An Exploration of Work and Learning Opportunities in New Brunswick

Report #5

August 31, 2007

CCL CCA

CANADIAN COUNCIL ON LEARNING   CONSEIL CANADIEN SUR L'APPRENTISSAGE

New Brunswick / Nouveau Brunswick

Department of Post-Secondary Education, Training and Labour

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Acknowledgements

We would like to acknowledge the following organizations that helped make this study possible:

Undertaken by:

- Canadian Council on Learning (CCL)

Funded by:

- MITACS Internship Program
- New Brunswick Innovation Foundation (NBIF)
- Business New Brunswick (BNB)
- Department of Post-Secondary Education, Training and Labour (PETL)
- New Brunswick Community College (NBCC)

Special thanks to:

- Elizabeth Sloat (UNB)
- John Tivendell (UdM)

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Summary

Work and learning opportunities for post-secondary students abound in New Brunswick. Whether they are mandatory internships, field practicums, or optional work terms within a co-operative education program, there are numerous ways students can gain work-related experience while pursuing their post-secondary credentials. There are also a multitude of benefits for students, employers, academic institutions, and society at large that derive from participation in work and learning opportunities.

Secondary school and post-secondary students in New Brunswick at both the undergraduate and graduate level take part in various opportunities to gain work-related knowledge and experience. Provincial and national surveys indicate that many students participate for reasons ranging from fulfilling their academic requirements to increasing employment prospects. The availability of work and learning opportunities also affects students' choices of post-secondary institutions.

The purpose of the current research project was to identify the range of factors associated with students' decisions to participate or not participate in work and learning programs. Post-secondary students and employers completed an online survey exploring their knowledge and opinions regarding programs that offer a combined work and learning component. In addition, separate focus groups and interviews were conducted with employers, students, and work and learning program coordinators to gain greater insight into their opinions and attitudes towards such programs in New Brunswick.

Findings indicate that students and employers generally evaluate their work and learning experiences positively, though they have some recommendations for improvement. The barrier to participating in such opportunities cited most often by students and employers was a lack of awareness of both program availability and the criteria for program eligibility.

Recommendations derived from the data collected included a need for the following: better dissemination of information about such opportunities; increased funding to support work and learning programs, employers, and students; and the development of improved channels of communication between work and learning programs, employers, and academic institutions to ensure that the goals and needs of each are aligned as much as possible, while providing students with the best learning environment possible.

1.0 Introduction

This research project was born out of a perception within the provincial government, and among post-secondary institutions and employers from the public and private sectors, that more needed to be done to foster a better learning environment for post-secondary students and for retaining highly qualified high school and post-secondary graduates in the province. There are a wide range of federal, provincial, and private sector opportunities available for post-secondary students in New Brunswick who are seeking workplace learning opportunities, including recently-launched programs for graduate students such as the Research Assistantship Initiative and the Mathematics of Information Technology & Complex Systems Internship Program. Every year, however, a number of these work and learning placements remain unfilled due to a lack of applicants. The main objective of this research project was to identify the perceived barriers associated with post-secondary participation in work and learning opportunities in the province of New Brunswick, and to provide recommendations for improving program participation and impact. The research was conducted using two principal

data collection methods: on-line surveys completed by both post-secondary students and employers throughout the province; and interviews and focus groups conducted with key informants. This report describes the methodology used, along with the main findings and conclusions that were drawn from the results.

This project has been a joint venture between several contributing partners. The project was led by the Canadian Council on Learning (CCL) and jointly funded by the Government of New Brunswick – Business New Brunswick (BNB); Department of Post-Secondary Education, Training and Labour (PETL); the New Brunswick Community College/Collège Communautaire du Nouveau-Brunswick (NBCC/CCNB) network as well as the MITACS Internship Program and the New Brunswick Innovation Foundation (NBIF). With the assistance and support of MITACS, six graduate students from the University of New Brunswick and Université de Moncton (along with their faculty advisors) were provided with internship funding that allowed them to contribute their time and research expertise throughout the duration of the project.

2.0 Selective Literature Review

*I take it that the fundamental unity of the
newer philosophy is found in the idea that
there is an intimate and necessary relation
between the processes of actual
experience and education. (Dewey, 1938)*

The concept of work and learning opportunities for
students is hardly new. References to apprenticeships can
be found in writings that date back thousands of years. As
early as the 4th century B.C., Aristotle argued that a theory
could only be considered to have been learned after it had
been applied. In the early 20th century, educator and
philosopher John Dewey – a strong believer in the value of
experiential learning – argued for the introduction of such
learning opportunities in formal education settings. The
latter part of the 20th century witnessed a significant
increase in the number of opportunities for students to
apply in a workplace setting the concepts and skills
previously introduced only in the classroom. Work and
learning opportunities in the format of co-operative
education programs, apprenticeships, academic internships
and practicums – to name only a few – have become more
widely available for post-secondary students since then.

2.1 Work and Learning Defined

CCL undertook the selective literature review for this
project by determining the focus of the question, and then
using a number of academic databases to compile a list of
relevant subject terms. These terms were combined to
create a focused search strategy that was then used to find
all relevant material in nine databases. A date limit of
1995-2007 and a language limit of French and English was
applied, and all relevant material was compiled in a
citation software application. In addition, the search
strategy was employed in both Google and Google
Scholar, with relevant material being added to the citation
software application. The final procedure was a search of
all provincial and territorial government web pages to
determine if relevant material had been produced by the
various ministries and provincial governments. All articles
were then analyzed to determine their relevance to the
research question, and those meeting the criteria were
collected, summarized and sent to the researcher.
Databases searched included Academic Search Premier,
Business Source Premier, CBCA, Dissertation Abstracts,
Econlit, Education Full Text, ERIC, PsychInfo, and
Sociological Abstracts.

For the purpose of this research project, the work and
learning opportunities considered are related only to those
taken through a post-secondary academic institution or
another formal learning program, including those available
to graduate and professional degree and diploma students
but not including other types of part-time or full-time
student employment. A review of the research literature
indicates that the work and learning opportunities available
to students vary greatly in their scope and purpose;
however, there is a lack of consistent operational definition
to describe them (e.g., Allen, Kielbaso, & Dirk, 1999;
Dodge & McKeough, 2003). The following are samples of
definitions provided in the literature, but should not be
taken as the only or prevailing definitions.

Co-operative education: The Canadian Association for Co-
operative Education defines a co-operative education
program as one which alternates periods of academic study
with periods of work experience in appropriate fields of
business, industry, government, social services and the
professions in accordance with the following criteria: (1)
each work situation is developed and/or approved by the
co-operative educational institution as a suitable learning
situation; (2) the co-operative student is engaged in
productive work rather than merely observing; (3) the co-
operative student receives remuneration for the work
performed; (4) the co-operative student's progress on the
job is monitored by the co-operative education institution;
(5) the co-operative student's performance on the job is
supervised and evaluated by the student's co-operative
employer; (6) the time spent in periods of work experience
must be at least thirty per cent of the time spent in
academic study."[1]

Internship: The terms "internship" and "co-operative
education" are often used interchangeably in the literature
and in practice (e.g., Callanan & Benxing, 2004).
According to the online source Wikipedia[2], an "internship
may be either paid, unpaid or partially paid (in the form of
a stipend). Paid internships are most common in the
medical, science, engineering, law, business (especially
accounting and finance), technology and advertising fields.
Internships in not-for-profit organizations such as charities
are often unpaid, volunteer positions. Internships may be
part-time or full-time; typically they are part-time during
the university year and full-time in the summer, and they
typically last 6-12 weeks, but can be shorter or longer."

Practicum: Allen et al. (1999) define practicum and field
study as "curriculum requirements often tied to particular
classes, and are generally unpaid." (p. 3).

Apprenticeship: According to the Canadian Apprenticeship
Forum website, apprenticeship training combines
classroom instruction with workplace experience (usually
within a trade). Apprenticeship training is provincially
regulated in Canada. Each province or territory specifies
the criteria that must be met by an apprentice to receive

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[1] See the CAFCE website for this and related definitions:
http://www.cafce.ca.
[2] Retrieved on 23 July 2007 from
http://en.wikipedia.org/wiki/Intern.

certification upon completion of a particular program. Generally, an apprenticeship agreement is signed between the apprentice and the employer, and the work performed is evaluated and paid.[3]

2.2 Benefits of Work and Learning

Work and learning opportunities are designed to provide students, employers, academic institutions, and society in general with a host of benefits. The National Commission for Co-operative Education (NCCE)[4] lists a variety of intended outcomes for co-operative education (See Text Boxes 1, 2, 3, and 4).

Text Box 1: Intended Student Outcomes for Co-operative Education

Student Outcomes:

a) Academic
- Ability to integrate classroom theory with workplace practice
- Clarity about academic goals
- Academic motivation
- Technical knowledge through use of state-of-the-art equipment

b) Professional
- Clarity about career goals
- Understanding of workplace culture
- Workplace competencies
- New or advanced skills
- Career management
- Professional network
- After-graduation employment opportunities

c) Personal
- Maturity
- Determination of strengths & weaknesses
- Development/enhancement of interpersonal skills
- Earnings to assist college expenses or support personal financial responsibilities
- Productive and responsible citizenship skills
- Lifelong learning skills

Text Box 2: Intended Employer Outcomes for Co-operative Education

Employer Outcomes:
- Well-prepared short-term employees
- Flexibility to address human resource needs
- Cost-effective long-term recruitment and retention
- Access to candidates with sought-after skills and/or background
- Increased staff diversity
- Partnerships with schools
- Input on quality and relevance of school's curricula
- Cost-effective productivity

Text Box 3: Intended Academic and Societal Outcomes for Co-operative Education

Academic institution Outcomes:
- Recruitment of new students
- Retention of current students
- Wider range of learning opportunities for students
- Enriched curriculum
- Enhanced reputation in the employment community
- Improved rate of employment of graduates
- Increased alumni participation (hire students, contribute money, etc.)
- Partnerships with business, government and community organizations
- Increased external support from corporations, foundations & government grants

Text Box 4: Intended Societal Outcomes for Co-operative Education

Societal Outcomes:
- Established model for workforce preparedness
- Income tax revenue
- Reduced demand for student loans
- Productive and responsible citizens
- Industry-education partnerships

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[3] See the Canadian Apprenticeship Forum website for more information about apprenticeships in Canada: http://www.caf-fca.org/english/index.asp

[4] See the NCCE website for more information of different co-operative education models available in the United States: http://www.co-op.edu/

The majority of the research investigating the benefits of work and learning opportunities for post-secondary students was conducted between 1970 and 1990, with comparatively few investigations published since then. Much of that research has been criticised for lacking scientific rigor (e.g., Jagacinski, LeBold, Linden, & Shell, 1986; Ricks Cutt, Branton, Loken, & Van Gyn, 1993; Siedenberg, 1989; Stern, McMillion, Hopkins, & Stone, 1990). As Ricks and her colleagues note, the absence of a clear conceptualization and definition of the types of programs being studied is an important obstacle for evaluating existing programs and conducting research about their effectiveness. Moreover, the groups being examined (e.g., co-op students and non-co-op students) are often poorly matched on critical variables such as demographics, work, and school experience factors, which thus makes comparing group differences difficult and research findings challenging to interpret clearly. Notwithstanding some of the common methodological limitations in the research, the following sets out some of the main findings regarding the overall perceptions and benefits of work and learning programs.

2.2.1   Benefits for Students

Most of the literature examining the benefits of post-secondary work and learning opportunities has focused on student perceptions and outcomes (e.g., Cook, Parker, & Pettijohn, 2004; Eyler, 1995; Garavan & Murphy, 2001; Girard, 1999; Goult, Redington & Schlager, 2000; Hite & Bellizzi, 1986; Knouse, Tanner, & Harris, 1999; Stern, Stone, Hopkins, McMillion, & Cagampang, 1992). Overall, these studies report that students view work and learning experiences as valuable on many different levels.

In a 1992 study, Stern and colleagues compared the work experience-related attitudes of 48 students who were employed through a co-operative education program with those of 375 students who held similar jobs but were not enrolled in a co-op program. Students in the co-operative education programs reported seeing clear connections between their job, their school work, and their expected career path more than those students not enrolled in a co-operative education program. Co-op students were also found to have a greater intrinsic interest in their work.

A 2004 study by Cook and colleagues examining the same factors as those of the Stern investigation reveals that little has changed in terms of the perceived value students place on their work and learning educational experiences. The Cook study surveyed over 350 student interns over a period spanning 10 years. The results revealed a high level of agreement among respondents that their work and learning experiences provided them with precious work-related social skills, helped them gain maturity, and increased their confidence about the future. The one area where comparative findings between the two studies did differ, however, pertained to issues surrounding the influence of work experience on career choice, the effects of work experience on improved academic grades, and the question of whether money was the main reason for program participation.

Previous research has also investigated the relationship between participating in work and learning opportunities during post-secondary education and subsequent employment (e.g., Callanan & Benzing, 2004; Knouse et al., 1999; Ramos, 1997). These studies found that students with internship experience were more likely to have a job upon graduation than those without such experience. There is also evidence that internships support the development of job-related skills (Garavan & Murphy, 2001) and are associated with higher levels of job satisfaction (Gault et al., 2000).

2.2.2   Benefits for Employers

A review of the research literature indicates that far fewer studies have been conducted aimed at investigating employers' perceptions about the beneficial outcomes related to work and learning opportunities (e.g., Braunstein & Stull, 1999; Chapman, Coll, & Meech, 1999; Deane, Rankel, & Cohen, 1978; Hurd & Hendy, 1997). One study conducted by Chapman and his colleagues surveyed more than 250 New Zealand employers about their satisfaction with co-operative education programs, and employers rated their experience with co-operative education programs positively overall. An employer forum held in 1994 at the conference of the Canadian Association for Co-operative Education reached a similar conclusion.

Deane and colleagues (1978) investigated the cost-benefit of employers' participation in co-operative education programs. The findings from this study suggest that the overall costs to employers are lower for employees enrolled in co-operative education programs than for regular employees.

More recently, Braunstein and Stull (1999) surveyed nearly 100 employers regarding their perceptions of co-operative education. Employers in this study ranked the following as the three most important benefits of participating in co-operative education programs: (1) the ability to hire motivated and enthusiastic new employees; (2) the opportunity to screen students for permanent employment; and (3) the chance to engage in positive interactions with post-secondary institutions. Employers also rated the education outcomes of co-operative education employees positively, and considered them to possess greater levels of skills and competencies than non-co-operative education employees.

2.2.3   Benefits for Academic Institutions

Little research has been conducted examining the benefits to academic institutions based on their involvement in work and learning opportunities for students. However, those who conduct research in the area of workplace

learning maintain that co-operative education can serve as a tool for attracting students to an institution (e.g., Davis, 1971), and can provide funding and other support through advantageous partnerships with the community (e.g., Coco, 2000; Cook et al. 2004). Surveys conducted at an American university suggest that the availability of co-operative education influenced the decision of approximately one half of all incoming students in their decision to attend that particular university institution (Dube & Korngold, 1987, cited in Kerka, 1989).

2.3   The New Brunswick Context

New Brunswick is a relatively small province with a total population of approximately 750,000, approximately 1/3 Francophone and 2/3 Anglophone, and three major "urban" centres: Moncton (population of approximately 126,000), Saint John (population of approximately 122,000), and Fredericton (population of approximately 86,000). The community college network includes five francophone and six Anglophone campuses with a total student population of approximately 5,000 students, and there are four public universities with approximately 25,000 students – Mount Allison University in Sackville, St. Thomas University in Fredericton, the University of New Brunswick with campuses in Saint John and Fredericton, and the Université de Moncton serving the Francophone community with campuses in Moncton, Shippagan and Edmundston.

Preparation for post-secondary education and training begins when most students are in secondary school. The Survey of 2002 New Brunswick High School Graduates administered by Market Quest Research Group Inc. was conducted less than two years following the graduation of the 2002 student cohort from high school, and was intended to develop an early career development profile of recent New Brunswick high school graduates. Results of the survey showed that 98% of high school students had access to some form of career development activity or program while in high school, with 77% of students actually participating in such programs. The most common activities cited were career days and career fairs, but nearly half (44%) of students who participated in career development activities did so by enrolling in co-operative work experiences or apprenticeship programs. Students also reported that participating in such programs had a significant influence on their decision to pursue further education after high school.

