of employers suggested that providing financial incentives for employers would help facilitate employer participation in WIL, with no significant differences between co-op and other WIL employers. Co-op employers were significantly more likely to suggest scheduling student placements to meet business cycle needs, standardizing procedures across institutions, simplifying and improving student recruitment and selection, and increasing placement length as ways to facilitate employer participation in WIL. Other WIL employers were significantly more likely to cite more support for student supervision and assessment as a means of facilitating employer participation in WIL.

Employers were also asked to provide the most important way to facilitate employer participation in WIL (Appendix A). Compared to co-op employers, employers who provide other types of WIL were much more likely to recommend financial incentives as the top strategy, and were also more interested in assistance with paperwork. Co-op employers were more likely to support standardized procedures and increased placement length.

Table 57: Facilitate Participation in WIL by Type of WIL*

	Type of WIL	
	Co-op	Other WIL
	n=350	n=579
	%	
Financial incentives for employers	63.1$_a$	67.1$_a$
Schedule student placements to meet business cycle needs	61.0$_a$	45.2$_b$
Standardized procedures across colleges/universities	58.8$_a$	49.5$_b$
Simplified and improved process to recruit/select students	48.5$_a$	39.3$_b$
Increase placement length	46.8$_a$	30.3$_b$
More information for employers	45.2$_a$	47.1$_a$
Centralized employer database	41.9$_a$	34.6$_a$
More opportunities for employer feedback	34.4$_a$	39.1$_a$
Assistance with applications, paperwork	29.3$_a$	28.5$_a$
More support to supervise/assess students	21.8$_a$	39.4$_b$
Reduce placement length	6.2$_a$	9.0$_a$
Other	5.4$_a$	13.8$_b$
Don't know	5.8$_a$	6.5$_a$
None/nothing	0.0$_a$	0.7$_a$

*Includes only employers providing WIL to university students

5 – Challenges Associated with WIL

As a world leader in co-op programs, it is important that the University of Waterloo understand the challenges associated with WIL at all levels. Accordingly, the types of challenges experienced by graduating students, faculty, and employers are presented in the section below. These challenges and how they may be mediated by certain socio-demographic and background characteristics are also examined.

Graduating Student Survey

Provincial Graduating Student Survey

Research on WIL has revealed a number of potential challenges that students who participate in WIL may experience. To provide insight into the issues that WIL students in Ontario face, the Graduating Student Survey included a list of 17 potential challenges and asked respondents to indicate whether each was a major challenge, a minor challenge, or did not apply to them. While the vast majority of graduating university students who participated in WIL experienced some type of challenge, most of the challenges were considered to be minor. The most frequently cited challenges were insufficient preparation from the university before the WIL experience, and classroom theory and skills that were not relevant to the workplace. The issue most frequently reported as a major challenge was not being paid. About two-fifths of WIL university students experienced no major challenges.

Not surprisingly, there were significant differences in the challenges experienced depending on the type of WIL in which students participated. Most notably, students who participated in practicums or clinical placements found financial issues and demands on their time to be the greatest challenges, while the top challenges experienced by co-op students were primarily related to the work assigned in the workplace, in particular that the work was boring or not relevant to the theory and skills learned in school, or that there was too little work assigned.

University of Waterloo Graduating Students

What types of challenges do students most commonly encounter while participating in WIL and does program play a role?

WIL students were asked to comment on the degree to which the statements in Table 58 were challenges for them while participating in WIL.

The top three biggest challenges faced by students participating in WIL differ significantly by type of WIL. The biggest challenges for co-op students were boring work assignments, not enough work assigned, and lack of relevance between the workplace and the theory and skills learned in school. The top challenges for other WIL students were the inability to find appropriate placements, a lack of preparation prior to WIL, and insufficient payment. It should be kept in mind that each of the challenges above was rated less than 2, meaning that none were considered to constitute even a minor challenge to WIL participation.

There are statistically significant differences between co-op and other WIL students in their perceptions of the extent of the challenges they faced. Co-op students considered boring work, not enough work assigned, and lack of relevance between the theory and skills learned in school and the workplace to be greater challenges than students who participated in other WIL. Other WIL students experienced greater levels of challenge related to financial costs and, in particular, lack of compensation.

(1=Did not apply; 2=Minor challenge; 3=Major challenge)

Table 58: Graduating Student Challenges Associated with WIL Participation

	Type of WIL	
	Co-op	Other WIL
	n=255	n=89
	Mean	
Work assigned was boring	1.85$_a$	1.61$_b$
Not enough work assigned in the workplace	1.82$_a$	1.53$_b$
The theory and skills I learned at school were not relevant to the workplace	1.81$_a$	1.65$_b$
Not enough opportunities to share what I learned when I went back to the classroom	1.77$_a$	1.61$_a$
Couldn't find an appropriate placement for my field of study	1.74$_a$	1.79$_a$
Not enough preparation from my school before the WIL	1.71$_a$	1.72$_a$
Didn't get paid enough	1.62$_a$	1.63$_a$
Feeling of disconnection from co-workers	1.57$_a$	1.51$_a$
Not enough support from my school during the WIL	1.51$_a$	1.65$_a$
Too many additional demands on my time	1.47$_a$	1.56$_a$
Too much work assigned in the workplace	1.46$_a$	1.47$_a$
Disorganized work environment	1.45$_a$	1.41$_a$
Unexpected financial costs	1.44$_a$	1.63$_b$
Not enough supervision in the workplace	1.42$_a$	1.39$_a$
Hard to balance WIL with my family commitments	1.38$_a$	1.51$_a$
Didn't learn anything during the work placement	1.28$_a$	1.33$_a$
Didn't get paid at all	1.18$_a$	1.72$_b$

Only two significant differences in the challenges faced by WIL students were found when comparing across program groups. Co-op students in Applied Heath Sciences, Arts, and Environment were more likely than co-op students in Math, Science, and Engineering to consider the additional time demands associated with co-op and balancing co-op with family commitments as challenges.

(1=Did not apply; 2=Minor challenge; 3=Major challenge)

Table 59: Graduating Student Challenges Associated with WIL Participation by Program Group

	Type of WIL			
	Co-op		Other WIL	
	Program group		Program group	
	Math, SCI, ENG	AHS, Arts, ENV	Math, SCI, ENG	AHS, Arts, ENV
	n=89	n=161	n=33	n=53
	Mean			
Work assigned was boring	1.87_a	1.84_a	1.61_a	1.60_a
Not enough work assigned in the workplace	1.79_a	1.83_a	1.54_a	1.50_a
The theory and skills I learned at school were not relevant to the workplace	1.80_a	1.81_a	1.76_a	1.56_a
Not enough opportunities to share what I learned when I went back to the classroom	1.68_a	1.82_a	1.67_a	1.54_a
Couldn't find an appropriate placement for my field of study	1.68_a	1.78_a	1.80_a	1.75_a
Not enough preparation from my school before the WIL	1.68_a	1.73_a	1.75_a	1.66_a
Didn't get paid enough	1.62_a	1.64_a	1.63_a	1.64_a
Feeling of disconnection from co-workers	1.52_a	1.61_a	1.43_a	1.54_a
Not enough support from my school during the WIL	1.45_a	1.56_a	1.64_a	1.64_a
Too many additional demands on my time	1.34_a	1.54_b	1.62_a	1.52_a
Too much work assigned in the workplace	1.41_a	1.49_a	1.48_a	1.45_a
Disorganized work environment	1.36_a	1.51_a	1.48_a	1.37_a
Unexpected financial costs	1.42_a	1.45_a	1.80_a	1.52_a
Not enough supervision in the workplace	1.36_a	1.46_a	1.38_a	1.38_a
Hard to balance WIL with my family commitments	1.26_a	1.46_b	1.62_a	1.41_a
Didn't learn anything during the work placement	1.26_a	1.29_a	1.34_a	1.32_a
Didn't get paid at all	1.17_a	1.19_a	1.67_a	1.72_a

Faculty Survey

Provincial Faculty Survey

The most common challenge associated with WIL, cited by approximately three-quarters of university faculty respondents, was ensuring quality placements for students. This was followed by finding enough placements for students, which was reported by 67 per cent of university faculty. Workload issues also proved to be significant challenges, as approximately one-half of university faculty cited managing WIL with large class sizes and balancing WIL with academic workloads as challenges they faced.

University of Waterloo Faculty

What are faculty members' most commonly referenced challenges with respect to the implementation of WIL and how do these vary by experience with WIL?

Among University of Waterloo faculty, the major challenges associated with the implementation of WIL concern placements and academic workloads. Approximately two-thirds (66%) of all faculty indicated that ensuring quality placements for students was a challenge, and more than half (57%) indicated that finding enough placements for students was a challenge. Close to half identified balancing WIL with academic workloads and managing WIL with large class sizes as additional challenges associated with WIL.

Table 60: Faculty Challenges Associated with WIL

	%	n
Ensuring quality placements for students	66.4	308
Finding enough placements for students	56.9	264
Balancing WIL with academic workloads	46.6	216
Managing WIL with large class sizes	46.3	215
Developing appropriate WIL curricula	37.7	175
Integrating the work experience with classroom learning	36.9	171
Managing employer expectations/communication	32.3	150
Managing student expectations/communication	32.1	149
Lack of financial and administrative resources for faculty	30.0	139
Developing valid student assessment and evaluation tools	28.9	134
Providing adequate institutional supports for students	27.8	129
Making WIL programs accessible to all students	19.4	90
Lack of salary recognition for faculty who participate in WIL	16.6	77
Lack of recognition for WIL activities in promotion decisions	14.0	65
Lack of faculty professional development (PD) on implementing WIL	14.0	65
Lack of institutional culture supporting WIL	12.3	57
Lack of institutional service recognition for WIL activities	11.6	54

There were few significant differences in faculty perceptions of the challenges associated with WIL by program group. A greater proportion of faculty from Applied Health Sciences, Arts, and Environment viewed a lack of financial and administrative resources for faculty, providing adequate institutional supports for students, making WIL programs accessible to all students, and lack of institutional service recognition for WIL activities as challenges.

Table 61: Faculty Challenges Associated with WIL by Program Group

	Program Group	
	Math, SCI, ENG	AHS, Arts, ENV
	n=229	n=240
	%	
Ensuring quality placements for students	63.7$_a$	69.4$_a$
Finding enough placements for students	57.1$_a$	57.0$_a$
Balancing WIL with academic workloads	45.1$_a$	47.7$_a$
Managing WIL with large class sizes	43.8$_a$	49.4$_a$
Developing appropriate WIL curricula	38.5$_a$	37.0$_a$
Integrating the work experience with classroom learning	35.4$_a$	38.7$_a$
Managing employer expectations/communication	36.3$_a$	28.5$_a$
Managing student expectations/communication	33.6$_a$	30.6$_a$
Lack of financial and administrative resources for faculty	24.3$_a$	35.7$_b$
Developing valid student assessment and evaluation tools	25.2$_a$	32.8$_a$
Providing adequate institutional supports for students	21.7$_a$	34.0$_b$
Making WIL programs accessible to all students	14.6$_a$	24.3$_b$
Lack of salary recognition for faculty who participate in WIL	15.0$_a$	18.3$_a$
Lack of recognition for WIL activities in promotion decisions	12.4$_a$	15.7$_a$
Lack of faculty PD on implementing WIL	12.8$_a$	14.9$_a$
Lack of institutional culture supporting WIL	11.5$_a$	13.2$_a$
Lack of institutional service recognition for WIL activities	8.0$_a$	15.3$_b$

As would be expected, there were significant differences in the perceived challenges associated with WIL by level of WIL involvement. Faculty who taught a course with a WIL component were much more likely than other faculty to identify many of the challenges listed, including ensuring quality placements, managing WIL with large class sizes, institutional supports for students, lack of faculty resources and PD, and lack of recognition for WIL related to promotion, salary, and institutional service.

Table 62: Faculty Challenges Associated with WIL by WIL Involvement

	Level of WIL Involvement					
	Teach course with WIL		Teach in program with WIL		No WIL	
	%	n	%	n	%	n
Ensuring quality placements for students	77.8_{a}	91	$66.4_{a,b}$	170	52.3_{b}	46
Finding enough placements for students	60.7_{a}	71	57.4_{a}	147	51.1_{a}	45
Balancing WIL with academic workloads	43.6_{a}	51	46.9_{a}	120	50.0_{a}	44
Managing WIL with large class sizes	64.1_{a}	75	38.3_{b}	98	46.6_{b}	41
Developing appropriate WIL curricula	35.0_{a}	41	36.7_{a}	94	44.3_{a}	39
Integrating the work experience with classroom learning	33.3_{a}	39	37.9_{a}	97	38.6_{a}	34
Managing employer expectations/communication	38.5_{a}	45	$33.2_{a,b}$	85	21.6_{b}	19
Managing student expectations/communication	38.5_{a}	45	32.4_{a}	83	23.9_{a}	21
Lack of financial and administrative resources for faculty	43.6_{a}	51	23.0_{b}	59	$31.8_{a,b}$	28
Developing valid student assessment and evaluation tools	34.2_{a}	40	25.8_{a}	66	31.8_{a}	28
Providing adequate institutional supports for students	40.2_{a}	47	24.2_{b}	62	22.7_{b}	20
Making WIL programs accessible to all students	22.2_{a}	26	16.8_{a}	43	22.7_{a}	20
Lack of salary recognition for faculty who participate in WIL	24.8_{a}	29	12.1_{b}	31	$19.3_{a,b}$	17
Lack of recognition for WIL activities in promotion decisions	28.2_{a}	33	9.4_{b}	24	8.0_{b}	7
Lack of faculty PD on implementing WIL	22.2_{a}	26	11.3_{b}	29	$11.4_{a,b}$	10
Lack of institutional culture supporting WIL	17.1_{a}	20	10.9_{a}	28	9.1_{a}	8
Lack of institutional service recognition for WIL activities	18.8_{a}	22	7.8_{b}	20	$12.5_{a,b}$	11

Employer Survey

Provincial Employer Survey

Employer respondents who have provided WIL were asked about the challenges they experienced with WIL implementation. Over one-third of employers reported that they did not face any challenges. Between 20 and 30 per cent of employers faced challenges concerning student skill levels (both soft skills and technical skills), the staff time needed to recruit, train, and supervise students, and negative experiences with students.

Employer Survey

What are the most common types of challenges experienced by employers providing workplace experiences? Does this vary by company size?

More than one-half of co-op employers and over one-third of other WIL employers reported that they did not experience any challenges in providing WIL to students. Approximately one-quarter of both co-op and other WIL employers indicated that the soft skills of students did not meet their expectations. While co-op employers were less likely than other WIL employers to be dissatisfied with the technical skills of WIL

students, 18 per cent of co-op employers and 28 per cent of other WIL employers identified inadequate technical skills as a challenge.

Only two significant differences were noted between co-op and other WIL employers when they were asked about the single biggest challenge they experienced (Appendix A).Co-op employers were much more likely to report no challenges and were much less likely to mention the demands on staff time as the biggest challenge.

Table 63: Employer Challenges by Type of WIL

	Type of WIL	
	Co-op	Other WIL
	n=158	n=251
	%	
No challenges	51.6$_a$	37.3$_b$
Student didn't have the soft skills we expected	25.1$_a$	27.9$_a$
Student didn't have the technical skills we expected	17.9$_a$	28.1$_b$
Negative experience with the student	16.6$_a$	18.4$_a$
Too much staff time to recruit/train/supervise students	15.0$_a$	28.5$_b$
No suitable work for students	10.1$_a$	10.9$_a$
Trained student was hired by a competitor	9.3$_a$	12.0$_a$
Costs due to student errors/inexperience	8.1$_a$	20.4$_b$
Too much administration/paperwork	6.7$_a$	14.8$_b$
Not enough support from the college/university	4.9$_a$	15.0$_b$
Professional, regulatory or staffing issues	4.5$_a$	14.3$_b$
Other	1.7$_a$	1.2$_a$

While there were no significant differences between co-op employers at firms of different sizes, some significant differences were noted between other WIL employers.

Other WIL employers with less than ten employees, as well as those with 20 to 49 employees, were more likely to report staffing issues and a lack of university support as challenges. Other WIL employers with ten to 19 employees were less likely to indicate that they did not experience any challenges and more likely to identify demands on staff time as a challenge. Other WIL employers with 20 to 49 employees were more likely to cite costs due to student errors/inexperience as a challenge.

