A WEB-BASED ORIENTATION PACKAGE FOR CO-OPERATIVE EDUCATION STUDENTS AT COLLEGE OF THE NORTH ATLANTIC

GERARD J. MANNING

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A WEB-BASED ORIENTATION PACKAGE FOR CO-OPERATIVE EDUCATION STUDENTS AT COLLEGE OF THE NORTH ATLANTIC

by

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ABSTRACT

The dissemination of information to students in today's post-secondary education system is important, yet is becoming an increasing challenge for institutions. Due to various factors, such as increases in student intake in various Co-operative Education programs at the College of the North Atlantic and reduction in staff as a result of budget cuts, the opportunities for the Co-operative Education office staff and the College's faculty to meet regularly with these large numbers of students to discuss various employment related issues have somewhat diminished. In particular, they were unable to address areas, such as employability skills, academic regulations, and résumé writing and interviewing skills, in which students have traditionally experienced problems. This shortfall was the genesis for an interactive web-based orientation package that is the focus of this project report.

The design and development of this package utilized two methodologies, namely the systems development life cycle and the design and development of interactive hypermedia systems. The systems development life cycle has three phases, namely systems analysis, detailed analysis and design, and implementation. The design and development of interactive hypermedia includes the determination of the structure, presentation, and content of a web page.

During the first phase of the systems development life cycle, the systems analysis phase, the selection of the type of information that was to be included in the package occurred. During this activity, the Supervising Coordinator in the Co-operative Education office was the main resource utilized. After the initial required information was collected in the first phase, the detailed analysis and design phase was completed. Within this

phase, the prototyping methodology was utilized, during which the web site was incrementally developed. This methodology allows a developer to start with a skeletal model of the web page that can be modified through various iterations. After each iteration, the clients were shown the most recent version of the web site, and were asked if they were satisfied with it or if they required improvements. This process continued until the clients were satisfied with the range, accuracy, and appropriateness of the content. The implementation phase, which is the last one in the systems development life cycle, took the package in its final form and made it accessible from the College's Co-operative Education web page. The final form of the orientation package contained sections on student information, prospective student information, employer information, academic regulations, frequently asked questions, and employability skills.

From an interactive hypermedia systems perspective, there are three different elements that must be considered when designing a hypermedia product: structure, presentation and content. Structure refers to how the information is structured for optimal navigation and access. Presentation refers to how the information will appear to the user. This might include the use of graphics, audio/video, and interactive forms. The content is the most important part of any web page because it disseminates the required and relevant information. All of these elements were determined with the assistance of the Co-operative Education Coordinators.

However, it should be noted that this package was primarily intended for student use. Therefore, it was incumbent on the designer to perform a field test which allowed randomly selected students to navigate around the web site and peruse the information it contained. Also, a questionnaire and interview process was conducted in which the

students were asked to rate the web site on factors such as the overall appearance of the product, the usefulness of the product information, and the understanding of the product information. Based on the overwhelmingly positive results from these processes, no changes were considered necessary to the package.

With the success of this endeavour, it is recommended that the use of the Internet for this type of student service opportunity be further investigated by colleges and universities. Such projects as this must be relevant and accessible, as well as appealing to the intended audience. It is also recommended that information on the various web pages be written at a level that the average student can understand.

ACKNOWLEDGEMENTS

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Finally, the person most instrumental in my success is my wife, Peggy. Without her countless proofreading sessions and general support, I would not have been able to complete this project or my degree. She was always there when I needed her. She has made me a better student, and I cannot thank her enough. Peggy, you're the best.

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CHAPTER ONE

INTRODUCTION

In 1998, the Department Head of the Co-operative Education programs in District Seven (St. John's) at College of the North Atlantic removed the "Student Development" courses from the curriculum. In his estimation, these courses were unnecessary because he believed that students were getting all appropriate material in their "Communications" courses. He proposed that in lieu of these courses, Co-operative Education Coordinators would set up a meeting time for each of their classes. He believed that this time was sufficient for the students to obtain all the information they required. However, the faculty and the Co-operative Education Coordinator of the Information Technology programs, in particular, were not in favour of this decision.

As a result of this stalemate, I proposed to create, for the use of all co-operative education students at the College, an on-line, interactive orientation package, which would be available on the World Wide Web, to augment the student development courses. Another benefit of this package was to assist the Co-operative Education Coordinators in disseminating information.

Recently, the number of student work term placements to be created by the Information Technology Co-operative Education Coordinator increased by 75%, resulting in difficulty in finding adequate time to meet with students. This caused several problems in that many students were unaware of the actual job posting process, of how to prepare a résumé, how to prepare for an interview, or how to comport themselves in the workplace environment.

In general, the aforementioned problems are as a result of students lacking certain skills that are categorized as "employability skills". The Government of British Columbia (1998) describes employability skills as "the range of skills and personal qualities which are relevant to, and underpin performance in all sectors of employment" (p. 1). In essence, each time students enter a workplace on a work term, they are employees of that company for the duration of the semester. The Government of British Columbia also points out that there are other critical skills included in the list of employability skills such as written and oral communication skills, numeracy skills, critical thinking skills, and teamwork skills. The Conference Board of Canada (1998), the Government of Newfoundland (1998a), Gray and Herr (1998), and the Business Coalition for Education Reform (1998) reiterate the importance of these skills.

A wide array of literature, both in on-line and print form, is available on this subject. The main document, from which the idea for this project developed, is entitled Information Technology — Closing the Human Resources Gap in Newfoundland and Labrador (1998a). This report detailed the results of a study done by various departments of the Government of Newfoundland and Labrador, Human Resources Development Canada, the Canadian Information Processing Society — Viking Chapter, Operation Online, Inc., and the Newfoundland Alliance of Technical Industries. The focus of the report was to determine the skills that current Information Technology graduates are missing. It also offered various recommendations to all of the stakeholders involved in Information Technology, including the post-secondary education system.

One particular section of this report outlined the 12 core soft skills that are components of the Information Technology skills. Table 1 details the percentages for the core soft skill areas that have been found to be lacking upon graduation, as ranked by employees and employers, along with those that were considered currently lacking at survey time.

Table 1: Core Soft Skill Areas Considered Lacking by Employees and Employers

Core Skill Areas Lacking	Lacking Upon Graduation		Currently Lacking	
	Employee	Employer	Employee	Employer
Ability to Train Others	46%	37%	11%	16%
Ability to Work Independently	11%	26%	1%	10%
Communication Skills - Oral	30%	21%	9%	10%
Communication Skills - Written	23%	30%	7%	18%
Customer Service	48%	29%	9%	13%
Decision-making Ability	31%	30%	28%	14%
Interpersonal Skills	20%	16%	1%	7%
Organizational Skills	24%	28%	4%	13%
Problem Solving Skills	14%	24%	1%	12%
Project Management	49%	36%	28%	22%
Team Building	43%	22%	10%	10%
Willingness to Participate in Training	2%	5%	0%	0%

Source: Government of Newfoundland and Labrador. (1998a). Information Technology — Closing the Human Resources Gap In Newfoundland (p. 32).

As the report indicated, employers did not expect all of these soft skills to be developed by graduation time. Some skills were considered to come with experience

gained in the workplace. The report did, however, point out that many of these skills must be developed through improvements in program curricula and delivery (Government of Newfoundland and Labrador, 1998a). The onus therefore falls on program developers to include such areas as customer service, decision-making ability, and oral and written communications and other employability skills within the curriculum. Due to the fact that changes to curriculum normally take a great deal of time, the decision was made by the Co-operative Education Office to offer the students an orientation package. This package was not designed to replace the curriculum, but to augment it. The College must require that all of its programs have employability skills integrated in their respective curricula.

Students also have a certain responsibility in this process. In a 1996 study prepared for the Maritime Provinces Higher Education Commission, graduates of post-secondary institutions were asked for their assessments of the extent to which their education contributed to the development of particular skills. In areas such as communication skills, only 52% believed that these skills had been developed while in school; and only 40% believed that their writing skills had been developed during that time. In the Government of Newfoundland and Labrador (1998) report entitled, Postsecondary Indicators '98, when the public were asked in a poll to name the most important purpose of a university and college education, one of the lowest responses was for developing general employability skills. This is somewhat surprising, given the outcomes and recommendations from the Information Technology — Closing the Human Resources Gap in Newfoundland and Labrador report. The latter study should be

undertaken for disciplines other than Information Technology to confirm (or otherwise) the strong recommendations for the employability skills listed in Table 1.

Project Objectives

The main objective of this project was to design and develop a web-based learning activity product that included such areas as employability skills. The intent was to enhance the co-operative education effort at College of the North Atlantic by providing a highly informative, interactive orientation package for all first-year co-operative education students.

When attempting to design any web-based course or learning activity, many factors must be considered. The developer must guard against what Lougheed (1998) described as web courses that were an unmitigated bore and represented little more than lecture notes on the web. Care must be taken not to produce web sites that may be, according to Lougheed, "laced with links, animation and more than enough glitter and glam to make Liberace wince" (p. 8). He concluded that many of the principles guiding the development of good on-line courses were the same as those used in a face-to-face teaching situation. Another aspect of designing such a package is, according to Recker (1995), that the access methods in a multimedia system must be "cognitively relevant" to the learning and information-seeking goals of the student. To address these issues, Recker has been developing a theory for designing educational multimedia systems based upon the cognitive and learning needs of students. She argued that, rather than base the design of multimedia systems on the physical properties of the information (e.g., pictures, audio, video, etc.), the structure and content of the system must be based on cognitive aspects of

the users of that information. Ebersole (1997) further suggested that there are two key issues to be considered when taking the cognitive experience of the end user into account. They included what he terms local and global coherence, as well as cognitive overhead.

The decision to proceed with a web-based package instead of a CD-ROM version of this learning activity was based on the fact that the web-based package can be very easily modified with the assistance of a skilled webmaster. This makes the package more of a "living organism" which can evolve with time, as opposed to a CD-ROM, which is more difficult to modify. Gloor (1997) gave several reasons why the Internet is a better platform for distributing information more widely. He also points out that Hypertext Markup Language (HTML) documents have the advantage of being able to run on multi-platform systems. There is also a faster turnaround time since modifications of Internet documents can be an ongoing process. In contrast, the main benefits of CD-ROM technology are that it is better for video, audio and access time. Therefore from a cost and usability perspective, using a web-based tool for this package was considered the better choice.

Although the main objective for this project was to create an orientation package for the College's co-operative education students, there were several secondary objectives for this project, and these were: 1) to allow the Co-operative Education Coordinators to spend more time on their major task, which is to find suitable work terms; 2) to illustrate to students the importance of employability skills; 3) to make students aware of the co-operative education academic regulations; 4) to show students different methods of résumé writing and interviewing; 5) to make prospective older students aware of the

College's Prior Learning Assessment and Recognition policy; and 6) to create a marketing tool to be utilized when contacting prospective employers for providing work terms for students.

From the coordinators' perspective, this proposed learning package would allow them more flexibility in their daily routines and more time and energy to focus on their major task of finding high quality, fully paid work terms for all students in their respective programs. It would relieve them from having to devote several hours a week introducing the major facets of work terms and teaching the skills necessary for a student to be successful in the workplace. However, this package was not meant to replace what these Coordinators normally do in their regular planning meetings with students but to help augment such activities.

Most instructors in the post-secondary education system find it difficult to convince students that the soft skills listed in Table 1 are as important as, or maybe more important than, the technical skills in their respective disciplines. From this perspective, the most important objective of this package is to make students aware of what is truly needed in the workplace and to help them obtain and retain employment. The package must also acquaint students with the co-operative education process, and it would outline the job posting process with important information such as the starting dates of the work term competition and the actual work term semester. It must also highlight the pedagogical value of co-operative education-based programs to the student.

An additional advantage would be to use the package to emphasize details of the co-operative education academic regulations of the College. There must also be a method

in place to allow suggestions on good résumé writing skills and good interviewing skills; and students must be informed on how to comport themselves in the workplace and on the types of workplace behaviour that are expected. The latter would include such items as attendance and dress code. There must also be a section that explains other employability skills and why they are important to the students. While extolling the virtues of employability skills, the orientation package must not diminish the importance of the technical skills that will still be required, even if students have good employability skills.