Respondents who were enrolled in some form of post-secondary program within the first two years following their high school graduation reported that they were more likely to have participated in some type of career program in high school than those not pursuing PSE. Finally, nearly two-thirds of respondents who participated in a co-operative/work experience program, and nearly half of respondents who participated in a youth apprenticeship

program, reported that their current post-secondary program was either directly or indirectly related to their high school studies.

In surveys aimed at understanding the anticipated pathways of New Brunswick high school graduates, most indicated that they intended to pursue some level of post-secondary education or training. According to the 2007 Secondary School Survey (Prairie Research Associates & R.A. Malatest & Associates Ltd., 2007), 84% of New Brunswick students approached in grades 6-12 planned to pursue some post-secondary training, and just over half of the Grade 12 students planning to study further indicated their intention to remain within the Province.

Financial costs were identified by senior high school students as an important barrier to post-secondary education. When asked about their knowledge of potential funding sources for PSE, relatively few senior high school students in the province (34%) reported at least some knowledge of the possibility of using earnings from co-operative or apprenticeship programs.

Another survey of secondary school graduates, this one administered in 2005 (High School Follow-Up Survey, 2007), indicated that 69% were either enrolled in a post-secondary program or had completed a program within two years after graduation from secondary school (Malatest & Associates Ltd., 2007). When it comes to choosing their post-secondary program, many issues are considered by New Brunswick students. In particular, students considered program availability (83%) along with family influence and support (78%) to be the most critical deciding factors. The availability of co-operative and work terms was important for 41% of students in community colleges, private vocational programs, and apprenticeship programs, and for only 14% of students enrolled in university programs. Students who had prior experience with co-operative education programs in high school were much more likely (31%) to rate the availability of such programs as very important in their post-secondary selections compared with those without such previous experience (19%).

Evidence drawn from national surveys indicates that relatively more post-secondary students take part in work and learning opportunities in New Brunswick than elsewhere in Canada. According to findings from the national Youth in Transition Survey (YITS, 18-20 Year Cohort, Cycle 2), 23% of Canadian students and 26% of New Brunswick students aged 20-22 at the time of the survey reported having participated in some form of on-the-job experience during the two years leading up to the survey. The vast majority of those (82%) participated in work and learning opportunities only during their post-secondary education (PSE), while the remainder generally had already gained work-related experience in secondary school (16%) or in both secondary and post-secondary

programs (3%). In about one third of the cases, work and learning students gained their work experience through a co-operative education program (34%), while 11% participated in an apprenticeship program, 6% in a trade or vocation training program, and nearly half (49%) participated in another form of work placement such as an internship or practicum. Percentages for New Brunswick respondents were very similar, with 32% participating in co-operative education, 11% in apprenticeship programs, 11% in trade or vocational training, and 45% in other forms of work and learning experiences.

Students who had participated in work and learning opportunities in secondary school were asked to identify the main reason for participating. Just over one quarter (27%) of the respondents did so because it was a requirement of their program of study, 24% reported that they were interested in the subject, and 23% said it was to increase their chances of finding a job. Post-secondary students were more likely to participate mainly because it was a requirement (61%), while only 7% stated that increasing their job prospects was the main reason for participating.

A recent survey of Maritime university graduates by The Strategic Counsel (in preparation, 2007) indicates that just over one third of students enrolled in a Bachelor's program in New Brunswick took part in some form of work and learning placement. The proportion was as high as 50% for students enrolled in applied Arts and Science programs, but much lower (10%) for those enrolled in liberal Arts and Science programs. More specifically, a clear majority of students in health-related (83%) and education, recreation, and leisure (74%) programs reported taking part in work and learning placements.

Programs available in New Brunswick, such as the Research Assistantship Initiative (RAI) and the MITACS Internship Program, are geared more specifically toward graduate students. These types of programs allow graduate students to have extensive work experience in their field of study, while also benefiting their employer.

During the most recent three-year period of the Research Assistantship Initiative, more than 300 assistantships were awarded. Undergraduate students can receive up to $5,000 for a one year period, and graduate students can potentially receive $10,000 per year for up to 2 years. The objective of the Research Assistantship Initiative is to provide research assistantships to students working with professors or researchers dealing with innovation activities in the strategic industries identified by the New Brunswick Innovation Foundation. These include: advanced manufacturing, knowledge industries, life sciences, value-added natural resources, and in education and training.

The MITACS Internship Program is available to graduate students and post-doctoral fellows across all university disciplines and faculties. Through this program a university professor can receive a $15,000 research grant, of which a minimum of $10,000 goes to the intern, while the remainder goes towards other costs associated with the internship, such as equipment, computer software, etc. Graduate student interns and their supervising professors work with a partner company to identify and resolve a challenge that the business is facing. This allows graduate students the opportunity to apply their skills to industrially-relevant research, to connect with future employers, and to develop valuable professional relationships within the industry. At the same time, businesses benefit by gaining access to up-and-coming research talent within Atlantic Canada's universities, connecting with potential future employees, and expanding their R&D environment, all for a minimal investment.

The above clearly indicates that there exists a wide range of work and learning possibilities available for students as part of their formal education. Most New Brunswick high school and post-secondary students are aware of the type and range of these opportunities. While evidence indicates that many do opt to pursue non-mandatory workplace learning opportunities, there remain a number of others who do not. And the reasons cited for not electing to pursue workplace learning are many and varied, with lack of awareness among students a key factor. The following methodological approach was designed to examine in greater detail the barriers to participating in work and learning programs, and to identify stakeholder recommendations for improved programs and services.

2.4   The Current Research Project

Given the reported benefits associated with post-secondary participation in work and learning opportunities, reports of unfilled placements in New Brunswick, and elsewhere, have been surprising. To date, no investigations have been identified that consider the factors associated with work and learning program involvement from the combined perspective of student participants, those who coordinate workplace learning programs at the institutional level, and workplace employers.

This study is aimed at addressing this gap in the research by gathering data from students, program coordinators, and employers about the benefits and limitations of work and learning opportunities, and provides recommendations for program improvement. A case study approach was employed based on using a sample of respondents from each program sector within the New Brunswick work and learning context. Relying on survey data combined with focus group and individual interviews, the findings from the study are reported below. The study's research site (New Brunswick) and the methodological design employed are first described to provide a clear context for reported findings and results.

3.0 Methodology

The current research project is composed of two main elements: an environmental scan of post-secondary work and learning opportunities in New Brunswick, and the gathering and analysis of quantitative and qualitative data related to post-secondary students', and employers' participation in and opinions about work and learning opportunities. The data was gathered using online surveys addressed to post-secondary students and employers throughout the province, as well as focus groups and interviews conducted with a small sample of students, work and learning program coordinators, and employers.

3.1 Environmental Scan

The environmental scan was conducted with the purpose of creating an inventory of the work and learning opportunities currently available to post-secondary students in New Brunswick. No such inventory was previously available, and the environmental scan in itself constitutes a valuable tool for students, parents, academic institutions, and employers by providing detailed information about post-secondary work and learning opportunities in New Brunswick. Descriptions of each program, including a list of required qualifications, contact information and links to available and relevant websites were gathered and compiled. The resulting inventory of 353 post-secondary work and learning programs is described in the Environmental Scan Report, which can be found in Appendix A. Please note that the complete environmental scan can be obtained by contacting the New Brunswick Department of Post-Secondary Education, Training, and Labour.

A decision was also made during the early stages of this research and analysis project to focus primarily on non-compulsory work and learning programs. It was felt that programs in which internships, work placements, etc., were compulsory and integral to the completion of the credential, such as Education and Nursing, were less relevant to this study than voluntary work and learning programs where students and employers made a deliberate choice to participate.

3.2 Quantitative and Qualitative Data

3.2.1 Surveys

In consultation with the survey's funding partners, the research team developed two surveys: one aimed at students enrolled in a post-secondary institution within New Brunswick; and one directed at New Brunswick employers, most of whom were members of the Enterprise Network.

Student Survey

The Student Survey, attached as Appendix B, was designed to gather information about post-secondary students' knowledge and attitudes about work and learning opportunities in New Brunswick. Students who had experience with such programs were questioned further about their most recent experience. The survey was also translated into French for distribution among the French-speaking student population.

An initial version of the survey was tested with a group of Anglophone and a group of Francophone university students who were asked to provide the research team with feedback about the questions. A final version of the survey was developed based on the comments gathered during those sessions and uploaded to an online survey program (WebSuveyor).

An email was sent at the end of March 2007 the University of New Brunswick, Université de Moncton, Mount Allison University, St. Thomas University, and the New Brunswick Community College/Collège communautaire du Nouveau-Brunswick (NBCC/CCNB) network inviting all students to participate in the online survey. As an incentive, participating students were offered a chance to win one of five $100 prizes. A total of 26,205 email invitations were sent, as described in Table 1.

Table 1: Number of email invitations sent to students in each institution	
University of New Brunswick	10,981
Université de Moncton	4,898
Mount Allison University	2,360
St. Thomas University	3,066
NBCC	2,900
CCNB	2,000
Total	**26,205**

A total of 3,306 students completed the survey, yielding a response rate of approximately 13%. This small response rate may be explained in part by the fact that several other national online surveys targeting New Brunswick's university student population were being distributed during the same period. Moreover, because of the voluntary nature of this survey, it is likely that respondents were particularly interested or invested in the topic. The results, therefore, cannot be generalized to the entire student population of the province.

Employer Survey

The Employer Survey, attached as Appendix C, was designed to gather information about employers' knowledge and attitudes about work and learning opportunities in New Brunswick. Employers who had hired students in the context of such programs were also questioned about their most recent experience. The survey was also translated into French for distribution among the French-speaking employer population.

An initial version of the survey was tested with a group of English-speaking employers recruited through the Enterprise Network. These employers were asked to provide the research team with feedback about the questions on the survey. A final version of the survey was developed based on the comments gathered during these sessions and uploaded to an online survey program (WebSuveyor).

An advertisement was placed on the Human Resources Association of New Brunswick (HRANB) website and an email was sent to approximately 836 employers who were members of the Enterprise Network or the New Brunswick Chamber of Commerce. The survey instrument was also distributed throughout the provincial government. A total of 85 employers completed the survey, for a response rate of approximately 10%. When interpreting the results of this survey, consideration must again be given to the fact that employers who responded likely held a particular interest or investment in this topic, as is evident by the fact that the majority of respondents had employed students in work and learning programs. For those reasons, the results of this survey cannot be generalized to all employers in the province.

All statistical analyses were preformed using SPSS 15.0.

3.2.2 Focus Groups and Interviews

In addition to the student and employer surveys, focus groups and interviews were conducted to gather more in-depth information about different groups' knowledge of and attitudes toward work and learning opportunities in New Brunswick.

Participants were recruited in a variety of ways. Students who completed the survey were given the opportunity to provide the research team with their contact information if they were interested in participating in focus groups at their home institution. In addition, work and learning program coordinators were contacted and asked to send an email to past and present students enrolled in their programs inviting them to participate in a focus group. As an incentive, students were offered $20 for their participation. A number of employer members of the Enterprise Network were also sent an email inviting them to participate in a focus group, and a few employers (including provincial government managers) were contacted via telephone. The following focus groups were conducted:

A total of six focus groups or interviews were conducted with 27 students:

- Focus Group #1: Six participants from UNB and NBCC, some with experience with work and learning opportunities, and some without such experience

- Focus Group #2: Seven participants from UNB, St. Thomas University, and NBCC. Some students had experience with work and learning; others did not.

- Focus Group #3: Two students from St. Thomas University participated. One had previous experience with work and learning, while the other did not.

- Focus Group #4: 10 students from the Université de Moncton participated in the focus group conducted in French. One had previous experience with work and learning, while the others did not.

- Interview #1: An interview was conducted with a student from UNB who had never participated in a work and learning opportunity.

- Interview #2: An interview was conducted with a student from UNB who had experience with a work and learning opportunity.

A total of two focus groups were conducted with 11 employers as follows:

- Focus Group #1: Six employers from the government and private sectors participated in the focus group conducted in French.

- Focus Group #2: Five employers from the government and private sectors participated in the focus group conducted in English.

One focus group and one interview were conducted with co-operative education program coordinators. Three coordinators (two from UNB and one from St. Thomas University) participated in the focus group, and the interview was conducted in French with a program coordinator from the Université de Moncton.

4.0 Results

4.1 Student Survey

A total of 3,306 students completed the survey; 2,827 surveys were completed in English and 479 in French.

4.1.1 Sample

Students ranged in age from 17 to 70 years, with a mean age of 23 years. The majority of respondents were females, with 1,048 males and 2,258 females participating in total. Most students reported that they were enrolled in full-time studies (3,011), and very few were enrolled part-time (295). Respondents originated from a range of home regions within New Brunswick, while nearly a quarter originated from outside of the Province, as depicted in Figure 1.

Figure 1: Home region of respondents
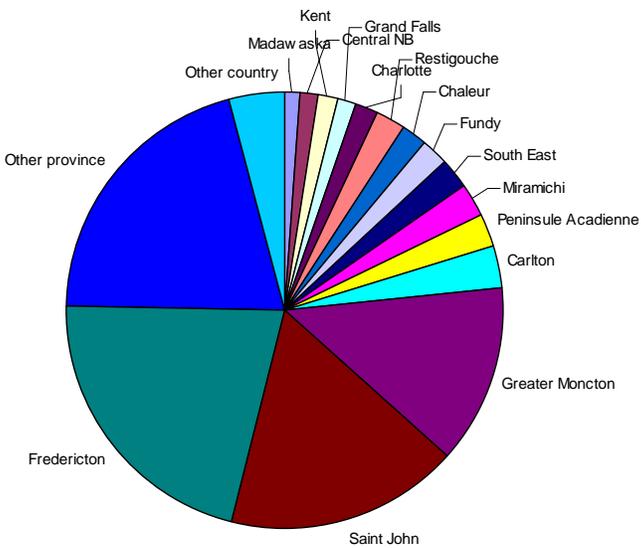
As Table 2 below indicates, most respondents were currently completing their university undergraduate degree (78%), while approximately 11% were enrolled in a university graduate degree. The remainder were enrolled in either a diploma or apprenticeship program.

Table 2: Current academic program		
	Frequency	Percent
Community college diploma	291	8.8
Private vocational training institution diploma	3	0.1
University undergraduate degree	2,569	77.7
University graduate degree	377	11.4
Apprentice program	13	0.4
Other	53	1.6
Total	**3,306**	**100.0**

Respondents were enrolled in a variety of fields of study (see Figure 2). Approximately one fifth of the respondents were enrolled in Arts and slightly fewer were enrolled in Administration. Science was the third most common field of study among respondents. Approximately one in ten respondents were enrolled in each of Engineering, Education, Social Sciences, and Health Sciences, and smaller minorities were enrolled in Computer Sciences, Humanities, Law, Forestry or other fields of study.

Figure 2: Field of study of respondents
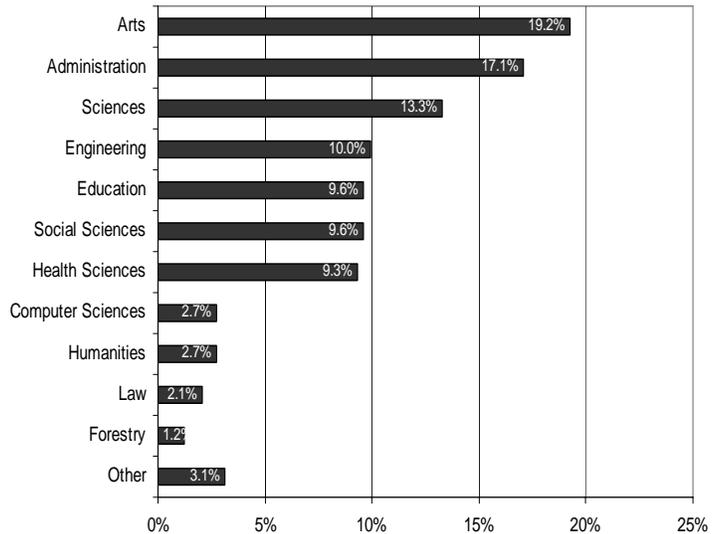
4.1.2 Participation in work and learning opportunities

Respondents were asked questions about their previous experience in work and learning opportunities. A total of 646 respondents (approximately 20%) reported having participated in some form of work and learning during their post-secondary studies. A slightly higher percentage of graduate student respondents (29%) reported having experience with work and learning opportunities, possibly because they have longer academic careers than undergraduate respondents.