Employers were also asked to identify the single biggest challenge they faced (Appendix A). Other WIL employers with ten to 19 employees were the most likely to report challenges. For firms with 20 to 49 employees, other WIL employers were more likely than co-op employers to report a lack of soft skills as a challenge. The opposite was true for the smallest firms.

Table 64: Employer Challenges by Type of WIL and Company Size

	Company Size							
	2-9		10-19		20-49		50+	
	Co-op	Other WIL	Co-op	Other WIL	Co-op	Other WIL	Co-op	Other WIL
	n=48	n=164	n=55	n=128	n=62	n=113	n=185	n=174
	%							
No challenges	52.0_a	37.1_a	52.4_a	30.8_b	56.3_a	39.9_a	46.2_a	47.1_a
Student didn't have the soft skills we expected	28.6_a	24.9_a	31.3_a	31.2_a	19.4_a	30.9_a	21.3_a	24.1_a
Student didn't have the technical skills we expected	20.7_a	33.2_a	16.1_a	30.4_b	19.3_a	23.0_a	16.9_a	17.1_a
Negative experience with the student	16.3_a	17.8_a	21.2_a	18.7_a	16.2_a	19.2_a	12.1_a	17.7_a
Too much staff time to recruit/train/supervise students	17.5_a	33.9_a	20.9_a	41.5_b	5.7_a	12.4_a	15.2_a	14.4_a
No suitable work for students	23.2_a	15.2_a	6.7_a	3.5_a	4.2_a	8.5_a	11.6_a	18.9_a
Trained student was hired by a competitor	3.9_a	10.7_a	4.9_a	9.1_a	11.4_a	18.3_a	15.5_a	10.5_a
Costs due to student errors/inexperience	11.2_a	17.5_a	9.2_a	21.2_b	3.4_a	30.6_b	9.2_a	7.2_a
Too much administration/paperwork	9.1_a	24.0_a	6.6_a	11.5_a	1.7_a	7.5_a	10.0_a	7.6_a
Not enough support from the college/university	2.0_a	18.1_b	9.9_a	14.0_a	2.3_a	17.4_b	3.3_a	2.7_a
Professional, regulatory or staffing issues	6.7_a	21.6_b	2.5_a	6.3_a	2.8_a	15.6_b	7.0_a	6.8_a
Other	0.9_a	1.1_a	1.3_a	1.4_a	2.1_a	0.4_a	2.1_a	3.3_a

6 – Benefits of WIL

Student, faculty, and employer perceptions of the benefits of WIL provide the motivations needed to develop and participate in strong WIL programs.

Graduating students were asked about the types of benefits they received from participating in WIL. Their responses have been collapsed and represent the three broad groups identified by the National Commission for Cooperative Education (1995) as being valued outcomes of co-op education. A benefit commonly associated with WIL is the opportunity to earn money while in school. As a result, the average amount of debt with which students expect to graduate is also discussed in this section. This section of the report also focuses on graduating students' perceptions of and satisfaction with PSE. More specifically, this analysis seeks to understand whether students' perceptions of PSE and their experiences at the University of Waterloo were affected by their participation in WIL, as well as by the type of WIL in which they were involved.

Faculty members were asked about their perceptions of the benefits to students of WIL, as well as the faculty and institutional benefits associated with WIL participation. Since faculty perceptions of WIL benefits are expected to vary according to certain factors such as experiences with WIL, these results are also presented.

Employer perceptions of the benefits of participating in WIL are analyzed through their responses to the most important reasons for offering or planning to offer WIL. Another measure presented that is thought to capture the benefits to employers of WIL participation is the percentage of WIL students hired after graduation.

Graduating Student Survey

Provincial Graduating Student Survey

Participating in WIL is thought to provide a range of benefits to students, including personal growth and development, enhanced employability skills, financial compensation, increased self-efficacy, improved learning outcomes, and increased satisfaction with PSE. To test these assertions, the Graduating Student Survey asked students to rate the effectiveness of their PSE in developing their skills related to the areas listed above, as well as to indicate their overall level of satisfaction with their education. In the provincial results, university graduating students who participated in WIL generally ascribed higher ratings to the quality of their postsecondary education in developing their employability skills and self-efficacy than those who had not participated in WIL. WIL students were also more satisfied with their overall postsecondary experience. Students' ratings did not differ substantially, however, for personal growth, learning outcomes, or civic responsibility.

With regard to financial benefits, university students who participated in WIL were actually slightly more likely to report having debt and had a higher median debt level than students who had not participated in WIL. As would be expected, median debt differed across the types of WIL. In particular, co-op students reported less debt than did non-WIL students, while the median debt of students who participated in practicums or clinical placements and service learning was higher.

University of Waterloo Graduating Students

What types of benefits do students receive from participating in WIL and do these benefits differ from other labour market or volunteer experiences?

The greatest benefits to students from participating in WIL are related to career development. Co-op students were more likely than other WIL students to agree that they benefited professionally and personally from participating in WIL. All WIL students ascribed the lowest rating, on average, to academic benefits, with no significant differences between students who participated in co-op and those who did other types of WIL.

(1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree)

Table 65: Graduating Student Benefits from WIL Participation

	Type of WIL	
	Co-op	Other WIL
	n=255	n=89
	Mean	
Professional benefits	4.28_a	3.72_b
Personal benefits	4.04_a	3.49_b
Academic benefits	3.19_a	3.35_a

Student perceptions of academic, professional, and personal benefits associated with participating in real-world experiences vary by type of experience. While not shown below, confidence intervals were run to assess the extent to which student perceptions of WIL by type of experience differ significantly. WIL students were more likely to have significantly better perceptions of the academic and personal benefits resulting from WIL participation than students who gained experience through paid work or volunteering. Students who participated in WIL and who had outside employment had significantly higher perceptions of the professional benefits gained through WIL participation than students who volunteered.

(1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree)

Table 66: Graduating Student Benefits from WIL Participation by Type of Experience

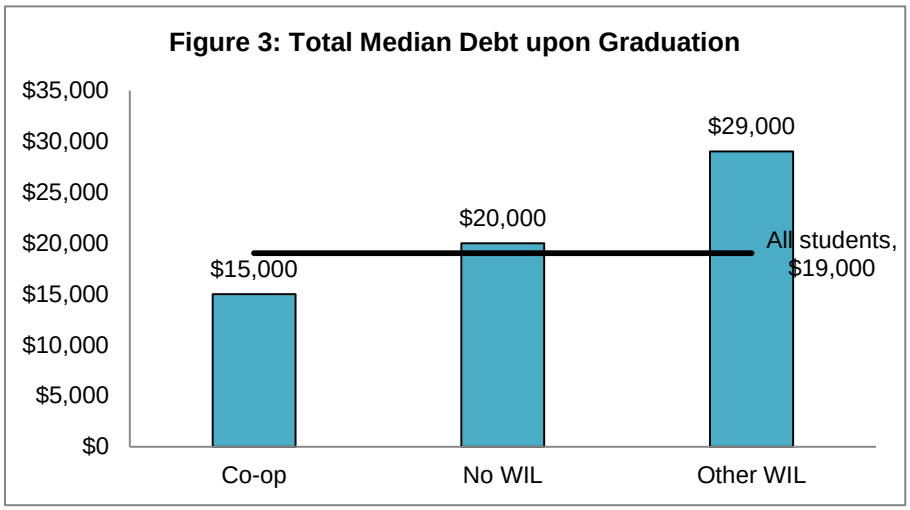
	Type of Experience		
	WIL	Work	Volunteer
	n=364	n=360	n=228
	Mean		
Academic benefits	4.10	3.44	3.50
Professional benefits	3.87	3.94	3.34
Personal benefits	3.18	2.78	2.97

Do WIL students graduate with less debt than non-WIL students?

The majority of students, regardless of WIL participation, expect to graduate with debt. However, statistically significant differences exist between co-op, other WIL, and non-WIL students in the amount of debt accumulated. Not surprisingly, co-op students expect to owe the lowest average amount. Less expected is the finding that other WIL students anticipate carrying the largest amount of debt.

Table 67: Graduating Student Debt by WIL Participation

		Type of WIL		
		Co-op	No WIL	Other WIL
		n=250	n=152	n=82
		%		
Expect to owe any debt that must be repaid	Yes	54.1$_a$	65.0$_a$	53.8$_a$
	No	45.9$_a$	35.0$_a$	46.2$_a$



What impact did WIL have on students' perceptions of their PSE experience, specifically with regard to employability skills, learning outcomes, personal growth, civic responsibility, and self-efficacy?

Graduating students were asked to assess the quality of the education they received at the University of Waterloo with respect to the development of knowledge and skills in the areas of employability and general learning. The response items included the 11 specific skills identified in the Conference Board of Canada's Employability Skills 2000+ and eight broad learning outcomes that are generally associated with participation in postsecondary education.

All University of Waterloo graduating students regarded their education as effective in developing thinking and problem solving skills, providing the skills needed to adapt to different situations, providing opportunities to participate in and manage tasks and projects, preparing them for lifelong learning and working with others. With regard to learning outcomes, students had the best perceptions of the quality of their PSE in developing knowledge of their field of study and fostering critical thinking and self-reflection.

(1=Poor; 2=Fair; 3=Average; 4=Good; 5=Excellent)

Table 68: Graduating Student Perceptions of the Development of Employability Skills and Learning Outcomes

		Mean (n=535)
Employability skills	Thinking and problem solving skills	4.23
	Ability to adapt to different situations	4.12
	Participating in and managing tasks and projects	4.09
	Becoming a lifelong learner	4.04
	Ability to work with others	4.00
	Information management and computer literacy skills	3.83
	Personal and social responsibility	3.81
	Self-confidence and positive attitude	3.80
	Numeracy and data skills	3.73
	Communication and presentation skills	3.70
	Knowledge of workplace safety	3.21
Learning outcomes	Knowledge of your particular field of study	4.18
	Critical thinking and self-reflection	4.03
	Understanding of people from different races and cultures	3.70
	Moral and ethical development	3.49
	Understanding of global issues	3.20
	Understanding of local issues or community problems	3.19
	Understanding of national issues	3.14
	Appreciation of arts and culture	2.93

Co-op students regarded their university education as particularly effective in developing their thinking and problem solving skills, while other WIL and non-WIL students indicated that the University of Waterloo was most effective in preparing them for lifelong learning. Some significant differences were found when comparing results between graduating students based on their participation in WIL.

Looking at employability skills, co-op students were significantly more likely than other WIL and non-WIL students to indicate that the university did a good job at developing their numeracy and data skills. They were also more likely than non-WIL students to indicate that the University of Waterloo was effective in developing their ability to work with others, as well as their information management and computer literacy skills. Co-op students, however, gave lower ratings than all other students to the quality of their education in preparing them for lifelong learning and in developing personal and social responsibility. The effectiveness of the University of Waterloo in developing communication and presentation skills was shown to be significantly lower for other WIL students, while non-WIL students rated the university's effectiveness in developing their knowledge of workplace safety lower than co-op and other WIL students.

While all University of Waterloo graduating students shared similar perceptions with respect to knowledge of their field of study and critical thinking and self-reflection, there were several significant differences among students, particularly between co-op students and all other graduating students. Co-op students

consistently indicated that that University of Waterloo was less effective in developing other measures of learning outcomes, including understanding local, national, and global issues, appreciation of arts and culture, understanding people from different backgrounds, and moral and ethical development.

(1=Poor; 2=Fair; 3=Average; 4=Good; 5=Excellent)

Table 69: Graduating Student Perceptions of the Development of Employability Skills and Learning Outcomes by Participation in WIL

		Type of WIL		
		Co-op	Other WIL	No WIL
		n=255	n=89	n=161
		Mean		
Employability skills	Thinking and problem solving skills	4.30_{a}	4.14_{a}	4.15_{a}
	Ability to adapt to different situations	4.12_{a}	4.13_{a}	4.15_{a}
	Participating in and managing tasks and projects	4.10_{a}	4.07_{a}	4.06_{a}
	Becoming a lifelong learner	3.92_{a}	4.20_{b}	4.16_{b}
	Ability to work with others	4.09_{a}	$4.04_{a,b}$	3.81_{b}
	Information management and computer literacy skills	4.02_{a}	$3.73_{a,b}$	3.60_{b}
	Personal and social responsibility	3.62_{a}	4.07_{b}	3.99_{b}
	Self-confidence and positive attitude	3.74_{a}	3.98_{a}	3.87_{a}
	Numeracy and data skills	4.04_{a}	3.53_{b}	3.33_{b}
	Communication and presentation skills	3.68_{a}	4.02_{b}	3.58_{a}
	Knowledge of workplace safety	3.30_{a}	3.44_{a}	2.94_{b}
Learning outcomes	Knowledge of your particular field of study	4.22_{a}	4.26_{a}	4.11_{a}
	Critical thinking and self-reflection	3.98_{a}	4.07_{a}	4.12_{a}
	Understanding of people from different races and cultures	3.49_{a}	4.02_{b}	3.87_{b}
	Moral and ethical development	3.20_{a}	3.82_{b}	3.74_{b}
	Understanding of global issues	2.90_{a}	3.45_{b}	3.45_{b}
	Understanding of local issues or community problems	2.89_{a}	3.63_{b}	3.44_{b}
	Understanding of national issues	2.83_{a}	3.45_{b}	3.41_{b}
	Appreciation of arts and culture	2.58_{a}	3.16_{b}	3.32_{b}

University of Waterloo graduating students were also asked to indicate their level of agreement with statements related to personal growth, civic responsibility, and self-efficacy outcomes. While graduating students generally gave “average” ratings to the quality of their education in contributing to personal growth and development, two responses were more highly rated – the quality of their education in encouraging greater self-reflection , and in changing established patterns of behaviour. Graduating student perceptions of the impact of their education in developing their sense of civic responsibility were fairly positive, with the importance of helping others without payment receiving the highest quality rating. Measures of self-efficacy also had strong positive responses, in particular, the quality of students’ education in developing confidence in their ability to perform job-related tasks, to obtain outcomes that are important to them, and to perform many tasks effectively.

(1=Poor; 2=Fair; 3=Average; 4=Good; 5=Excellent)

Table 70: Graduating Student Perceptions of the Development Personal Growth, Civic Responsibility, and Self-efficacy

		Mean (n=535)
Personal growth	As a result of my PSE I have changed the way I look at myself	3.95
	As a result of my PSE, I have changed the way I used to do things	3.90
	During my PSE, I discovered faults in what I had previously believed to be right	3.66
	My PSE has challenged some of my firmly held beliefs	3.40
Civic responsibility	It is important to help others even if you do not get paid for it	4.18
	Individuals have a responsibility to help solve our social problems	4.01
	It is the responsibility of the whole community to take care of people who need help	3.92
	I feel that I can make a difference in the world	3.91
Self-efficacy	I have confidence that I will be able to perform job-related tasks assigned to me	4.25
	I believe that I can obtain outcomes that are important to me	4.23
	I am confident that I can perform many different tasks effectively	4.22
	I am able to successfully overcome many challenges	4.18
	I feel certain that I will accomplish difficult tasks when faced with them	4.16
	I have confidence in my ability to communicate in an effective manner	4.14
	I believe that I can succeed at almost anything to which I set my mind	4.07
	I am able to perform quite well even when things are tough	4.06
	I am able to do most tasks very well compared to other people	3.99
	I believe that I will achieve most of the career goals that I have set for myself	3.95
	I am confident that I will be able to progress through the ranks in my place of employment	3.94
	I am confident about finding a job that interests me	3.76

Significant differences in graduating student perceptions of civic responsibility and self-efficacy were found when comparing by type of WIL. However, there were no significant differences in perceptions of personal growth.

While the survey only included four measures of civic responsibility, co-op students did have significantly different levels of agreement from all other students on three of the measures. Co-op students were less likely to agree that it is the responsibility of the whole community to take care of people who need help, and that it is important to help others without being paid to do so. They were also less likely to believe that they can make a difference in the world.

Two significant differences were found for measures of self-efficacy when comparing graduating students by type of WIL. Co-op students were significantly more likely than non-WIL students to agree that they were confident about their ability to progress through the ranks at their place of employment, while non-WIL students were significantly less confident than all other students about their ability to find employment that interests them.