From the employers' perspective, any attempt to bolster the employability skills in the College's graduates must be regarded as a positive step. A well-designed package can be utilized as an excellent marketing tool by the various Co-operative Coordinators when looking for prospective work term sponsors and maintaining the current inventory of sponsors.

This web-based package was developed in consultation with Coordinators in every step of the process. In fact, the package will be used to assist them; therefore, the textual information that appears on the web pages originated in collaboration with them. A review of current web sites was also undertaken to compile ideas on how to create an interesting and interactive site without the ennui that is normally experienced when there is little more than text on a screen, as if one was simply reading a book.

Product Description

The co-operative education web-based orientation package for College of the North Atlantic contains eight major web pages, which are: 1) Site Map; 2) Employer

Information; 3) Student Information; 4) Prospective Student Information; 5) Co-operative Education Academic Regulations; 6) Questions Frequently Asked by Students; 7) Employability Skills; and 8) On-line Job Postings. The current Universal Resource Locator (URL) for this web site is http://vulcan.northatlantic.nf.ca/~gmanning/COOP/FRAMESETMAIN.html. It should be noted that the Internet server, vulcan, is not the main College web server. In order for the staff of the Co-operative Education office to be able to post jobs on the web site, they must be able to change information in the HTML files for on-line job postings. They would not be given permission to make any changes to files if the main College server was used, but they are allowed to make changes on the Co-operative Education server. Since the product is now complete, all appropriate files were transferred from the author's vulcan account to the Co-operative Education server. For the purposes of this project, the files will also remain on the author's current account. A copy of the web pages for this project can be found in Appendix D.

When a person types in the aforementioned URL, the main page of the package appears with two frames. Meyers (1999) likens frames to picture frames. Normally, a web page is composed of a single frame, but like some picture frames that can hold more than one picture, web pages can display multiple pages. The main screen and all other screens in the package have two parts. The first part, which is the left-hand frame, contains each of the eight major web pages with a link to each of those pages. The second part, which is the right-hand frame, contains the information that is applicable to whichever page is chosen. In order to initiate a page, the user must double click on the appropriate word.

The main page is a welcoming page, which lists the seven accredited Co-operative Education programs at the College. There is an icon which displays the official logo for the Co-operative Education office. This logo appears on each page, and double clicking it will bring the user to the College's main web site. Another icon on the first page indicates "CAFCE ACCREDITED" and by double clicking this icon gives access to the CAFCE site at the University of Victoria. The acronym CAFCE stands for the Canadian Association For Co-operative Education, the main accrediting agency in Canada for co-operative education programs. On the main page and the main pages for each major site, there is a list of relevant Coordinators with their phone numbers and other contact information. Double clicking their names allows the user to send an email message to that person. There is also an email icon that will allow the user to send an email message to the District Seven Co-operative Education office of the College.

Site Map

This page allows the user to look at the layout of the entire web site in one page. The map consists of links to each major page, and links to all other pages that can be accessed within the entire site. Only the descriptions that are underlined are links to other pages or sites. When the user points to a particular underlined description, the URL for that link is displayed on the bottom of the screen. This affords the user the opportunity to be able to write down that URL for future reference.

At the end of each page, with the exception of the main page, there are two icons which, when double clicked, bring the user back to the main page of the web site. These icons appear as a house and a rectangle containing the word "Home".

Employer Information

This page contains information for any employer who may be interested in obtaining a work term student. It outlines the benefits to an employer interested in participating in the co-operative education process. It also outlines some funding, such as The Small Enterprise Co-operative Placement Assistance Program (SECPAP), that may be available to qualifying employers.

Student Information

This page contains the bulk of the information found in this orientation package for students. It is outlined in nine sections. The first section details the Co-op Competition Process. The second section, entitled Résumés, gives helpful information on the preparation of résumés and enables a student to link to one page that illustrates an example of a chronological résumé and another that gives an example of an analytical one. The third section, entitled Cover Letters, gives information on the writing of cover letters and includes a link to a page that shows an example of a well-written cover letter. The fourth section, entitled Interviews, outlines information on the interview process. There are three links on this page: one for appearance, one for attitude, and one for knowledge. There is another link that lists the most frequently asked questions during an interview. The fifth section, entitled Work Term Evaluation, describes the work term evaluation process. The sixth section, entitled Work Term Report, lists the requirements of the work term report. The seventh section, entitled Site Visit, describes the site visit and how it is conducted. The eighth section, entitled Final Employer Evaluation, gives the student an explanation of the final employer evaluation report and has a link to another

page that contains a final evaluation form that a student can print to give his/her employer. The ninth and final section, entitled Hot Links, is a listing of links to other sites that the student might find useful, such as the National Graduate Register. In all cases where external links are being utilized, it is always good etiquette to ask for the owner's permission, usually via electronic mail. This was done in the development of this package. Although details of web pages were accurate at the time of writing, the reader may find that, as time passes, external web sites may change. In this sense, web sites are fluid and authors must update web sites periodically.

Prospective Student Information

This page, entitled Prospective Student Information, contains information, in four sections, that will be useful to a person considering entering one of the College's Co-operative Education programs. The first section of this page lists the benefits for students enrolled in Co-operative Education programs at the College. The second section briefly describes work terms with such information as the starting dates for the various work term semesters. The third section discusses the College's Prior Learning Assessment and Recognition policy. This information is valuable to students who may have previously acquired skills through work experience, academic programs, or other means. The fourth and final section lists the various co-operative programs with each linking to the College's Program Information Retrieval System (PIRS) on the web and displaying the current calendar information for the selected program.

Co-operative Education Academic Regulations

This page contains key information, in three sections, regarding the academic regulations for Co-operative Education programs at the College. The first section discusses the concept of block promotion and explains that a student must pass every subject in his/her semester with a semester and cumulative grade point average of at least 2.00 on the College's four-point grade average system. The second section outlines the regulations regarding exemptions for co-operative education students. The third and final section describes the three possible promotion statuses that a student can receive, namely clear promotion, probationary promotion, and promotion denied.

Questions Frequently Asked by Students

This page lists 17 questions that have been frequently asked by students since the inception of co-operative education at the College. The student only has to double click on the question he/she needs answered and the answer appears automatically on the screen. Some examples are: 1) How does co-op work? and 2) Are there opportunities in the St. John's area for everyone?

Employability Skills

This page contains information, in two sections, pertinent to employability skills. The first section gives a definition of employability skills. The second section describes how employability skills are developed and has four links, which allow a student to access other sites with valuable information regarding employability skills. The first link allows access to the web page that lists the Employability Skill Profile, which is extracted from the Conference Board of Canada (1998) web site. The second link allows access to

information extracted from other sources, such as the Government of British Columbia (1998), that also contain information on employability skills. The third link contains information regarding the employability skills that are needed for Information Technology students. The information on this page was extracted from the report entitled, Information Technology — Closing the Human Resources Gap in Newfoundland and Labrador (1998a). The fourth and final link gives a student an opportunity to access an employability skills checklist and encourages the student to assess his/her employability skills. This information was extracted from the National Graduate Register (1998) web site address, which is no longer in service. While this address no longer exists, the form that appeared on that site was reproduced using a web-based editor and placed on the orientation package's web site.

On-line Job Postings

This page will be implemented at a later date. Its function will be to list current job postings for each of the seven Co-operative Education programs at the College. It is anticipated that the departmental secretaries will be able to add new job postings as they become available and remove job postings that have been filled. There is a good possibility that some security measures will be implemented to secure this information at the request of the Co-operative Education office.

Procedures

A variety of processes were utilized in the construction of this project. As in any information gathering exercise, the appropriate people had to be interviewed to determine

the information requirements. The latter influenced the appearance of the web site. This phase was considered the most critical element in the entire construction process.

A skeleton of the entire web site was created, using a process called prototyping, and using web-based development tools, such as Netscape Gold Editor, and Microsoft Word. Through various iterations, a final product was produced. This required a great number of meetings between the designer and the clients to ensure that their wishes and needs were being met.

Once the clients were satisfied with the finished product, a number of randomly selected students was asked to use the web site and offer any suggestions for improvements. Based on the results of the questionnaire and interview process with these students, changes were not necessary. After this process was completed, the last phase of this project was to put the web site into production. This was done by transferring the files from the test site to the District Seven Co-operative Education's site on the College's main Internet server.

Once in production, there must be a periodic evaluation of the web site to determine if it is still meeting all of the needs of all the stakeholders in the Co-operative Education programs. After evaluation, if more information is required or if improvements have to be made, then the person charged with the responsibility of making these changes must utilize a similar process to the one articulated in this report.

Limitations of the Project

The scope of this project was to provide an orientation package on the Internet for co-operative education students in District Seven of College of the North Atlantic. This

district has campuses in five locations, namely Prince Philip Drive, Ridge Road, Topsail Road, and Duckworth Street in St. John's and also a campus at Seal Cove. It is anticipated that over time, there will be Provincial input to the information contained in this web site. Due to cost constraints, only the Co-operative Education Coordinators from District Seven were used as the suppliers of information for the web site.

As this package is situated on the Internet, there may be some accessibility problems from outside the College based on the type of computer and modem a student might be using to access the site. If a student has a low-end computer and modem, while still being able to access the information, it will take more time than if the student were accessing the site from a computer in the College's computer labs. It is anticipated that within the near future, most students will have the capacity to enjoy the web site without the annoyance of slow downloads.

As stated earlier, the vagaries of utilizing external links on a web site are always a concern. If periodic checking is performed on these external sites, then one can eliminate or severely curtail the problem of users accessing a defunct web site.

CHAPTER TWO

SELECTED REVIEW OF LITERATURE

As in any thesis or similar type of report, a review of literature is presented which discusses the major topics in the document. The project being presented is a web-based orientation learning package for students enrolled in the Co-operative Education programs at College of the North Atlantic. There are two types of students that are targeted by this package: current students and prospective students, each of whom have different informational needs about the Co-operative Education programs at College of the North Atlantic.

Co-operative education is fast becoming a mainstay at College of the North Atlantic. With the introduction of such programs, students must be introduced to the opportunities that co-operative education will provide them. While the student is the main stakeholder in this process, there is another important stakeholder, namely the employer. The concept of co-operative education is addressed in this literature review, which includes a general discussion of the origins of co-operative education at the College and the operational definition of co-operative education. The literature review also highlights the benefits of co-operative education for both students and employers.

There is a demographic shift occurring which is resulting in an aging population. As a result of this, the current college system will be catering to more than just traditional-aged students, because a great number of members of the older population will be contemplating returning to school for various reasons. This means that a significant portion of the student population will be adult learners. This presents a new challenge

pertaining to how colleges acknowledge the prior life and work experience that each of these new adult students brings to their program of study. This process, which is called Prior Learning Assessment and Recognition (PLAR), is also discussed in this review of literature. The process could also benefit the adult students who are currently registered in the various Co-operative Education programs at the College.

Co-operative education offers students an excellent opportunity to gain valuable work experience through their work terms. However, a great number of students lack the skills necessary to perform in a work setting. These skills, which are called employability skills, are discussed, as they are major components of the orientation package.

The process of designing and developing interactive hypermedia systems is a painstaking task. It starts with an investigation of information requirements, culminating in the implementation of the web site. The web site must also be designed and developed in a manner that is easy to read and visually appealing. There were two processes utilized in the construction of the orientation package, namely the design and development of interactive hypermedia systems and the systems development life cycle. Both processes, which are vital in all web site construction activities, are discussed.

Co-operative Education

Co-operative education is a relatively new phenomenon at College of the North Atlantic as compared to, for example, Memorial University. The first Co-operative Education program started at the College in September 1991 with the Information Technology program entitled "Computer Studies (Management Information Systems)." This was a radical departure for the College in that it required year-round utilization of its

facilities. Up to this point, the bulk of the College's facilities were dormant during the months of July and August. This also meant a change in the distribution of instructor annual leave, which was normally taken in the summer. There would now be a requirement for co-operative education instructors to alternately teach during the summer months and to take their annual leave during the winter semester. Therefore, a change in philosophy and mindset was also required by the institution. This relative newness is in stark contrast to the historical perspective of co-operative education, which according to Ricks, Cutt, Branton, Loken, and Van Gyn (1993) "has been a viable work study option for students for at least 100 years" (p. 1) in many locations.