Overall, respondents with post-secondary work and learning experience differed somewhat from those who reported not having participated in work and learning opportunities, as described in Table 3. Those who had previous experience with work and learning opportunities were somewhat more likely to have answered the survey in English, to be older, from the Fredericton region, and studying in the fields of Administration, Education, Engineering, and Health Sciences than respondents who had no such experience. Respondents who had not participated in work and learning opportunities during their studies, on the other hand, were slightly more likely to have answered the survey in French, to be younger, to be from out of province or from the Greater Moncton region, and were much more likely to be enrolled in Arts and Sciences.

Table 3: Sample characteristics by participation in work and learning opportunities		
	Participated in work and learning	**Did not participate in work and learning**
Survey Language		
English	90.2%	84.4%
French	9.8%	15.6%
Mean Age	25.2 years	23.0 years
Gender		
Male	36.2%	30.6%
Female	63.8%	69.4%
Home Region		
Carleton	3.6%	2.8%
Central NB	1.9%	1.2%
Chaleur	1.7%	2.1%
Charlotte	2.8%	1.4%
Fredericton	26.7%	20.4%
Fundy	1.7%	2.1%
Grand Falls	1.7%	1.4%
Greater Moncton	11.0%	13.9%
Kent	0.8%	1.5%
Madawaska	1.2%	1.2%
Miramichi	1.6%	2.8%
Pén. Acadienne	1.4%	2.9%
Restigouche	1.4%	2.1%
Saint John	17.1%	17.2%
South East	1.7%	2.1%
Other province	18.4%	21.1%
Other country	5.4%	3.7%
Field of Study		
Administration	20.4%	16.3%
Arts	6.3%	22.4%
Education	14.4%	8.5%
Engineering	13.9%	9.0%
Forestry	0.9%	1.3%
Health Sciences	13.8%	8.3%
Law	2.2%	2.0%
Sciences	7.6%	14.7%
Social Sciences	7.6%	10.1%
Humanities	2.8%	2.7%
Computer Sciences	6.7%	1.8%
Other	3.4%	3.1%

Those who had never participated in some form of work and learning opportunities were asked to identify reasons for their lack of participation. The most important reason by far (63%) for not participating was the lack of awareness of the availability of such opportunities: as shown in Figure 3, nearly two-thirds of the respondents selected this option.

Figure 3: Reasons for not participating in work and learning opportunities
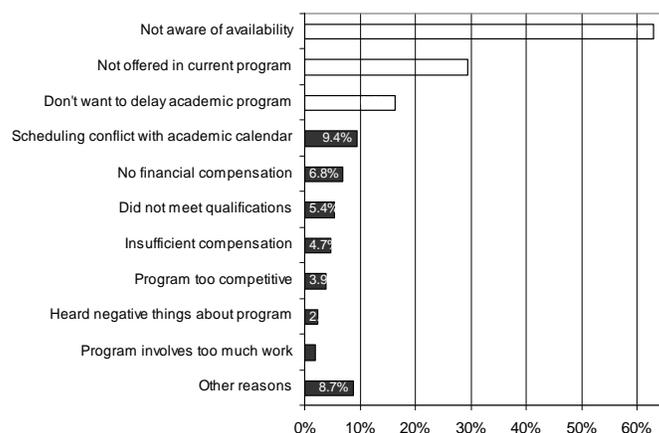
Similarly, respondents who had experience with work and learning opportunities were asked about their reasons for participating (see Figure 4). Of note, the least-often cited reason for participating in such opportunities was to earn money (40.2%). The main reason students engaged in work and learning was to gain work-related experience (77.8%). It is worth noting that in almost every category (except for completing degree requirements), a greater proportion of respondents with experience in co-operative education responded positively than was the case for the overall population of work and learning respondents. This may be a reflection of the fact that many co-operative education students opt to participate in work and learning opportunities on a voluntary basis compared to those involved in other kinds of work and learning experiences.

Figure 4: Reasons for participating in work and learning opportunities
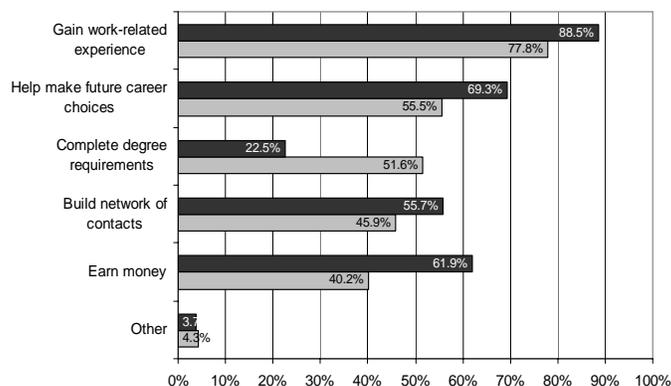
*Note: Overall results are based on 646 respondents and results for co-op are based on 244 respondents

The following section examines findings from respondents who have had previous experience(s) with work and learning opportunities. These respondents make up approximately 21% of all students surveyed. The purpose of this section is to further examine their most recent work experiences.

Approximately one half of respondents who indicated that they had past experience with a work and learning opportunity stated that their participation was mandatory for their academic program (52%). Not surprisingly, most of these respondents stated that they learned of their work and learning opportunity from a faculty member or their academic institution. Comparatively, only a few of these students had heard about their work and learning opportunity directly from recruitment efforts or through advertising by the work and learning program (23%). Of this group, a higher proportion (37%) of students with experience in co-operative education responded that they heard about the program through advertisements or recruitment efforts.

Table 4 sets out the means through which students learned of their work and learning opportunity.

Table 4: Sources of information about availability of opportunity	
Faculty/Institution	72.7%
Program recruitment/advertising	23.4%
Previous or current students in program	20.6%
Friends/relatives	16.9%
Internet	7.9%
Business or organizations	2.3%
Other	7.1%

*Note: Students were able to select more than one option

Respondents reported taking part in a variety of different work and learning experiences, as shown in Figure 5. University graduate students showed a somewhat different pattern of types of work and learning programs. Unlike the respondents in Figure 5, graduate students were most likely to have participated in an internship (38%) and least likely to have participated in co-operative education (19%).

Figure 5: Types of work and learning experiences
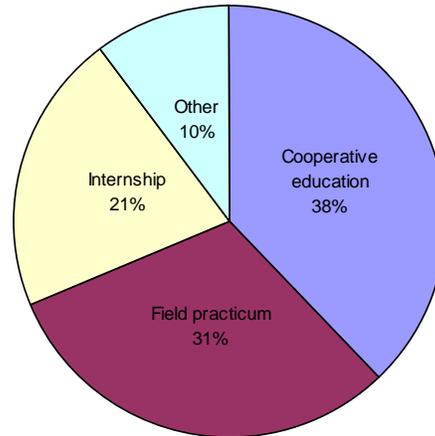
Approximately 70% of all respondents with work and learning experience reported having to bear costs directly associated with their participation. The median overall cost related to participation in a work and learning opportunity was $300. These include costs associated with travel, material purchases, books and manuals, insurance, uniforms or special clothing, and tuition or program fees.

Less than half, or 42%, of those with work and learning experience were required to travel due to their participation, although in most cases the frequency of the travel was less than once a month (see Table 5).

Table 5: Frequency of travel associated with participation	
Never	58.0%
Less than once a month	21.1%
Monthly	7.0%
Weekly	8.5%
Daily	5.4%

Although many work and learning students travelled short distances of less than 50 km, about 60% of students were required to take trips over 50 km with 23% of those surveyed travelling distances of over 150 km (see Table 6).

Table 6: Distance of travel required	
Less than 50 km.	39.9%
Between 51-100 km.	21.0%
Between 101-150 km.	16.2%
More than 150 km.	22.9%

In most instances (85%), students' performance in their work experience was evaluated. While a work supervisor conducted the evaluation in 64% of the cases, another 62% had their work experience evaluated by either a faculty supervisor or someone else within their academic institution (see Table 7).

Table 7: Student performance evaluation	
Work supervisor	64.0%
Faculty supervisor	36.3%
Academic institution	25.3%
Other	5.3%
Don't know	0.6%

*Note: More than one option could be selected

In addition, 76% of the students reported having the opportunity to provide feedback to their institution and 66% were able to provide feedback to the organization that employed them.

Students participated in their work and learning experience throughout the year, with a slight increase in the months of January to August compared with September to December (see Table 8).

Table 8: Period of the year of the work experience*	
September to December	40%
January to April	54%
May to August	54%

*Note: More than one period of the year could be selected

Students identified a number of personal skills they believed were an asset to conducting their work efficiently from the outset of their work and learning opportunity. Given the linguistic context of New Brunswick, it is no surprise that almost 28% reported a knowledge of French as an asset given the prevalence of French as a working language in the workplace (see Table 9).

English	69.6%
French	6.4%
Both English and French	21.1%
Other	2.9%

In addition to language skills, respondents identified a number of other skills required during their work experience. In some cases, respondents felt they lacked those skills when first beginning their workplace learning experience. See Table 10 for additional details.

Table 10: Skill Needs and Requirements	Skills required	Skills lacking
Organizational skills	76.7%	18.4%
Language/Communication skills	72.9%	16.0%
Computer skills	69.5%	12.6%
Specific content-area knowledge	65.3%	47.9%
Writing skills	61.7%	8.5%
Leadership skills	43.9%	17.8%
Other skills	6.5%	5.9%

Respondents were asked to evaluate the value and effectiveness of their most recent work experience by indicating the extent to which they agreed or disagreed with a number of statements about their work experience. Students generally evaluated their experiences very positively, with 91% indicating that they found their working conditions satisfactory, 64% indicating that their work demands were appropriate, and 86% reporting that they would recommend their workplace learning program

to other (see Table 11). These results did not differ between respondents who had experience with co-operative education and respondents who had experience with other types of work and learning opportunities.

Table 11: Evaluation of work experience	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The working conditions were satisfactory?	58.4%	32.4%	5.9%	2.5%	0.8%
The amount of work was too demanding?	5.6%	7.6%	23.1%	42.2%	21.6%
You would recommend this work-learning program to other students?	50.5%	35.0%	9.6%	2.6%	2.2%

As suggested by the literature, students gain many benefits from their work experiences. Respondents were asked about what they had acquired from their most recent work and learning experience. Nearly three-quarters reported having learned specific content-area knowledge, and more than half reported acquiring improved organizational skills (see Table 12). These results did not differ significantly for respondents with experience in co-operative education and those with other types of work experience.

Table 12: Skills gained	
Specific content-area knowledge	73.3%
Organizational skills	59.5%
Leadership skills	47.9%
Language/Communication skills	46.8%
Computer skills	38.3%
Writing skills	29.3%
Other skills	5.4%

In addition to these skills, 69% indicated that they received course credit for their work. As well, as depicted in Table 13, 59% of all students surveyed reported receiving some form of financial compensation.

Table 13: Financial compensation	
Hourly wage	34.0%
Salary	14.9%
Stipend	3.1%
Scholarship	1.4%
Bursary	1.2%
Other	3.9%
None	41.6%

The average weekly financial compensation was $380 (approximately $10/hour), and the majority of respondents (63%) felt that the compensation they received was representative of the work they performed.

In sum, respondents who participated in work and learning opportunities reported gains in a variety of areas. It is encouraging that the majority reported having gained work-related experience, since this was the main reason given for participating. In addition, many reported building a network of contacts, and a few even gained employment opportunities after the completion of their program (see Figure 6). Respondents who had participated in co-operative education programs were much less likely than other respondents to say that their participation resulted in the completion of degree requirements, but much more likely to say that their participation resulted in their earning money. They were also slightly more likely to say that their participation resulted in the development of a network of contacts.

Figure 6: Reported gains from work and learning experiences
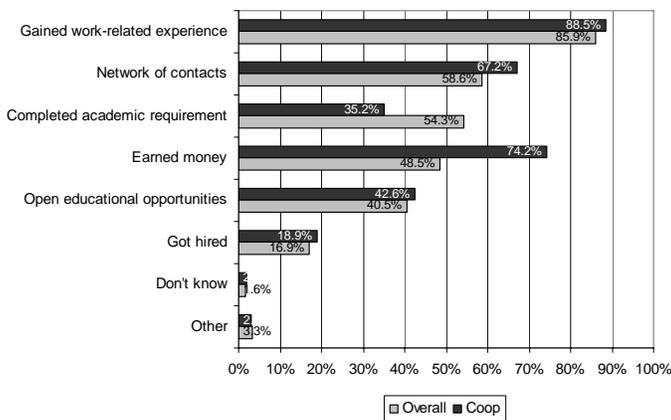
Respondents were asked to rate their level of agreement or disagreement on a number of items concerning the final outcome of their work and learning experience. Once again, the results indicate a high level of satisfaction with regards to the benefits stemming from their program participation (see Table 14). Nearly 40% of respondents indicated that their work and learning experience led them to consider remaining in New Brunswick for their future careers, while nearly 30% disagreed. The remainder of respondents were neutral about their program's influence on whether to remain in New Brunswick.

Table 14: Outcome of work experience					
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Your participation helped you identify your academic direction.	28.1%	39.7%	19.8%	9.1%	3.3%
Your participation helped you identify your future career direction.	29.0%	44.0%	16.1%	8.1%	2.8%
Your participation was a valuable experience.	57.1%	33.5%	6.4%	2.2%	0.9%
Your participation has led you to consider staying in New Brunswick for future career opportunities.	18.8%	19.5%	32.9%	16.4%	12.4%

4.1.3 General opinions about non-mandatory work and learning opportunities in New Brunswick

All respondents were asked to rate their level of agreement or disagreement with a series of statements about non-mandatory work and learning opportunities in New Brunswick. Non-mandatory experiences include those that are optional rather than required program components for completing an academic degree.

Just over half (52%) of respondents agreed that they would consider taking time away from their studies to participate in a work and learning opportunity in the future. An additional 28% of respondents were neutral on the issue. Survey participants also largely agreed (63%) that the availability of these opportunities needed to be expanded. Approximately one out of five respondents, however, disagreed that work and learning opportunities are sufficiently attractive for students (see Table 15).

Table 15: Opinions about work and learning opportunities in NB	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
In the future, you would consider taking time away from your studies to participate in a non-mandatory work-learning experience.	17.2%	34.8%	27.7%	14.5%	5.7%
There is a need to increase the number of non-mandatory work-learning opportunities for post-secondary students in NB.	26.0%	37.4%	33.4%	2.3%	0.9%
Non-mandatory work-learning opportunities in your area are sufficiently attractive to post-secondary students.	7.7%	19.0%	52.3%	16.2%	4.9%

It is noteworthy that 50% of respondents who did not have prior experience with work and learning reported that they would consider taking time away from their studies to participate in a work experience in the future. This indicated a considerable potential pool of candidates for future work and learning placements in the province.

When asked about the best ways to improve the attractiveness of work and learning opportunities for post-secondary students, providing more financial incentives was the solution most often chosen. It is interesting to note, however, that respondents without work and learning experience identified earning course credit and improving the accessibility of information about programs more often than respondents with work experiences (see Figure 7).

Figure 7: Ways to improve the attractiveness of non-mandatory work and learning opportunities
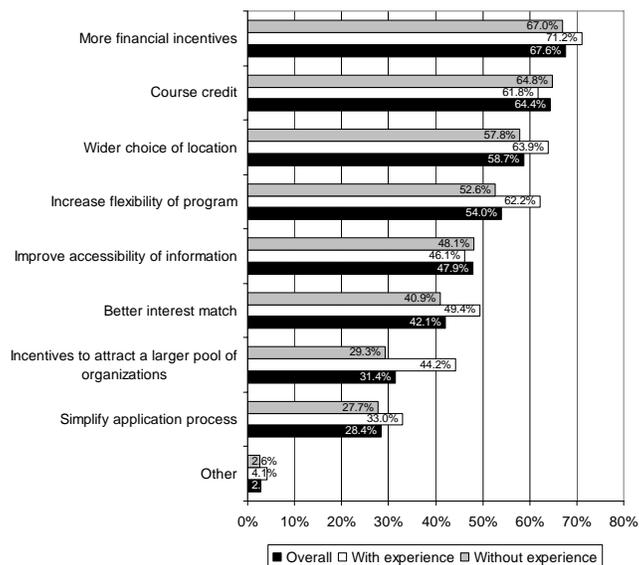
4.2 Student Focus Groups and Interviews

A total of 27 students participated in focus groups or semi-structured interviews. The transcripts from these sessions provided a rich source of data from which to extract common themes pertaining to students' perceptions and beliefs about work and learning opportunities in New Brunswick, their costs and benefits, the barriers associated with them, and recommendations for their improvement. Although opinions about work and learning programs were generally positive and consistent with findings from the survey, several concerns were also raised. While each participant approached the issue from a different perspective, many raised similar concerns. The findings reported in this section reflect the dominant views and observations from the qualitative analysis. Individual quotes are provided as an illustration of these dominant themes.