(1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree)

Table 71: Graduating Student Perceptions of the Development Personal Growth, Civic Responsibility, and Self-efficacy by WIL Participation

		Type of WIL		
		Co-op	Other WIL	No WIL
		n=255	n=89	n=161
		Mean		
Personal growth	As a result of my PSE, I have changed the way I look at myself	3.89_{a}	4.06_{a}	4.01_{a}
	As a result of my PSE, I have changed the way I used to do things	3.94_{a}	3.86_{a}	3.88_{a}
	During my PSE, I discovered faults in what I had previously believed to be right	3.61_{a}	3.74_{a}	3.70_{a}
	My PSE has challenged some of my firmly held beliefs	3.29_{a}	3.55_{a}	3.50_{a}
Civic responsibility	It is important to help others even if you do not get paid for it	4.10_{a}	$4.21_{a,b}$	4.32_{b}
	Individuals have a responsibility to help solve our social problems	3.94_{a}	4.13_{a}	4.11_{a}
	It is the responsibility of the whole community to take care of people who need help	3.80_{a}	4.16_{b}	4.07_{b}
	I feel that I can make a difference in the world	3.77_{a}	4.19_{b}	4.03_{b}
Self-efficacy	I have confidence that I will be able to perform job-related tasks assigned to me	4.34_{a}	4.15_{a}	4.19_{a}
	I believe that I can obtain outcomes that are important to me	4.26_{a}	4.27_{a}	4.19_{a}
	I am confident that I can perform many different tasks effectively	4.26_{a}	4.19_{a}	4.23_{a}
	I am able to successfully overcome many challenges	4.25_{a}	4.18_{a}	4.13_{a}
	I feel certain that I will accomplish difficult tasks when faced with them	4.21_{a}	4.20_{a}	4.14_{a}
	I have confidence in my ability to communicate in an effective manner	4.16_{a}	4.17_{a}	4.10_{a}
	I believe that I can succeed at almost anything to which I set my mind	4.14_{a}	4.17_{a}	4.01_{a}
	I am able to perform quite well even when things are tough	4.14_{a}	4.05_{a}	4.01_{a}
	I am able to do most tasks very well compared to other people	4.06_{a}	4.02_{a}	3.93_{a}
	I believe that I will achieve most of the career goals that I have set for myself	4.03_{a}	4.06_{a}	3.85_{a}
	I am confident that I will be able to progress through the ranks in my place of employment	4.08_{a}	$3.91_{a,b}$	3.78_{b}
	I am confident about finding a job that interests me	3.92_{a}	3.92_{a}	3.55_{b}

How satisfied were students with their overall WIL experience and does this vary by program?

On average, graduating students were satisfied with their WIL experiences, but co-op students reported higher levels of overall satisfaction than other WIL students.

(1=Very dissatisfied; 2=Dissatisfied; 3=Neither satisfied nor dissatisfied; 4= Satisfied; 5=Very satisfied)

Table 72: Graduating Students Overall Satisfaction with WIL

	Mean	Unweighted n
Co-op	4.23	289
Other WIL	3.96	123

Co-op graduating students were equally satisfied with their WIL experiences regardless of program area. However, higher levels of satisfaction were reported among students who participated in other types of WIL from the faculties of Math, Science, and Engineering, compared to those from Applied Heath Sciences, Arts, and Environment.

(1=Very dissatisfied; 2=Dissatisfied; 3=Neither satisfied nor dissatisfied; 4= Satisfied; 5=Very satisfied)

Table: 73 Graduating Students Overall Satisfaction with WIL by Program Group

	Program Group	
	Math, SCI, ENG	AHS, Arts, ENV
	Mean (n=145)	Mean (n=160)
Co-op	4.22	4.23
Other WIL	4.06	3.89

Were WIL students more satisfied with their overall postsecondary experiences than non-WIL students?

Co-op and other WIL students were relatively satisfied with their overall postsecondary experience at the University of Waterloo. However, non-WIL students were significantly less satisfied than co-op students with their postsecondary experience.

(1=Very dissatisfied; 2=Dissatisfied; 3=Neither satisfied nor dissatisfied; 4= Satisfied; 5=Very satisfied)

Table 74: Graduating Students Overall Satisfaction with Postsecondary Experience

	Type of WIL		
	Co-op	Other WIL	No WIL
	n=255	n=89	n=161
	Mean		
Satisfaction with overall postsecondary experience	4.08_{a}	$4.04_{a,b}$	3.86_{b}

Faculty Survey

Provincial Faculty Survey

Faculty respondents were asked to indicate their level of agreement with 16 statements about the potential student advantages and disadvantages associated with participating in WIL. Overall, university faculty expressed higher levels of agreement about the advantages associated with WIL than the disadvantages. University faculty had the highest levels of agreement about the labour market

advantages accrued to students participating in WIL, including its contribution to helping students better understand work realities and expectations, and to developing contacts and networks for future employment. A significant proportion of university faculty agreed or strongly agreed that WIL helps students better understand work realities and expectations (87%) and develop employment contacts (82%). There were lower levels of agreement about some other potential advantages of WIL, such as that WIL makes students more employable (67%).

Faculty were also asked about the faculty and institutional benefits associated with WIL participation. Similar to faculty perceptions of student benefits, there were higher levels of agreement with the statements related to advantages than disadvantages. However, faculty reported lower levels of agreement overall (measured by the mean scores associated with each statement) with the faculty and institutional benefits associated with WIL than the student benefits. Faculty had the highest level of agreement with the statements that WIL strengthens links between the institution and the business community and that WIL connects postsecondary institutions to the broader community, with 77 per cent and 78 per cent respectively agreeing or strongly agreeing.

University of Waterloo Faculty

What were the perceived student benefits of WIL?

University of Waterloo faculty tend to have fairly positive perceptions of the student benefits associated with WIL. They agreed most strongly that WIL helps students develop contacts and networks for future employment, and that WIL helps students better understand work realities and expectations. They also perceive additional benefits to students from increased self-confidence, enhanced postsecondary experience, career exploration, the application of theory and skills, and improved employability. There was much less agreement among faculty that WIL improves students' understanding of academic course content. Low levels of faculty agreement with the statement that WIL only benefits students who go directly to the labour market suggests that faculty may also see value in WIL for students who go on to further education.

(1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree)

Table 75: Faculty Perceptions of Student Benefits Associated with WIL

	Mean (n=472)
WIL helps students develop contacts and networks for future employment	4.26
WIL helps students better understand work realities and expectations	4.25
Participating in WIL increases students' self-confidence	4.12
WIL enhances the postsecondary experience for students	4.11
WIL lets students explore their career interests and clarify their career goals	4.10
WIL lets students apply the theory and skills learned in the classroom	4.03
Students who participate in WIL are more employable than other students	4.02
WIL engages students in thinking critically about the workplace and the nature of work	3.93
Participation in WIL increases students' engagement in their academic studies	3.76
WIL is particularly valuable for students considered "at risk"	3.15
There is a lack of evidence about the impact of WIL on student learning	2.89
Too many employers use WIL simply to reduce their salary costs	2.88
Employers, not students, are the main beneficiaries of WIL programs	2.46
The costs to students (both financial and time required) outweigh the benefits of WIL	2.34
WIL does little to improve students' understanding of academic course content	2.26
WIL is only useful for students who go directly to the labour market after their PSE	2.25

Do perceived student benefits vary by age group, gender, program group, non-academic work experience, experiences with WIL, or perception of the purpose of PSE?

Faculty perceptions of the student benefits associated with WIL only differ significantly on two aspects based on age. Faculty aged 40 to 49 were more likely than faculty 50 years and older to agree that too many employers use WIL to reduce their salary costs, while faculty under the age of 40 were more likely than older faculty to agree that WIL does little to improve students' understanding of academic course content.

(1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree)

Table 76: Faculty Perceptions of Student Benefits Associated with WIL by Age Group

	Age Group		
	Under 40	40-49	50 and older
	n=158	n=120	n=166
	Mean		
WIL helps students develop contacts and networks for future employment	4.28_{a}	4.21_{a}	4.29_{a}
WIL helps students better understand work realities and expectations	4.27_{a}	4.22_{a}	4.25_{a}
Participating in WIL increases students' self-confidence	4.09_{a}	4.08_{a}	4.18_{a}
WIL enhances the postsecondary experience for students	4.02_{a}	4.12_{a}	4.18_{a}
WIL lets students explore their career interests and clarify their career goals	4.06_{a}	4.07_{a}	4.16_{a}
WIL lets students apply the theory and skills learned in the classroom	3.95_{a}	4.10_{a}	4.05_{a}
Students who participate in WIL are more employable than other students	3.86_{a}	4.10_{a}	4.10_{a}
WIL engages students in thinking critically about the workplace and the nature of work	3.88_{a}	3.88_{a}	4.02_{a}
Participation in WIL increases students' engagement in their academic studies	3.64_{a}	3.79_{a}	3.83_{a}
WIL is particularly valuable for students considered "at risk"	3.15_{a}	3.11_{a}	3.18_{a}
There is a lack of evidence about the impact of WIL on student learning	2.94_{a}	2.90_{a}	2.84_{a}
Too many employers use WIL simply to reduce their salary costs	$2.94_{a,b}$	3.01_{a}	2.70_{b}
Employers, not students, are the main beneficiaries of WIL programs	2.53_{a}	2.38_{a}	2.45_{a}
The costs to students (both financial and time required) outweigh the benefits of WIL	2.33_{a}	2.36_{a}	2.33_{a}
WIL does little to improve students' understanding of academic course content	2.47_{a}	2.31_{a}	2.04_{b}
WIL is only useful for students who go directly to the labour market after their PSE	2.30_{a}	2.32_{a}	2.14_{a}

Minimal differences were found in faculty perceptions of the student benefits associated with WIL by gender. However, female faculty were more likely to agree that WIL lets students apply the theory and skills learned in the classroom, and male faculty were more likely to agree that students who participate in WIL are more employable than other students.

(1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree)

Table 77: Faculty Perceptions of Student Benefits Associated with WIL by Gender

	Gender	
	Male	Female
	n=309	n=146
	Mean	
WIL helps students develop contacts and networks for future employment	4.26$_a$	4.31$_a$
WIL helps students better understand work realities and expectations	4.28$_a$	4.23$_a$
Participating in WIL increases students' self-confidence	4.12$_a$	4.18$_a$
WIL enhances the postsecondary experience for students	4.12$_a$	4.13$_a$
WIL lets students explore their career interests and clarify their career goals	4.07$_a$	4.18$_a$
WIL lets students apply the theory and skills learned in the classroom	3.98$_a$	4.16$_b$
Students who participate in WIL are more employable than other students	4.09$_a$	3.98$_b$
WIL engages students in thinking critically about the workplace and the nature of work	3.93$_a$	4.01$_a$
Participation in WIL increases students' engagement in their academic studies	3.73$_a$	3.87$_a$
WIL is particularly valuable for students considered "at risk"	3.17$_a$	3.13$_a$
There is a lack of evidence about the impact of WIL on student learning	2.90$_a$	2.84$_b$
Too many employers use WIL simply to reduce their salary costs	2.89$_a$	2.83$_a$
Employers, not students, are the main beneficiaries of WIL programs	2.49$_a$	2.38$_a$
The costs to students (both financial and time required) outweigh the benefits of WIL	2.34$_a$	2.30$_a$
WIL does little to improve students' understanding of academic course content	2.27$_a$	2.21$_a$
WIL is only useful for students who go directly to the labour market after their PSE	2.27$_a$	2.18$_a$

There were only two significant differences in the perceived student benefits of participating in WIL when results were examined by program group. Math, Science, and Engineering faculty reported higher levels of agreement with the statement that students who participate in WIL are more employable. Applied Health Sciences, Arts, and Environment faculty may have greater reservations about the academic benefits of WIL, since they were somewhat more likely to agree that there is a lack of evidence about the impact of WIL on student learning.

(1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree)

Table 78: Faculty Perceptions of Student Benefits Associated with WIL by Program Group

	Program Group	
	Math, SCI, ENG	AHS, Arts, ENV
	n=229	n=240
	Mean	
WIL helps students develop contacts and networks for future employment	4.27_a	4.24_a
WIL helps students better understand work realities and expectations	4.25_a	4.25_a
Participating in WIL increases students' self-confidence	4.14_a	4.09_a
WIL enhances the postsecondary experience for students	4.13_a	4.08_a
WIL lets students explore their career interests and clarify their career goals	4.14_a	4.04_a
WIL lets students apply the theory and skills learned in the classroom	4.04_a	4.03_a
Students who participate in WIL are more employable than other students	4.13_a	3.90_b
WIL engages students in thinking critically about the workplace and the nature of work	3.91_a	3.97_a
Participation in WIL increases students' engagement in their academic studies	3.76_a	3.76_a
WIL is particularly valuable for students considered "at risk"	3.14_a	3.15_a
There is a lack of evidence about the impact of WIL on student learning	2.78_a	2.99_b
Too many employers use WIL simply to reduce their salary costs	2.84_a	2.91_a
Employers, not students, are the main beneficiaries of WIL programs	2.41_a	2.50_a
The costs to students (both financial and time required) outweigh the benefits of WIL	2.31_a	2.36_a
WIL does little to improve students' understanding of academic course content	2.29_a	2.24_a
WIL is only useful for students who go directly to the labour market after their PSE	2.21_a	2.28_a

A handful of significant differences between full- and part-time faculty in their perceptions of the student benefits associated with participating in WIL were found. Part-time faculty were more likely to agree that WIL helps students develop contacts and networks for future employment, that participating in WIL increases students' self-confidence, that WIL lets students explore their career interests and clarify their career goals, that WIL engages students in thinking critically about work, and that participation in WIL increases students' engagement in their studies.

(1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree)

Table 79: Faculty Perceptions of Student Benefits Associated with WIL by Employment Status

	Employment Status	
	Full-time	Part-time
	n=286	n=178
	Mean	
WIL helps students develop contacts and networks for future employment	4.20_a	4.36_b
WIL helps students better understand work realities and expectations	4.17_a	4.37_b
Participating in WIL increases students' self-confidence	4.04_a	4.25_b
WIL enhances the postsecondary experience for students	4.07_a	4.17_a
WIL lets students explore their career interests and clarify their career goals	4.02_a	4.21_b
WIL lets students apply the theory and skills learned in the classroom	3.98_a	4.12_a
Students who participate in WIL are more employable than other students	4.00_a	4.03_a
WIL engages students in thinking critically about the workplace and the nature of work	3.85_a	4.07_b
Participation in WIL increases students' engagement in their academic studies	3.69_a	3.86_b
WIL is particularly valuable for students considered "at risk"	3.09_a	3.23_a
There is a lack of evidence about the impact of WIL on student learning	2.90_a	2.87_a
Too many employers use WIL simply to reduce their salary costs	2.85_a	2.91_a
Employers, not students, are the main beneficiaries of WIL programs	2.48_a	2.40_a
The costs to students (both financial and time required) outweigh the benefits of WIL	2.37_a	2.28_a
WIL does little to improve students' understanding of academic course content	2.32_a	2.18_a
WIL is only useful for students who go directly to the labour market after their PSE	2.20_a	2.30_a

Non-academic work experience tends to mediate faculty perceptions of the student benefits associated with WIL. The largest difference between faculty members based on non-academic work experience was the belief that WIL does little to improve students' understanding of academic course content – faculty without non-academic work experience had higher levels of agreement.

Faculty members, regardless of non-academic work experience, strongly agreed that a considerable student benefit of WIL is the networking opportunities it provides. It should be kept in mind that while the differences between faculty with and without non-academic experience are statistically significant, the magnitudes of these differences are minimal.

(1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree)

Table 80: Faculty Perceptions of Student Benefits Associated with WIL by Non-academic Work Experience

	Non-academic Work Experience	
	Yes	No
	n=295	n=175
	Mean	
WIL helps students develop contacts and networks for future employment	4.31_a	4.17_b
WIL helps students better understand work realities and expectations	4.30_a	4.16_b
Participating in WIL increases students' self-confidence	4.22_a	3.94_b
WIL enhances the postsecondary experience for students	4.20_a	3.96_b
WIL lets students explore their career interests and clarify their career goals	4.16_a	4.00_b
WIL lets students apply the theory and skills learned in the classroom	4.14_a	3.85_b
Students who participate in WIL are more employable than other students	4.13_a	3.83_b
WIL engages students in thinking critically about the workplace and the nature of work	4.01_a	3.80_b
Participation in WIL increases students' engagement in their academic studies	3.83_a	3.64_b
WIL is particularly valuable for students considered "at risk"	3.15_a	3.13_a
There is a lack of evidence about the impact of WIL on student learning	2.82_a	3.00_b
Too many employers use WIL simply to reduce their salary costs	2.80_a	3.01_b
Employers, not students, are the main beneficiaries of WIL programs	2.37_a	2.60_b
The costs to students (both financial and time required) outweigh the benefits of WIL	2.22_a	2.54_b
WIL does little to improve students' understanding of academic course content	2.13_a	2.49_b
WIL is only useful for students who go directly to the labour market after their PSE	2.20_a	2.33_a

Faculty members' perceptions of student benefits associated with WIL vary significantly by level of WIL involvement. The only response with no significant difference is the perception that WIL is particularly valuable for students considered "at risk." Faculty who taught a course with a WIL component tended to have higher average levels of agreement about the student benefits associated with participating in WIL.