Operational Definition of Co-operative Education

Before the benefits of co-operative education can be identified in terms of its two main stakeholders, students and employers, a definition of co-operative education is appropriate. The literature contains a plethora of definitions, but because of the College's association with the Canadian Association For Co-operative Education (CAFCE) accreditation, CAFCE's definition is the one most utilized in the College literature. CAFCE (1997a) defines a co-operative education program as "a program that formally integrates a student's academic studies with work experience in co-operative employer organizations. The usual plan is for the student to alternate periods of experience in appropriate fields of business, industry, government, social services and the professions ..." (p. 1). Some other notable definitions include statements such as: "co-operative programs ... allow participants the opportunity to gain valuable work experience in areas of special interest ..." (Bérard, 1984, p. 5); "co-operative education consists of planned

programs of experiential learning that combine formal classroom study with career-related work experiences ..." (Cantor, 1995, p. 1); and "a process of education which formally integrates a student's academic and/or career interests with productive work experiences in cooperating employer organizations" (Porter, 1982, p. 24; Lancaster, 1979, p. 66).

Evident in all of the above statements is a need for cooperation between the participating schools and their work term sponsors. A co-operative work term placement gives the student an additional opportunity to learn. This makes the work term sponsor a very important component in the overall co-operative education picture. While the work term sponsors will normally accrue some benefits from students in terms of finished products, the focus of the work term still remains a co-operative learning opportunity for the student.

Benefits to the Student

Students enrolled in co-operative education programs can expect many benefits during their time in school. The literature concerning co-operative education confirms this notion. Upon review of this literature, there are many similarities in the benefits that are highlighted in various publications on this topic.

Students who have participated in a co-operative education work term can benefit in many ways. There are many positive experiences that can be associated with the work term experience. Mitchell (1977) states that co-operative education bridges the gap between school and work. He believes that the "adjustment to the world of work should have been achieved by the time of graduation" (p. 256). He also states that co-operative

education makes education more meaningful. He supports this when he states that "the work environment should serve to emphasize the importance and value of subject matter areas" (p. 256). The Canadian Association for Co-operative Education (CAFCE, 1997b), which is the main co-operative education accrediting association in Canada, states that co-operative education provides the student an opportunity to gain valuable work experience before graduation. CAFCE believes this is "one of the best ways to get around the "catch 22" which faces most students", that is, "You need experience to get a job – but you need a job to get experience" (p. 1). Wilson alludes to the fact that co-operative education motivates students to study through greater appreciation of the relevance of classroom learning (as cited in Cantor, 1995). He also believes that students may also gain valuable on-the-job learning experience, which is not always available in the classroom.

Students can also learn valuable insights on how to prepare for looking for employment when they graduate. As cited by Cantor (1995), Wilson states that co-operative education provides students with an opportunity to establish contacts in the field and begin networking for future employment. If the student is considering seeking employment with his/her work term sponsor, then the work term allows the student to learn more about the expectations and needs of employers.

Areas of self-improvement are important benefits that are gained by students during their work terms. Mitchell (1977) points out that co-operative education aids in the student maturation process and allows the student to develop marketable skills and knowledge. Wilson, as cited by Cantor (1995), states that students may, as a result of the

work term experience, improve in areas, such as self-reliance, self-confidence, and leadership and management skills; may develop cognitive and attitudinal skills, which are central to successful job performance; and may get to practice interpersonal relations skills. This is consistent with CAFCE (1999b), which states that work terms allow students to gain communication and interpersonal skills, to develop maturity, and to understand the importance of "life-long learning" (p. 2). CAFCE also believes that co-operative education allows students "to develop a more realistic understanding of the expectations and requirements of their chosen field by having the opportunity to evaluate and assess the suitability of their career choice before entering the workforce full-time" (p. 1) and it encourages students to learn more about their chosen field of study. Co-operative education work terms give students feedback through performance assessment, which is a valuable self-improvement tool (Wilson, as cited in Cantor, 1995).

An understated benefit of the co-operative education work term experience is that students have the opportunity to earn money. Mitchell (1977) states that when co-operative education is properly implemented, it allows the student to earn money while learning on the job. This is extremely important for today's students, especially when they have incurred heavy debt loads. CAFCE (1999b) agrees with the previous assessment by stating that students are paid competitive salaries for their work. This gives them the opportunity to pay for their own education and related expenses.

Another area in which students can improve themselves is by accepting work terms that are out of province. CAFCE (1999b) believes that co-operative education provides an opportunity (potentially) for students to travel in Canada or abroad. An

excellent example of this benefit occurred with the Computer Studies (Management Information Systems) program this past semester, when two students were given the opportunity to spend their work terms in Scotland and thus to develop an appreciation of a different country and culture.

As evidenced in the literature, there are numerous benefits for co-operative education students. The benefits range from earning power to improvement in interpersonal skills. In fact, there is little evidence in the literature on co-operative education to suggest that enrolling in such programs would in any way disadvantage students.

Benefits to the Employer

Employers are important stakeholders in the co-operative education work term process. While these employers are helping the students and the College immensely by participating in this endeavour, there should be some benefits that are afforded to them.

Employers are a vital part of any community and any time they can be perceived as being a good corporate citizen is good for their company. By participating in a co-operative education process, employers are given the opportunity to improve community public relations (Cantor, 1995) and are given an opportunity to render a public service (Mitchell, 1977). This can only benefit the company's image in the community.

A significant benefit for employers who participate in co-operative education is in the area of employee recruitment and retention. Mitchell (1977) point outs "that new workers currently entering the labour force are destined to change jobs several times

before becoming occupationally fixed" (p. 255). Therefore, anything that can be done to combat this is an advantage to employers.

From a recruitment perspective, co-operative education gives employers an edge in recruiting (CAFCE, 1999c). It may also greatly improve worker recruitment, screening, and selection. If employers are concerned with hiring women and minorities, being involved in a co-operative education process allows them to have better access to these types of potential employees (Cantor, 1995). It is a possibility that the motivated and skilled post-secondary co-operative education students that an employer hires during a work term might be interested in joining the company on a permanent basis (CAFCE, 1999c). This may be in part due to the fact that a work term student will gain a realistic picture of a company and will learn what to expect if he/she was to be hired after graduation (Cantor, 1995). Participating (co-operative education) employers benefit from the opportunity to recruit and pretrain future employees, which can reduce labour costs and improve overall business and community economic development (Brown, 1984). By instilling realistic work values and integrating the student's education with company procedures and technology, the employer will have the opportunity to develop possible new employees (Cantor, 1995). Mitchell (1977) states that co-operative education affords the employer the opportunity to obtain better qualified employees and to develop a dependable source of qualified workers. He stated that "employers should understand that their responsibility in the selection process is to determine whether individual students are qualified to fit into their organization ..." (p. 252). He also states that "meaningful co-op arrangements between the school and the employee ... should provide a dependable

source of well-qualified employees for jobs economically important to the community" (p. 252).

From a retention perspective, Cantor (1995) believes that by hiring a student who worked with the company on his/her work term, there is a good possibility that this person, if hired permanently, would be a productive employee immediately and would probably stay with the company for a longer period of time. Mitchell (1977) opines that "the occupational curiosity experienced by beginning workers is satisfied before entering full-time employment" (p. 255). This will in turn combat employee turnover.

Another area of concern for most employers is cost. Cantor (1995) states that if a student was hired after having worked with the company on his/her work term, then there would be a lowering of training costs when the student joined the company after graduation.

Employers are an important part in the co-operative education process. Normally during a site visit, the employer or his/her representative would be asked by the Co-operative Education office representative to evaluate the current curriculum and to suggest any improvements to the curriculum. CAFCE (1999c) believes that this type of partnership will enhance the institution. Providing employers with an opportunity to influence the college curriculum design and content as they relate to the firm's employee training needs is a major benefit to employers (Cantor, 1995).

Employers are given an enormous responsibility by the College because they are responsible for the student's training while they are in their employ. Mitchell (1977) states that co-operative education allows employers to determine the student's on-the-job

educational specifications. He points out that "employers have the privilege of teaching students how to do the job as they want" (p. 253). However, given that the school takes care of the bulk of the student's training, the employer's main responsibility is the monetary wage for the student.

There are several other areas which benefit employers that do not fit into a specific category. Co-operative education allows employers to fill short-term needs. The flexibility of co-op work term scheduling allows businesses to fill temporary or seasonal labour needs or to complete shelved projects, which addresses the "just-in-time" labour requirement. It can also be a source of new ideas and approaches. Co-operative students can assist permanent staff and provide them with the opportunity to work on new tasks, develop supervisory skills, and learn new skills. This in turn will help the employer in the area of employee morale (CAFCE, 1997c).

Based on these perspectives from the literature, it is evident that the employer can potentially benefit greatly from involvement in co-operative education, especially if the student that was hired turns out to be an upstanding employee and member of the community. The relationship that occurs between the school and the employer is a symbiotic one, ultimately benefiting both sides.

Prior Learning Assessment and Recognition

The importance of a college having a Prior Learning Assessment and Recognition (PLAR) policy can never be underestimated, and has increasing importance in the educational system. As stated earlier, there is a demographic shift occurring, which is resulting in an aging population, many of whom are contemplating returning to school.

PLAR also applies to military personnel, many of whom retire in mid-life and wish to start another career, and to foreign students. Also, most colleges are experiencing declining enrollments and consequently must tap into this potential resource, that is, the prospective older student. Even some of the traditional-aged students could benefit from a PLAR policy because they have acquired, for example, many of the introductory computer skills that are present in most first-year curricula. They may also have completed courses from private schools, which are not transferable, but can be assessed using the appropriate method(s), and for which they can be given credit towards another program.

The Department of Education (1998a), in its Prior Learning Assessment and Recognition information kit, states that there is a growing problem whereby people and industry are experiencing a continuous turnover in the workforce. With downsizing and restructuring occurring, many traditional industries are no longer viable. From a Newfoundland and Labrador perspective, a classic example of such restructuring resulted from the northern cod moratorium.

This trend is causing a marked increase in the number of older students returning to the classroom. Many of these students are returning to formal education in order to remain current with emerging technologies, while others are seeking to change careers completely (Department of Education, 1998a). The Department also states that "mature students often bring a broad range of knowledge and skill to a course or program because of their many work and life experiences" (1998b, p. 1). The process of formalizing the assessment of these skills is called Prior Learning Assessment and Recognition (PLAR).

The Department of Education (1998b) defines it as "a process whereby previous learning is recognized and credited" (p. 1). Human Resources Development Canada (1997) defines it as "involving the identification, documentation, assessment and recognition of competencies, such as skills, knowledge, and abilities, that have been acquired through many means of formal or informal learning, e.g. work experience, training, independent study, volunteer activity, travel or hobbies" (p. 1). Wong (1996) defines PLAR as "a systematic process to evaluate and accredit learning gained in a variety of contexts by assessing relevant learning against the standards required by the admitting institutions' courses and programs" (p. 1).

Wong (1996) points out that it was returning veterans from World War II who put pressure on the formal education system of the United States to recognize alternative sources of learning. She also states that in the 1970s, the Council for Adult and Experiential Learning (CAEL) took a leadership role in promoting experiential learning as an important part of higher education.

Recently, the Government of Newfoundland and Labrador (1998b) began a two-year project to facilitate the development and implementation of PLAR within its public post-secondary education system. The result was a set of Provincial guidelines for the development and implementation of a policy for PLAR. During the development of this policy, a number of stakeholders including the Department of Education, public and private post-secondary institutions, Human Resources Development Canada, the Newfoundland and Labrador Federation of Students, other government departments, and other community groups and agencies were represented on various committees.

Given the Government's desire to have a PLAR policy in its public post-secondary education system, College of the North Atlantic began the process of designing and implementing a PLAR policy that is consistent with its own policies and procedures, while maintaining the "spirit" of the provincial guidelines. The importance of acknowledging a student's prior learning is paramount in any such policy. If the prior learning is deemed to be of no value before it is even investigated, it may be detrimental to the fragile ego of an adult learner who is probably apprehensive enough about returning to school after a long absence. Knowles poignantly confirms this point, when he wrote:

> To a child, experience is something that happens to him/her – to an adult, his/her experience is who he/she is. So in any situation in which an adult's experience is being devalued or ignored, the adult perceives this not as rejecting just his/her experience, but rejecting him/her as a person (as cited in Department of Education, 1998b, p. 1).