4.2.1 Perceived benefits to participating

Students who had experience with some form of work and learning program cited a variety of reasons for participating. Many of the reasons mirrored those chosen by survey respondents. Reasons ranged from gaining work experience, incorporating more diversity in the academic program, "test-driving" different workplaces, developing a network of contacts, applying skills learned in school, earning money, gaining personal confidence and encouraging the desire to pursue PSE.

Ça donne une chance de voir dans quoi tu vas travailler une fois que tu auras terminé tes études et ça peut te donner le goût de continuer.
- Université de Moncton Student

Students expected to gain an understanding of the workplace environment and to be treated as regular employees. In most instances, though not all, students' expectations were met. A few respondents said that participating in work and learning during PSE helps overcome the "catch-22" situation many new graduates experience in that, on the one hand they cannot secure employment without experience, while on the other hand they cannot gain experience without employment. Experience gained through work and learning placements helped some students feel less intimidated about the workplace and gain skills that could help them be successful during job interviews. Many expressed the belief that their experience would provide them, if not with a job immediately following graduation, they would at least gain positive references and contacts to help them obtain employment.

The contacts that I made were just amazing. Networking is very good for a future job and references also.
- St. Thomas University Student

4.2.2 Challenges and barriers to participating

The most often cited reason for not participating was lack of awareness or lack of availability of work and learning opportunities. It is also noteworthy that although money was stated as an incentive for participating by some informants, it was also a frequently mentioned barrier. Several informants stated that relatively high fees were sometimes required to participate in some programs (e.g., $500-$800 for a co-op term), while some placements were either unpaid or paid very little.

Some of the kids I know in Engineering who don't go through the co-op system, they can work here or there and make 25, 30, 50 dollars an hour.
- UNB Undergraduate Student

Other students referred to negative experiences related by previous participants in work and learning programs. In some instances, students were given tasks that were not engaging (such as answering the phone, making photocopies, or filing), while for others there was a poor match between the student's interests and the job placement. Other frequently cited barriers were lack of time and an unwillingness to prolong their academic studies to gain work experience. A few respondents cited a cumbersome application process and difficulties with finding relevant information in a timely manner as additional barriers to participating in work and learning programs. Some expressed concern about their qualifications or the necessity to move great distances for a good placement. A small number of respondents expressed the concern that there was a lack of support and encouragement from their institution or faculty members. Finally, several French-speaking international students expressed frustration over the lack of warning they received regarding the need for strong English skills to meet placement requirements

All I did was basically photocopy the whole day.
- UNB undergraduate student

4.2.3 Recommendations

In order to improve current and future work and learning opportunities for post-secondary students and increase participation rates, respondents recommended addressing a few issues they considered to be critical. First, a larger number of opportunities must be made available and be sufficiently advertised. In some programs there is a lack of available placements, and while placements are available in other programs students are not aware of them. It was suggested that employers visit classrooms to speak about the work and learning opportunities that are available, and that previous work and learning students be invited to share their experiences with prospective students. Other promotional suggestions were to send e-mails out to all incoming students about opportunities available to them, and host a larger number of job fairs. The belief was expressed that a better understanding of the benefits from all perspectives would increase the participation rate of both employers and students.

If there was better cooperation and understanding of benefits on both sides, the institution and the workplace, then everyone would make sure that the students have a positive experience.
- UNB Undergraduate Student

On a related note, students believed that greater effort is required to ensure a strong match is realized between a student's academic program and interests and the individual work placement. The implementation of incentives such as better financial compensation and more course credits were also urged.

4.3   Employer Survey

4.3.1   Sample

A total of 85 employers completed the survey.[5] Sixty-one surveys were completed in English and the remaining 24 were completed in French. Those who completed the survey held various positions within their respective organizations, as listed below in Table 16.

Table 16: Positions held by respondents	
Owner/Operator	5
Human Resources	25
Management	30
Professional	17
Technical/clerical support	2
Other	6

As Table 17 shows, employers were almost equally divided between the public and private sectors with 41 respondents from the public sector and 39 from the private sector. The remainder were from the not-for-profit and other such agencies.

Table 17: Nature of participating organizations	
Federal gov't sector (incl. Crown Corporation)	8
Provincial gov't sector (incl. Crown Corporation)	30
Municipal gov't sector	3
Small private sector (0-50 employees)	11
Medium private sector (51-500 employees)	9
Large private sector (501+ employees)	13
Not-for-profit	6
Other	5

The field of work of the participating organisations varied somewhat, with the largest proportion being education, public administration, and health care and social services (see Table 18).

Table 18: Field of work of participating organizations	
Educational Services Industry	14
Public Administration Industry	13
Health Care and Social Services Industry	11
Professional, Scientific and Technical Services Industry	8
Finances, Insurance, Real Estate and Leasing Industry	6
Other Services Industry	6
Manufacturing Industry	5
Utilities Industry	4
Business, Building and Other Support Services Industry	3
Information, Culture and Recreation Industry	3
Accommodation & Food Service Industry	2
Construction Industry	2
Retail Trade Industry	2
Transportation and Warehousing Industry	2
Agriculture Industry	1
Forestry Industry	1
Mining and Oil and gas Extraction Industry	1
Wholesale Trade Industry	1

Most organizations that responded to the employer survey were located in Fredericton, Greater Moncton, the Acadian Peninsula, and Saint John (see Figure 8).

Figure 8: Location of organizations
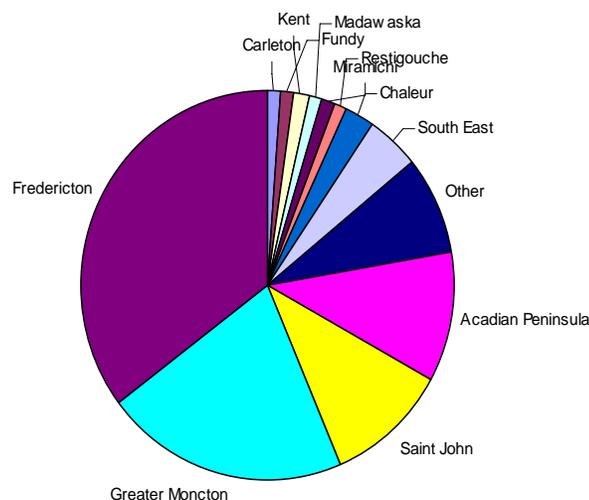
Not surprisingly, the working language of many participating organizations is English (36), though a larger number of organizations reported using both English and French (42), and a few used mostly French (4). Finally, two organizations stated that languages other than English or French were also used frequently.

4.3.2   Participation in work and learning opportunities for post-secondary students

Employers were questioned about their previous experiences with work and learning opportunities for post-secondary students. A total of 74 employers reported that their organization had previously been approached to participate in a work and learning program, and 61 stated that their organization had contacted a post-secondary institution directly to recruit students. Also, nearly half (46%) of the employers stated that their organization had participated in a work-learning program involving secondary school students (see Table 19).

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[5] Because of the low sample size, frequencies are generally reported rather than percentages, the former often being more informative than the latter.

| Table 19: Organizations' past experience with work and learning programs	Yes	No	Don't know
Has your organization ever been approached to participate in a work-learning program?	74	6	4
Has your organization ever contacted a post-secondary institution to recruit students participating in a work-learning program to work in your organization?	61	16	7
Has your organization ever participated in a work-learning program involving secondary school students?	39	35	10
Has your organization ever participated in a work-learning program involving post-secondary students?	72	9	3

*Note: Number of responses do not always total 85, as employers were not strictly required to answer all questions.

The nine employers who reported that their organization had not participated in post-secondary work and learning programs were asked to identify possible reasons for their non-participation. As Table 20 illustrates, and in keeping with the findings from the Student Survey, the most cited reason was lack of awareness of such programs. Time and financial constraints, program location, and insufficient staff were also indicated by at least one employer. It is interesting to note that none of the employers considered regulatory factors, negative past experiences, retention problems, administrative complications, or lack of institutional involvement as being a barrier to their organization's participation.

Not aware of availability	3
Time constraints	2
Financial constraints	1
Location	1
Insufficient HR to train/supervise	1
Regulatory factors	0
Negative past experience	0
No retention of students/employees	0
Administrative complications	0
No faculty/institution	0
Other	3

Similarly, the 72 employers from organizations that had employed post-secondary students within a work and learning program were asked to identify all of their reasons for program participation. As described in Figure 9, the reason cited most frequently by both public and private sectors was to discover qualified candidates for future employment opportunities. Increasing work production at low costs and helping the organization's reputation was cited more often by employers in the public sector, while developing a network of contacts was more important for organizations in the private sector.

Figure 9: Employers' reasons for participating in work and learning programs
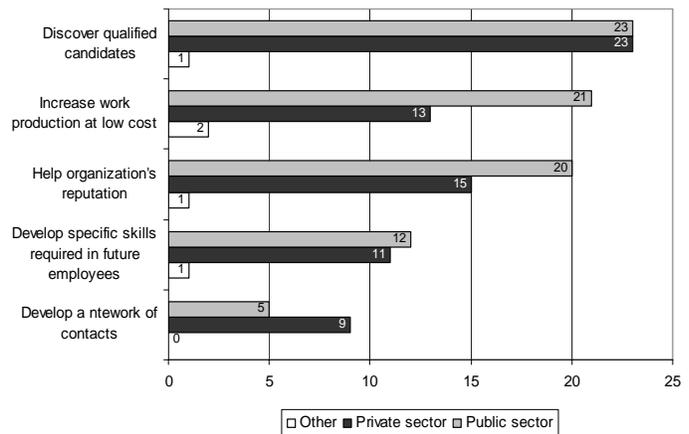
Many employers reported that their organizations have established partnerships with academic institutions in the context of work and learning programs. Most partnerships were made with the Université de Moncton (Moncton) and the University of New Brunswick (Fredericton), though several partnerships were made with colleges as well (see Table 21). Over one half (56) of the employers said that their organization would consider working with students from institutions other than the ones with which they already have partnerships.

Table 21: Partnerships with academic institutions	
Université de Moncton – Moncton	35
Université de Moncton – Shippagan	6
Université de Moncton – Edmundston	3
University of New Brunswick – Fredericton	32
University of New Brunswick – Saint John	13
St. Thomas University	6
Mount Allison University	3
Atlantic Baptist University	1
CCNB – Péninsule acadienne	2
CCNB – Bathurst	8
CCNB – Dieppe	12
CCNB – Edmundston	2
NBCC – Fredericton	4
NBCC – Miramichi	5
NBCC – Moncton	15
NBCC – Saint John	12
NBCC -- Woodstock	2
Total Number of Partnerships	**161**

Employers who have employed post-secondary students in work and learning programs report that most placements occur in the summer between the months of May and August (64), although students are also hired during September to December (47) and January to April (47). An average of three post-secondary students are employed by each participating organization in the summer, compared to one or two in the fall and winter semesters.

Of those employers who hire students as part of a work and learning program, the majority of respondents, especially those from the public sector, hired students from co-operative education programs (see Figure 10).

Figure 10: Proportion of employers from the private and public sector who hire students from each type of program
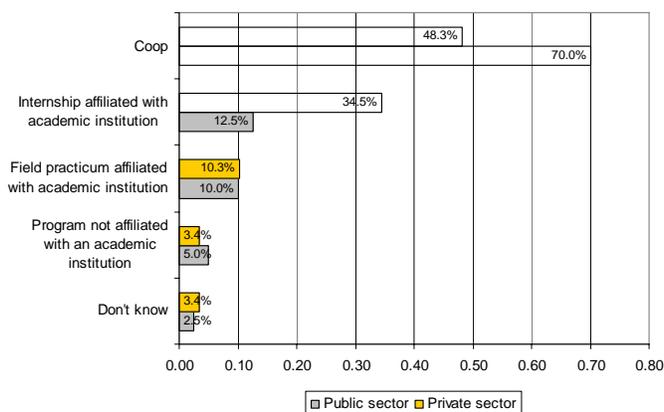
Employers were asked how they heard about the work and learning program in which they most recently participated. The most often cited source of information was the academic institution, followed by program recruitment efforts or advertisements (see Table 22).

Table 22: Sources of information	
Faculty/institution	31
Other - specify	17
Program recruitment/advertisement	12
Previous student employees	7
Don't know	4
Other businesses/organizations	1

According to participating employers, post-secondary students hired through work and learning programs are required to work an average of 36 hours per week. Generally, students were paid for their work, though 10 employers reported that the organization did not offer any type of financial compensation. The average weekly financial compensation for students was $393 (after the removal of 2 outlier cases, equivalent to approximately $10/hour), and nearly 70% of the employers believed that the financial compensation was commensurate with the work preformed.

The majority of employers surveyed were given the opportunity to provide feedback on the students' work performance and on the work and learning program more generally (see Table 23).

Table 23: Opportunity to provide feedback			
	Yes	**No**	**Don't know**
Did your organization have the opportunity to provide feedback on the student's performance?	69	1	2
Did you organization have the opportunity to provide feedback on the work and learning program?	55	9	8

Less than a third (23) of employers who participated in work and learning programs with post-secondary students stated that students were required to travel during their work and learning experience. Nearly all of the employers stated that they required students to have specific skills already in place for working in their organization since only five employers stated that no prerequisite skills were necessary. Computer skills, specific content-area knowledge skills, and writing skills were most frequently identified by employers as skill requirements. See Table 24 for further details.

| Table 24: Skills required	
Computer skills	81.9% (59)
Specific content-area knowledge	69.7% (46)
Writing skills	59.7% (43)
Language/Communication skills	55.6% (40)
Organizational skills	47.2% (34)
Leadership skills	23.6% (17)
Other skills	9.7% (7)

*Note: Frequencies are noted in parentheses

It is worth noting the discrepancies between the skills students perceive to be required at the outset of their work experience and the ones employers consider to be necessary. Organizational skills were the most often selected by students (76.7%), yet just under half of the employers considered organizational skills a prerequisite. A larger proportion of students than employers also considered language, communication and leadership skills important.

Employers were asked about what they had gained from their most recent experience with hiring post-secondary students from a work and learning program. Fewer than half (30) of the respondents reported that the organization received some form of external funding. In all cases where funds were received, support came in the form of government program funding. None of the employers reported receiving funding through government tax incentive programs or from a post-secondary institution.

Regardless of whether employers received external funding, the majority (70%) of participating employers evaluated their past experience with work and learning programs as valuable. Twenty-six employers agreed and forty-four employers strongly agreed that the experience was valuable. When asked about the reason they valued the experience, just over one half of employers reported that the experience allowed them to discover qualified candidates for future employment (see Figure 11).