(1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree)

Table 81: Faculty Perceptions of Student Benefits Associated with WIL by WIL Involvement

	Level of WIL Involvement		
	Teach course with WIL	Teach in program with WIL	No WIL
	n=118	n=260	n=91
	Mean		
WIL helps students develop contacts and networks for future employment	4.51_a	4.21_b	4.08_b
WIL helps students better understand work realities and expectations	4.49_a	4.18_b	4.13_b
Participating in WIL increases students' self-confidence	4.54_a	3.99_b	3.92_b
WIL enhances the postsecondary experience for students	4.53_a	3.99_b	3.91_b
WIL lets students explore their career interests and clarify their career goals	4.41_a	4.03_b	3.88_b
WIL lets students apply the theory and skills learned in the classroom	4.42_a	3.91_b	3.88_b
Students who participate in WIL are more employable than other students	4.27_a	4.00_b	3.73_c
WIL engages students in thinking critically about the workplace and the nature of work	4.28_a	3.77_b	3.95_b
Participation in WIL increases students' engagement in their academic studies	4.10_a	3.64_b	3.64_b
WIL is particularly valuable for students considered "at risk"	3.17_a	3.10_a	3.26_a
There is a lack of evidence about the impact of WIL on student learning	2.69_a	2.91_b	3.11_b
Too many employers use WIL simply to reduce their salary costs	2.69_a	2.86_a	3.20_b
Employers, not students, are the main beneficiaries of WIL programs	2.22_a	2.48_b	2.73_b
The costs to students (both financial and time required) outweigh the benefits of WIL	2.19_a	2.29_a	2.69_b
WIL does little to improve students' understanding of academic course content	1.82_a	2.40_b	2.48_b
WIL is only useful for students who go directly to the labour market after their PSE	1.95_a	2.24_b	2.70_c

Faculty differed significantly in their perceptions of the student benefits associated with WIL based on their participation in WIL as students. For example, faculty who participated in WIL when they were students were more likely to agree that WIL increases students' self-confidence, enhances the postsecondary experience, allows students to explore their career interests, lets students apply classroom learning, increases students' employability, engages students in critical thinking about work, and increases students' engagement in their academic studies. Faculty who did not participate in WIL when they were students were more likely to agree with the disadvantages associated with WIL, including a lack of evidence about the impact of WIL on student learning, too many employers using WIL to reduce salary costs, employers being the primary beneficiaries of WIL programs, that WIL does little to improve students understanding of course content, and that it is only useful for students who go directly to the labour market after PSE.

(1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree)

Table 82: Faculty Perceptions of Student Benefits Associated with WIL by Participation in WIL as a Student

	Participated in WIL as a Student	
	Yes	No
	n=240	n=228
	Mean	
WIL helps students develop contacts and networks for future employment	4.37_a	4.15_b
WIL helps students better understand work realities and expectations	4.31_a	4.18_a
Participating in WIL increases students' self-confidence	4.29_a	3.93_b
WIL enhances the postsecondary experience for students	4.29_a	3.92_b
WIL lets students explore their career interests and clarify their career goals	4.27_a	3.91_b
WIL lets students apply the theory and skills learned in the classroom	4.22_a	3.84_b
Students who participate in WIL are more employable than other students	4.22_a	3.80_b
WIL engages students in thinking critically about the workplace and the nature of work	4.02_a	3.85_b
Participation in WIL increases students' engagement in their academic studies	3.89_a	3.62_b
WIL is particularly valuable for students considered "at risk"	3.13_a	3.17_a
There is a lack of evidence about the impact of WIL on student learning	2.81_a	2.98_b
Too many employers use WIL simply to reduce their salary costs	2.77_a	3.00_b
Employers, not students, are the main beneficiaries of WIL programs	2.27_a	2.65_b
The costs to students (both financial and time required) outweigh the benefits of WIL	2.24_a	2.44_a
WIL does little to improve students' understanding of academic course content	2.12_a	2.42_b
WIL is only useful for students who go directly to the labour market after their PSE	2.11_a	2.39_a

What were the perceived faculty and institutional benefits of WIL?

Overall, faculty were somewhat less favourable about the institutional benefits associated with WIL than about the benefits to students. This is seen in the overall mean scores associated with each advantage. Faculty highly agreed with statements about personally thinking that WIL was valuable, as well as with perceived benefits associated with strengthening the link between the institution and the business community. Faculty also tended to agree that WIL has a positive impact on institutional recruitment and marketing, connections with the broader community, and institutional reputation.

(1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree)

Table 83: Faculty Perceptions of Faculty and Institutional Benefits Associated with WIL

	Mean (n=472)
I personally think that WIL is valuable	4.24
WIL strengthens links between the institution and the business community	4.11
WIL is an effective PSE recruitment and marketing tool	3.99
WIL connects postsecondary institutions to the broader community	3.92
WIL enhances institutional reputation	3.91
Feedback from students and employers who participate in WIL can improve academic programming	3.75
WIL can engage postsecondary institutions in responding to identified community needs	3.66
WIL can help businesses find solutions to specific business or industry needs	3.60
Involvement with WIL helps faculty keep their knowledge current	3.52
WIL can involve postsecondary institutions in addressing global issues	3.49
My institution provides resources and supports for faculty to participate in WIL activities	3.40
WIL perpetuates a business model for PSE	3.27
WIL diverts funding away from program areas that may not lend themselves to WIL	3.16
By extending corporate involvement in curriculum, WIL has a negative overall impact on PSE	2.78
WIL is inconsistent with the values of a liberal education	2.43

Do the perceived faculty and intuitional benefits vary by age group, gender, program group, non-academic work experience, or experiences with WIL?

Perceptions of the faculty and institutional benefits associated with WIL vary significantly according to faculty age, but only with respect to three statements. Faculty 50 years and older were more likely than faculty under the age of 40 to agree that WIL is an effective PSE recruitment and marketing tool, that WIL enhances institutional reputation, and that involvement with WIL helps faculty keep their knowledge current.

(1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree)

Table 84: Faculty Perceptions of Faculty and Institutional Benefits Associated with WIL by Age Group

	Age Group		
	Under 40	40-49	50 and older
	n=158	n=120	n=166
	Mean		
I personally think that WIL is valuable	4.19_{a}	4.24_{a}	4.30_{a}
WIL strengthens links between the institution and the business community	4.05_{a}	4.11_{a}	4.16_{a}
WIL is an effective PSE recruitment and marketing tool	3.87_{a}	$3.98_{a,b}$	4.10_{b}
WIL connects postsecondary institutions to the broader community	3.81_{a}	3.96_{a}	3.99_{a}
WIL enhances institutional reputation	3.76_{a}	$3.97_{a,b}$	4.00_{b}
Feedback from students and employers who participate in WIL can improve academic programming	3.68_{a}	3.76_{a}	3.81_{a}
WIL can engage postsecondary institutions in responding to identified community needs	3.57_{a}	3.66_{b}	3.76_{a}
WIL can help businesses find solutions to specific business or industry needs	3.56_{a}	3.65_{a}	3.60_{a}
Involvement with WIL helps faculty keep their knowledge current	3.38_{a}	$3.51_{a,b}$	3.67_{b}
WIL can involve postsecondary institutions in addressing global issues	3.39_{a}	3.46_{a}	3.61_{a}
My institution provides resources and supports for faculty to participate in WIL activities	3.30_{a}	3.37_{b}	3.50_{a}
WIL perpetuates a business model for PSE	3.30_{a}	3.24_{a}	3.28_{a}
WIL diverts funding away from program areas that may not lend themselves to WIL	3.23_{a}	3.13_{a}	3.13_{a}
By extending corporate involvement in curriculum, WIL has a negative overall impact on PSE	2.87_{a}	2.79_{a}	2.68_{a}
WIL is inconsistent with the values of a liberal education	2.50_{a}	2.43_{a}	2.37_{a}

Only two significant differences in perceptions of the institutional benefits of WIL participation were found between male and female faculty. Female faculty were more likely to agree that WIL can engage postsecondary institutions in responding to identified community needs as well as in addressing global issues.

(1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree)

Table 85: Faculty Perceptions of Faculty and Institutional Benefits Associated with WIL by Gender

	Gender	
	Male	Female
	n=309	n=146
	Mean	
I personally think that WIL is valuable	4.24$_a$	4.28$_a$
WIL strengthens links between the institution and the business community	4.12$_a$	4.10$_a$
WIL is an effective PSE recruitment and marketing tool	4.03$_a$	3.92$_a$
WIL connects postsecondary institutions to the broader community	3.90$_a$	3.99$_a$
WIL enhances institutional reputation	3.93$_a$	3.92$_a$
Feedback from students and employers who participate in WIL can improve academic programming	3.75$_a$	3.80$_a$
WIL can engage postsecondary institutions in responding to identified community needs	3.58$_a$	3.87$_b$
WIL can help businesses find solutions to specific business or industry needs	3.60$_a$	3.61$_a$
Involvement with WIL helps faculty keep their knowledge current	3.50$_a$	3.57$_a$
WIL can involve postsecondary institutions in addressing global issues	3.43$_a$	3.66$_b$
My institution provides resources and supports for faculty to participate in WIL activities	3.45$_a$	3.28$_a$
WIL perpetuates a business model for PSE	3.28$_a$	3.26$_a$
WIL diverts funding away from program areas that may not lend themselves to WIL	3.14$_a$	3.19$_a$
By extending corporate involvement in curriculum, WIL has a negative overall impact on PSE	2.74$_a$	2.82$_a$
WIL is inconsistent with the values of a liberal education	2.39$_a$	2.50$_a$

Faculty in both program groups reported a high level of agreement with the statement that WIL is valuable. The only significant differences between program groups were higher levels of agreement among Applied Health Sciences, Arts, and Environment faculty about the value of WIL for connecting postsecondary institutions to the broader community and responding to community needs, and that the University of Waterloo provides resources and supports for faculty to engage in WIL activities.

(1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree)

Table 86: Faculty Perceptions of Faculty and Institutional Benefits Associated with WIL by Program Group

	Program Group	
	Math, SCI, ENG	AHS, Arts, ENV
	n=229	n=240
	Mean	
I personally think that WIL is valuable	4.27$_a$	4.21$_a$
WIL strengthens links between the institution and the business community	4.15$_a$	4.07$_a$
WIL is an effective PSE recruitment and marketing tool	3.98$_a$	4.00$_a$
WIL connects postsecondary institutions to the broader community	3.84$_a$	4.01$_b$
WIL enhances institutional reputation	3.99$_a$	3.84$_a$
Feedback from students and employers who participate in WIL can improve academic programming	3.70$_a$	3.80$_a$
WIL can engage postsecondary institutions in responding to identified community needs	3.49$_a$	3.83$_b$
WIL can help businesses find solutions to specific business or industry needs	3.58$_a$	3.63$_a$
Involvement with WIL helps faculty keep their knowledge current	3.45$_a$	3.59$_a$
WIL can involve postsecondary institutions in addressing global issues	3.45$_a$	3.59$_a$
My institution provides resources and supports for faculty to participate in WIL activities	3.39$_a$	3.59$_b$
WIL perpetuates a business model for PSE	3.23$_a$	3.31$_a$
WIL diverts funding away from program areas that may not lend themselves to WIL	3.09$_a$	3.23$_a$
By extending corporate involvement in curriculum, WIL has a negative overall impact on PSE	2.72$_a$	2.83$_a$
WIL is inconsistent with the values of a liberal education	2.41$_a$	2.45$_a$

Three statistically significant differences in perceptions of the institutional benefits associated with WIL were found when comparing faculty by employment status. Part-time faculty were more likely to agree about the value of WIL and that feedback from students and employers who participate in WIL can improve academic programming. Full-time faculty were more likely to agree that by extending corporate involvement in curriculum, WIL has a negative overall impact on PSE.

(1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree)

Table 87: Faculty Perceptions of Faculty and Institutional Benefits Associated with WIL by Employment Status

	Employment Status	
	Full-time	Part-time
	n=286	n=178
	Mean	
I personally think that WIL is valuable	4.18$_a$	4.35$_b$
WIL strengthens links between the institution and the business community	4.07$_a$	4.17$_a$
WIL is an effective PSE recruitment and marketing tool	4.00$_a$	3.95$_a$
WIL connects postsecondary institutions to the broader community	3.90$_a$	3.95$_a$
WIL enhances institutional reputation	3.91$_a$	3.92$_a$
Feedback from students and employers who participate in WIL can improve academic programming	3.63$_a$	3.94$_b$
WIL can engage postsecondary institutions in responding to identified community needs	3.60$_a$	3.74$_a$
WIL can help businesses find solutions to specific business or industry needs	3.60$_a$	3.61$_a$
Involvement with WIL helps faculty keep their knowledge current	3.45$_a$	3.62$_a$
WIL can involve postsecondary institutions in addressing global issues	3.44$_a$	3.56$_a$
My institution provides resources and supports for faculty to participate in WIL activities	3.44$_a$	3.33$_a$
WIL perpetuates a business model for PSE	3.28$_a$	3.26$_a$
WIL diverts funding away from program areas that may not lend themselves to WIL	3.20$_a$	3.08$_a$
By extending corporate involvement in curriculum, WIL has a negative overall impact on PSE	2.86$_a$	2.64$_b$
WIL is inconsistent with the values of a liberal education	2.43$_a$	2.45$_a$

There were a number of significant differences in perceived faculty and institutional benefits associated with WIL by non-academic work experience. For example, faculty with non-academic work experience were significantly more likely to agree that they personally thought WIL was valuable, as well as with statements about the benefits of WIL with regard to connecting institutions to the broader community, enhancing institutional reputation, and enhancing academic programming based on feedback from WIL students and employers. Faculty without non-academic work experience were significantly more likely to agree that WIL has a negative overall impact on PSE because of corporate involvement in the curriculum and that it is inconsistent with the values of a liberal education.

(1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree)

Table 88: Faculty Perceptions of Faculty and Institutional Benefits Associated with WIL by Non-academic Work Experience

	Non-academic Work Experience	
	Yes	No
	n=295	n=175
	Mean	
I personally think that WIL is valuable	4.33_a	4.09_b
WIL strengthens links between the institution and the business community	4.15_a	4.04_a
WIL is an effective PSE recruitment and marketing tool	4.00_a	3.97_a
WIL connects postsecondary institutions to the broader community	3.99_a	3.81_b
WIL enhances institutional reputation	3.98_a	3.80_b
Feedback from students and employers who participate in WIL can improve academic programming	3.87_a	3.55_b
WIL can engage postsecondary institutions in responding to identified community needs	3.75_a	3.50_b
WIL can help businesses find solutions to specific business or industry needs	3.63_a	3.55_a
Involvement with WIL helps faculty keep their knowledge current	3.67_a	3.26_b
WIL can involve postsecondary institutions in addressing global issues	3.60_a	3.31_b
My institution provides resources and supports for faculty to participate in WIL activities	3.41_a	3.37_a
WIL perpetuates a business model for PSE	3.22_a	3.36_a
WIL diverts funding away from program areas that may not lend themselves to WIL	3.05_a	3.36_b
By extending corporate involvement in curriculum, WIL has a negative overall impact on PSE	2.61_a	3.07_b
WIL is inconsistent with the values of a liberal education	2.36_a	2.55_a

There were a number of significant differences between faculty members based on their level of WIL involvement, and in fact the only statement where no significant differences were found was that WIL perpetuates a business model for PSE. Faculty who taught a course with WIL reported higher levels of agreement with statements about the faculty and institutional benefits associated with WIL compared to all others. There were, however, three exceptions. First, faculty who taught a course with WIL were more likely than faculty with no WIL involvement to agree that the University of Waterloo provides resources and supports for faculty to participate in WIL activities. Second, faculty who taught a course with WIL were less likely to agree that WIL diverts funding away from program areas that may not lend themselves to WIL than faculty with no WIL involvement. Third, faculty who taught a course with WIL agreed more strongly than other faculty – particularly those with no WIL involvement – that WIL is an effective PSE recruitment and marketing tool.