Benefits to Universities and Colleges

Universities and colleges which demonstrate a willingness to cooperate with each other and with private providers in planning "seamless" education pathways stand to benefit from the enrollment of new students and new funding for co-operative educational ventures and research (Topley & Clinch, 1992). It stands to reason that any effort in expediting transferability among institutions using processes such as PLAR can only benefit the institutions and their students.

When an institution adopts PLAR, there will most certainly be a learning process for the administration and its faculty. The faculty are the people who will ultimately be responsible in determining if the experience being assessed warrants the awarding of a credit. The faculty must be given the opportunity to learn more about the variety of assessment methods that are available through the PLAR process. Through the awarding of credits for PLAR, the post-secondary institution also gains through better use of its physical resources, proper utilization of faculty, and better allocation of other human resources. The institution that has a PLAR program is also seen as progressive in response to changes that are taking place in the workforce. Participation in PLAR also fosters the establishment of partnerships between educational institutions and industry (Premier's Council on Economic Renewal, 1994). The institution is also a winner in the enrollment process because students are placed in programs that match their abilities and experience. Because credits are issued, the intake of new students can be increased in certain courses due to the PLAR credit system, creating space within those courses. The institution and the faculty gain valuable insight into the adult learner through the PLAR process. This insight could be used to help develop programs, implement new delivery methods using technology or "just" to learn to provide good customer service to the learner to facilitate the learning process.

The adoption of PLAR by an institution will only be successful if all participants within that institution are willing to support it. A college or university may certainly enhance its image by showing that it is flexible and responsive to change. PLAR will increase accessibility for a broader range of learners, especially older students who are

returning to school after a long absence. From an administrative perspective, PLAR will increase student recruitment and retention, which in turn will increase institutional efficiency (Prior Learning Assessment Centre, 1999).

Benefits to Learners

Considering the benefits of PLAR, the stakeholders in the educational process are found to be beneficiaries. For example, the student is provided with motivation to enroll in a program or course, since prior learning experience may be credited in the completion of that particular program of study. As a result of this, PLAR increases the opportunities for returning to learning (Wong, 1996).

When students apply for admission to a college or university, they may have acquired some work and life experience that may be applicable to some of the course work in their new career choice. If this experience is applicable, it will probably have a considerable effect on reducing the amount of time it takes to finish a program (Wong, 1996; Prior Learning Assessment Centre, 1999; Carroll College, 1999). Another effect would be that PLAR can provide a more appropriate placement in a program of study (Wong, 1996). For example, if a student has completed an equivalent of a first semester in a particular program, then the administration must allow the student to start the program in the second semester. If the student has to enroll in only a small percentage of the courses in a particular semester, then the institution must allow the student to take courses from other semesters. This is what Wong (1996) classifies as giving students the opportunity to increase their motivation for learning through working with new and challenging content, instead of areas that the student already knows or can do. Carroll

College (1999) echoes a similar sentiment when it states that PLAR allows the student to enroll in more advanced courses appropriate to his/her background.

Whenever an older person decides to return to school, cost is another factor that plays an important role in the decision. In fact, PLAR potentially reduces the cost of obtaining formal credentials, thus allowing the student to save money and shorten the time required to earn his/her degree or diploma (Wong, 1996; Prior Learning Assessment Centre, 1999; Carroll College, 1999).

When new students enroll in a new program, their main purpose of doing so is to learn new things. For example, if a student has considerable experience with Windows 95™, then, it would be counterproductive to have that student complete a course in that particular subject area. By utilizing PLAR, the college or university may satisfy a proficiency requirement by demonstrating that the student has already mastered the content, rather than having the student complete the work, regardless of prior experience (Carroll College, 1999). This process reduces the duplication of learning by granting the credits for prior knowledge (Wong, 1996; Prior Learning Assessment Centre, 1999).

From a personal perspective, Wong (1996) believes that PLAR raises self-esteem through the recognition of prior learning, both formal and non-formal. The Prior Learning Assessment Centre (1999) points out that a student's motivation can be positively affected through PLAR, by validating learning gained through work and life experience and encouraging and increasing access to further education.

Benefits to Employers

PLAR benefits the employer because it reduces the cost and duration of training (Prior Learning Assessment Centre, 1999). If an apprentice or regular employee of a company is involved in a training program and that program may be shortened due to PLAR, the employer benefits from a trained employee in less time. PLAR also allows an employer to explore and provide flexible pathways that would assist employees in gaining recognition for their workplace learning and participating in college-level and university-level learning (Wong, 1996). This type of activity encourages workplace partnerships between an employer and an institution.

Employers must recognize that once a person is hired their training does not terminate with the receipt of a university degree or college diploma. The Prior Learning Assessment Centre (1999) states that employers must recognize the need for lifelong learning for their employees. Wong (1996) states that employers must take advantage of having been provided with an access to university and college faculty who have expertise in a variety of assessment procedures that could benefit their training programs. She also states that although PLAR is only a small component of this plan, it is an integral step in the pathway towards a more productive workforce. With a more productive workforce comes a flourish of benefits to our society and to the quality of life for our population.

Assessment Methods

There are six major methods used in assessing PLAR, namely examinations, portfolio development, performance evaluation/simulation, interview/oral examination, documentation (product assessment), and assessment of non-credit courses/programs

(Department of Education, 1998a; Wong, 1996; College of the North Atlantic, 1997). When institutions determine prior learning experiences, they may use more than one assessment method. Keonig and Wolfson (1994) state that there is no one PLAR method that is universally best for any or all situations. They also state that methods should be selected to suit the unique needs of a particular situation.

Examinations: Examinations have long been used as a measurement of ability and knowledge in all levels of schooling. Therefore, examinations are used to assess prior learning. Wong (1996) points out that there are two types of examinations, namely challenge and standardized. According to Wong, a challenge exam is usually prepared by the instructor of the course being challenged. She also states that this process is very time-consuming. According to the Prior Learning Assessment and Recognition - Handbook for Faculty Assessors at College of the North Atlantic (1997), a challenge examination used in assessing prior learning should be generic in nature and address all of the learning outcomes from the particular course for which an exemption is being sought.

Standardized examinations are recognized more in the United States but have not yet gained widespread acceptance in Canada. Some examples of standardized examinations are: 1) College Level Examination Program (CLEP); 2) Program on Non-Collegiate Sponsored Instruction (PONSI); and 3) Defense Activity for Non-traditional Education (DANTES) (Wong, 1996).

Portfolio Development: A portfolio is a collection of information that demonstrates the depth and breadth of what a learner knows and can do (Wong, 1996). The Open Learning Agency (1999) describes portfolio development as the process of

collecting, substantiating, and organizing documented evidence to support a candidate's claim for PLAR credit or recognition.

Portfolios are particularly useful for documenting non-formal learning. A learner can expect to go through the following steps when preparing a portfolio: 1) reflect and summarize on significant life events and activities in a written narrative; 2) prepare a statement of educational, career and personal goals; 3) identify learning outcomes from the written narrative; 4) search appropriate college or university calendars for course outlines for comparison purposes and match to a specific course; 5) describe each cluster of learning, summarizing all skills and knowledge acquired; and 6) collect and assemble the materials that will be used as evidence of learning. Afterward, compile all of the above items in a binder and submit to the appropriate person (Wong, 1996).

Performance Evaluation/Simulation: This type of evaluation offers students the opportunity to demonstrate their abilities in their own milieu. These demonstrations are short, comprehensive, observed demonstrations of specific skills that are deemed critical for professional competence. In some instances the assessor may need to provide context for the demonstration. Simulations are an attempt to replicate workplace conditions in order that a candidate may demonstrate his/her competence in a range of critical skills (Open Learning Agency, 1999).

Interview/Oral Examination: Obviously, an oral examination is a type of challenge examination that is given to a student in lieu of a written one. Oral questioning refers to a structured interview between an assessor and a candidate that is intended to permit the assessor to probe the depth and breadth of candidate learning and to give the

candidate the opportunity to provide supplementary evidence to support his/her credit claim (Open Learning Agency, 1999).

Documentation (Product Assessment): Product assessment or evaluation is used when a faculty assessor evaluates the student's previous work. It could take the form of an article, design plans, or artwork (Wong, 1996).

Assessment of Non-Credit Courses/Programs: Wong (1996) states that if a learner is requesting an assessment, then he/she is responsible for documenting the learning and providing evidence of learning that matches the expected learning outcomes of the course. Sometimes, an institution may grant a "block credit" transfer based on equivalencies from another institution. This could be an entire semester or year depending on the number of credits the student has earned.

Employability Skills

There are a number of different terms used to describe these skills that are directly beneficial to employees in the workplace, namely employability skills (Conference Board of Canada, 1998; Cotton, 1999; Council of Ministers of Education, 1999; Saterfield & McLarty, 1995; McLaughlin, 1992; Bloom, 1994), workplace literacy and basic skills (Waugh, 1990), career skills (Government of Alberta, 1999), workplace competencies and foundations skills (Taylor, 1995). The term that is the most dominant in today's literature is employability skills.

History

Askov and Aderman (1991) point out that workplace literacy is not a new issue. In fact, its history dates back at least 200 years. They also state that improved work

performance has been an explicit goal of workplace literacy programs since worker education programs began in the eighteenth century. They continue to state that the recent upswing in worker literacy activities began in the U. S. in the 1960s. In Canada, the 1987 report, Literacy in Canada, issued by Southam News addressed a number of myths surrounding literacy, which include: 1) there is a relationship between literacy and age; and 2) there are visible underclasses in Canada that are comparable to American inner cities (Jones, 1991).

Definition

In order to obtain a clear picture of what exactly employability skills are, a number of definitions must be explored. The main definition from a Canadian perspective is that of the Conference Board of Canada (1998) which describes employability skills as "the generic skills, attitudes, and behaviours that employers look for in new recruits and that they develop through training programs for current employees" (p. 1). This definition appears to be a popular one and is found in many web sites and articles, such as that of Human Resources Development Canada (1998, p. 3) and McLaughlin (1992, p. 3). The Business Coalition for Education Reform (1998) refers to employability skills as those skills that are needed when "businesses look for employees who are able to perform basic research tasks, write concise memos, analyze data, and allocate resources" (p. 1). The Council of Ministers of Education (1999) refers to employability skills as those skills that are "required to search for, acquire, hold or create employment" (p. 4). Saterfield & McLarty (1995) describe employability skills as those skills which are "required to

acquire and retain a job" and "used to describe the preparation and foundation skills upon which a person must build job-specific skills ..." (p. 1).

There are other instances where the term "employability skills" is not used but the sentiment is the same. Waugh (1990) describes employability skills as workplace literacy and basic skills. She describes them as "skills needed by employees at work" (p. 1). The Government of Alberta (1999) refers to employability skills as career skills, but bases its definition on that of the Conference Board of Canada. Taylor (1995) refers to employability skills as workplace competencies and foundation skills. Her definition is based on the Secretary's Commission on Achieving Necessary Skills (SCANS) (1991) which defines the competencies and foundation skills required for effective job performance today and tomorrow.

Overall, it appears that these skills, regardless of the nomenclature used to describe them, are foundation and preparatory in nature. They are designed to allow graduates to acquire and hold employment opportunities. They are also needed in addition to a strong academic foundation (Business Coalition for Education Reform, 1998). The Michigan Chamber of Commerce (1999) believes that these skills must be woven into the academic core curriculum of every school in order to connect the classroom experience with real-world applications.

Type of Skills Required

There are a great number of opinions on the skills that are required to make a graduate more employable. This section will review several sources and will include the skills that the authors believe to be the ones that make graduates more employable;

included in this list are both Canadian and American sources. This will illustrate that the emergence of employability skills is at least a North America wide phenomenon.

Within the literature, there are three major groups of employability skills that are present in the sources used for this report. These are academic skills, personal management skills, and teamwork skills (Conference Board of Canada, 1998; Carnevale, Gainer & Meltzer, 1990; Michigan Chamber of Commerce, 1999). Within each group there are various sub-groups which contain various related skills.

Academic skills make up the largest group of skills when considering the three categories of employability skills. These are described as skills that provide the basic foundation to get, keep and progress on a job and to achieve the best results (Conference Board of Canada, 1998). These skills contain three sub-groups, namely communication, thinking and lifelong learning (Conference Board of Canada, 1998; Carnevale, Gainer & Meltzer, 1990; Michigan Chamber of Commerce, 1999).