Figure 11: Reasons for finding experience valuable

Figure 12: Ways to improve the attractiveness of non-mandatory work and learning opportunities
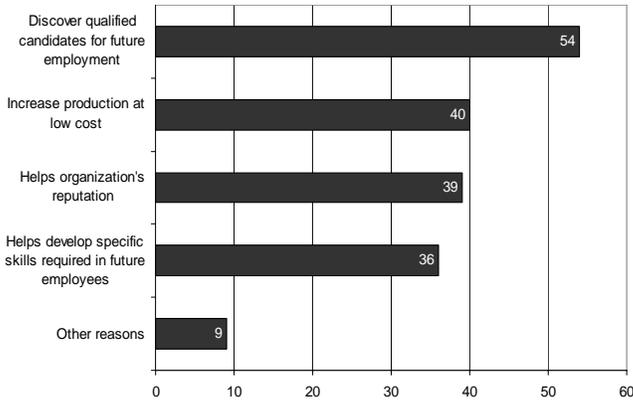
4.3.3 General opinions about non-mandatory work and learning opportunities in New Brunswick

As with the student survey, all employer respondents were asked to rate their level of agreement or disagreement with a series of statements about non-mandatory work and learning opportunities in New Brunswick. Employers were instructed that non-mandatory experiences include those that are not required for the completion of a student's academic degree.
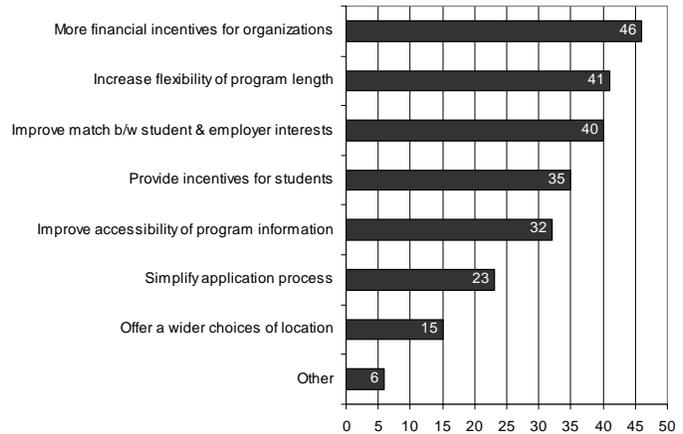
As seen in table 25, there was agreement (79) for the need of an increase in the number of non-mandatory work and learning opportunities in the province. With regard to current programs, 52 employers agreed that they are sufficiently attractive to organizations.

Table 25: Opinions about work and learning opportunities in NB

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
There is a need for an increase in work-learning opportunities for PSE students and businesses in New Brunswick.	46	33	5	0	0
Work-learning programs in your area are sufficiently attractive to organization(s).	13	39	23	9	0

When asked how programs could be made more attractive for organizations, employers suggested that more financial incentives be offered first and foremost (See Figure 12).

Finally, and to end this section on Employer Survey results on a positive note, 95% of the respondents stated that they would consider hiring students from work and learning programs in the future.

4.4 Employer Focus Groups and Interviews

A total of 11 employers from various public and private sectors and four co-operative education program coordinators participated in focus groups or semi-structured interviews. The transcripts from these sessions provided a rich source of data to complement the survey data presented above. Common themes pertaining to employers' and coordinators' perceptions and beliefs about work and learning opportunities (particularly those related to co-operative education) in New Brunswick were extracted in a similar fashion as they were from the student focus group and interview transcripts. The costs and benefits of such programs, and the barriers associated with their implementation – along with recommendations on how to overcome these barriers – were identified by the participants.

4.4.1 Perceived benefits to participating

Employers saw many benefits to hiring post-secondary students from work and learning programs and reported having had more positive than negative past experiences. In most cases, employers reported that students fill important labour shortages within their organizations. One employer from a not-for-profit organization stated that hiring students within work and learning programs such as co-operative education is one of the only means to address human resource needs because of the limited government funding available in that sector. Most employers agreed that getting involved with work and learning programs enables organizations to attract qualified candidates who may have potential for staying with the organization after graduation. Employers also appreciated that the younger

workforce can bring new ideas and skills to their organization. One private sector employer commented on the importance of hiring students to fulfill a social responsibility.

> *We view it as an opportunity to bring some fresh blood and new thinking into our organization. The co-op students especially in the second...third or fourth years have a good knowledge of what the current technologies are and they bring some new skills into our organization, [and] suggest improvements and changes that we can apply.*
> - Public sector employer

Work and learning program coordinators commented on a number of benefits for students and employers. They have witnessed how students participating in such work experiences have gained confidence and learned valuable workplace-related skills, including social and teamwork skills, a strong work ethic, and knowledge about the realities of the labour market. Coordinators perceive that these work experiences allow students to explore different work fields, while also giving them the opportunity to travel and develop networks of contacts. The coordinators stated that a large number of work and learning opportunities lead to permanent employment for participating students. They also agree with employers that hiring post-secondary students could help the development of the organization by providing new knowledge, skills, and creativity.

> *You see them develop personally and professionally. And then to go out and visit them on the work terms, it's just amazing what some of these students are doing and accomplishing. You just see the confidence building in them and they're treated by their co-workers and peers as full time employees.*
> - Co-operative program coordinator

4.4.2 Perceived challenges and barriers

All employer focus group participants had considerable experience with work and learning programs, most often co-operative education. Many of them believe that the length of the placements can be the most important barrier for organizations to benefit from work and learning programs. From a cost-benefit perspective, the organization needs to invest time and money to train and supervise students before they can become productive and help the organization grow. For that reason, work placements that are short in duration (between a few weeks

to approximately six months) are of limited value to organizations.

> *The students are generally looking for four month work terms, but we've found that eight months work better for us and the student; gave them time to get up to speed in the skill sets that we required for them to actually make some progress. In four months, we are just getting a student up to speed; we invest a lot of time and training and then they're gone.*
> - Public sector employer

An important concern raised by many employers was the lack of communication between the organization and the institutions or the work and learning program coordinators. There is often little information communicated to the employers regarding the number of potential candidates available for employment, or about the academic programs associated with the institutions and the mechanisms involved in accessing a qualified pool of candidates. Even though there are many work and learning programs available in the province[6], many employers feel they do not have access to the information necessary for navigating through the differing qualifying criteria for program participation and external funding.

> *Dans mon cas à moi, je pense qu'il y a un manque de communication entre ces programmes-là et l'entreprise, on n'est pas au courant. On ne sait pas comment s'enregistrer, on ne sait pas comment avoir l'opportunité d'avoir un étudiant qui pourrait venir travailler pour un an. Je ne sais pas comment ça fonctionne, je ne sais pas qui s'occupe de ça.*
> - Private sector employer

An important challenge for many participating organizations is the lack of qualified candidates. Some employers mentioned that students often come unprepared, having conducted little research about the job or the realities of the workplace, and they possess mostly theoretical rather than practical or applied workplace knowledge. Employers who were interviewed also reported difficulties finding bilingual candidates for their work placements, which is problematic given the preference for bilingual positions within the provincial government. In some instances, employers expressed their belief that students are paid too little, especially when they have significant fees deducted by their academic institution

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[6] See the Environmental Scan Inventory, which can be made available upon request.

to pay for their participation in work and learning programs. They suggest that higher financial compensation, smaller institutional fees, and more academic credits would attract a larger pool of qualified students.

Program coordinators agree that the fees students are required to pay to participate in some work and learning programs are a deterrent. They also point out, however, that public funding for these programs has diminished over the past few years and that staff shortages at the post-secondary institutions impede the provision of proper services to students and organizations.

4.4.3   Recommendations

Employers would like to see the creation of centralized lists of potential candidates that organizations could easily access, as well as lists of potential work placements that students could easily access. Many respondents also mentioned a need for regular forums for employers and institutions to meet to discuss current and future needs. Employers also indicated that student recruitment might be enhanced if employers were to take a more active role in visiting students during class time to inform them about potential work opportunities. Participating employers likewise indicated that they would welcome invitations by work and learning program coordinators to meet with students in their academic environment.

Offering students more workplace incentives was considered key to solving the low student participation rate in work and learning programs. While financial incentives such as lowering program fees and increasing financial compensation were one such suggestion, offering students a flexible and exciting workplace and giving them the opportunity to work on meaningful and stimulating projects were also cited as important.

Work and learning program coordinators believe that a cultural shift among both workplace and learning institutions is needed – one where work and learning opportunities become an integral part of the education system. Work and learning must be a value held by parents, elementary and secondary school teachers, post-secondary institutions, and society. This is especially important because students who have previous knowledge and experience with work and learning programs tend to be more likely to participate in such programs later in their academic careers.

5.0 Conclusion

5.1 Benefits to Participating in Work and Learning Opportunities

Previous research has suggested that there are many benefits for both students and employers related to participation in work and learning opportunities.[7] Numerous studies have suggested that students value these experiences, they learn about possible careers, and they gain valuable skills such as work-related social, leadership, organizational and other skills. Students have seen their self confidence and maturity levels improve, and have developed networks of contacts and even secured post-graduation jobs. Research has also shown that employers tend to rate their experiences very positively. Many employers consider that the costs associated with employing students through work and learning programs are lower than costs for regular employees, and that it allows them to screen students for potential permanent employment.

Many of the benefits highlighted in previous studies were reinforced by New Brunswick students, employers, and program coordinators who participated in the current research study. Students reported that as a result of their work and learning experience, they gained specific content-area knowledge, along with organizational, leadership, and language and communication skills. They also determined that their experience presented new educational opportunities and helped identify their future career direction. In addition to gaining work-related experience, students reported that they developed a network of contacts and earned money. Few students stated that their experience led directly to employment opportunities, but this finding is most likely because the survey was administered in all cases before respondents' graduation.

Employers reported that participating in work and learning opportunities helped them discover qualified candidates for future employment, and was a cost-effective way of dealing with labour shortages.

5.2 Recommendations

Many recommendations for improving work and learning opportunities for post-secondary students have been articulated in the literature. These include making databases clear and accessible that describe both the

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[7] Benefits to academic institutions and society at large have also been identified, however, they are not mentioned here since the foci of this project are students and employers.

students available to fill work and learning positions and the work placements available at each institution, creating websites posting all opportunities available at each institution, developing a marketing campaign to better advertise the established benefits of work and learning for all parties involved, defining the terms, expectations, and procedures of each work and learning opportunity, conducting work-based learning orientations for all involved in the process (including faculty members), organizing employer-faculty forums to discuss the quality of the work and learning experience, and establishing scholarships aimed at promoting work and learning participation (e.g., Allan et al., 1999; Braunstein & Stull, 1999; Chapman et al., 1999).

Many of these recommendations were echoed in the survey, focus group, and interview findings from this project and are summarized below:

5.2.1 Recommendation 1: Funding

The issue of funding was raised by all parties, including students, employers, and work and learning program coordinators. When students have lucrative work opportunities available to them outside of work and learning programs (sometimes out-of-province), it becomes important to offer competitive financial compensation to ensure they remain in New Brunswick and take advantage of opportunities to learn work-related skills within the context of their academic education. Work and learning program coordinators argue that funding for work and learning programs – especially from relatively small-scale provincial programs such as SEED – must be expanded to allow better services and more opportunities for students and employers. Students and employers, on the other hand, believe that program fees must be reduced and academic credits maximized.

5.2.2 Recommendation 2: Sharing of Information

All participants involved underscored the importance of sharing relevant information. Post-secondary institutions and work and learning program coordinators need to more actively seek eligible and interested students, and find better ways of providing the latter with information regarding available programs, and how to qualify and apply for them. Students who have participated in work and learning programs should be given more opportunities to share the benefits they have reaped from their experience with other students. This information must reach students early given the evidence that the more knowledge and experience they have related to work-related activities, the more likely they are to participate in work and learning opportunities during their PSE and training.

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Given the important influence parents have on secondary school students' post-secondary choices, parents must also be informed of work and learning opportunities and their benefits. Academic institutions and work and learning program coordinators also need to establish regular channels of communication with employers and other organizations to perform regular needs assessments and ensure that post-secondary students are being provided with the best learning environments possible.

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Appendix A

Environmental Scan Report

WORK AND LEARNING OPPORTUNITIES IN NEW BRUNSWICK:
Environmental Scan Report

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July 2007

INTRODUCTION

Background Information

Many different federal, provincial, and private sector programs are available in New Brunswick for post-secondary students seeking workplace professional learning opportunities. This environmental scan provides a comprehensive understanding of the full range of post-secondary work and learning opportunities available within the Province for the use of students, employers, and post-secondary institutions.[8]

Methodology

The environmental scan was developed through consultations with CCL and the project funding partners. Information was first gathered by searching the online university and college program calendars to determine which programs, faculties and departments offered their students a workplace learning component. The searches were conducted in both official languages, and the information gathered was compiled on the environmental scan spreadsheet.

A Program Coordinator Interview Guide was created to gain more detailed information about the programs (see Appendix D). Program coordinators were contacted by e-mail for either a telephone or face-to-face interview. The interviews determined the following information:

- Student enrolment numbers within programs, average and present;
- Entrance requirements for participation in each program;
- Student selection processes;
- Program length;
- Geographic location;
- Fees charged to student participant;
- Travel considerations; and
- Program evaluations.

The findings gathered through the internet searches and interviews were consolidated into a detailed spreadsheet, which is available separately. What follows in this document is a brief overview of the information contained in the spreadsheet.

Limitations of Environmental Scan

The first limitation to note in this research is that the list was not designed to be exhaustive. Because of the fluctuating nature of post-secondary programs, it is difficult to include all programs. New programs are continually being developed, old programs are being phased out, and existing programs will evolve. Also, some programs are not well publicized and may have been overlooked due to limitations of the data gathering procedures. The environmental scan was designed to illustrate that there are a wide variety of programs available to students, both mandatory and non-mandatory to academic programs.

Our second limitation is that, because of time constraints, the work and learning programs associated with the many private universities, colleges, and vocational institutions in New Brunswick were excluded from the environmental scan. Contacting only programs for students of the publicly funded universities and NBCC/CCNB network allowed us to integrate and aggregate the information to represent the largest number of students possible with the available resources.

Finally, the large number of programs, along with time and ethical constraints on both the research team and the program coordinators, limited our ability to contact and receive specific information regarding each and every program. The generic program information is available as part of the scan, but specific information regarding student enrolment and other program specific information is not always available.

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[8] Please note that the complete inventory and description of work and learning opportunities in New Brunswick can be made available upon request. This is a summary report of the environmental scan.

This environmental scan has several key benefits (see Figure 1): it is directed to a wide audience, and it is not intended solely for use by stakeholders in the province of New Brunswick. The process used for this environmental scan is one that could be used in any jurisdiction seeking to gain a greater understanding of work and learning opportunities available for students, employers, post-secondary institutions, and government offices.

Figure 1: Benefits of Environmental Scan

Students	Employers	PSE Institutions	Government
• Provides contact information for current and prospective students • Ascertain prerequisite information • Learn about the various institutional programs	• Develop relationships with students and institutions • Determine fair market value for students • Can be used as a recruitment tool to save time and costs building network of information	• A tool to attract public and private research resources. • Re-examine current work and learning policies • Administration and faculty become more in tune with work and learning options	• Provides updated information for current departments hiring students • Can be used as a tool to promote regional economic development • Highlights the importance of work and learning opportunities to the labour market, and to the recruitment and retention of post-secondary graduates

ENVIRONMENTAL SCAN OF WORK AND LEARNING OPPORTUNITIES IN NEW BRUNSWICK

University Programs

This section includes an overview of the work and learning programs identified in the environmental scan that have direct ties to the New Brunswick's four publicly funded universities, as well as the province's largest private university.

Available to All Universities

- Research Assistantship Initiative (RAI) – operated through the New Brunswick Innovation Foundation (NBIF).
- Mathematics of Information Technology and Complex Systems (MITACS) Internship Program

Mount Allison University

Located in Sackville, Mount Allison boasts an impressive academic reputation as a leader in liberal arts. However, the researchers found no work and learning programs available exclusively to students of Mount Allison University.

Université de Moncton

The Université de Moncton is New Brunswick's only public Francophone university. There are three campuses.