(1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree)

Table 89: Faculty Perceptions of Faculty and Institutional Benefits Associated with WIL by WIL Involvement

	Level of WIL Involvement		
	Teach course with WIL	Teach in program with WIL	No WIL
	n=118	n=260	n=91
	Mean		
I personally think that WIL is valuable	4.65_a	4.13_b	4.05_b
WIL strengthens links between the institution and the business community	4.34_a	4.06_b	3.95_b
WIL is an effective PSE recruitment and marketing tool	4.22_a	3.96_b	3.73_c
WIL connects postsecondary institutions to the broader community	4.32_a	3.77_b	3.83_b
WIL enhances institutional reputation	4.26_a	3.85_b	3.64_b
Feedback from students and employers who participate in WIL can improve academic programming	4.18_a	3.59_b	3.65_b
WIL can engage postsecondary institutions in responding to identified community needs	4.10_a	3.46_b	3.66_b
WIL can help businesses find solutions to specific business or industry needs	3.86_a	3.53_b	3.43_b
Involvement with WIL helps faculty keep their knowledge current	4.08_a	3.28_b	3.48_b
WIL can involve postsecondary institutions in addressing global issues	3.90_a	3.31_b	3.49_b
My institution provides resources and supports for faculty to participate in WIL activities	3.56_a	$3.38_{a,b}$	3.21_b
WIL perpetuates a business model for PSE	3.22_a	3.29_a	3.27_a
WIL diverts funding away from program areas that may not lend themselves to WIL	2.96_a	$3.21_{a,b}$	3.29_b
By extending corporate involvement in curriculum, WIL has a negative overall impact on PSE	2.36_a	2.88_b	3.04_b
WIL is inconsistent with the values of a liberal education	2.21_a	2.43_a	2.75_b

Faculty members' participation in WIL when they were students mediates their level of agreement about faculty and institutional benefits associated with WIL. Faculty who participated in WIL when they were students had higher levels of agreement when significant differences were found, with two exceptions. Faculty who did not participate in WIL when they were students were more likely to agree that WIL diverts funding away from program areas that may not lend themselves to WIL, and that by extending corporate involvement in the curriculum, WIL has a negative overall impact on PSE.

(1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree)

Table 90: Faculty Perceptions of Faculty and Institutional Benefits Associated with WIL by Participation in WIL as a Student

	Participated in WIL as a Student	
	Yes	No
	n=240	n=228
	Mean	
I personally think that WIL is valuable	4.46_a	4.01_b
WIL strengthens links between the institution and the business community	4.20_a	4.01_b
WIL is an effective PSE recruitment and marketing tool	4.08_a	3.89_b
WIL connects postsecondary institutions to the broader community	4.04_a	3.80_b
WIL enhances institutional reputation	4.08_a	3.74_b
Feedback from students and employers who participate in WIL can improve academic programming	3.94_a	3.56_b
WIL can engage postsecondary institutions in responding to identified community needs	3.73_a	3.60_a
WIL can help businesses find solutions to specific business or industry needs	3.66_a	3.54_a
Involvement with WIL helps faculty keep their knowledge current	3.70_a	3.33_b
WIL can involve postsecondary institutions in addressing global issues	3.58_a	3.40_b
My institution provides resources and supports for faculty to participate in WIL activities	3.42_a	3.37_a
WIL perpetuates a business model for PSE	3.19_a	3.36_a
WIL diverts funding away from program areas that may not lend themselves to WIL	3.00_a	3.32_b
By extending corporate involvement in curriculum, WIL has a negative overall impact on PSE	2.64_a	2.92_b
WIL is inconsistent with the values of a liberal education	2.33_a	2.53_a

Employer Survey

Provincial Employer Survey

Employers were asked about their motivations for providing WIL. Approximately one-quarter of employers reported that they provide WIL as a means of developing industry/profession workforce skills, and slightly more than one-fifth cited prescreening potential new hires as their most important reason for offering WIL. Future WIL employers were also asked about their motivations for planning to offer WIL. Prescreening potential new hires was the most frequent main reason for planning to provide WIL, reported by slightly less than one-fifth of employer respondents. However, almost as many future WIL employers identified giving back to the community as the single most important reason for their interest in WIL.

Employer Survey

What are employers' most important reasons for offering and planning to offer WIL?

The most important employer reasons for providing WIL are mediated by the type of WIL provided. Almost one-quarter of co-op employers cited prescreening potential hires as their most important reason

for providing WIL, followed closely by the desire to develop industry/profession workforce skills and to bring in specific skills and talent. Among other WIL employers, developing industry/profession workforce skills was the most important reason, cited by slightly less than one-quarter of respondents. Other WIL employers were also motivated by the desire to "give back" to the community and to prescreen potential new hires.

Co-op employers were significantly more likely to provide WIL as a means of prescreening potential new hires and to manage short-term pressures or complete special projects, while other WIL employers were more likely to provide WIL to "give back" to the community.

When all reasons for providing WIL were analyzed, the most frequently reported reason for providing WIL for both co-op and other WIL employers was to develop industry/profession workforce skills. Comparison between co-op and other WIL employers shows only one significant difference. Other WIL employers were significantly less likely to report that they provide WIL to manage short-term pressures or complete special projects (Appendix A).

Table 91: Most Important Reason for Providing WIL by Type of WIL*

	Type of WIL	
	Co-op	Other WIL
	n=350	n=579
	%	
To prescreen potential new hires	22.7$_a$	15.8$_b$
To develop industry/profession workforce skills	20.0$_a$	23.3$_a$
To bring in specific skills/talent	17.1$_a$	13.3$_a$
To manage short-term pressures or complete special projects	15.6$_a$	8.8$_b$
To "give back" to the community	9.2$_a$	17.9$_b$
To increase productivity	6.8$_a$	6.7$_a$
To reduce labour costs	3.5$_a$	6.3$_a$
Asked by the college/university	1.2$_a$	2.8$_a$
To enhance company reputation	0.9$_a$	1.5$_a$
Heard positive things from other employers	0.0	0.6$_a$
Other	0.6$_a$	1.3$_a$
Don't know	2.4$_a$	1.7$_a$

*Includes only employers providing WIL to university students

Prescreening potential new hires and "giving back" to the community were the two biggest motivators for employers who indicated they were planning to provide WIL. These were closely followed by the desire to bring in specific skills and talent.

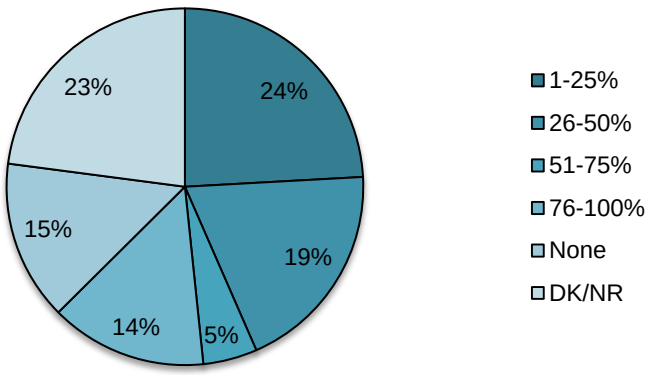
Table 92: Most Important Reason for Planning to Provide WIL

	%	Unweighted n (n=412)
To prescreen potential new hires	18.8	95
To "give back" to the community	18.2	52
To bring in specific skills/talent	15.1	51
To manage short-term pressures or complete special projects	12.7	55
To develop industry/profession workforce skills	11.1	68
To increase productivity	8.7	32
To reduce labour costs	6.3	24
To enhance company reputation	4.3	11
Heard positive things from other employers	2.4	4
Asked by the college/university	0.9	9
Other	0.0	0
Don't know	1.5	11

In the total time employers have provided WIL, what percentages of students have been hired after graduation?

Employers were asked to estimate the percentage of WIL students they had hired following the students' graduation from university during the entire period in which they were involved in Ontario university workplace programs. One-quarter of university co-op employers reported hiring 25 per cent or fewer of the co-op students they had placed. Another one in five employers hired between one-quarter and one-half of their university co-op students and a similar proportion hired at least half of their university co-op students, including 14 per cent who hired more than three-quarters of the students who completed work-terms in their workplaces.

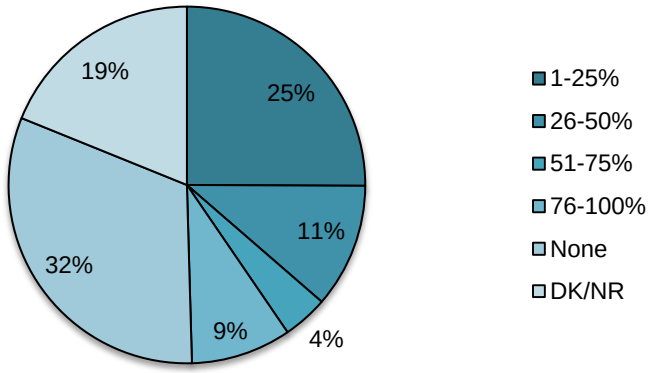
Figure 4: Percentage of Students Hired After Graduation, Co-op*



*Includes only employers providing co-op to university students

Employers who provided other types of WIL were far more likely than those who provided co-op to report not hiring any students after graduation. Similar to co-op employers, one-quarter of other WIL employers hired 25 per cent or fewer of their WIL students after graduation. However, only 24 per cent had hired more than one-quarter of the students who did WIL at their workplaces, compared to 38 per cent of co-op employers.

Figure 5: Percentage of Students Hired After Graduation, Other WIL*



*Includes only employers providing other WIL to university students

7 – The University of Waterloo Relative to Other Participating Universities

This final analysis chapter draws comparisons between the University of Waterloo and all other participating universities. A total of six universities participated in the Faculty Survey – Laurentian University, University of Ottawa, University of Waterloo, Western University, University of Windsor, and York University. Seven universities participated in the Graduating Student Survey – all universities listed above, as well as Carleton University.

Comparisons are made between graduating student respondents as well as university faculty respondents. These comparisons allow for the assessment of the extent to which University of Waterloo graduating students and faculty differ from their counterparts at other universities.

Participation in WIL

Graduating Student Survey

What proportion of students participated in WIL?

The proportion of graduating students who participated in WIL differs significantly between the University of Waterloo and all other participating universities. University of Waterloo graduating students were far more likely to have participated in co-op programs, while graduating students from the other participating universities were far more likely to have participated in other WIL and to have no WIL experience. Other participating university graduating student respondents were also more likely to indicate future WIL participation and were less likely to report starting in co-op and subsequently transferring out.

Table 93: Graduating Student Participation in WIL by University

	Institution	
	UW	Other universities
	n=535	n=5322
	%	
Co-op	48.0$_a$	5.3$_b$
Other WIL	16.2$_a$	34.0$_b$
No WIL	29.8$_a$	55.2$_b$
Future WIL	1.9$_a$	5.0$_b$
Started in co-op by transferred out	4.0$_a$	0.6$_b$

Do the socio-demographic characteristics of WIL participants vary by institution?

There were few socio-demographic differences between graduating students at the University of Waterloo and other participating universities by WIL participation. However, males at the University of Waterloo were significantly more likely to have participated in co-op than in other types of WIL, while females from other participating universities were more likely to have participated in co-op. Co-op and other WIL students at the University of Waterloo were significantly more likely to have enrolled in university immediately after high school when compared to their counterparts at other participating universities. Students in Math, Science, and Engineering at the University of Waterloo were significantly more likely to have no WIL experience compared to other universities, while Arts, Applied Health Science, and

Environment students at the University of Waterloo were significantly less likely to have no WIL experience than their counterparts at other universities.

These differences are reflective of the larger population of respondents. For example, there was a significantly larger proportion of males at the University of Waterloo (54% vs. 39%) than at other universities. There was also a significantly larger percentage of direct entrants at the University of Waterloo than at other participating universities (80% vs. 64%), and the percentage of University of Waterloo students in Math, Science, and Engineering was significantly larger than at other universities (37% vs. 16%).

Table 94: WIL Participation by Socio-Demographics and Institution

		Type of WIL											
		Co-op				Other WIL				No WIL			
		Institution											
		UW		Other universities		UW		Other universities		UW		Other universities	
		%	n	%	n	%	n	%	n	%	n	%	n
Gender	Male	64.4$_a$	130	51.3$_b$	114	37.4$_a$	24	33.5$_a$	481	44.7$_a$	49	40.8$_a$	927
	Female	35.6$_a$	124	48.7$_b$	171	62.6$_a$	63	66.5$_a$	1375	55.3$_a$	107	59.2$_a$	1929
	Total	100.0	254	100.0	285	100.0	87	100.0	1856	100.0	156	100.0	2856
Entry type	Direct entry	89.2$_a$	229	68.7$_b$	217	71.4$_a$	64	59.2$_b$	1265	70.5$_a$	124	66.4$_a$	2118
	Delayed entry	10.8$_a$	26	31.3$_b$	70	28.6$_a$	25	40.8$_b$	622	29.5$_a$	37	33.6$_a$	770
	Total	100.0	255	100.0	287	100.0	89	100.0	1887	100.0	161	100.0	2888
First-generation status	Yes	15.4$_a$	41	17.3$_a$	49	16.3$_a$	14	21.4$_a$	383	26.5$_a$	40	23.6$_a$	621
	No	84.6$_a$	209	82.7$_a$	235	83.7$_a$	72	78.6$_a$	1452	73.5$_a$	114	76.4$_a$	2186
	Total	100.0	250	100.0	284	100.0	86	100.0	1835	100.0	154	100.0	2807
Program group	Math, SCI, ENG	35.4$_a$	89	39.2$_a$	104	37.6$_a$	33	15.5$_b$	275	39.8$_a$	63	14.0$_b$	383
	AHS, Arts, ENV	64.6$_a$	161	60.8$_a$	177	62.4$_a$	53	84.5$_b$	1560	60.2$_a$	92	86.0$_b$	2348
	Total	100.0	250	100.0	281	100.0	86	100.0	1835	100.0	155	100.0	2731

Of those who did not participate in WIL, did their program provide the option?

While more than 40 per cent of other university graduating student respondents indicated that they had an option to participate in WIL, University of Waterloo graduating students were significantly more likely to indicate that their program did have a WIL option. Other university graduating students were significantly more likely to report that they were unsure whether the option to participate in WIL was offered in their program.

Table 95: Program Option to Participate in WIL by Institution

		Institution			
		UW		Other universities	
		n=161		n=2888	
		%			
Does your current postsecondary program offer students the option of participating in work-integrated learning?	Yes	63.5$_a$	106	42.9$_b$	1301
	No	24.2$_a$	37	31.1$_a$	867
	Not sure	12.3$_a$	18	26.0$_b$	720

Faculty Survey

Were University of Waterloo faculty socio-demographically different from faculty at other participating universities?

Faculty at the University of Waterloo, regardless of their age, gender, program group, employment status, and non-academic work experience, were significantly more likely to have taught in a program with a WIL component and were significantly less likely to have no WIL involvement. However, a significantly smaller proportion of full-time faculty taught in a course with WIL at the University of Waterloo when compared to faculty at other participating universities.

Table 96: Faculty WIL Involvement by Age Group and Institution

		Age Group					
		Under 40		40-49		50 and over	
		Institution					
		UW	Other universities	UW	Other universities	UW	Other universities
		n=158	n=337	n=145	n=508	n=166	n=580
		%					
Level of WIL involvement	Teach course with WIL	13.9$_a$	18.4$_a$	24.1$_a$	28.5$_a$	36.7$_a$	38.8$_a$
	Teach in program with WIL	57.0$_a$	23.4$_b$	58.6$_a$	22.4$_b$	51.2$_a$	20.5$_b$
	No WIL	29.1$_a$	58.2$_b$	17.2$_a$	49.0$_b$	12.0$_a$	40.7$_b$

Table 97: Faculty WIL Involvement by Gender and Institution

		Gender			
		Male		Female	
		Institution			
		UW	Other universities	UW	Other universities
		n=308	n=795	n=144	n=604
		%			
Level of WIL involvement	Teach course with WIL	22.7$_a$	27.7$_a$	31.9$_a$	33.9$_a$
	Teach in program with WIL	59.7$_a$	24.2$_b$	45.1$_a$	19.0$_b$
	No WIL	17.5$_a$	48.2$_b$	22.9$_a$	47.0$_b$

Table 98: Faculty WIL Involvement by Program Group and Institution

		Program Group			
		Math, SCI, ENG		AHS, Arts, ENV	
		Institution			
		UW	Other universities	UW	Other universities
		n=212	n=351	n=240	n=950
		%			
Level of WIL involvement	Teach course with WIL	18.$_a$	20.2$_a$	30.0$_a$	31.1$_a$
	Teach in program with WIL	68.9$_a$	34.2$_b$	45.0$_a$	17.8$_b$
	No WIL	12.3$_a$	45.6$_b$	25.0$_a$	51.2$_b$

Table 99: Faculty WIL Involvement by Employment Status and Institution

		Employment Status			
		Full-time		Part-time	
		Institution			
		UW	Other universities	UW	Other universities
		n=286	n=923	n=175	n=499
		%			
Level of WIL involvement	Teach course with WIL	24.8$_a$	31.7$_b$	24.0$_a$	27.7$_a$
	Teach in program with WIL	63.3$_a$	23.9$_b$	43.4$_a$	18.2$_b$
	No WIL	11.9$_a$	44.3$_b$	32.6$_a$	54.1$_b$

Table 100: Faculty WIL Involvement by Non-academic Work Experience and Institution

		Non-academic Work Experience			
		Yes		No	
		Institution			
		UW	Other universities	UW	Other universities
		n=294	n=946	n=175	n=479
		%			
Level of WIL involvement	Teach course with WIL	31.6$_a$	36.9$_a$	14.3$_a$	17.3$_a$
	Teach in program with WIL	51.7$_a$	22.2$_b$	61.7$_a$	21.3$_b$
	No WIL	16.7 $_a$	40.9$_b$	24.0$_a$	61.4$_b$

Do impacts on faculty workloads resulting from WIL differ by institution?