Canadian employers require a person who can communicate, think, and learn. In order to communicate properly, a person must be able to understand and speak the languages in which business is conducted (Conference Board of Canada, 1998; Michigan Chamber of Commerce, 1999). They must also be able to listen in order to understand; to learn, read, comprehend and use written materials, including graphs, charts and displays (Conference Board of Canada, 1998); and to write effectively in the language in which business is conducted (Conference Board of Canada, 1998; Michigan Chamber of Commerce, 1999). Carnevale, Gainer, and Meltzer (1990) state that communication skills are comprised of listening and oral communication skills. These skills of communicating

orally and listening intelligently are two of the most basic to individual and organizational success. They contribute to an employee's success in such areas as interviewing, making presentations and working on teams.

The Government of British Columbia (1998), while not grouping its skills, also has identified several which fall into the academic skills category. Its Ministry of Advanced Education, Training, and Technology asked a number of small- and medium-sized organizations the skills each was seeking in prospective employees, and compiled 13 most consistently mentioned skills from their study. The first academic skill that the study identifies is that a person must be able to act with common sense in the work context. This means acting in a way that is sensitive and responsive to customer expectations and needs, and dealing effectively with customers. It also means that a person must have the ability to write in a way that is relevant to the organization, gained through knowledge of the business and its activities. The study also points out that a person must be able to receive, comprehend and interpret complex instructions, and be able to talk with, seek, clarify, and provide information to co-workers, customers, clients and those in authority (in person and by telephone). In addition, a person must have the ability to write clearly, concisely, and to the point, consistently conforming to grammatical conventions and using correct spelling, and to extract information and interpret instructions from short notes and prose.

Thinking skills require a person to be knowledgeable in several critical areas. All new graduates must have the ability to think critically and act logically to evaluate situations (Conference Board of Canada, 1998; Carnevale, Gainer, & Meltzer, 1990).

Creative thinking requires the ability to understand problem-solving techniques. Problem-solving skills include the ability to recognize and define problems, to invent and implement solutions, and to track and evaluate results (Carnevale, Gainer, & Meltzer, 1990). In order to obtain good problem-solving skills, students must be able to use research and library resources, to use specialized skills and knowledge, or know how to access it, and to understand systems and complex relationships (Michigan Chamber of Commerce, 1998). Besides being able to solve problems, a person must be alert to what is happening at work, to be able to identify, investigate, and evaluate potential and actual problems, and to be able to report them concisely and clearly, both orally and in writing.

Making decisions, understanding and solving mathematical problems and using the results are also key thinking skills (Conference Board of Canada, 1998; Michigan Chamber of Commerce, 1999; Government of British Columbia, 1998; Carnevale, Gainer, & Meltzer, 1990; Gray & Herr, 1998). These skills are considered to be fundamental vocational skills. Today's workplace requires a workforce that is both numerate and literate (Gray & Herr, 1998; Carnevale, Gainer, & Meltzer, 1990). In order to be effective, all new graduates must be able to use technology, instruments, tools and information systems effectively, and to access and apply specialized knowledge from various fields (Conference Board of Canada, 1998). A person must also be willing to learn new uses of information technology (Government of British Columbia (1998).

In today's global economy, a person must have the capacity and desire to continue to learn for life. This trend is referred to as lifelong learning. Law and Low (1997) state that "lifelong learning, in its broadest sense, is the continuation of any and all forms of

learning throughout one's life" (p. 1). The concept of lifelong learning means that every working person will be required to learn how to learn. With today's fast changing workplace, most adults are finding it difficult to keep up with the new technologies. The skill of knowing how to learn is a must for every worker (Carnevale, Gainer, & Meltzer, 1990).

Personal management skills, the second major grouping, are the combination of skills, attitudes and behaviours required to get, keep and progress on a job and to achieve the best results (Conference Board of Canada, 1998). These skills are also critical to the workplace because they impact on individual morale. If the workforce has good morale, then these skills will play a significant role in an institution's ability to achieve bottom line results (Carnevale, Gainer, & Meltzer, 1990). Canadian employers require a person who can demonstrate positive attitudes and behaviours, responsibility, and adaptability (Conference Board of Canada, 1998).

In order to possess positive attitudes and behaviours, a person must have self-esteem and confidence, honesty, integrity and personal ethics, a positive attitude toward learning, growth and personal health, as well as initiative, energy, motivation, and persistence to get the job done (Conference Board of Canada, 1998; Michigan Chamber of Commerce, 1999; Carnevale, Gainer, & Meltzer, 1990). A person with a good positive attitude must also be productive, cooperative, accountable, responsible, flexible, and positive (especially about change). He/she also needs to have good organizational skills, to be flexible, to prepare for career development, to be able to communicate, and to be

responsive (Michigan Chamber of Commerce, 1999; Government of British Columbia, 1998).

In possessing responsibility skills, a person must have the ability to set goals and priorities in work and personal life, as well as the ability to plan and manage time, money and other resources to achieve goals, and he/she must accept accountability for actions taken, and must be able to plan and undertake a number of activities which are inter-related or overlap in time (Michigan Chamber of Commerce, 1999; Government of British Columbia, 1998). A person must also be concerned with personal well-being, and maintain standards of hygiene and dress which conform with an organization's expectations (Government of British Columbia, 1998). In order to obtain these skills, students must be encouraged to attend school/work daily and on time, to meet school/work deadlines, and to demonstrate self-control. Good organizational skills are also a must and students must be able to pay attention to details, and to follow written instructions and directions (Michigan Chamber of Commerce, 1999).

Being adaptable means that a person must have a positive attitude toward change, a recognition of and respect for people's diversity and individual differences, and the ability to identify and suggest new ideas to get the job done creatively (Conference Board of Canada, 1998). The person must also take responsibility for his/her own learning, through working with others, from manuals and from individual mistakes (Government of British Columbia, 1998).

Good flexibility skills can be acquired if students are able to learn new skills, to identify and suggest new ways to get the job done, and to work without supervision.

Acquiring good career development skills means that students must be able to know their personal strengths and weaknesses, in order to develop their career. They must also be responsive by being able to work in changing settings and with people of differing backgrounds, by being sensitive to the group members' ideas and views, and by being willing to compromise, if necessary, to best accomplish the goal plans (Michigan Chamber of Commerce, 1999).

Teamwork skills, the third major grouping, are those skills needed to work with others on a job and to achieve the best results. Canadian employers require a person who can work with others (Conference Board of Canada, 1998). Most organizations are composed of individuals with different opinions and operating styles and if these people are to work together, then effective interpersonal skills, focused negotiation, and a sense of teamwork are needed (Carnevale, Gainer, & Meltzer, 1990).

To have an effective team, team members must be able to understand and contribute to the organization's goals, and to understand and work within the culture of the group. They must also know how to plan and make decisions with others and support the outcomes, to respect the thoughts, opinions, and differences of others in the group, and to exercise "give and take" to achieve group results (Conference Board of Canada, 1998; Government of British Columbia, 1998).

Another aspect of teamwork is the acquisition of influence skills, which is comprised of organizational effectiveness and leadership skills. Basic training in organizational effectiveness is geared toward providing new employees with an understanding of what organizations are, and why they exist. New employees are also

exposed to the organizational culture of their employer, and its goals, values, and traditional modes of operation. Organizational effectiveness skills are the building blocks for leadership (Carnevale, Gainer, & Meltzer, 1990).

The Secretary's Commission on Achieving Necessary Skills (SCANS) (1991), which is mentioned earlier in the report, produced a major document in the field of employability skills. The five competencies, which are identified in the SCANS document, validate the inclusion of employability skills in the orientation package. The document also highlights the importance of technological literacy, which has pervaded most programs in today's post-secondary educational institutions.

Design and Development of Interactive Hypermedia Systems

In any systems development effort, there are two key caveats that guide Information Technology practitioners. The first one is that systems developers must turn to the user as the primary source of information (Wu and Wu, 1994). The key information providers for this project were the Co-operative Education Coordinators. The second caveat is that the system belongs to the user even though the developer is the creator (Wu and Wu, 1994). The developer must avoid designing and developing any product in isolation of the key persons who will eventually use the system.

Wu and Wu (1994) suggest that it is a good idea to create several solutions for a web-based orientation package, and have the users choose the one that suits their needs. From a hypermedia perspective, the major differences in each of the solutions will be the actual interface between the user and the web site information. These interfaces can range from straight textual information to advanced graphics, which utilizes video and audio

information. A reasonable compromise would be to design the interface somewhere in the middle of this range of choices. The web pages must allow for the fact that some campuses and students (users) may have "lower end" equipment and therefore may not be able to view all of the items, especially graphics.

Internet web pages have traditionally utilized hypertext and more recently hypermedia. The term hypertext was coined by Nelson (1974) and is described as non-sequential documents composed of text, audio, and video information stored in a computer. Hypermedia refers to computer software that uses text, graphics, and video and audio information so users can easily move within the information (Heinich, Molenda, Russell & Smaldino, 1995).

According to Gloor (1997), there are three different elements that must be considered when designing a hypermedia product: structure, presentation and content. Structure refers to how the information is structured for optimal navigation and access. Presentation refers to how the information will appear to the user. This might include the use of graphics, audio/video, and interactive forms. The content is the most important part of any web page because it disseminates the required and relevant information to the user. Content experts must be consulted at every phase of the design and development process.

Tools Used in the Creation of a Web Site

There are several methods that can be used to create HTML documents. The first way is to use a word processing package, such as Microsoft Word 97, to type the textual information needed for the web site and to save it as an HTML document. This document can then be uploaded to the Internet server in order to be attached to the web site. The

second way is to utilize a web-based editor, which is normally part of a web browser package such as Netscape Gold 3. This editor can be used to perform more intricate and complex tasks, such as creating tables and establishing links to internal and external web pages. The third way is to actually write HTML code using a full-screen editor on the Internet server. A combination of all three methods can be used in the construction of a web site.

Kerven, Foust and Zakour (1996) detail the many features of HTML in their book, entitled HTML 3 How To: The Definitive HTML 3 Problem Solver. The features range from HTML basics to HTML interactive forms. They also point out how web page designers can utilize Common Gateway Interface (CGI) applications, and how they can handle security, create Java applets and create JavaScript scripts. All of the above could be utilized in the construction of a web site. The complexity that is required for a web site will dictate which of these methods will be used. The final arbiters of the design and content of a web site will be, as previously indicated, the recipients and users of the product.

Systems Development Life Cycle

Most software endeavours follow a systems development life cycle, which takes the creation of a software product from its infancy through to its implementation. The design and development of a web-based learning activity product could be considered such an endeavour. Whitten, Bentley, and Barlow (1994) describe a systems development life cycle as "a systematic and orderly approach to solving business problems, and developing and supporting resulting information systems" (p. 11). Kendall and Kendall

(1999) describe it as "a phased approach to analysis and design which holds that systems are best developed through the use of a specific cycle of analyst and user activities" (p. 7).

According to Fitzgerald and Fitzgerald (1987), there are three basic phases in the systems development life cycle, namely systems analysis, detailed analysis and design, and implementation. However, there is no firm rule on how many phases there can be in the systems development life cycle. Licker (1987) states that "although there is no standard description of the systems development life cycle, most writers specify between five and ten stages" (p. 37), and Kendall and Kendall (1999) point out that analysts generally laud the organized approach of the systems development life cycle. The approach as defined by Fitzgerald and Fitzgerald is always a preferred option for any project because of its simplicity and it is outlined below.

Each of the three phases, as outlined by Fitzgerald and Fitzgerald (1987), has a number of specific activities that must be completed before one can move to the next phase. Kendall and Kendall (1999) point out that several activities can occur simultaneously, and that they may be repeated. The systems development life cycle is not a linear or totally sequential process. There may be instances when previous activities or phases may have to be repeated. This is normally due to the project not living up to the expectations of the client.

Systems Analysis Phase

The scope of the systems analysis phase is a single information system application. The purpose is to analyze the business problem or situation, and then to

define the business requirements for a new or improved information system (Whitten, Bentley, & Barlow, 1994).

During this phase, the main information gathering takes place. This is normally done through interviewing key personnel, and reviewing relevant literature and documentation. It is also at this point that the work plan is developed (Fitzgerald & Fitzgerald, 1987). The objectives of the system are also finalized, which include the key deliverable, the business requirements statement. This statement explains "what" the users need, but not "how" one plans to design or implement those requirements (Whitten, Bentley, & Barlow, 1994).