Moncton Campus
The main campus of Université de Moncton is located in Moncton. This campus has 53 academic programs with specific work and learning programs:
- Baccalauréat en traduction
- Baccalauréat en traduction (programme accéléré)
- Baccalauréat en travail social
- Baccalauréat, Spécialisation en Géographie
- Baccalauréat, majeure géographie
- Baccalauréat en droit/MBA
- Baccalauréat appliqué en sciences de laboratoire médical
- Baccalauréat appliqué en techniques radiologiques
- Baccalauréat en santé (thérapie respiratoire)
- Baccalauréat en science de l'éducation, concentration chimie
- Baccalauréat en science de l'éducation, concentration biologie
- Baccalauréat en science de l'éducation, concentration physique
- Baccalauréat en science de l'éducation, concentration mathématique
- Formation spécialisée en musique
- Baccalauréat en éducation primaire
- Baccalauréat en éducation (majeure en éducation physique)
- Baccalauréat en éducation (majeure en anglais)
- Baccalauréat en éducation (majeure en études françaises)
- Baccalauréat en éducation (majeure en géographie)
- Baccalauréat en éducation (majeure en histoire)
- Baccalauréat en éducation (majeure en études familiales)
- Baccalauréat en sciences infirmières
- Baccalauréat en sciences en kinésiologie
- Baccalauréat ès Arts (majeure en études familiales)
- Baccalauréat ès Arts/Baccalauréat en éducation (majeure en études familiales)
- Maîtrise en administration des affaires (MBA), option Co-op
- Maîtrise an administration publique
- Maitrise en orientation
- Maitrise ès Arts en orientation
- Baccalauréat en génie civil, option Co-op
- Baccalauréat en génie électrique, option Co-op

- Baccalauréat en génie industriel, option Co-op
- Baccalauréat en génie mécanique, option Co-op
- Baccalauréat en biochimie, option Co-op
- Baccalauréat en biologie option Co-op
- Baccalauréat en chimie, option Co-op
- Baccalauréat en mathématique, option Co-op
- Baccalauréat en physique, option Co-op
- Baccalauréat en informatique appliquée, option Co-op
- Maîtrise en technologie de l'information, option Co-op
- Baccalauréat en gestion des opérations, option Co-op
- Baccalauréat en marketing, option Co-op
- Baccalauréat en comptabililté, option Co-op
- Baccalauréat en nutrition, option Co-op
- Baccalauréat en traduction, option Co-op
- Maitrise ès Sciences (Nutrition-Alimentation)
- Maitrise ès Arts (Psychologie)
- Doctorat en psychologie
- Maitrise en science infirmière - infirmière ou infirmier praticien
- Maitrise en science infirmière
- Maitrise en études de l'environnement

Of the work and learning programs available to students in these academic programs, at least 22 are voluntary (students may participate in a work and learning program optionally), and at least 29 are mandatory for completion of the degree program.

Shippagan Campus
There are four work and learning programs located at the Shippagan campus of Université de Moncton. Of the programs, two are voluntary and one is mandatory. The programs are:
- Baccalauréat, Gestion de l'information
- Baccalauréat, Gestion de l'information, option Co-op
- Maitrise en science infirmière
- Diplôme en administration des affaires

Edmundston Campus
There are five work and learning programs at the *Edmundston* campus of Université de Moncton, one voluntary and two mandatory. They are:
- Baccalauréat en sciences forestières
- Baccalauréat en sciences forestières, option Co-op
- Baccalauréat appliqué en agro-foresterie
- Maitrise en science infirmière
- Baccalauréat en éducation

University of New Brunswick

The University of New Brunswick is the largest of New Brunswick's four publicly funded universities. There are two campuses.

Fredericton Campus
The Fredericton campus of the University of New Brunswick has 17 faculty-specific work and learning programs. Of those 17 programs, 12 are offered at the undergraduate level, four at the graduate level and one in law school. There are six voluntary co-op/Professional Experience Program (PEP) programs (PEP work terms are typically longer than normal co-op terms), five voluntary internship/practicum programs, and six mandatory internships/field placements. The current total number of participants across all programs is more than 1 900 out of an estimated student body of 9 500.

Work and learning programs available at UNB Fredericton are:
- Bachelor of Business Administration, Co-op
- Masters of Business Administration, Internship
- Bachelor of Computer Science, Co-op

- Bachelor of Computer Science, PEP
- Bachelor of Education, Field Placement
- Masters of Education, Internship
- Bachelor of Engineering, Co-op
- Bachelor of Forestry, Co-op
- Bachelor of Kinesiology, Practicum
- Bachelor of Law, Articling
- Bachelor of Nursing, Field Placement
- Bachelor of Nursing (BN/RN Program), Field Placement
- Masters of Nursing, Field Placement
- Bachelor of Philosophy, Canadian Internship
- Bachelor of Philosophy, International Internship
- Masters of Philosophy in Policy Studies, Internship
- Bachelor of Science, Co-op

University of New Brunswick - Saint John Campus
The smaller Saint John campus of the University of New Brunswick has a student population of approximately 3,000. There are two work and learning programs of note, both of which are voluntary undergraduate co-op programs. The programs at UNB Saint John are:
- Bachelor of Business Administration, Co-op
- Bachelor of Applied Management in Hospitality and Tourism, Co-op

The total number of students currently enrolled in the Business Administration program is approximately 90, while the Tourism and Hospitality Management program has faced serious barriers in recent years, resulting in a current enrolment of zero students.

St. Thomas University

St. Thomas University is a small liberal arts university located in Fredericton, with an enrolment of 2 632. There are four work and learning programs at STU:
- Bachelor of Arts, Working Knowledge Co-op Program
- Bachelor of Education, Field Placement
- Bachelor of Social Work (four year), Field Placement *(Note: The four year Social Work program is being phased out beginning in September 2007)*
- Bachelor of Social Work (post-degree), Field Placement

Of these four programs, three are mandatory field placement programs associated with the faculties of Education and Social Work. The third program is the school-wide Working Knowledge Co-op Program, open to all students enrolled in the university, which connects students with paid work terms. The current enrolment in the latter program is approximately 30 participants. The mandatory work and learning programs have a combined enrolment of 131.

Atlantic Baptist University

Atlantic Baptist University is a private, Christian university located in Moncton. The 12 work and learning programs exclusive to ABU are:
- Bachelor of Arts (Biblical Studies), Community Practicum
- Bachelor of Arts (Communication), Community Practicum
- Bachelor of Arts (English), Community Practicum
- Bachelor of Arts (History), Community Practicum
- Bachelor of Arts (Psychology), Community Practicum
- Bachelor of Arts (Religious Studies), Community Practicum
- Bachelor of Arts (Sociology), Community Practicum
- Bachelor of Business Administration, Community Practicum
- Bachelor of Business Administration Co-op, Community Practicum
- Bachelor of Education, Observation and Internship
- Bachelor of Science (Biology), Community Practicum

- Bachelor of Science (Biopsychology), Community Practicum

Students in 11 of ABU's 12 programs are required to complete one community practicum for every two semesters of full time study. This practicum is equivalent to two hours per week of volunteer work in a church or community organization as assigned by the registrar's office. The other program, the Bachelor of Education program, requires students to observe a classroom for 72 hours and then participate in a 15 week internship.

<div align="center">Community College Programs</div>

The New Brunswick Community College/Collège Communautaire du Nouveau Brunswick (NBCC/CCNB) network is extensive. There are campuses in 11 cities. Of those campuses, seven are Anglophone (located in Miramichi, Moncton, St. Andrews, Saint John, Woodstock and two in Fredericton), and five are Francophone (located in Bathurst, Campbellton, Dieppe, Edmundston and the Acadian Peninsula). Unlike the university work and learning programs, the majority of which are voluntary, the NBCC/CCNB work and learning components are chiefly mandatory for the completion of the programs of study. Between these 12 campuses, there are more than 140 programs (listed below) that involve a work study component. In addition, many of these programs are offered on multiple campuses.

<div align="center">*Anglophone Sector*</div>

The work and learning programs available at NBCC, listed by campus, are as follows:

Fredericton Campus
- Early Childhood Education
- Human Services
- Practical Nurse
- Automotive Services Technician
- Health Care Aide
- Health Unit Coordinator
- Professional Sale and Account Management
- Records and Information Management Office
- Teacher Assistant

Miramichi Campus
- Correctional Techniques
- Criminal Justice
- Graphic Design
- Practical Nurse
- Youth Care Worker
- Business Administration
- Business Administration (Sales and Marketing)
- Office Administration
- Carpentry
- Heavy Equipment Service Technician
- Transport Refrigeration Service Technician
- Vocational Forestry
- Welding

Moncton Campus
- Practical Nurse
- Business Administration
- Business Administration (Accounting)
- Business Administration (Marketing)
- Cook
- Office Administration
- Office Administration (Executive)
- Automotive Service Technician
- Carpentry

- Civil Engineering Technology Option (Architectural)
- Civil Engineering Technology Option (Building Systems)
- Civil Engineering Technology Option (Construction Management)
- Civil Engineering Technology Option (Geomatics)
- Civil Engineering Technology Option (Highway and Municipal)
- Civil Engineering Technology Option (Structural)
- Computerized Numerically Controlled Manufacturing Technician
- Electrical
- Sheet Metal Fabrication
- Steel Fabrication
- Welding
- Welding Engineering Technology
- Agricultural Equipment Repair
- Health Care Aide
- Health Unit Coordinator

Saint John Campus
- Automotive Marketing and Business Studies
- Early Childhood Education
- Human Services
- Nuclear Medicine Technology
- Respiratory Therapy
- Medical Laboratory Technician
- Mechanical Technician
- Pharmacy Technology
- Practical Nurse
- Business Administration
- Business Administration (Accounting)
- Business Administration (Investment Management)
- Business Administration (Marketing)
- Computer Programming Technology (Programmer/Analyst)
- Computer Programming Technology (Programmer/Analyst) – Co-op
- Office Administration
- Office Administration (Executive)
- Automotive Service Technician
- Chemical Technology
- Electrical
- Electrical Engineering Technology (Computer Systems)
- Electrical Engineering Technology (Electronic Communication)
- Motor Vehicle Body Repairer/Painter
- Mechanical Engineering Technology Option (Buildings – Energy and Environment)
- Mechanical Engineering Technology Option (CAD/CAM)
- Power Engineering Technology
- Pulp and Paper Process Technician
- Welding

St. Andrews Campus
- Hospitality and Tourism Management (Adventure Recreation)
- Hospitality and Tourism Management (Culinary)
- Hospitality and Tourism Management (Global Tourism and Marketing)
- Hospitality and Tourism Management (Hotel, Restaurant and Culinary)
- Hospitality and Tourism Management (International Tourism)
- International Business
- Office Administration

- Welder Fabricator
- Electrical

Woodstock Campus
- Graphic Arts (Electronic Prepress)
- Human Services
- Practical Nurse
- Business Administration
- Business Administration (Investment Management)
- Business Administration (Transportation Management)
- Legal Office Administration
- Office Administration
- Office Administration (Bilingual)
- Office Administration (Medical)
- Office Administration (Transportation Operations)
- Agriculture
- Agri-Business
- Bricklaying
- Carpentry
- Production Welder
- Health Care Aide

Francophone Sector

The work and learning programs available at CCNB, listed by campus, are as follows:

Dieppe Campus
- Charpenterie
- Réparation de machines à petit moteur
- Réparation spécialisée de véhicules récréatifs
- Maçonnage – Briquetage
- Entretien d'aéronefs
- Techniques de ventes
- Techniques de distribution et manutention
- Techniques de conseils de voyage
- Techniques de production Web et multimédia
- Technologie des affaires - Marketing

Edmundston Campus
- Agriculture
- Agroforesterie
- Biotechnologie
- Charpenterie
- Cuisine Professionnelle
- Électricité
- Électricité industrielle
- Techniques culinaires
- Techniques de chauffage, ventilation, réfrigération et air climatisée
- Technique de gestion administrative
- Technique de gestion de bureau
- Technique de tourisme
- Technique d'hotellerie et de restauration
- Technologies des procédés industriels
- Technologie du Géni civil- option général (Co-op)
- Tourisme international

Bathurst Campus
- Débosselage et peinture de carosseries
- Apprentissage et certification
- Fabrication assistée par ordinateur
- Façonnage et montage métallique
- Mécanique de machines fixes
- Plomberie
- Post-diplôme en commerce international
- Secrétariat
- Stage de formation pratique
- Soudage
- Techniques de fabrication d'outils
- Technique de gestion et marketing de l'automobile
- Techniques d'entretien de camions et de remorques
- Techniques d'entretien d'équipements lourds
- Techniques d'entretien de l'automobile
- Techniques d'entretien industriel
- Techniques d'usinage
- Technologie de laboratoire de chimie
- Technologie de l'environnement
- Technologie de l'informatique- option Réseautique
- Technique
- Technologie de l'ingénierie du bâtiment
- Technologie de l'ingénierie industrielle
- Technologie de l'instrumentation et de l'automatisation
- Technologie des affaires, option Administration et commerce électronique
- Technologie des affaires, option Comptabilité
- Technologie du génie électronique

Campbellton Campus
- Infirmières auxiliaires et aide en santé
- Ébénisterie - Bois ouvré
- Gestion de production - Bois ouvré
- Charpenterie
- Techniques de gestion de documentaire
- Baccalauréat appliqué en sciences de laboratoire médical
- Techniques de secrétariat médicale: option Secrétaire médicale
- Techniques de secrétariat médicale: option Transcripteur médical
- Techniques de secrétariat médicale: option Transcripteur médical bilingue
- Techniques de thérapie respiratoire
- Techniques d'ébénisterie et du bois ouvré
- Techniques d'éducation en service de garde
- Techniques d'intervention en services communautaires: option Services aux adultes
- Techniques d'intervention en services communautaires: option Services aux enfants/adolescents
- Techniques en pharmacie
- Techniques radiologiques
- Woodworking and Cabinetmaking Technician
- Woodworking Production Management

Péninsule acadienne Campus
- Aquaculture
- Assemblage et soudage de production
- Mécanique diesel, marine, industrielle et commerciale
- Navigation maritime

- Soins infirmiers auxiliaires
- Soudage
- Techniques de gestion de bureau
- Technologie de l'animation 2D-3D
- Techniques de gestion de la petite et de la moyenne entreprise

Government Operated Programs

A diverse range of work and learning programs are available to post-secondary students in New Brunswick through the federal and provincial governments. Annually, over three thousand New Brunswick post-secondary students benefit from their involvement with these programs.

Apprenticeships

Through the New Brunswick Department of Post-Secondary Training and Labour, over 70 occupations are available for apprenticeships. In this program, students must find an employer who is willing to take them as an apprentice and then apply for the program. Students divide their time between the work place and classes in their discipline, offered by numerous NBCC/CCNB campuses. Approximately 85% of the apprenticeships are in English, while the remaining 15% are in French. Currently, approximately 880 students are taking part in apprenticeships in New Brunswick.

The following occupations are available for apprenticeship:
- Appliance Service Technician
- Automotive Painter
- Automotive Repairer
- Automotive Service Technician
- Automotive Service Technician (Electrical and Fuel)
- Automotive Service Technician (Steering, Suspension, Brakes)
- Automotive Service Technician (Transmission)
- Baker
- Blaster
- Bricklayer
- Cabinetmaker
- Carpenter
- Commercial Trailer Technician
- Computerized Numerical Control Machinist
- Concrete Finisher
- Construction Boilermaker
- Construction Electrician
- Cook
- Distribution Construction Lineman
- Distribution System Operator
- Electrical Mechanic (Electrical Utility)
- Electrical Rewind Mechanic
- Electronics Technician (Consumer Products)
- Engineering Assistant
- Farm Equipment Service Technician
- Floor-covering Installer
- Glazier
- Hairstylist
- Heat Treatment Technician
- Heavy Equipment Service Technician
- Industrial Electrician
- Industrial Instrument Technician
- Industrial Mechanic (Millwright)
- Insulator (Heat and Frost)
- Ironworker (Generalist)

- Lather (Interior Systems Mechanic)
- Machinist
- Marine Electrician
- Mobile Crane Operator
- Mobile Hoisting Equipment Operator
- Motor Vehicle Body Repairman (Metal and Paint)
- Motorcycle Mechanic
- Oil Burner Mechanic
- Painter and Decorator
- Partsperson
- Plumber
- Power Engineer (2nd Class)
- Power Engineer (3rd Class)
- Power Engineer (4th Class)
- Power System Operator
- Powerline Technician
- Recreation Vehicle Service Technician
- Refrigeration and Air Conditioning Mechanic
- Roofer
- Sheet Metal Worker
- Small Equipment Mechanic
- Sprinkler System Installer
- Stacker-Detailer
- Steamfitter-Pipefitter
- Steel Fabricator (Fitter)
- Switchboard Operator
- Tool and Die Maker
- Transport Refrigeration Technician
- Truck and Transport Service Technician
- Water Well Driller
- Welder
- Firefighter
- Production Equipment Manager
- Service Station Attendant
- Survey Technologist
- Survey Technician

Other Provincial Programs

Aside from the apprenticeship programs, there are two other work and learning programs offered at the provincial government level in New Brunswick:

- *Student Employment and Experience Development (SEED)* - SEED is a provincial program that is divided into two sections. One half of the program provides summer employment to post-secondary students, while the other half provides funding to employers to hire students for internship and co-op experiences. Approximately 2300 post secondary students in the province benefit from participating in programs that are funded by SEED.