The impact that teaching a course with WIL has on faculty workloads was found, in some instances, to vary by institution. University of Waterloo faculty were less likely than faculty from other participating universities to gather feedback from students on the quality of their WIL experience, or from employers/community partners on their experience with WIL students. They were less likely to perform classroom-related WIL activities such as evaluating students' WIL-related classroom assignments, assessing students for their workplace activities, and preparing WIL-related lectures, tutorials, workshops. University of Waterloo faculty were also less likely than faculty from the other participating universities to be involved in workplace aspects

associated with WIL, including supervising/interacting with WIL administrative staff/coordinators, and conducting site visits and monitoring students in the workplace.

Table 101: Impact of WIL on Faculty Workloads by Institution

		Institution			
		UW		Other universities	
		%	n	%	n
Established WIL student learning objectives	Did not do this	28.8$_a$	34	21.2$_a$	89
	Part of regular duties	50.8$_a$	60	60.1$_a$	252
	Addition to reg duties	20.3$_a$	24	18.6$_a$	78
Developed WIL-related curricula or course content	Did not do this	31.4$_a$	37	24.2$_a$	102
	Part of regular duties	46.6$_a$	55	56.2$_a$	237
	Addition to reg duties	22.0$_a$	26	19.7$_a$	83
Gathered feedback from students on the quality of their WIL experience	Did not do this	35.6$_a$	42	20.7$_b$	87
	Part of regular duties	49.2$_a$	58	62.4$_b$	262
	Addition to reg duties	15.3$_a$	18	16.9$_a$	71
Evaluated students' WIL-related classroom assignments	Did not do this	35.3$_a$	42	18.6$_b$	78
	Part of regular duties	52.1$_a$	62	68.3$_b$	287
	Addition to reg duties	12.6$_a$	15	13.1$_a$	55
Provided career/employment counseling or mentoring for students	Did not do this	33.1$_a$	39	26.9$_a$	112
	Part of regular duties	30.5$_a$	36	39.3$_a$	164
	Addition to reg duties	36.4$_a$	43	33.8$_a$	141
Prepared WIL-related lectures, tutorials, workshops	Did not do this	34.5$_a$	41	23.5$_b$	99
	Part of regular duties	48.7$_a$	58	58.8$_a$	248
	Addition to reg duties	16.8$_a$	20	17.8$_a$	75
Prepared or oriented students into industry/sector	Did not do this	46.7$_a$	56	41.0$_a$	169
	Part of regular duties	39.2$_a$	47	46.1$_a$	190
	Addition to reg duties	14.2$_a$	17	12.9$_a$	53
Managed relationships with host employers and community partners	Did not do this	48.7$_a$	58	43.5$_a$	181
	Part of regular duties	29.4$_a$	35	35.8$_a$	149
	Addition to reg duties	21.8$_a$	26	20.7$_a$	86
Assessed students for their workplace activities	Did not do this	47.1$_a$	56	32.5$_b$	137
	Part of regular duties	40.3$_a$	48	53.4$_b$	225
	Addition to reg duties	12.6$_a$	15	14.0$_a$	59
Recruited WIL partners/host sites	Did not do this	52.2$_a$	60	48.0$_a$	200
	Part of regular duties	23.5$_a$	27	23.3$_a$	97
	Addition to reg duties	24.3$_a$	28	28.8$_a$	120
Gathered feedback from employers/community partners on their experience with WIL students	Did not do this	52.5$_a$	62	36.1$_b$	151
	Part of regular duties	31.4$_a$	37	46.9$_b$	196
	Addition to reg duties	16.1$_a$	19	17.0$_a$	71
Prepared or oriented host employers and community partners	Did not do this	54.2$_a$	65	55.6$_a$	233
	Part of regular duties	26.7$_a$	32	26.3$_a$	110
	Addition to reg duties	19.2$_a$	23	18.1$_a$	76
Supervised/interacted with WIL administrative staff/coordinators	Did not do this	52.1$_a$	62	40.0$_b$	168
	Part of regular duties	35.3$_a$	42	42.4$_a$	178
	Addition to reg duties	12.6$_a$	15	17.6$_a$	74
Completed paperwork and documentation specific to WIL contracts	Did not do this	55.9$_a$	66	48.4$_a$	203
	Part of regular duties	24.6$_a$	29	33.7$_a$	141
	Addition to reg duties	19.5$_a$	23	17.9$_a$	75
Conducted site visits and monitored students in the workplace	Did not do this	76.1$_a$	89	48.2$_b$	203
	Part of regular duties	17.9$_a$	21	37.1$_b$	156
	Addition to reg duties	6.0$_a$	7	14.7$_b$	62
Coordinated risk management and insurance details	Did not do this	76.7$_a$	89	76.7$_a$	320
	Part of regular duties	15.5$_a$	18	14.4$_a$	60

	Addition to reg duties	7.8[a]	9	8.9[a]	37
Provided training and support for employers/site supervisors	Did not do this	78.0[a]	92	73.5[a]	305
	Part of regular duties	16.1[a]	19	15.9[a]	66
	Addition to reg duties	5.9[a]	7	10.6[a]	44

As reported earlier, faculty were provided with 19 statements about the purposes of PSE and were asked the extent to which their teaching contributes to those purposes. All faculty were most likely to report that thinking critically and analytically is a purpose of PSE and something they try to develop in their students through their teaching.

There were several significant differences between faculty by institution and level of WIL involvement, and in all instances where significant differences were found, University of Waterloo faculty reported lower average ratings. While a large number of significant differences were found between faculty at the University of Waterloo and faculty at the other participating universities who taught a course with WIL and those who taught in a program with WIL, only two significant differences were found between faculty with no WIL involvement – working independently and developing leadership skills. In both instances, University of Waterloo faculty reported lower average ratings.

Some of the more notable differences include the lower ratings given by faculty who taught a course with WIL at the University of Waterloo to developing students' understanding of themselves, and understanding of people from other racial and ethnic backgrounds, as purposes of PSE compared to faculty from the other participating universities. University of Waterloo faculty who taught in a program with WIL also gave lower ratings than faculty at the other universities to helping students develop a personal code of ethics and secure relevant work after graduation.

(1=Not at all; 2=Very little; 3=Somewhat; 4=Very much)

Table 102: Faculty Perceptions of the Purposes of PSE by WIL Involvement and Institution

	Level of WIL Involvement					
	Teach course with WIL		Teach in program with WIL		No WIL	
	Institution					
	UW	Other universities	UW	Other universities	UW	Other universities
	n=118	n=432	n=260	n=312	n=91	n=681
	Mean					
Thinking critically and analytically	3.87_a	3.92_a	3.89_a	3.93_a	3.79_a	3.87_a
Applying skills and knowledge in different situations	3.69_a	3.76_a	3.52_a	3.66_b	3.47_a	3.54_a
Writing clearly and effectively	3.56_a	3.76_b	3.41_a	3.59_b	3.54_a	3.60_a
Solving complex, real-world problems	3.51_a	3.63_a	3.45_a	3.49_a	3.15_a	3.21_a
Working independently	3.50_a	3.68_b	3.61_a	3.63_a	3.42_a	3.61_b
Becoming lifelong learners	3.48_a	3.69_b	3.36_a	3.50_b	3.38_a	3.48_a
Acquiring job-related or work-related knowledge and skills	3.44_a	3.55_a	3.14_a	3.37_b	3.03_a	3.10_a
Working effectively with others	3.43_a	3.61_b	3.04_a	3.30_b	3.02_a	3.12_a
Using data to analyze problems	3.39_a	3.44_a	3.40_a	3.41_a	2.97_a	3.07_a
Speaking clearly and effectively	3.28_a	3.61_b	3.12_a	3.42_b	3.29_a	3.36_a
Developing a personal code of ethics and values	3.16_b	3.50_a	2.82_a	3.13_b	2.92_a	3.04_a
Securing relevant work after graduation	3.00_a	3.26_b	2.89_a	3.04_b	2.60_a	2.73_a
Developing leadership skills	3.00_a	3.34_b	2.57_a	2.86_b	2.49_a	2.71_b
Contributing to the welfare of their community	2.99_a	3.41_b	2.63_a	2.87_b	2.71_a	2.80_a
Acquiring a broad general education	2.98_a	3.20_b	3.15_a	3.19_a	3.33_a	3.26_a
Understanding themselves	2.91_a	3.36_b	2.60_a	2.86_b	3.06_a	3.02_a
Understanding people of other racial and ethnic backgrounds	2.77_a	3.30_b	2.19_a	2.73_b	2.91_a	2.79_a
Using computing and information technology	2.61_a	2.91_b	2.77_a	2.95_b	2.41_a	2.57_a
Participating as informed voters in local, provincial and federal elections	1.95_b	2.42_a	1.83_a	1.97_a	2.13_a	2.12_a

Do faculty from the University of Waterloo differ in their opinion about the amount of WIL in PSE?

Faculty perceptions about the amount of WIL in PSE differ significantly between the University of Waterloo and the other participating universities. Faculty members at the University of Waterloo were less likely to indicate that the amount of WIL in PSE should be increased and were more likely to indicate that it should be kept the same than faculty at other participating universities. University of Waterloo faculty were also less likely to be unsure as to whether the level of WIL in PSE should change.

Table 103: Faculty Perceptions of the Amount of WIL in PSE by Institution

		Institution	
		UW	Other universities
		n=457	n=1389
		%	
Appropriate levels of WIL	Increased	35.2$_a$	46.6$_b$
	Decreased	4.8$_a$	4.2$_a$
	Kept about the same	37.2$_a$	21.0$_b$
	Not sure	22.8$_a$	28.2$_b$

Breaking down faculty perceptions by level of WIL involvement reveals that only faculty who taught in a program with WIL differed significantly in their perceptions about the amount of WIL in PSE, with faculty at other participating universities more likely to support an increase. Faculty support for maintaining the amount of WIL in PSE differed significantly by institution and level of WIL involvement. For all levels of WIL involvement, University of Waterloo faculty were consistently more likely to support no change in the amount of WIL in PSE. Interestingly, while significant differences were found between faculty at the University of Waterloo who were unsure about the appropriate amount of WIL in PSE compared to faculty at other participating universities, no significant differences were found when results were broken down by level of WIL involvement.

Table 104: Faculty Perceptions of the Amount of WIL in PSE by WIL Involvement and Institution

		Level of WIL Involvement					
		Teach course with WIL		Teach in program with WIL		No WIL	
		Institution					
		UW	Other universities	UW	Other universities	UW	Other universities
		n=115	n=421	n=255	n=305	n=85	n=651
		%					
Appropriate levels of WIL	Increased	52.2$_a$	60.3$_a$	29.0$_a$	46.6$_b$	29.4$_a$	37.9$_a$
	Decreased	0.9$_a$	1.2$_a$	6.7$_a$	4.6$_a$	4.7$_a$	5.7$_a$
	Kept about the same	33.0$_a$	23.8$_b$	40.8$_a$	24.6$_b$	32.9$_a$	17.5$_b$
	Not sure	13.9$_a$	14.7$_a$	23.5$_a$	24.3$_a$	32.9$_a$	38.9$_a$

Challenges Associated with WIL

Graduating Student Survey

What types of challenges do students most commonly encounter while participating in WIL?

A number of significant differences between the challenges faced by graduating students from the University of Waterloo and graduating students from the other participating universities were found. University of Waterloo students in both co-op and other WIL programs were more likely to indicate that the work assigned was boring and that they were not paid enough. Co-op students from the University of Waterloo were also more likely to report feeling disconnected from co-workers, but were less likely to report not being paid. Students who participated in other WIL programs at the University of Waterloo were more

likely to report not being assigned enough work, not being able to find an appropriate placement, and not receiving enough support from the school during WIL.

(1=Did not apply; 2=Minor challenge; 3=Major challenge)

Table 105: Graduating Student Challenges Associated with WIL Participation by Institution

	Type of WIL			
	Co-op		Other WIL	
	Institution			
	UW	Other universities	UW	Other universities
	n=255	n=287	n=89	n=1881
	Mean			
Work assigned was boring	1.85_a	1.69_b	1.61_a	1.44_b
Not enough work assigned in the workplace	1.82_a	1.70_a	1.53_a	1.37_b
The theory and skills I learned at school were not relevant to the workplace	1.81_a	1.73_a	1.65_a	1.53_a
Not enough opportunities to share what I learned when I went back to the classroom	1.77_a	1.63_b	1.61_a	1.50_a
Couldn't find an appropriate placement for my field of study	1.74_a	1.67_a	1.79_a	1.41_b
Not enough preparation from my school before the WIL	1.71_a	1.60_a	1.72_a	1.62_a
Didn't get paid enough	1.62_a	1.50_b	1.63_a	1.44_b
Feeling of disconnection from co-workers	1.57_a	1.45_b	1.51_a	1.47_a
Not enough support from my school during the WIL	1.51_a	1.52_a	1.65_a	1.48_b
Too many additional demands on my time	1.47_a	1.38_a	1.56_a	1.68_a
Too much work assigned in the workplace	1.46_a	1.39_a	1.47_a	1.43_a
Disorganized work environment	1.45_a	1.46_a	1.41_a	1.42_a
Unexpected financial costs	1.44_a	1.47_a	1.63_a	1.57_a
Not enough supervision in the workplace	1.42_a	1.40_a	1.39_a	1.34_a
Hard to balance work-integrated learning with my family commitments	1.38_a	1.39_a	1.51_a	1.61_a
Didn't learn anything during the work placement	1.28_a	1.25_a	1.33_a	1.23_a
Didn't get paid at all	1.18_a	1.29_b	1.72_a	1.80_a

Faculty Survey

Were the challenges faced by University of Waterloo faculty when implementing WIL similar to those faced by faculty at other universities?

There were several significant differences in the challenges faced by faculty according to both institution and level of WIL involvement, with the majority of significant differences found for faculty who taught in a program with a WIL component. In all instances where significant differences were found, it was University of Waterloo faculty who were less likely to report facing challenges.

University of Waterloo faculty who taught both courses and programs with WIL were less likely to report facing challenges associated with a lack of financial and administrative resources for faculty and a lack of institutional service recognition for WIL activities.