Detailed Analysis and Design Phase

Fitzgerald and Fitzgerald (1987) describe the design effort as "the conversion of ideas to realities" (p. 282). Whitten, Bentley, and Barlow (1994) state that the scope of the design remains the single information system from the systems analysis phase. The purpose of the detailed analysis and design phase is to design a computer-based solution that meets the business requirements as specified in the previous phase.

At this point, the framework for the product is identified. During this phase, all of the information that was collected is assimilated and the framework of the product is designed. Once the framework is designed, another methodology that can be utilized during this phase to expedite the development process is prototyping. Jordan and Machesky (1990) define prototyping as "a model of the proposed system is built and is shown to users for feedback" (p. 50). Whitten, Bentley, and Barlow (1994) define it as "a popular engineering technique used to develop a small-scale working (or simulated)

model of a product or its components" (p. 157). They also point out that when applied to information systems development, prototyping involves building an iterative, working model(s) of a system or subsystem. Using this approach, several iterations of the product could evolve. This process requires frequent interaction with the clients/users to keep them apprised of the current state of the design. The tools utilized for this process are mostly web page editors.

Implementation Phase

Fitzgerald and Fitzgerald (1987) describe the implementation process as "the installation of the new system" (p. 494). Whitten, Bentley, and Barlow (1994) state that the purpose of this phase is to construct and/or assemble the technical components and deliver the new or improved information system into operation.

Once the clients are completely satisfied with the product that was developed through the prototyping or traditional systems development life cycle process, it must be put into operation. Normally, before the product is put into operation, some training of staff occurs, depending on the complexity of the system developed. Afterwards, a periodic evaluation of the product's performance must take place.

CHAPTER THREE

METHODOLOGY

Product Development

This section will describe how the product was developed by highlighting the activities during the systems development life cycle phases of the project. It will also illustrate how the design of the package's appearance was accomplished. It concludes with the results of the field test conducted using co-operative education students.

Systems Development Life Cycle Activities

Prior to commencement of the project, permission to proceed and to involve the College Coordinators and students was sought from the College administration. A copy of the letter can be seen in Appendix A.

For the systems analysis phase of the project, key personnel in the Co-operative Education Office were interviewed and relevant literature regarding employability skills and other related information was reviewed in an effort to determine the content that would appear in the product. At this point, there was no need to involve students, as they cannot be considered experts in employability skills and other included content areas. They were consulted later in the process to field test the package, and offer their opinions regarding the presentation and the content.

During the detailed analysis and design phase, several alternatives were considered. The plan was to propose three alternative delivery methods: 1) straight textual information on the web site; 2) more graphics and outside links than the first choice; and 3) everything from the first two choices plus a level of interactivity to be added to the

product. The decision on delivery method was made by the Co-operative Education Coordinators, in consultation with several students. As anticipated, the third choice was selected. In addition, everyone offered excellent suggestions as to the layout and functionality of the product.

The major objective of this project is to provide a fully functional web-based learning activity, which when utilized by students will enhance their knowledge in the area of employability skills along with other introductory information on the Co-operative Education program. It also enhances and enriches the co-operative education effort at College of the North Atlantic.

Using the prototyping approach, several iterations of the product evolved. This process required frequent interaction with the Coordinators and selected students. This approach kept the users apprised of the current state of the design. The tools utilized for this process were mostly web page editors. Once the initial framework was developed, the fine-tuning took place. This was achieved by utilizing Hypertext Markup Language (HTML) programming, as well as web-based development products.

Once the product was developed, a field testing session took place with eight first-year and second-year students, who were selected randomly. This session involved the students navigating throughout the package and giving their opinions through a questionnaire. Personal interviews were also conducted to elicit any comments that might not be achieved from the questionnaire. Drafts of the questionnaire and interview protocol are shown in Appendix B and C respectively. The results of both were positive and supportive. Had there been any significant negative comments regarding the layout of the

package, there would have been a revisiting of the systems development life cycle to attempt to address the concerns. In fact, only some minor adjustments were made.

Once the product was fully vetted, revised as necessary, and deemed satisfactory by all stakeholders in the process, it was implemented. All the HTML files were uploaded to the College's main Internet server and placed on the Co-operative Education home page of the College's main web site. It was at this point that the system was considered fully implemented and ready for use.

Web Site Design

Gloor (1997) states that there are three design elements that are essential when designing a hypermedia product: structure, presentation, and content. During the design and development of the orientation package, all three of these elements were addressed, as well as when the overall concept of the web site was originally planned.

The structure of this package takes a standard hierarchical arrangement. It starts with a welcoming page, which will eventually require the user to enter a username and password. This feature will be added by the College's Webmaster at a later date, when the product is added to the College's main web site. This is considered a prudent measure because the information contained in this package is for internal operations only. This security issue is a concern brought forward by the Coordinators at the College.

While the system is hierarchical in nature, it also has the capacity for non-sequential navigation. All pages in the package include a frame along the left-hand side, which allows the user to move to any location in the entire site. Kommers (1996) points out that the search facility is the most prominent feature in hypermedia. This web site was

to have contained a searching mechanism that would have allowed users to enter keywords or phrases and the system would then identify the best matches based on the search criteria. However, due to cost considerations, a decision to drop this feature was made by the Co-operative Education Coordinators.

How an item is presented is sometimes as important as the item itself. Loughheed (1998) makes a few suggestions about web site presentation that must be considered when designing them. He suggests that web sites containing academic information must not have a gender bias, must not be one-dimensional, and must not overuse graphics. He also suggests that the site must be learner-driven, which allows students to pace themselves and move forward and backward within a web site to explore it freely. The orientation package was designed based on these principles.

Utilizing these suggestions and the ideas garnered from exploring other similar web sites, a decision was made by the Coordinators to utilize a more conventional approach to disseminate the information in the web site, instead of the workshop-type approach that had been originally proposed. Balasubramanian (1996b) states that "although many designs exist for hypertext navigation, the problems of disorientation and cognitive overhead still persist" (p. 3). He also states that "in active hypertext systems, users must be able to move freely through the system according to their needs, without getting lost either spatially or cognitively" (p. 3). There is a growing amount of literature on this subject and some of the techniques and suggestions in such material are incorporated into the construction of this web site.

Metaphors are excellent tools for designing an appropriate user interface for a hypertext system. Carroll and Thomas (1982) have established that people develop new cognitive structures by metaphorically extending old ones. Balasubramanian (1996a) points out that "users of a new computer system can master it if they can metaphorically extend it to some real world object or entity" (p. 3). He also suggests that the travel metaphor could serve as an extremely powerful aid to hypertext navigation. This idea can be extended to the co-operative education orientation package web site. The welcoming page of the package utilizes the travel metaphor by inviting the student to travel on an exciting journey that will have many interesting destinations.

The site takes on a conventional approach, which has a main page with a frame on the left-hand side of the screen. This frame allows the student to navigate freely throughout the entire web site. There are also sections with links to external sites that serve to legitimize the information contained in the package's web site. There is also an opportunity for students to print an employability skills checklist so that they can assess their employability skills.

It was anticipated that there would be some usage of graphics in the web site but nothing of a "glitzy" nature. As the content of the web site is the most important part and it must not be overshadowed or diminished by distracting graphics.

The content of this package includes a great deal of information outlining the skills needed by students to be successful in the workplace. This information is presented in the form of individual web pages, each containing information regarding a particular subject. It also contains the information that students enrolled in a Co-operative

Education program at College of the North Atlantic need to know. Issues like academic regulations are discussed, as they are different from regular college regulations. Other items are more in the nature of important dates for events such as job posting, deadlines for technical reports, and tips on interviewing and résumé writing. It is hoped that the students will avail of the interactivity of this site as a means of learning more about their programs.

The site includes links to external sites, such as the Conference Board of Canada (1998), Human Resources Development Canada (1998), the National Graduate Register (1998), and the Canadian Association for Co-operative Education (1997a). All of these sites add to the information that is provided in the College's web site, and corroborate its current content.

Field Test Results

As stated earlier in the report, a field testing session took place with eight first-year and second-year students. Ten questionnaires were distributed randomly to first-year and second-year students. The return rate was four questionnaires from each group. Students were asked to review the web-based orientation package, and to rate the product on seven criteria. Each criterion was ranked on a scale of one to five, with one denoting "Poor", two denoting "Fair", three denoting "Good", four denoting "Very Good", and five denoting "Excellent." These criteria can be seen in Appendix B. The following seven tables illustrate the results of each criterion. Table 2 shows the results from question one, which asked the students how they rated the overall appearance of the product.

Table 2: Student rating of the overall product appearance (n = 8)

Rating Scale	Percent Reporting
Poor	0.0%
Fair	0.0%
Good	12.5%
Very Good	25.0%
Excellent	62.5%

As is evident, 87.5% of the respondents believed that the web site was either very good or excellent.

Table 3 shows the results from question two, which asked the students how they rated the product in terms of navigating through the site.

Table 3: Student rating of the product in terms of navigation (n = 8)

Rating Scale	Percent Reporting
Poor	0.0%
Fair	0.0%
Good	12.5%
Very Good	12.5%
Excellent	75.0%

Again, it is evident that students overwhelmingly thought that the site was easy from a navigational perspective. In fact, 87.5% of the respondents thought that the product was very good to excellent from a navigational point of view.

Table 4 shows the results from question three, which asked the students how they rated the presentation of information in the product. The results from this question were

overwhelmingly positive. All respondents thought that the presentation of the information was either very good or excellent.

Table 4: Student rating of the presentation of information (n = 8)

Rating Scale	Percent Reporting
Poor	0.0%
Fair	0.0%
Good	0.0%
Very Good	50.0%
Excellent	50.0%

Table 5 shows the results from question four, which asked the students how they rated their understanding of the information in the product.

Table 5: Student rating of their understanding of the product information (n = 8)

Rating Scale	Percent Reporting
Poor	0.0%
Fair	0.0%
Good	12.5%
Very Good	12.5%
Excellent	75.0%

Once again, the results for this question were extremely positive. The results show that 87.5% of the respondents thought that their understanding of the information in the product was very good to excellent.

Table 6 shows the results from question five, which asked the students how they rated the product's ability to keep them interested.

Table 6: Student rating of the product's ability to keep them interested (n = 8)

Rating Scale	Percent Reporting
Poor	0.0%
Fair	0.0%
Good	12.5%
Very Good	50.0%
Excellent	37.5%

The results of this question were still very positive but there were fewer respondents who chose excellent as in the first four questions. However, given the fact that 87.5% of the respondents chose very good or excellent leads one to believe that the students found the product interesting enough to keep their attention.

Table 7 shows the results from question six, which asked the students how they rated the overall product. Once again, the respondents gave an excellent endorsement of the overall product. The results show that 87.5% of the students thought that the overall product was very good or excellent.

Table 7: Student rating of the overall product (n = 8)

Rating Scale	Percent Reporting
Poor	0.0%
Fair	0.0%
Good	12.5%
Very Good	25.0%
Excellent	62.5%

Table 8 shows the results from question seven, which asked the students how they rated the usefulness of the product. The students overwhelmingly endorsed the product by giving it either a very good or excellent rating.

Table 8: Student rating of the usefulness of the product (n = 8)

Rating Scale	Percent Reporting
Poor	0.0%
Fair	0.0%
Good	0.0%
Very Good	37.5%
Excellent	62.5%

Interview Results

The students were briefly interviewed and were asked three questions which can be seen in Appendix C. The following is a compilation of their comments.

The purpose of the first question was to obtain the students' overall impression of the product. The general consensus was that the students were impressed with the product and responded with such adjectives as "well-designed", "very informative", "very professional", "very well-done", and "eye-catching." Some of the students thought that the content was impressive and that this product will be an asset to co-operative education students.

The purpose of the second question was to ascertain how students felt about their understanding of employability skills, having participated in the field test. The overwhelming response was positive. In fact, all students responded affirmatively, when asked this question.

The purpose of the third question was to ascertain if students thought that any changes or enhancements should be made to the product. The overwhelming response was "no." In fact, all respondents answered in a similar manner when asked this question. One student even commented that "the product was amazing."