- *Interprovincial Exchange Program*– This program offers 10 New Brunswick students the opportunity of working for the Québec or Manitoba civil service while 8 Québec and 2 Manitoba students work for the government of New Brunswick. It gives students the opportunity to work in a sector that corresponds to their field of specialization or their personal goals, to acquaint themselves with the social and cultural life of their host province and to enhance their knowledge of their second official language. This program is open to any university discipline.

Federal Programs

Work study programs offered at the federal government level include:

- *Federal Student Work Experience Program (FSWEP)* - FSWEP is offered by the Public Service Commission of Canada. This program provides students with jobs and work-learning opportunities within the federal government. There are over 8,000 positions available each year, and there is a mixture of year round and summer employment positions. Positions are open to both Anglophones and Francophones, and they are found all across Canada.

- *Community Access Program Youth Initiative (CAP YI)* - CAP YI is funded through Human Resource and Social Development Canada. This program aims to provide job opportunities for individuals, mainly students, between the ages of 15 to 30. In New Brunswick, currently 137 individuals are in positions through CAP YI.

- *Research Affiliation Program (RAP)* - RAP seeks to place university students within ongoing research projects throughout Canada to help students better understand and experience applied research. They must be directly related to the student's program of study within the university.

Private Programs

There are other work and learning programs available to post-secondary students in New Brunswick that do not fit in any of the above categories and have therefore been classified as "private programs" by the research team. Although some of these programs receive funding from post-secondary institutions and from the provincial and/or federal government, they are not limited to students from one specific post-secondary institution, and they are not government-operated programs. Therefore, they do not fit in either of those categories.

Eight such programs were identified by the researchers:

- Students for Development –operated by the Association of Universities and Colleges of Canada (AUCC)
- New Brunswick Organic Farm Apprenticeship Program – operated by Falls Brook Centre
- Sport New Brunswick Apprenticeship Program
- Programme de stage avec des petites et moyennes entreprises innovatrices – operated by the CNRC (Conseil national de recherches Canada)
- Programme de stage de recherche conjointe - operated by the CNRC (Conseil national de recherches Canada)
- Shell Conservation Internship Program (Shorebird Interpreter) – operated by Nature Conservancy Canada and Shell Limited Canada
- Shell Conservation Internship Program (Trail Intern) – operated by Nature Conservancy Canada and Shell Limited Canada

These programs are open to all post-secondary students from a variety of institutions. Some programs require graduate students, while some are also open to undergraduate students.

It is important to note that during the course of the environmental scan, the research team encountered many additional programs that employ students. However, many of these other programs were not considered by the researchers to be applicable to the project. Most of these other programs did not meet any of the following three criteria:

1) Programs exclusive and/or limited to New Brunswick
2) Programs intended for post-secondary students
3) Programs designed to complement a program of post-secondary study; not simply "summer job" programs.

These programs were therefore not included.

SUMMARY

The environmental scan includes information about many of the work and learning programs currently available to post-secondary students in the province of New Brunswick.[9] Three graduate students from the Université de Moncton located work and learning programs in the province offered in French, while three graduate students from the University of New Brunswick located work and learning programs offered in English. Both teams worked under the support of a faculty supervisor from each post-secondary institution. The purpose of this environmental scan is to make information regarding work and learning programs more accessible for students, employers, government, post-secondary institutions and the general public in hopes of encouraging the growth of work and learning programs as a valuable tool in New Brunswick's economic sustainability.

The environmental scan identified more than 350 work and learning programs available to post-secondary students in New Brunswick. Work and learning components are most common among NBCC/CCNB programs – there are more than twice as many programs in that network than among the four public universities. Almost all of the work and learning programs, across both the NBCC/CCNB network and the universities, are designed specifically for certain disciplines. At the university level, work and learning programs provide on-the-job experience for students in academic programs that could lead to a number of different professions such as engineering, business, computer science, and arts. In comparison, the NBCC/CCNB programs tend to embody vocational characteristics, meaning the programs provide more 'hands on', practical training for specific technical or professional oriented careers. This is similar in nature to the apprenticeship programs, which make up the bulk of provincial government programs.

The environmental scan represents the largest current inventory of available work and learning programs in New Brunswick. A wide variety of information was gathered about each program, including, but not limited to: program affiliation, contact information, take up percentage, program requirements, skill requirements, relocation requirements, compensation for participation, and costs for participation.

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[9] Please note that the complete inventory of the work and learning opportunities in New Brunswick can be made available upon request.

Appendix B

Student Survey

The purpose of this survey is to gather information about post-secondary students' knowledge of, participation in, and attitudes towards post-secondary work-learning (or work-study) opportunities in New Brunswick. Such **opportunities include co-op placements, internships, practicums, and other forms of programs where students can gain work-related skills, while pursuing their academic goals.** The information gathered will help identify the needs and priorities of post-secondary students regarding work-learning programs.

This survey will take approximately 20 minutes to complete. Try to answer all questions and remember that there are no right or wrong answers. Your participation is entirely confidential and information regarding your identity will not be retained. Your answers will be kept strictly confidential and used only for statistical purposes. Finally, remember that your participation is completely voluntary and that you may, at any time, withdraw with no consequences to you. By completing and submitting this survey, you are signaling that you have understood the nature of this project and have agreed to participate in the research. Your cooperation is important to ensure that the collected information is as accurate and as comprehensive as possible.

The survey is sponsored in part by the New Brunswick Department of Post-Secondary Education, Training and Labour (PETL) and Collège communautaire du Nouveau-Brunswick/New Brunswick Community College (CCNB/NBCC).

SECTION 1: The next few questions ask for important basic information about you.

1. What is your gender?
   a. Male
   b. Female

2. What is your age in years?
   _____

3. Please select your home region of New Brunswick. If you are not from New Brunswick, please select your home province/territory or country.

   Carleton
   Central NB
   Chaleur
   Charlotte
   Fredericton
   Fundy
   Grand Falls
   Greater Moncton
   Kent
   Madawaska
   Miramichi
   Péninsule acadienne
   Restigouche
   Saint John
   South East

   Alberta
   British Columbia
   Manitoba

Newfoundland & Labrador
Northwest Territories
Nova Scotia
Nunavut
Ontario
Prince Edward Island
Québec
Saskatchewan
Yukon

Other Country (Please specify)
_____

4. What is your highest level of academic achievement prior to your current program?
   a. High school
   b. Community college diploma
   c. Private vocational training institution diploma
   d. University undergraduate degree
   e. University graduate degree
   f. Apprentice program
   g. Other (specify)

5. In which type of program are you currently enrolled?
   a. Community college diploma
   b. Private vocational training institution diploma
   c. University undergraduate degree
   d. University graduate degree
   e. Apprentice program
   f. Other (specify)

6. Name of your program:
   _____

7. You are in your _____ year of a _____year program.

8. You are studying :

   a. Full time
   b. Part time

9. Which institution do you currently attend?
   a. Atlantic Baptist University
   b. Bethany Bible College
   c. CCNB-Campbellton
   d. CCNB-Péninsule acadienne
   e. CCNB-Bathurst
   f. CCNB-Dieppe
   g. CCNB-Edmundston
   h. College of Craft and Design
   i. Mount Allison University
   j. NBCC-Fredericton
   k. NBCC-Miramichi

      l.   NBCC-Moncton
      m. NBCC-St. Andrews
      n.   NBCC-Saint John
      o.   NBCC-Woodstock
      p.   St. Thomas University
      q.   St. Stephen's University
      r.   UNB-Fredericton
      s.   UNB-Saint John
      t.   Université de Moncton-Edmundston
      u.   Université de Moncton-Moncton
      v.   Université de Moncton-Shippagan
      w. Other (specify)

10. What is your field of study?
      a.   Administration
      b.   Arts
      c.   Education
      d.   Engineering
      e.   Forestry
      f.   Health sciences
      g.   Law
      h.   Sciences
      i.   Social sciences
      j.   Humanities
      k.   Computer sciences
      l.   Other (specify)

SECTION 2: The following questions ask about your previous experience with post-secondary work-learning programs.

11. Do you have any experience (past or present) with participating in any post-secondary education work-learning programs?
      a.   Yes (Go to Question 13)
      b.   No

12. What were your reason(s) for not participating in a work-learning program? (Choose all that apply.) (After this Question, go to SECTION 6, Question 46)
      a.   Not aware of the availability of any such programs
      b.   Not offered as part of faculty/institution curriculum
      c.   No financial compensation was offered
      d.   Insufficient compensation was offered
      e.   Scheduling conflict with academic calendar
      f.   Did not meet qualifications of the program
      g.   Program too competitive
      h.   Heard negative things about the program
      i.   Program involves too much work
      j.   Don't want to delay the completion of the academic program
      k.   Other (specify)

13. How many times have you participated in a post-secondary work-learning experience such as a co-op placement, internship, or practicum?
      a.   Once

     b. Twice
     c. Three times
     d. Four times or more

SECTION 3: Please refer to your **most recent** **<u>work-learning experience</u>** (for example, co-op placements, internships, practicums) to answer the following questions.

14. Was this work-learning experience mandatory for the completion of your degree?
     a. Yes
     b. No

15. How did you hear about this work-learning experience? (Choose all that apply.)
     a. Faculty/Institution
     b. Businesses or organizations
     c. Internet
     d. Program recruitment/advertising
     e. Previous or current students in the program
     f. Friends/relatives
     g. Other (specify)

16. What was the nature of the work-learning experience?
     a. Co-operative education
     b. Internship program (specify)
     c. Field practicum (specify)
     d. Other (specify)

17. What were your reason(s) for participating in the work-learning experience? (Choose all that apply.)
     a. To complete degree requirements
     b. To gain work-related experience
     c. To help make future career choices
     d. To earn money
     e. To start building a network of contacts
     f. Other (specify)

18. What approximate costs ($), if any, did you incur from your participation in the work-learning experience? If you did not incur any costs, please enter 0.
     a. Travel-related costs: _____
     b. Material purchases or loans (other than books or manuals): _____
     c. Books or manuals: _____
     d. Insurance: _____
     e. Uniforms or other specialized clothing: _____
     f. Accommodation/meals: _____
     g. Tuition and/or program fee: _____
     h. Other (specify): _____

19. When you were part of the work-learning experience, were <u>you</u> evaluated?
     a. Yes
     b. No (Go to question 21)

20. Who evaluated you? (Choose all that apply.)
     a. Academic institution
     b. Faculty supervisor
     c. Work supervisor

      d.   Student
      e.   Don't know
      f.   Other (specify)

21. Was the work-learning experience or program evaluated?
      a.   Yes
      b.   No (Go to Question 23)

22. Who evaluated the work-learning? (Choose all that apply.)
      g.   Academic institution
      h.   Faculty supervisor
      i.   Work supervisor
      j.   Student
      k.   Don't know
      l.   Other (specify)

23. Were you given the opportunity to provide feedback on the work-learning experience to your postsecondary institution/program?
      a.   Yes
      b.   No

24. Were you given the opportunity to provide feedback on the organization that provided you with the work-learning experience?
      a.   Yes
      b.   No

25. Which period of the year did you participate in the work-learning experience? (Choose all that apply.)
      a.   September to December
      b.   January to April
      c.   May to August

26. What was the working language used in the work environment?
      a.   English
      b.   French
      c.   Both English and French
      d.   Other (specify)

27. On average, how frequently were you required to travel to different communities or cities as part of the work-learning experience?
      a.   Never (Go to Question 29)
      b.   Less than once a month
      c.   Monthly
      d.   Weekly
      e.   Daily

28. On average, what distance (in km) were you required to travel on each separate occasion?
      a.   Less than 50 km
      b.   Between 51-100 km
      c.   Between 101-150 km
      d.   More than 150 km

29. On average, how many hours per week were you required to work?

_____ hours

To what extent do you agree or disagree with the following statements concerning your **most recent work-learning experience**?

30. The working conditions were satisfactory.
    a. Strongly agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly disagree

31. The amount of work required was too demanding.
    a. Strongly agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly disagree

32. You would recommend this work-learning program to other students.
    a. Strongly agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly disagree

SECTION 4: The following questions ask about your knowledge, skills, and aptitudes related to your **most recent work-learning experience**.

33. Which of the following knowledge, skills, and/or aptitudes were required before starting the work-learning? (Choose all that apply.)
    a. Computer skills
    b. Writing skills
    c. Organizational skills
    d. Specific content-area knowledge
    e. Language and/or communication skills
    f. Leadership skills
    g. Other (specify)

34. Which of the following knowledge, skills and/or aptitudes do you feel you were lacking during the first few weeks of the work-learning? (Choose all that apply.)
    a. Computer skills
    b. Writing skills
    c. Organizational skills
    d. Specific content-area knowledge
    e. Language and/or communication skills
    f. Leadership skills
    g. Other (specify)

35. Which of the following knowledge, skills, and/or aptitudes did you gain as a result of your participation in the work-learning? (Choose all that apply.)
    a. Computer skills
    b. Writing skills

c. Organizational skills
d. Specific content-area knowledge
e. Language and/or communication skills
f. Leadership skills
g. Other (specify)

SECTION 5: The following questions ask about the benefits related to your **most recent** **work-learning experience**.

36. Did/will you receive course credit for your participation in this work-learning experience? (for example, designation on transcript or diploma, course credit or other)
    a. Yes
    b. No

37. What kind of financial compensation did you receive while you were working?
    a. Stipend
    b. Salary
    c. Hourly wage
    d. Scholarship
    e. Bursary
    f. Other (specify)
    g. None (Go to Question 40)

38. What was the average <u>weekly</u> amount of the compensation?
    _____$

39. To what extent do you agree or disagree that the financial compensation you received was representative of your work?
    a. Strongly agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly disagree

40. Which of the following resulted from your participation in the work-learning experience? (Choose all that apply.)
    a. Completed a requirement towards an academic degree
    b. Helped open further educational opportunities
    c. Got hired by the organization after the program or after graduation
    d. Gained work-related experience
    e. Earned money
    f. Started building a network of contacts
    g. Don't know
    h. Other (specify)

To what extent do you agree or disagree with the following statements?

41. Your participation in the work-learning experience helped you identify your academic direction.
    a. Strongly agree
    b. Agree
    a. Neutral
    c. Disagree

        d.   Strongly disagree

42. Your participation in the work-learning experience helped you identify your future career direction.
    a. Strongly agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly disagree

43. Your participation in the work-learning experience was a valuable experience.
    a. Strongly agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly disagree

44. Your participation in the work-learning experience has led you to consider staying in New Brunswick for future career opportunities.
    a. Strongly agree
    b. Agree
    c. Neutral
    d. Disagree
    e. Strongly disagree

SECTION 6: The following questions ask for your opinions about <u>non-mandatory</u> work-learning opportunities in New Brunswick. *Note: A non-mandatory work-learning opportunity is one that is not compulsory to obtain the diploma and is generally not a requirement for the completion of the degree. It usually implies an interruption of the studies in order to gain work experience.*

45. Do you have any experience (past or present) in participating in any <u>non-mandatory</u> work-learning programs? *Note: A non-mandatory work-learning program is one that is not compulsory <u>to obtain the diploma and is generally not a requirement for the completion of the degree. It usually implies an interruption of the studies in order to gain work experience.</u>*
    a. Yes
    b. No (Go to Question 47)

46. How many times have you participated in a <u>non-mandatory</u> work-learning program?
    a. Once (Go to Question 48)
    b. Twice (Go to Question 48)
    c. Three times (Go to Question 48)
    d. Four times or more (Go to Question 48)

47. Are you aware of the existence of <u>non-mandatory</u> work-learning opportunities for post-secondary education students in New Brunswick?
    a. Yes
    b. No

To what extent to you agree or disagree with each of the following statements?

48. There is a need to increase the number of <u>non-mandatory</u> work-learning opportunities for post-secondary education students in New Brunswick.
    a. Strongly agree
    b. Agree

      c. Undecided
      d. Disagree
      e. Strongly disagree

49. In the future, you would consider taking time away from your studies to participate in a <u>non-mandatory</u> work-learning opportunity.
      a. Strongly agree
      b. Agree
      c. Undecided
      d. Disagree
      e. Strongly disagree

50. <u>Non-mandatory</u> work-learning opportunities in your area are sufficiently attractive to post-secondary students.
      a. Strongly agree
      b. Agree
      c. Undecided
      d. Disagree
      e. Strongly disagree

51. How can <u>non-mandatory</u> work-learning opportunities be made more attractive to post-secondary students? (Choose all that apply.)
      a. Increase the flexibility of the program length
      b. Provide a wider choice of program/organization locations
      c. Improve the match between student and employer's interests
      d. Provide more financial incentives
      e. Simplify the application process
      f. Improve the accessibility of program information
      g. Provide incentives to attract a larger pool of qualified organizations
      h. Receive course credit
      i. Other (specify)

          Thank you for your time and participation. Your input is very much appreciated.