Table 106: Faculty Challenges Associated with WIL by WIL Involvement and Institution

	Level of WIL Involvement							
	Teach course with WIL				Teach in program with WIL			
	UW		Other universities		UW		Other universities	
	Institution							
	%	n	%	n	%	n	%	n
Ensuring quality placements for students	77.8$_a$	91	71.5$_a$	304	66.4$_a$	170	75.2$_b$	231
Finding enough placements for students	60.7$_a$	71	67.3$_a$	286	57.4$_a$	147	70.7$_b$	217
Balancing WIL with academic workloads	43.6$_a$	51	56.9$_b$	242	46.9$_a$	120	51.5$_a$	158
Managing WIL with large class sizes	64.1$_a$	75	64.9$_a$	276	38.3$_a$	98	58.6$_b$	180
Developing appropriate WIL curriculum	35.0$_a$	41	41.2%$_a$	175	36.7$_a$	94	46.9$_b$	144
Integrating the work experience with classroom learning	33.3$_a$	39	38.4%$_a$	163	37.9$_a$	97	37.1$_a$	114
Managing employer expectations/communication	38.5$_a$	45	42.4%$_a$	180	33.2$_a$	85	39.7$_a$	122
Managing student expectations/communication	38.5$_a$	45	36.7%$_a$	156	32.4$_a$	83	37.5$_a$	115
Lack of financial and administrative resources for faculty	43.6$_a$	51	55.5$_b$	236	23.0$_a$	59	47.2$_b$	145
Developing valid student assessment and evaluation tools	34.2%$_a$	40	35.1$_a$	149	25.8$_a$	66	36.2$_b$	111
Providing adequate institutional supports for students	40.2%$_a$	47	46.8$_a$	199	24.2$_a$	62	38.4$_b$	118
Making WIL programs accessible to all students	22.2%$_a$	26	28.7$_a$	122	16.8$_a$	43	34.9$_b$	107
Lack of salary recognition for faculty who participate in WIL	24.8%$_a$	29	33.2$_a$	141	12.1$_a$	31	27.0$_b$	83
Lack of recognition for WIL activities in promotion decisions	28.2%$_a$	33	29.2$_a$	124	9.4$_a$	24	24.4$_b$	75
Lack of faculty PD on implementing WIL	22.2%$_a$	26	22.1$_a$	94	11.3$_a$	29	21.2$_b$	65
Lack of institutional culture supporting WIL	17.1$_a$	20	32.2$_b$	137	10.9$_a$	28	26.4$_b$	81
Lack of institutional service recognition for WIL activities	18.8$_a$	22	32.5$_b$	138	7.8$_a$	20	22.5$_b$	69

Benefits of WIL

Graduating Student Survey

What types of benefits do students receive from participating in WIL?

There were no significant differences in the benefits associated with other WIL participation when University of Waterloo graduating students were compared to graduating students from other participating universities. However, co-op students from the University of Waterloo were significantly more likely than co-op students from other participating universities to agree that they academically and professionally benefited from participating in WIL.

(1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree)

Table 107: Graduating Student Benefits from WIL Participation by Institution

	Type of WIL			
	Co-op		Other WIL	
	Institution			
	UW	Other universities	UW	Other universities
	n=255	n=287	n=89	n=1881
	Mean			
Academic benefits	4.28_a	4.14_b	3.72_a	3.84_a
Career benefits	4.04_a	3.79_b	3.49_a	3.45_a
Personal benefits	3.19_a	3.33_a	3.35_a	3.39_a

Do WIL students graduate with less debt than non-WIL students across institutions?

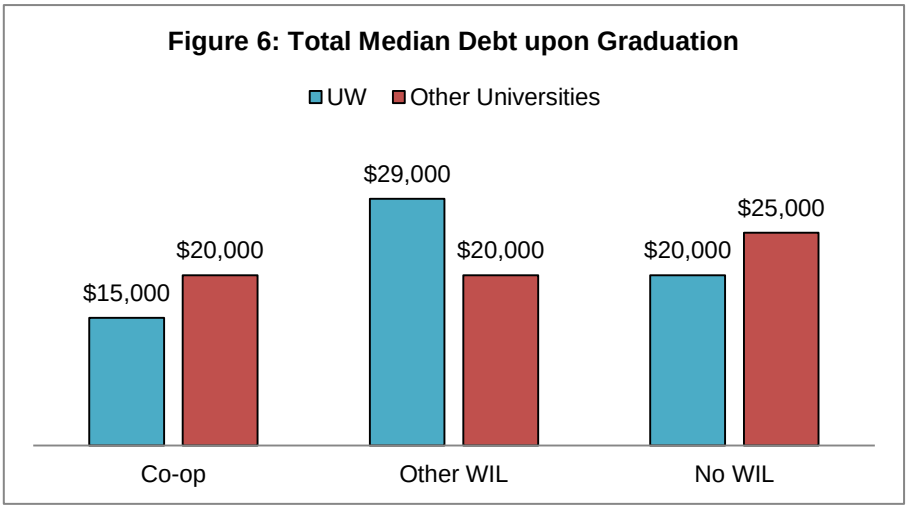
Student debt patterns were similar at the University of Waterloo and at other participating universities for co-op students and other WIL students, but significant differences were found between non-WIL students. Students at the University of Waterloo who did not participate in WIL were more likely than students from other universities to expect to graduate with debt that must be repaid upon graduation.

Table 108: Graduating Student Debt by WIL Participation and Institution

		Type of WIL					
		Co-op		Other WIL		No WIL	
		Institution					
		UW	Other universities	UW	Other universities	UW	Other universities
		n=250	n=282	n=86	n=1837	n=153	n=2794
		%					
Expect to owe any debt that must be repaid	Yes	54.1_a	47.1_a	53.8_a	61.3_a	65.0_a	55.1_b
	No	45.9_a	52.9_a	46.2_a	38.7_a	35.0_a	44.9_b

Graduating students from the University of Waterloo who have no WIL experience and those who participated in a co-op program report lower median debt levels than their counterparts in other universities, while other WIL students from the University of Waterloo report higher median debt levels than those from other participating universities.

Figure 6: Total Median Debt upon Graduation



What impact did WIL have on graduating students' perceptions of their PSE experience, specifically with regard to employability skills, learning outcomes, personal growth, civic responsibility, and self-efficacy?

There were no significant differences between other WIL students by institution, but significant differences were found between graduating co-op students and graduating students without WIL experience. University of Waterloo graduating students tended to have better perceptions of the quality of their education in developing their employability skills. For example, graduating co-op and non-WIL students from the University of Waterloo had better perceptions of their numeracy and data skills than graduating students from other participating institutions. Graduating co-op students also had better perceptions of their information management and computer literacy skills than their counterparts at other universities. University of Waterloo non-WIL graduating students had better perceptions of their ability to adapt to different situations and become lifelong learners. However, University of Waterloo co-op students' perceptions of their communication and presentation skills were lower than co-op students from other participating universities.

Only co-op students had significantly different perceptions of their learning outcomes when results were analyzed by institution. In all instances where significant differences were found, University of Waterloo co-op students had lower perceptions of the quality of their education in fostering broad PSE learning outcomes, including understanding people from different races and cultures, understanding local, national, and global issues, moral and ethical development, and appreciation of arts and culture.

(1=Poor; 2=Fair; 3=Average; 4=Good; 5=Excellent)

Table 109: Graduating Student Perceptions of the Development of Employability Skills and Learning Outcomes by WIL Participation and Institution

		Type of WIL					
		Co-op		Other WIL		No WIL	
		Institution					
		UW	Other universities	UW	Other universities	UW	Other universities
		n=255	n=287	n=89	n=1887	n=161	n=2888
		Mean					
Employability skills	Communication and presentation skills	3.68_a	3.88_b	4.02_a	3.97_a	3.58_a	3.74_a
	Information management and computer literacy skills	4.02_a	3.73_b	3.73_a	3.62_a	3.60_a	3.45_a
	Numeracy and data skills	4.04_a	3.65_b	3.53_a	3.31_a	3.33_a	3.14_b
	Thinking and problem solving skills	4.30_a	4.17_a	4.14_a	4.15_a	4.15_a	4.03_a
	Self-confidence and positive attitude	3.74_a	3.80_a	3.98_a	3.99_a	3.87_a	3.76_a
	Personal and social responsibility	3.62_a	3.79_a	4.07_a	4.09_a	3.99_a	3.92_a
	Ability to adapt to different situations	4.12_a	4.08_a	4.13_a	4.18_a	4.15_a	3.97_b
	Becoming a lifelong learner	3.92_a	3.98_a	4.20_a	4.22_a	4.16_a	3.99_b
	Knowledge of workplace safety	3.30_a	3.32_a	3.44_a	3.31_a	2.94_a	2.85_a
	Ability to work with others	4.09_a	4.08_a	4.04_a	4.12_a	3.81_a	3.87_a
	Participating in and managing tasks and projects	4.10_a	4.18_a	4.07_a	4.14_a	4.06_a	3.97_a
Learning outcomes	Critical thinking and self-reflection	3.98_a	4.07_a	4.07_a	4.20_a	4.12_a	4.06_a
	Knowledge of your particular field of study	4.22_a	4.21_a	4.26_a	4.24_a	4.11_a	4.05_a
	Understanding of people from different races and cultures	3.49_a	3.70_b	4.02_a	3.90_a	3.87_a	3.80_a
	Understanding of local issues or community problems	2.89_a	3.29_b	3.63_a	3.61_a	3.44_a	3.37_a
	Understanding of national issues	2.83_a	3.29_b	3.45_a	3.47_a	3.41_a	3.41_a
	Understanding of global issues	2.90_a	3.35_b	3.45_a	3.52_a	3.45_a	3.49_a
	Moral and ethical development	3.20_a	3.63_b	3.82_a	3.79_a	3.74_a	3.66_a
	Appreciation of arts and culture	2.58_a	3.07_b	3.16_a	3.23_a	3.32_a	3.30_a

Very few significant differences were found between graduating students' perceptions of the quality of their education in developing their personal growth, civic responsibility, and self-efficacy by institution. There

were no significant differences between any graduating students' perceptions on measures of personal growth, with all aspects of personal growth falling between neutral perceptions (neither agree nor disagree) and agreement.

University of Waterloo co-op students were less likely to agree with statements addressing aspects of civic responsibility, including that it is the responsibility of the whole community to take care of people who need help and feeling that they can make a difference in the world.

Significant differences were also found for measures of self-efficacy, and in all instances University of Waterloo graduating students reported lower levels of agreement than graduating students from other participating universities. Graduating co-op students from the University of Waterloo were less likely to agree that they are able to do most tasks very well compared to other people. University of Waterloo graduating students who participated in other types of WIL had lower levels of agreement about performing job-related tasks, performing many different tasks effectively, and the ability to complete most tasks very well compared to others. University of Waterloo graduating students who did not participate in WIL were significantly less confident than their peers at other universities about their ability to find an interesting job.

(1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree)

Table 110: Graduating Student Perceptions of the Development Personal Growth, Civic Responsibility, and Self-efficacy by WIL Participation and Institution

		Type of WIL					
		Co-op		Other WIL		No WIL	
		Institution					
		UW	Other universities	UW	Other universities	UW	Other universities
		n=255	n=287	n=89	n=1887	n=161	n=2888
		Mean					
Personal growth	As a result of my PSE, I have changed the way I used to do things	3.94_a	3.84_a	3.86_a	3.83_a	3.88_a	3.79_a
	As a result of my PSE, I have changed the way I look at myself	3.89_a	3.94_a	4.06_a	3.95_a	4.01_a	3.88_a
	During my PSE, I discovered faults in what I had previously believed to be right	3.61_a	3.60_a	3.74_a	3.62_a	3.70_a	3.62_a
	My PSE has challenged some of my firmly held beliefs	3.29_a	3.37_a	3.55_a	3.50_a	3.50_a	3.41_a
Civic responsibility	It is important to help others even if you do not get paid for it	4.10_a	4.17_a	4.21_a	4.32_a	4.32_a	4.22_a
	Individuals have a responsibility to help solve our social problems	3.94_a	3.98_a	4.13_a	4.09_a	4.11_a	3.99_a
	It is the responsibility of the whole community to take care of people who need help	3.80_a	3.95_b	4.16_a	4.13_a	4.07_a	3.95_a
	I feel that I can make a difference in the world	3.77_a	3.95_b	4.19_a	4.20_a	4.03_a	3.94_a
Self-efficacy	I have confidence that I will be able to perform job-related	4.34_a	4.36_a	4.15_a	4.39_b	4.19_a	4.25_a

	tasks assigned to me						
	I believe that I can obtain outcomes that are important to me	4.26$_a$	4.29$_a$	4.27$_a$	4.32$_a$	4.19$_a$	4.18$_a$
	I am confident that I can perform many different tasks effectively	4.26$_a$	4.34$_a$	4.19$_a$	4.36$_b$	4.23$_a$	4.21$_a$
	I am able to successfully overcome many challenges	4.25$_a$	4.30$_a$	4.18$_a$	4.32$_a$	4.13$_a$	4.17$_a$
	I feel certain that I will accomplish difficult tasks when faced with them	4.21$_a$	4.24$_a$	4.20$_a$	4.30$_a$	4.14$_a$	4.17$_a$
	I have confidence in my ability to communicate in an effective manner	4.16$_a$	4.13$_a$	4.17$_a$	4.27$_a$	4.10$_a$	4.13$_a$
	I believe that I can succeed at almost anything to which I set my mind	4.14$_a$	4.22$_a$	4.17$_a$	4.25$_a$	4.01$_a$	4.10$_a$
	I am able to perform quite well even when things are tough	4.14$_a$	4.23$_a$	4.05$_a$	4.22$_b$	4.01$_a$	4.08$_a$
	I am confident that I will be able to progress through the ranks in my place of employment	4.08$_a$	4.04$_a$	3.91$_a$	4.07$_a$	3.78$_a$	3.91$_a$
	How satisfied would you say you are with overall postsecondary experience	4.08$_a$	3.97$_a$	4.04$_a$	4.00$_a$	3.86$_a$	3.78$_a$
	I am able to do most tasks very well compared to other people	4.06$_a$	4.22$_b$	4.02$_a$	4.11$_a$	3.93$_a$	3.99$_a$
	I believe that I will achieve most of the career goals that I have set for myself	4.03$_a$	4.01$_a$	4.06$_a$	4.19$_a$	3.85$_a$	3.92$_a$
	I am confident about finding a job that interests me	3.92$_a$	3.93$_a$	3.92$_a$	3.99$_a$	3.55$_a$	3.74$_b$

Graduating student respondents were asked about their level of satisfaction with their WIL experiences. Co-op students at the University of Waterloo were significantly more satisfied with their co-op experiences than co-op students from other participating universities, while graduating students from the University of Waterloo who participated in field placements and service-learning were less satisfied with their experiences than graduating students from other participating universities.

(1=Very dissatisfied; 2=Dissatisfied; 3=Neither satisfied nor dissatisfied; 4= Satisfied; 5=Very satisfied)

Table 111: Graduating Students Overall Satisfaction with WIL by Institution

	Institution			
	UW		Other universities	
	Mean	n	Mean	n
Thinking about your overall practicum or clinical placement experience, how satisfied would you say you are	4.33_a	24	4.19_a	809
Thinking about your overall co-op experience, how satisfied would you say you are	4.23_a	255	3.87_b	287
Thinking about your overall internship experience, how satisfied would you say you are	4.05_a	40	4.16_a	509
Thinking about your overall applied research project experience, how satisfied would you say you are	3.99_a	29	4.03_a	345
Thinking about your overall field placement experience, how satisfied would you say you are	3.65_a	31	4.11_b	417
Thinking about your overall service-learning experience, how satisfied would you say you are	3.57_a	21	4.08_b	327

Faculty Survey

Do faculty perceptions of the student benefits associated with participating in WIL vary between the University of Waterloo and other universities, and by level of WIL involvement?

There were a handful of significant differences between faculty perceptions of student benefits associated with participating in WIL when University of Waterloo results were compared to other institutions. Faculty from the University of Waterloo were more likely to agree that WIL helps students develop contacts and networks for future employment, that WIL helps students better understand work realities and expectations, and that students who participate in WIL are more employable than other students. Faculty from the other participating universities were more likely to agree that the costs associated with WIL outweigh the benefits, and that WIL is only useful for students who go directly to the labour market after completing PSE. However, faculty from all universities tended to disagree with these statements, that is, the mean scores fall between the categories ‘disagree’ and ‘neutral.’

(1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree)

Table 112: Faculty Perceptions of Student Benefits Associated with WIL by Institution

	Institution	
	University of Waterloo	All other universities
	n=472	n=1445
	Mean	
WIL helps students develop contacts and networks for future employment	4.26_a	4.10_b
WIL helps students better understand work realities and expectations	4.25_a	4.15_b
Participating in WIL increases students' self-confidence	4.12_a	4.08_a
WIL enhances the postsecondary experience for students	4.11_a	4.05_a
WIL lets students explore their career interests and clarify their career goals	4.10_a	4.03_a
WIL lets students apply the theory and skills learned in the classroom	4.03_a	4.09_a
Students who participate in WIL are more employable than other students	4.02_a	3.80_b
WIL engages students in thinking critically about the workplace and the nature of work	3.93_a	3.92_a
Participation in WIL increases students' engagement in their academic studies	3.76_a	3.82_a
WIL is particularly valuable for students considered "at risk"	3.15_a	3.20_a
There is a lack of evidence about the impact of WIL on student learning	2.88_a	2.89_a
Too many employers use WIL simply to reduce their salary costs	2.88_a	2.95_a
Employers, not students, are the main beneficiaries of WIL programs	2.46_a	2.51_a
The costs to students (both financial and time required) outweigh the benefits of WIL	2.34_a	2.57_b
WIL does little to improve students' understanding of academic course content	2.26_a	2.29_a
WIL is only useful for students who go directly to the labour market after their PSE	2.25_a	2.41_b

Significant differences in average levels of agreement about the student benefits associated with WIL were found between University of Waterloo faculty and faculty from different institutions by level of WIL involvement. University of Waterloo faculty who taught a course with WIL were more likely to agree that WIL helps students develop contacts and networks for future employment and that WIL lets students explore their career interests and clarify their career goals.