From the results in the field testing, it was evident that the product was fully endorsed, by the students involved, and that no changes or enhancements were required. The product was considered ready to be put into production and made available to all Co-operative Education students. However, this does not mean that the evolution of the product is complete. There will be the need for ongoing changes and enhancements as the Co-operative Education process at the College moves forward into the new millennium.

CHAPTER FOUR

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

This project aims to improve the co-operative education students' access to employability skills and related program information, such as prior learning assessment and recognition, and academic regulations that are written at a level which students can understand. This was achieved through the development of a set of web pages for delivery through the Internet. This medium was considered a good choice because it is convenient for students to access and easy to maintain and update information. The process of developing the web site involved the utilization of industry standard procedures. As well, the pilot testing of the web site helped to affirm the relevance, accuracy, and receptiveness of the product.

Conclusions

Any attempt to develop an information system requires a systematic approach to be followed by the developer. Most Information Technology practitioners utilize a methodology called the systems development life cycle. This is a phased approach to systems analysis and design, and there are three phases that must be completed in order to reach a successful conclusion. Within each of these tasks there are several activities, which can be performed simultaneously or may be repeated. This project was developed utilizing such an approach. As well, the project presented an interesting challenge in that the structure, presentation, and content of the actual web site had to be designed. Therefore, a second methodology, the design and development of interactive hypermedia

systems, had to be utilized. Both were necessary because the information requirements of the system are normally amassed through the systems development life cycle. The appearance and content of the web site are not normally completed within the systems development life cycle, thus necessitating the second methodology.

Enhancements and additions will be required from time to time to keep this web site current and relevant. In the future, students may require newer skills that are not reflected on the current web site. A process must be put in place to allow for any changes and enhancements that might be required. It is because of the ease of making changes that the Internet is an attractive medium for colleges and universities, and with this constant revisiting, the web site will remain a truly "living organism."

Recommendations

Most of today's students are very well versed and comfortable with using the Internet. It is recommended that colleges and universities continue to harness the seemingly endless possibilities of this medium. Besides regular information, such as university/college diaries, and faculty information, it is also recommended that the Internet be used for informational packages, such as the one presented in this report, that will benefits all students' personal and academic growth.

Any individual contemplating designing a similar product to the one presented in this report must ensure that the correct information is placed on the web site. This information must be supplied and verified by the people for whom the web site is being created. One must always remember that the final product must be exactly what the client requires. A good working knowledge of web-based development products, such as

HTML and web editors, is a must. It is important to note that the individual (the developer) must not be afraid to ask for help, and must utilize any expertise that is at his/her disposal.

Another obvious recommendation is that the web site must be periodically evaluated for correctness and accessibility. Through this process the web site can be kept accurate and current. If one utilizes external links in a web site, then a monitoring process must be put in place to ensure the sites still exist and still contain relevant information. All inaccessible web sites must then be removed.

The final recommendation is that this type of project would be an excellent undertaking for students taking the new seminar course in Memorial's all course option in its Master of Education degree program. While it is very challenging, an individual most definitely will get a sense of fulfillment from completing such a project.

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APPENDIX A - Letter to Mr. Colin Forward

January 27, 1999

Mr. Colin Forward
District Administrator
College of the North Atlantic
P. O. Box 1693
St. John's, NF
A1C 5P7

Dear Mr. Forward,

I am currently enrolled in the Masters of Education (Post-Secondary Studies) programme at Memorial University of Newfoundland. A part of the requirements for this degree is that I engage in the development of an educational product. As you know, I am currently the Instructional Coordinator of Information Technology Programs in your District. My project is to develop a web-based learning activity, which will assist the Information Technology students in developing a better understanding of and the importance of employability skills for today's graduate. As you are aware, the Information Technology sector in Newfoundland and Labrador has identified as a problem a definite lack of employability skills among new graduates.

In order to field test my package, I am seeking permission to approach the Co-operative Education Coordinators and Information Technology students to elicit their comments on the product through a questionnaire and an interview. It should be noted that participation in all activities in this endeavour will be strictly voluntary and that the information collected in both fora will be used strictly for enhancement of the product. All responses will remain anonymous and will be destroyed upon completion of the project. It should also be noted that this project has received the approval of the Ethics Committee of the Faculty of Education.

If you should require any further information regarding this project, you may contact my project supervisor, Dr. Dennis Sharpe or the Associate Dean of Graduate programs, Faculty of Education, Dr. Bruce Sheppard. I hope that this meets with your approval.

Sincerely,

Gerard J. Manning

GJM/gm

APPENDIX B - Copy of Questionnaire for Field Test Participants

The following is a draft of the questionnaire that was distributed to all participants of the field test for the product.

Questionnaire

The purpose of this questionnaire is to gauge your response to the web-based learning activity that I have developed. This package will assist the Information Technology students in developing a better understanding of and the importance of employability skills for today's graduate, and general information regarding co-operative education programs at the College. It should be noted that participation in this field test is strictly on a voluntary basis and that all responses given will be confidential.

For each of the following criteria, please circle the one rating that is most appropriate. The rating scale used in this questionnaire will be: 1. Poor; 2. Fair; 3. Good; 4. Very Good; and 5. Excellent.

1. The overall appearance of the product.	1 2 3 4 5
2. The product in terms of navigating throughout the site.	1 2 3 4 5
3. The presentation of the information in the product.	1 2 3 4 5
4. Your understanding of the information in the product after using it.	1 2 3 4 5
5. The product's ability to keep you interested	1 2 3 4 5
6. The product overall	1 2 3 4 5
7. The usefulness of the information provided.	1 2 3 4 5

APPENDIX C - Copy of Interview Questions for Field Test Participants

The following is a draft of the interview questions that all participants of the field test for the product were asked after the product has been assessed.

It should be noted that participation in this interview process was strictly on a voluntary basis and that all responses given were confidential.

Interview Questions

1. What was your overall impression of the product?

2. Do you feel that you have a better understanding of employability skills by having participated in the field test?

3. What changes or enhancements, if any, would you like to see in the product?

APPENDIX D - Web Page Printouts

Welcome to Co-operative Education

Welcome to the vibrant co-operative education programs at College of the North Atlantic. Since 1992 we have developed and delivered accreditable co-op programs in the following disciplines:

- Programmer/Analyst
- Industrial Engineering Technology
- Geomatics Engineering Technology
- Automotive Technology
- Integrated Information Systems (I^2S)
- Electrical Engineering Technology
- Environmental Technology

Each of these programs formally integrates academic studies with work experience in co-op employer organizations. Students complete a sequence of academic terms and paid, program-relevant work terms, beginning and ending with study terms.

Our co-op programs enjoy local, provincial and national employer support. Our students graduate with dynamite employability skills gained from the classroom and the workplace. Our co-op graduates are testament to the success of these programs:

Co-operative Education Works!

Graduating Class of 1999!!!

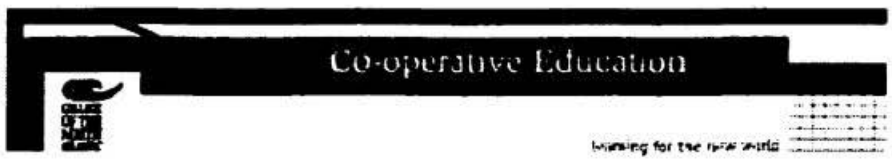
Programmer/Analyst
Heidi Janes
Prince Philip Drive Campus
Telephone (709)758-7112
Fax (709)758-7299

Automotive Technology
Geomatics Engineering Technology
Integrated Information Systems
Paul Forward
Engineering Technology Center
Ridge Road Campus
Telephone (709)758-7003
Fax (709)758-7127

Industrial Engineering Technology
Electrical Engineering Technology
Gordon Genge
Engineering Technology Center
Ridge Road Campus
Telephone (709)758-7003
Fax (709)758-7127

For information on programs, courses or admissions please
Call Toll Free (within Newfoundland and Labrador): 1-888-982-2268
Outside Newfoundland and Labrador: 1-709-758-7037
or e-mail: info@northatlantic.nf.ca

Last Updated on May 5, 1999



Site Map

The purpose of this page is to allow the user to have a look at the entire web site on one page. This map consists of links to each major page, which is accessible through the menu to the left of every page. Within each major section, the various topics that are included in this page are displayed and as well, any links emanating from that section are also displayed. When you point to an underlined description, it will display the URL on the bottom of the screen. We hope that you enjoy your journey through the Co-operative Education Home Page.

- EMPLOYEE INFORMATION
  - EMPLOYER BENEFITS
  - FUNDING

- STUDENT INFORMATION
  - CO-OP COMPETITION PROCESS
  - RÉSUMÉS
    - SAMPLE CHRONOLOGICAL RÉSUMÉ
    - SAMPLE ANALYTICAL RÉSUMÉ
  - COVER LETTERS
    - SAMPLE COVER LETTER
  - INTERVIEWS
    - FREQUENTLY ASKED INTERVIEW QUESTIONS
  - WORKTERM EVALUATION
    - WORK TERM EVALUATION
    - SITE VISIT

    - FINAL EMPLOYER EVALUATION
    - EMPLOYEE EVALUATION FORM
  - LINKS

- PROSPECTIVE STUDENT INFORMATION
  - BENEFITS FOR STUDENTS
  - WORK TERM & JOB DESCRIPTIONS
  - CO-OPERATIVE EDUCATION PROGRAMS
  - PRIOR LEARNING ASSESSMENT AND RECOGNITION

- ACADEMIC REGULATIONS

- FREQUENTLY ASKED QUESTIONS

- EMPLOYABILITY SKILLS
  - CONFERENCE BOARD OF CANADA EMPLOYABILITY SKILLS PROFILE
  - EMPLOYABILTY SKILLS FROM OTHER RESOURCES
  - EMPLOYABLILITY SKILLS FOR INFORMATION TECHNOLOGY STUDENTS

- ON-LINE JOB POSTINGS

Co-operative Education

learning for the new world

Employer Information

Benefits for Employers

The College has well trained co-operative education students available for work terms every semester of the year. The students can address short and long term staffing needs.

Employers have an opportunity to evaluate the student and determine whether or not he/she has the potential to become an employee of the organization. The employer is not required to make a commitment to the student. If the employer hires a co-operative education student who has worked with the company for a work term, the company will benefit because the student will require less training and therefore less expense would be incurred.

Employers have the opportunity to complete other projects that have been shelved; thus allowing permanent employees the opportunity to focus on other significant projects. This allows staff members to concentrate on other tasks.

Kandy Lane
Department of Government Services and Land

Funding

The Small Enterprise Co-operative Placement Assistance Program (SECPAP) offers work term salary assistance to successful small business applicants. In order to qualify for SECPAP funding, the business must be a private sector firm with less then 50 employees and have no more than $5 million in yearly sales. To assist with hiring a co-operative education student, the College of the North Atlantic will pay directly to the employer 50% of the actual wage paid, to a maximum subsidy of $5.00 per hour. The student must work a minimum of 35 hours per week and for at least 12 weeks. The assistance will be not be paid for hours worked in excess of 40 hours per week or in excess of 16 weeks. For more information on SECPAP funding, please contact: Heidi Janes, Prince Philip Drive Campus, telephone number (709)758-7112, fax number (709)758-7299.

Programmer/Analyst
Heidi Janes
Prince Philip Drive Campus
Telephone (709)758-7112
Fax (709)758-7299

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Outside Newfoundland and Labrador: 1-709-758-7037
or e-mail: info@northatlantic.nf.ca

Co-operative Education

learning for the new world

Student Information

Co-op Competition Process

Each semester the Co-operative Education Office will post a number of work term opportunities (local, national, and perchance international) for eligible students. Students are encouraged to apply on all job postings; however, they should only apply on postings in which they are interested. In addition, each student is required to carry out their own independent work term search. Applications include a cover letter and résumé, submitted on time to the Co-operative Education Office. The Co-op Office will then attach a copy of your transcript to your résumé and will forwarded the application packages to employers who will choose which applicants to interview. Interviews usually take place on campus, and students are notified by the co-op staff. Once the interview process is complete, the employer ranks the students and the first ranked student is offered the position. If the student refuses the offer, she/he is ineligible for any other postings through the Co-operative Education Office and must find a work term independently.