Appendix C

Employer Survey

The purpose of this survey is to gather information about businesses' and organizations' knowledge of, participation in, and attitudes towards post-secondary work-learning (or work-study) opportunities in New Brunswick. **Such opportunities include co-op placements, internships, practicums and other forms of programs where students can gain work-related skills, while pursuing their academic goals.**

Your participation in this survey is important as it will help identify the specific needs and priorities of businesses and organizations regarding work-learning programs and therefore help develop policy recommendations regarding such programs. Initiatives such as this one will help develop a stronger workforce and address the looming skills shortage in the province.

This survey will take between 10-20 minutes to complete. Try to answer all questions and remember that there are no right or wrong answers. **Your participation is entirely confidential and information regarding your identity will not be retained**. Your answers will be kept strictly confidential and used only for statistical purposes.

Finally, remember that your participation is completely voluntary and that you may, at any time, end your participation with no consequences to you. By completing and submitting this survey, you are signaling that you have understood the nature of this project and have agreed to participate in the research. Your cooperation is important to ensure that the collected information is as accurate and as comprehensive as possible.

The survey is sponsored in part by Business New Brunswick (BNB) and the New Brunswick Department of Post-Secondary Education, Training and Labour (PETL).

SECTION 1: The next few questions ask for important basic information about you and your organization.

1. What is the name of your organization?

2. What is your title/position with your organization?

   a. Owner/Operator
   b. Management
   c. Human resources
   d. Finance
   e. Administrative assistant
   f. Professional
   g. Technical/Clerical support
   h. Other (specify):_____

3. What is the nature of your organization?
   a. Federal government sector (including Crown Corporations)
   b. Provincial government sector (including Crown Corporations)
   c. Municipal government sector
   d. Small private sector organization (0-50 employees)
   e. Medium private sector organization (51-500 employees)
   f. Large private sector organization (more than 500 employees)
   g. Not-for-profit organization
   h. Other (specify): _____

4. What is the field of work of your organization?
   a. Accommodation and Food Services Industry
   b. Agriculture Industry
   c. Business, Building and Other Support Services Industry
   d. Construction Industry
   e. Educational Services Industry
   f. Finance, Insurance, Real Estate and Leasing Industry
   g. Forestry Industry
   h. Health Care and Social Services Industry
   i. Information, Culture and Recreation Industry
   j. Manufacturing Industry
   k. Mining and Oil and Gas Extraction Industry
   l. Other Services Industry
   m. Professional, Scientific and Technical Services Industry
   n. Public Administration Industry
   o. Retail Trade Industry
   p. Transportation and Warehousing Industry
   q. Utilities Industry
   r. Wholesale Trade Industry
   s. Other (specify): _____

5. In which area is your organization located?
   a. Carleton
   b. Central NB
   c. Chaleur
   d. Charlotte
   e. Fredericton
   f. Fundy
   g. Grand Falls
   h. Greater Moncton
   i. Kent
   j. Madawaska
   k. Miramichi
   l. Péninsule acadienne
   m. Restigouche
   n. Saint John
   o. South East
   p. Other (specify): _____

6. To which town/city is your organization most closely located?

7. How old is your organization (in approximate years)?
   _____ years

8. What is the working language of your organization?
   a. French
   b. English
   c. Both French and English
   d. Other (specify): _____

SECTION 2: The following questions ask about your organization's previous experience with post-secondary work-learning programs (for example, co-op placements, internships, practicums).

9. Has your organization ever been approached to participate in a work-learning program?
    a. Yes
    b. No
    c. Don't know

10. Has your organization ever contacted a post-secondary institution to recruit students participating in a work-learning program to work in your organization?
    a. Yes
    b. No
    c. Don't know

11. Has your organization ever participated in a work-learning program involving secondary school students?
    a. Yes
    b. No
    c. Don't know

12. Has your organization ever participated in a work-learning program involving postsecondary students?
    a. Yes (Go to Question 14)
    b. No
    c. Don't know (Go to SECTION 6, Question 38)

13. What are your organization's reasons for not participating in a work-learning program? (Choose all that apply.) (After this Question, go to SECTION 6, Question 38)
    a. Not aware of the availability of any such programs
    b. Financial constraints
    c. Time constraints
    d. Location of program of study
    e. Regulatory factors (unionization, professional associations, etc.)
    f. Negative past experiences with students or work-learning programs
    g. No retention of student-employees
    h. Administrative complications
    i. Insufficient human resources to train/supervise students
    j. Insufficient supply of student candidates
    k. No faculty/institutional interest in partnering
    h. Other (specify): _____

14. Have you made a partnership with any of the following post-secondary education institution in New Brunswick within the context of a work-learning program? (Choose all that apply.)
    a. Atlantic Baptist University
    b. Bethany Bible College
    c. CCNB-Campbellton
    d. CCNB-Péninsule acadienne
    e. CCNB-Bathurst
    f. CCNB-Dieppe
    g. CCNB-Edmundston
    h. College of Craft and Design
    i. Mount Allison University
    j. NBCC-Fredericton
    k. NBCC-Miramichi
    l. NBCC-Moncton
    m. NBCC-St. Andrews

n. NBCC-Saint John
o. NBCC-Woodstock
p. St. Thomas University
q. St. Stephen's University
r. UNB-Fredericton
s. UNB-Saint John
t. Université de Moncton-Edmundston
u. Université de Moncton-Moncton
v. Université de Moncton-Shippagan
w. Other (specify): _____
x. Don't know

15. Would you consider candidate students from other post-secondary institutions than the ones you have identified in the previous question if they were made available to you?
    a. Yes
    b. No
    c. Don't know

16. Which period of the year does your organization have a need for students participating in work-learning programs? (Choose all that apply.)
    a. September to December
    b. January to April
    c. May to August

17. On average, how many students participating in work-learning programs do you employ…
    a. between September and December?

    b. between January and April?

    c. between May and August?

SECTION 3: The following questions ask about your organization's most recent experience with a work-learning program.

18. What was the nature of the program?
    a. Co-operative education (A voluntary work-learning program that provides paid and/or unpaid work terms and/or course credit - and, in some cases, professional development training - undertaken in addition to all the regular requirements of the student's degree program)
    b. Internship program affiliated with an academic institution (A work-learning program to provide on-site experience to complement a student's course of study)
    c. Field practicum affiliated with an academic institution (A work-learning period required by the student's institution for completion of an academic program that leads to a profession requiring accreditation or certification (such as education, nursing, social work, etc.)
    d. Program not affiliated with a particular academic institution (Internships that can be held by any student or group of students regardless of their institution affiliation and where the requirements are applicable for everyone involved (for example, MITACS internships, RAI, etc.)
    e. Don't know
    f. Other (specify): _____

19. What were your organization's reasons for participating in this work-learning program?
(Choose all that apply.)
    a. To discover qualified candidates for future employment opportunities in the organization

    b. To develop a network of contacts

    c. To help the organization's reputation by taking an active role in shaping the future workforce

    d. To develop specific skills which are required in the organization in potential future employees

    e. To increase work production for relatively low costs

    f. Other (specify): _____

20. How many students did you employ during your last experience with a work-learning program?

21. How did you hear about this work-learning program?
    a. Faculty/Institution
    b. Other businesses or organizations
    c. Internet
    d. Program recruitment/advertisements
    e. Previous student employees
    f. Friends/relatives
    g. Other (specify): _____
    h. Don't know

22. Did your organization have the opportunity to provide feedback on the student(s)' performance?
    a. Yes
    b. No
    c. Don't know

23. Did your organization have the opportunity to provide feedback on the work-learning program?
    a. Yes
    b. No
    c. Don't know

24. On average, how many hours per week did you require the student(s) to work?

25. Did you require the student(s) to travel to different communities or cities for work purposes?
    a. Yes
    b. No
    c. Don't know

26. What approximate costs ($), if any, did the student(s) incur because of their participation in the work-learning program with your organization? If the student(s) did not incur any cost, enter 0.
    i. Travel-related costs: _____
    j. Material purchases or loans (other than books or manuals): _____
    k. Books or manuals: _____
    l. Insurance: _____
    m. Uniforms or other specialized clothing: _____
    n. Accommodation/meals: _____
    o. Tuition and/or program fee: _____
    p. Accommodation/meals: _____
    q. Other (specify): _____
    r. Don't know

27. What kind of financial remuneration was offered to the student(s)?
    a. Stipend
    b. Salary
    c. Hourly wage

    d. Scholarship
    e. Bursary
    f. Other (specify): _____
    g. None (Go to Question 29)
    h. Don't know (Go to Question 29)

28. What was the average <u>weekly</u> amount of the remuneration?

29. To what extent do you agree or strongly agree that the financial compensation provided was representative of the work performed by the student(s)?
    a. Strongly agree
    b. Agree
    c. Undecided
    d. Disagree
    e. Strongly disagree

SECTION 4: The following questions ask about the knowledge, skills, and aptitudes needed by students from work-learning programs to work in your organization.

30. Does your organization require students participating in work-learning programs to have specific skills or knowledge to qualify for your organization?
    a. Yes
    b. No (Go to Question 32)
    c. Don't know (Go to Question 32)

31. Which skills or knowledge are required for students to qualify for your organization? (Choose all that apply.)
    a. Computer skills
    b. Writing skills
    c. Organizational skills
    d. Specific content-area knowledge
    e. Language and/or communication skills
    f. Leadership skills
    g. Other (specify): _____

32. What is the minimum level of academic achievement required for students participating in work-learning programs to qualify for work in your organization?
    a. High school diploma
    b. Community college diploma
    c. Private training institution diploma
    d. University undergraduate degree
    e. University Graduate degree
    f. Other (specify):_____
    g. Don't know

SECTION 5: The following questions ask about the benefits of participating in work-learning programs.

33. Does your organization receive any external financial support to participate in work-learning programs?
    a. Yes
    b. No (Go to Question 35)
    c. Don't know (Go to Question 35)

34. Which of the following external financial incentives does you organization receive to participate in such programs? (Choose all that apply.)
    a. Government program funding
    b. Government tax incentives
    c. Funding from the participating post-secondary institution
    d. Other (specify): _____

35. To what extent do you agree or disagree that participating in a work-learning program is valuable for your organization?
    a. Strongly agree
    b. Agree
    c. Undecided (Go to Question 38)
    d. Disagree (Go to Question 37)
    e. Strongly Disagree (Go to Question 37)

36. In what ways do you believe that participating in a work-learning program is valuable for your organization? (Choose all that apply.) (After this Question, go to SECTION 6, Question 38)
    a. Helps discover qualified candidates for future employment opportunities in the organization
    b. Helps the organization's reputation by taking an active role in shaping the future workforce
    c. Helps develop specific skills which are required in the organization in potential future employees
    d. Efficient way of increasing work production for relatively low costs
    e. Other (specify): _____

37. In what ways do you believe that participating in a work-learning program is not valuable for your organization? (Choose all that apply.)
    a. Time required to train the candidates is too lengthy for the time they spend in the organization
    b. Costs incurred outweigh any potential benefits
    c. It is difficult to retain the candidates in the organization after the end of the program
    d. Other (specify): _____

SECTION 6: The following questions ask for your opinions about work-learning opportunities in New Brunswick. To what extent do you agree or disagree with the following statements?

38. There is a need for an increase in work-learning opportunities for post-secondary education students and businesses in New Brunswick.
    f. Strongly agree
    g. Agree
    h. Undecided
    i. Disagree
    j. Strongly disagree

39. Work-learning programs in your area are sufficiently attractive to organization(s).
    f. Strongly agree
    g. Agree
    h. Undecided
    i. Disagree
    j. Strongly disagree

40. How can work-learning programs be made more attractive to organizations? (Choose all that apply.)
    j. Increase the flexibility of the program length
    k. Provide a wider choice of program locations
    l. Improve the match between student and employer interests

     m. Provide more financial incentives for organizations
     n. Simplify the application process
     o. Improve the accessibility of program information
     p. Provide incentives to attract a larger pool of qualified students
     q. Other (specify): _____

41. In the future, would you consider employing students participating in work-learning programs?
     f. Yes
     g. No
     h. Don't know

Thank you for your time and participation. Your input is very much appreciated.

Appendix D

Program Coordinator Interview Guide

Please answer the following questions to the best of your knowledge. If you do not know the answer to a question, you may make a note of it and contact me in the next few days.

Note to interviewer: Read each of the following questions and write the answers in the space below each question.

The following questions confirm the contact information for the program
1. What is the name of the program?
   _____

2. What is the name of the contact person/coordinator for the program?
   _____

3. What is the phone number of the contact person?
   _____

4. What is the email address of the contact person?
   _____

5. What is the web address of the program?
   _____

The following are a few general questions regarding the program
1. With which Institution(s) and faculty(ies) (if applicable) is the program affiliated?
   _____
   _____
   _____
   _____
   _____

2. How many students are currently involved in the program?

   _____

3. How many student spaces are available on average each year in the program?

   _____

4. On average, what is the take-up (percentage) of available work program positions each year?

   _____

5. What is the average length of time in months of student involvement with the program?

   _____

6. What is the average number of work terms per student?

   _____

7. Does the program offer multiple work term cycles each year, such as seasonal placements?
   Yes _____
   No _____

8. Is the work program accredited? If so, who provides the accreditation?
   Yes _____
   No _____

   By: _____

9. Are program participants required to relocate as part of the program?
    Yes _____
    No   _____

10. Do you require program participants to travel to other communities or cities as part of the program?
    Yes _____
    No   _____

11. Do program participants require faculty/teacher supervisor(s), from the participant's home school or institution as a component of the program?
    Yes _____
    No   _____

12. Do program participants require a work program supervisor(s)?
    Yes _____
    No   _____

13. Is the work program evaluated?
    Yes _____
    No   _____

    If so, who performs the evaluation:
        s. Program participants

        t. Employer

        u. Faculty/teacher

        v. Other (Specify)

14. What is the primary working language of the program?
    French _____
    English _____
    Both   _____
    Other (Specify) _____

15. Are there regulatory components (unionization, professional associations, etc) to the work program?
    Yes _____
    No   _____

    If so, what are they?

16. Do students receive course credit for participating in the work program?
    Yes _____
    No   _____

The following questions relate to costs and compensation for students

17. Is there financial compensation for program participants?
    Yes _____
    No   _____

    If so, what is the average amount of this compensation?

_____

18. Do program participants incur a cost to participate in the program?
    Yes _____
    No   _____

    If so, specify the approximate, average cost for each of the applicable following options
    a.   Tuition/Program fees: _____

    b.   Travel: _____

    c.   Material purchases or loans: _____

    d.   Books or manuals: _____

    e.   Insurance: _____

    f.   Uniforms or other specialized clothing: _____

    g.   Accommodation/meals: _____

    h.   Other (Specify): _____

    _____

The following questions pertain to specific student requirements and/or qualifications for the program:

19. Which grade level or education level is required?

    _____

20. Which field(s) of study is (are) eligible?
    _____
    _____

21. Does the program require specific knowledge or prerequisites from the student prior to starting the program?
    Yes _____
    No   _____

    If so, what specific knowledge or prerequisites?

    _____
    _____
    _____

22. Does the program require specific skills from the student prior to starting the program?
    Yes _____
    No   _____

    If so, which specific skills?
    _____
    _____
    _____

Finally, in the next phase of this research project, we will be approaching students and organizations who have participated in work-learning opportunities that were not mandatory to the completion of their academic degrees.

23. Is participation in your program mandatory for completion of students' academic program?
    Yes _____ (ask next Question)
    No   _____ (skip next Question)

24. Would it be possible to have access to email contact information of past and present students to give them the opportunity to participate in the second phase of the project, that is, answer an online survey about their opinions and experiences with non-mandatory work-learning programs?
    Yes _____ (ask next Question)
    No   _____ (skip next Question)

25. What would be the best way for us to get access to such information in a relatively short timeframe?
    _____
    _____
    _____

Thank you for your time and participation. Your input is very much appreciated.