When significant differences were found between faculty who taught in a program with WIL, agreement was consistently lower among faculty from the University of Waterloo compared to faculty from other participating universities. For example, University of Waterloo faculty were less likely to agree that participating in WIL increases students' self-confidence, that WIL enhances the postsecondary experience for students, that WIL lets students apply the theory and skills learned in the classroom, that WIL engages students in thinking critically about the workplace and the nature of work, that participation in WIL increases students' engagement in their academic studies, and that WIL is only useful for students who go directly to the labour market after their PSE.

Only one significant difference was found between faculty from different institutions who had no WIL experience, with University of Waterloo faculty more likely to agree that WIL engages students in thinking critically about the workplace and the nature of work.

(1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree)

Table 113: Faculty Perceptions of Student Benefits Associated with WIL by WIL Involvement and Institution

	Level of WIL Involvement					
	Teach course with WIL		Teach in program with WIL		No WIL	
	Institution					
	UW	Other universities	UW	Other universities	UW	Other universities
	n=118	n=432	n=260	n=312	n=91	n=681
	Mean					
WIL helps students develop contacts and networks for future employment	4.51_a	4.25_b	4.21_a	4.19_a	4.08_a	3.97_a
WIL helps students better understand work realities and expectations	4.49_a	4.37_a	4.18_a	4.20_a	4.13_a	3.98_a
Participating in WIL increases students' self-confidence	4.54_a	4.45_a	3.99_a	4.11_b	3.92_a	3.83_a
WIL enhances the postsecondary experience for students	4.53_a	4.41_a	3.99_a	4.13_b	3.91_a	3.78_a
WIL lets students explore their career interests and clarify their career goals	4.41_a	4.26_b	4.03_a	4.06_a	3.88_a	3.88_a
WIL lets students apply the theory and skills learned in the classroom	4.42_a	4.43_a	3.91_a	4.08_b	3.88_a	3.88_a
Students who participate in WIL are more employable than other students	4.27_a	4.10_a	4.00_a	3.93_a	3.73_a	3.54_a
WIL engages students in thinking critically about the workplace and the nature of work	4.28_a	4.27_a	3.77_a	3.97_b	3.95_a	3.68_b
Participation in WIL increases students' engagement in their academic studies	4.10_a	4.11_a	3.64_a	3.86_b	3.64_a	3.61_a
WIL is particularly valuable for students considered "at risk"	3.17_a	3.28_a	3.10_a	3.17_a	3.26_a	3.17_a
There is a lack of evidence about the impact of WIL on student learning	2.69_a	2.52_a	2.91_a	2.91_a	3.11_a	3.09_a
Too many employers use work-integrated learning simply to reduce their salary costs	2.69_a	2.51_a	2.86_a	2.98_a	3.20_a	3.21_a
Employers, not students, are the main beneficiaries of WIL programs	2.22_a	2.14_a	2.48_a	2.54_a	2.73_a	2.72_a
The costs to students (both financial and time required) outweigh the benefits of WIL	2.19_a	2.31_a	2.29_a	2.45_a	2.69_a	2.78_a
WIL does little to improve students' understanding of academic course content	1.82_a	1.89_a	2.40_a	2.30_a	2.48_a	2.54_a
WIL is only useful for students who go directly to the labour market after their PSE	1.95_a	2.08_a	2.24_a	2.50_b	2.70_a	2.57_a

Faculty from the University of Waterloo differed significantly in some of their perceptions of the faculty and institutional benefits associated with WIL when compared to faculty from other participating universities. University of Waterloo faculty were more likely to agree that WIL strengthens links between the institution and the business community, that WIL is an effective PSE recruitment and marketing tool, and that WIL can help businesses find solutions to specific business or industry needs. University of Waterloo faculty were also more likely to personally view WIL as valuable and to agree that their institution provides the resources and supports needed for faculty to participate in WIL. Faculty from the other participating universities were, however, more likely to agree that WIL can engage postsecondary institutions in responding to community needs.

(1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree)

Table 114: Faculty Perceptions of Faculty and Institutional Benefits Associated with WIL by Institution

	Institution	
	University of Waterloo	All other universities
	n=472	n=1445
	Mean	
I personally think that WIL is valuable	4.24_a	4.10_b
WIL strengthens links between the institution and the business community	4.11_a	3.90_b
WIL is an effective PSE recruitment and marketing tool	3.99_a	3.78_b
WIL connects postsecondary institutions to the broader community	3.92_a	3.95_a
WIL enhances institutional reputation	3.91_a	3.56_b
Feedback from students and employers who participate in WIL can improve academic programming	3.75_a	3.77_a
WIL can engage postsecondary institutions in responding to identified community needs	3.66_a	3.77_b
WIL can help businesses find solutions to specific business or industry needs	3.60_a	3.47_b
Involvement with WIL helps faculty keep their knowledge current	3.52_a	3.54_a
WIL can involve postsecondary institutions in addressing global issues	3.49_a	3.45_a
My institution provides resources and supports for faculty to participate in WIL activities	3.40_a	3.09_b
WIL perpetuates a business model for PSE	3.27_a	3.22_a
WIL diverts funding away from program areas that may not lend themselves to WIL	3.16_a	3.06_a
By extending corporate involvement in curriculum, WIL has a negative overall impact on PSE	2.78_a	2.81_a
WIL is inconsistent with the values of a liberal education	2.43_a	2.50_a

The levels of agreement about the faculty and institutional benefits associated with WIL participation differed significantly by institution and level of WIL involvement. In most instances, University of Waterloo faculty had higher levels of agreement with the statements presented, with three exceptions. University of Waterloo faculty who taught in a program with WIL were less likely to agree that WIL connects postsecondary institutions to the broader community, that feedback from students and employers who participate in WIL can improve academic programming, and that WIL can engage postsecondary institutions in responding to identified community needs.

Consistent with these broad findings, all University of Waterloo faculty were on average more likely than faculty from other participating universities to agree that WIL enhances institutional reputation and that their institution provides the resources and supports needed for faulty to participate in WIL activities.

(1=Strongly disagree; 2=Disagree; 3=Neither agree nor disagree; 4=Agree; 5=Strongly agree)

Table 115: Faculty Perceptions of Faculty and Institutional Benefits Associated with WIL by WIL Involvement and Institution

	Level of WIL Involvement					
	Teach course with WIL		Teach in program with WIL		No WIL	
	Institution					
	UW	Other universities	UW	Other universities	UW	Other universities
	n=118	n=432	n=260	n=312	n=91	n=681
	Mean					
I personally think that WIL is valuable	4.65_a	4.52_b	4.13_a	4.11_a	4.05_a	3.84_b
WIL strengthens links between the institution and the business community	4.34_a	4.01_b	4.06_a	3.93_b	3.95_a	3.81_a
WIL is an effective PSE recruitment and marketing tool	4.22_a	3.95_b	3.96_a	3.84_b	3.73_a	3.64_a
WIL connects postsecondary institutions to the broader community	4.32_a	4.25_a	3.77_a	3.97_b	3.83_a	3.75_a
WIL enhances institutional reputation	4.26_a	3.85_b	3.85_a	3.63_b	3.64_a	3.34_b
Feedback from students and employers who participate in WIL can improve academic programming	4.18_a	4.10_a	3.59_a	3.78_b	3.65_a	3.57_a
WIL can engage postsecondary institutions in responding to identified community needs	4.10_a	4.11_a	3.46_a	3.76_b	3.66_a	3.57_a
WIL can help businesses find solutions to specific business or industry needs	3.86_a	3.69_a	3.53_a	3.52_a	3.43_a	3.31_a
Involvement with WIL helps faculty keep their knowledge current	4.08_a	4.00_a	3.28_a	3.41_a	3.48_a	3.30_a
WIL can involve postsecondary institutions in addressing global issues	3.90_a	3.81_a	3.31_a	3.43_a	3.49_a	3.24_b
My institution provides resources and supports for faculty to participate in WIL activities	3.56_a	3.23_b	3.38_a	3.12_b	3.21_a	2.97_b
WIL perpetuates a business model for PSE	3.22_a	3.01_b	3.29_a	3.25_a	3.27_a	3.33_a
WIL diverts funding away from program areas that may not lend themselves to WIL	2.96_a	2.68_b	3.21_a	3.07_a	3.29_a	3.31_a
By extending corporate involvement in curriculum, WIL has a negative overall impact on PSE	2.36_a	2.53_a	2.88_a	2.75_a	3.04_a	3.02_a
WIL is inconsistent with the values of a liberal education	2.21_a	2.24_a	2.43_a	2.43_a	2.75_a	2.70_a

8 – Summary of Findings

This report provides an overview of WIL at the University of Waterloo from three different perspectives: that of graduating students, faculty, and employers. Areas of particular interest included who participates in WIL, what challenges are associated with WIL participation, and how WIL benefits both students and institutions. In addition, comparisons between University of Waterloo respondents and those from other participating universities were presented. A summary of the key findings follows.

Participation in WIL

Almost one-half of all graduating students included in this report participated in a co-op program, and over one-half of graduating students completed a program with a WIL component. There seems to be no clear or overarching reason why students chose not to participate in WIL. Over one-half of graduating students said they would choose a program with a WIL component if given the option to start over again, and most would do so for reasons related to obtaining employment after graduation.

Among faculty, the demographic breakdown of those who taught a course with a WIL component reveals that there were greater proportions of older and male faculty who taught WIL courses, and that full-time faculty were most likely to be involved with WIL. Significant differences in the degree to which faculty integrate student learning with real-world work experiences were found by program group and non-academic work experience. Faculty workloads do not seem to be extensively affected by teaching a course with WIL, and few substantial differences were found when focusing on different socio-demographic characteristics. Faculty, through their teaching, were shown to place a great deal of importance on students thinking critically and analytically. There were several differences between faculty in their perceptions of the purposes of PSE and how their teaching fosters those purposes when broken down by socio-demographic characteristics. Not surprisingly, faculty with WIL experience were more likely to think that the amount of WIL in PSE should be increased.

Among the employers surveyed, meanwhile, few had provided co-op in the last two years (2010-2012) and most who stopped offering or do not currently offer WIL did so mainly because of a lack of suitable work for students. Other notable reasons include professional, regulatory, and staffing issues, the staff time needed to recruit, train, and supervise students, financial concerns, and a lack of students with the skills required. Employers stated that their participation in WIL could be better facilitated by providing financial incentives and scheduling student placements to meet business cycle needs.

Challenges Associated with WIL

Graduating students experienced relatively few challenges during their participation in WIL, with most challenges considered to be minor. Graduating student challenges varied by type of WIL. The highest rated challenges for co-op students were the lack of relevance between the skills learned at school and workplace assignments, and not feeling challenged in the workplace. Other WIL students reported that they felt underprepared for their placements, that they were not able to find suitable placements, and that they were not paid for the work they did.

Among the college and university faculty surveyed, the most prominent challenges included ensuring the quality and quantity of placements for students. Faculty who taught a course with WIL were more likely than those who taught in a program with WIL and those with no WIL involvement to indicate that managing WIL with large class sizes and ensuring quality placements for students were challenges. Where significant

differences were found by program group, it was faculty from Applied Health Science, Arts, and Environment who were more likely to report challenges.

Most employers claimed that they did not experience any challenges associated with WIL, and this was especially true for co-op employers. The most commonly cited challenges were students' soft and technical skills not meeting expectations, and the staff time needed to hire WIL students. Significant differences in the types of challenges based on company size were only found among other WIL employers. For example, other WIL employers with less than ten employees as well as those with 20-49 employees were more likely to report staffing issues and lack of university support as challenges.

Benefits of WIL

Student benefits associated with WIL can be grouped into three overarching categories: professional, personal, and academic. The degree to which WIL students felt they benefited in these ways varied by type of WIL. Co-op students had significantly better perceptions of the professional and personal benefits gained from their WIL participation. Co-op students also reported the lowest amount of median debt upon graduation, while students involved in other WIL reported the highest. The analyses also revealed that, when compared to students who participated in other types of WIL as well as those who did not have any WIL experiences, co-op students had the highest level of overall satisfaction with their postsecondary experience. When asked about the extent to which the University of Waterloo helped to develop employability skills, learning outcomes, personal growth, civic responsibility, and self-efficacy, students tended to have the highest perceptions of the development of their employability skills and their self-efficacy. These findings were especially true for co-op students.

Faculty respondents perceived WIL as helping students to develop contacts and networks for future employment and allowing them to better understand work realities and expectations. Faculty who taught a course with WIL tended to give higher average ratings to student benefits associated with WIL participation than other faculty. When asked about institutional benefits associated with WIL, faculty tended to personally think that WIL is valuable and that it strengthens the links between the institution and the business community. Overall, faculty had better perceptions of the student benefits associated with WIL participation than the institutional benefits associated with WIL.

The most common reasons cited by employers for providing WIL placements to postsecondary students were the opportunity to prescreen potential hires, to develop industry/profession workforce skills, and to bring in specific skills and talent. While the proportion of students hired after graduation varies, co-op employers were more likely than other WIL employers to report hiring WIL students who had done placements in their workplace following the students' graduation from university.

The University of Waterloo Relative to Other Participating Universities

Graduating Students

There was a significantly larger proportion of graduating students participating in co-op at the University of Waterloo than at the other participating universities, while other institutions had a significantly larger proportion of other WIL students. A larger proportion of University of Waterloo graduating students who did not participate in WIL did have the option to do so.

University of Waterloo graduating students who participated in WIL were more likely to report having boring work assignments and not being paid enough, but co-op graduating students were more likely to report

benefiting academically and professionally from participating in WIL. Co-op and non-WIL students expected to graduate with lower median debt levels than their counterparts at other participating universities.

University of Waterloo graduating students tended to have better perceptions of the quality of their education in developing their employability skills, but lower perceptions of its impact on self-efficacy. Co-op students from the University of Waterloo were also less likely than those at other participating universities to agree with statements about the quality of PSE in achieving broad learning outcomes and civic responsibility. However, graduating co-op students from the University of Waterloo were more satisfied with their WIL experience than graduating co-op students from other participating universities.

Faculty

University of Waterloo faculty were more likely to have taught in a program with a WIL component, were less likely to support an increase in the amount of WIL in PSE, and tended to report less impact on their workloads resulting from WIL than faculty at other participating universities. Faculty at the University of Waterloo were also less likely to report facing challenges when implementing WIL. This was especially the case for faculty who taught in a program with a WIL component.

Faculty from the University of Waterloo were more likely to agree that WIL helps students develop contacts and networks for future employment, that WIL helps students better understand work realities and expectations, and that students who participate in WIL are more employable than other students. When asked about the institutional benefits associated with WIL, University of Waterloo faculty were more likely to agree that WIL strengthens links between the institution and the business community, that WIL is an effective PSE recruitment and marketing tool, and that WIL can help businesses find solutions to specific business or industry needs. University of Waterloo faculty were also more likely to personally think that WIL is valuable and to agree that their institution provides the resources and supports needed for faculty to participate in WIL.

Students seeking to gain practical, real-world work experience while completing a university degree will be well-served by participating in one of the many undergraduate programs with a co-op option or by participating in other types of WIL offered at the University of Waterloo. While top student challenges – not enough work assigned and that the work assigned was boring – amount to less than ‘minor’ challenges, these may be areas of improvement for WIL at the University of Waterloo, especially given that the same types of concerns were also reported by faculty. With that said, faculty tend to be supportive of WIL participation and many personally view WIL as valuable. They recognize that students, faculty, and the University of Waterloo all stand to benefit from participating in and providing WIL. Employers too have shown that WIL provides them with opportunities to give back to the community, in addition to being a means of prescreening potential hires. Given the results presented in this report, WIL is shown to be a worthwhile endeavor for students, faculty, and employers.

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