Keith Hynes
College of the North Atlantic

Résumés

A résumé is a summary you prepare for an employer that outlines the information he/she would need to consider you for a position. Your résumé is a marketing tool. You use your résumé to sell yourself to the employer in hopes of getting an interview. The résumé informs the employer of your experience, skills, and education position for which you are applying.

There are two types of résumés commonly used by students, the chronological résumé and the analytical résumé. The chronological résumé presents your experience and training in chronological order. You should start with the most recent information and work backwards. The information should be under standard headings and should contain dates and names that can be verified.

The analytical résumé provides a better description of you, the prospective employee, than the chronological résumé. The analytical résumé is a combination of a chronological résumé and your skills. This résumé should include your education and employment history, as well as, specialized skills, practical skills, interpersonal skills, and artistic skills. Some employers are looking for certain skills that can be easily identified in this type of résumé.

- Example of a Chronological Résumé
- Example of an Analytical Résumé

General Information

- Your résumé should be no longer than two pages. The employer is going to receive a number of résumés for the same position and is not likely to read past two pages. The employer is looking for concise information which is easy to read and locate.

- Your résumé should be printed on high quality paper. You can use white or shaded paper but stay away from bright colors. You should also use a good printer when making copies of your résumé. Make sure your words are not faded and that there are no black lines. When applying for a position, it is always best to submit an original copy of your résumé. If you have to use

a photocopy, make sure it is of good quality.

- Your résumé should contain no errors. Spell checking does not always pick up everything. Read it over several times yourself and then give it to your friends or a teacher to proof read. You might not pick up everything yourself.

- References should never be included on your résumé. Your résumé should say "References available upon request."

Krista Whalen
Vector Aerospace

Cover Letters

When you are applying for a job posting, a cover letter must accompany your résumé. A cover letter should be in the same format of a standard business letter, usually full block style. Your cover letter should be three paragraphs long with each paragraph containing different information. The first paragraph should state the position and competition number for which you are applying. You should also mention the time and place that you saw the job posting. The second paragraph should provide the employer with an outline of your skills and background, and the reason for applying. You must not include all of your skills in the cover letter but you should provide a reason why you would be the best candidate for the position. Also, you should call the employer's attention to your résumé in this paragraph. The final paragraph should be your closing. You must also thank the employer for considering you for the position and ask for a interview. Inform the employer that you are available at their convenience for an interview and include a phone number where you can be reached or where a message can be left.

● Example of a Cover Letter

Interviews

If the employer is impressed with your cover letter and résumé, you may be invited for an interview. The Co-op Office would set up the interview time with the employer and would forward the information to you. The interview is how the employer gets to assess you and determine if you are the best candidate for the position. The first impression the employer receives about you can determine if you will be successful in obtaining that particular work term. Research suggests this decision is usually made within the first couple of minutes of the interview. However, there are three aspects of the first impression that you control: appearance, attitude, and knowledge.

Click here for the most frequently asked questions during an interview

Work Term Evaluation

A work term is worth five credits and must be completed successfully before continuing onto the next semester. There are three components to your final work term grade: your work term report, site visit, and the final employer evaluation. You are also required to keep a weekly dairy of the tasks performed during your work term. You must pass the work term site visit and final employer evaluation in order to have your report added to your final work term grade.

Work Term Report

Your work term report, which comprises 50% of your work term grade, must be delivered to the Co-operative Education Office no later then the date of registration for the next semester. Proposals for your work term report topic must be submitted to the Co-op Office and must be approved. If your topic is not approved, you will be contacted and will have to submit another proposal. Your report should include the following prefatory parts:

- Title page
- Letter of transmittal
- Table of contents
- Summary

The report itself will include the following sections:

- Introduction
- Findings
- Conclusions
- Recommendations

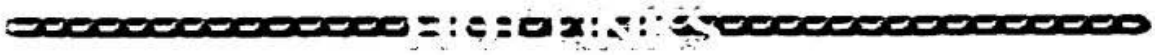
The report, from the Introduction to the Recommendations, should be approximately 20 double spaced, typed pages. It will conclude with supplementary parts such as a reference list and appendices. The report should be presented as a bound document.

Site Visit

The site visit comprises 20% of your work term mark, and it will take place in the second or third month of your work term. The co-operative co-ordinator, or a designate, will talk with your supervisor, document feedback on your work term, and will meet with you to share the feedback. Gail Baird or Janet Allen will contact you to set up a convenient time for this visit. You must contact the Co-op Office once your work term commences to give them your phone number and e-mail address so they contact you.

Final Employer Evaluation

The final employer evaluation is worth 30% of your work term mark, and it must be completed by your employer at the end of your work term. Please ask your supervisor to complete this form which will be based on your entire work term performance. Afterwards, they will discuss it with you, and submit it to the co-operative education office on the last day of your work term.



National Graduate Register

NGR boasts a wide variety of services and features enabling job seekers, employers, and career centres to select those tools which they find most useful.

Canadian Association For Co-operative Education

This site contains information for our members on current CAFCE activities, as well as information on becoming a member, and the benefits of Co-operative education for both employers and students.

Human Resources Development Canada

The HRDC mission is to enable Canadians to participate fully in the workplace and the community. HRDC is committed to providing high quality service as it pursues a human development agenda in all its activities.

Conference Board of Canada

The Conference Board of Canada's mission is to help their members anticipate and respond to the increasingly changing global economy. They do this through the development and exchange of knowledge about organizational strategies and practices, emerging economic and social trends and key public policy issues.

Canadian Information Processing Society (CIPS)

Through national and international initiatives, CIPS strives to strengthen the Canadian IT profession, to support the Canadian IT practitioner, and to represent the concerns of these practitioners to all levels of industry and government. CIPS has developed a unique set of programs and initiatives to advance both the development of the Canadian IT industry and the expertise of Canadian IT practitioners.

Newfoundland and Labrador Association of Technology Industries (NATI)

NATI provides a focus for the growth of the technology-based sector in Newfoundland and Labrador. NATI is helping companies compete in both the local and global markets.

Canadian Association of Career Educators and Employers

The Canadian Association of Career Educators and Employers (CACEE - pronounced 'Casey') is a national, bilingual non-profit association dedicated to facilitating the process of introducing students to meaningful employment opportunities.

Programmer/Analyst
Heidi Janes
Prince Philip Drive Campus
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Call Toll Free (within Newfoundland and Labrador): 1-888-982-2268
Outside Newfoundland and Labrador: 1-709-758-7037
or e-mail: info@northatlantic.nf.ca

Chronological Résumé

ANNA ELIZABETH CLEAT

8 Trinity Street, St. John's, NF A1E 2M4
(709)368-5682
E-mail: cleat@nf.sympatico.ca
cc993258@vulcan.northatlantic.nf.ca

EDUCATION

September 1997 Present	Computer Studies (MIS) Co-Operative Education Program College of the North Atlantic, St. John's, NF. (Grade Point Average 3.40)
June 1995	Graduated from Bishops College High School

EMPLOYMENT

May 1998
August 1998

Work Term One
Database/Research Assistant

Eastern Canada Response Corporation
St. John's, NF

Duties included working with the Q&A database program, Microsoft Excel and Word; issuing invoices and purchase orders; and performing weekly accounting and general office duties.

March 1996
August 1997

Fast Food Clerk and Cashier

Irving Oil Limited
St. John's, NF

Duties included serving customers; handling cash; taking inventory of stock; answering the telephone; training new employees; supervising employees and placing orders for supplies.

June 1995
August 1995

Student Assistant
SWASP Program

Community Services Council
St. John's, NF

Duties included preparing schedules for volunteer teenagers and providing appropriate supervision; participating in community events and approaching businesses for donations for activities.

September 1994 January 1995	**Co-operative Education Student Level III**	**High School**	**Department of Social Services St. John's, NF**

Duties included working with Windows '95; filing; answering the phone and directing calls appropriately; sending faxes and other general office duties.

AWARDS

Newfoundland Association of Public Employees Scholarship, 1995.

VOLUNTEER WORK

1994-1995

Participated in the Reading Buddies Program designed for high school students to work one-on-one with elementary students who encountered difficulty with the reading program.

ADDITIONAL INFORMATION

1997-1999

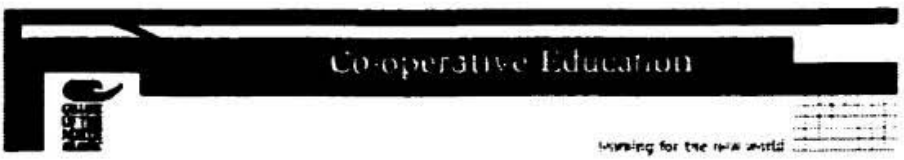
Class representative - Computer Studies (MIS) Co-operative Education Program

1994-1995

Member of the High School Graduation Committee

REFERENCES

Available upon request.



Analytical Résumé

Paul J. Richardson
39 Canada Drive
St. John's, NF
A1E 2M8
e-mail cc998652@vulcan.northatlantic.nf.ca
Telephone # (709) 579-0330

Highlights of Qualifications

- Currently enrolled in the Computer Studies (MIS) Co-operative Education Program, maintaining a grade point average of 3.89.
- Proficient with the use of PC applications such as Microsoft Word, Microsoft Excel, Wordperfect, and AccPac. Programming skills in Visual Basic 5.0, Microsoft Access, and SAS language. Experience in operating systems of MS-DOS, Windows '95, Novell, and Windows NT. Completed studies in Financial and Managerial Accounting, Statistics, and Business Communications.
- Presently studying Data Communications, Systems Analysis and Design, Database Management, Programming in RPG/400, Report Writing, and Organizational Behavior.

- Eager to take responsibilities conducive to personal and professional development.

Education

September 1997 Present — **College of the North Atlantic**
St. John's, NF
COMPUTER STUDIES (MIS) CO-OPERATIVE EDUCATION PROGRAM

May 1998 June 1998 — **SAS Institute**
Ottawa, ON
SAS FUNDAMENTALS AND SAS PROGRAMMING COURSES

September 1991 June 1992 — **Keyin Technical College**
Carbonear, NF
COMPUTERIZED ACCOUNTING

Experience

May 1998 August 1998 — **Human Resources Development Canada**
140 Promenade du Portage, Hull, PQ
JR. PROGRAMMER/ANALYST

Work Responsibilities: Performing a variety of recoding, validating, and testing data using SAS language. Creating

and updating Excel spreadsheets, designing and presenting data flow diagrams using Visio software, and routine data entry.

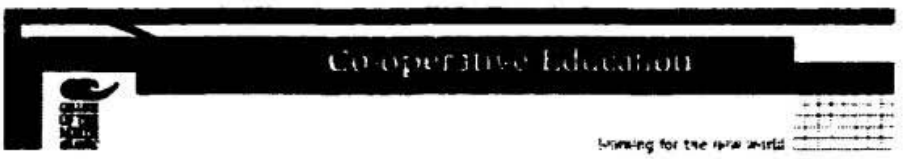
December 1995 – August 1996 **Hobart Food Equipment Group Canada**
Donovan's Industrial Park, Mount Pearl, NF
OFFICE CLERK

Work Responsibilities: Customer service and parts retail, accounts payable and receivable, payroll, invoicing, petty cash receipts, bank deposits, shipping and receiving, daily cycle counts and general office duties.

Personal Characteristics

- Honest and reliable individual who takes an organized approach to work
- Strong communication skills
- Works well alone or with a team
- Positive and enthusiastic outlook

References available upon request



Cover Letter

8 Trinity Street
St. John's, NF
A1E 2M4

November 8, 1998

Mr. David Smith
Newfoundland and Labrador Hydro
321 Topsail Road
St. John's, NF
A1E 3K8

Dear Mr. Smith:

RE: Computer Studies WT2, Job Number 99W-18

Please accept my application for the Computer Studies (MIS) work term two position at Newfoundland and Labrador Hydro as advertised at the Co-operative Education Office, October 24, 1998. I believe I have the experience that you are seeking.

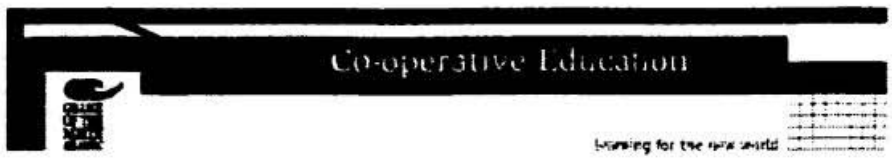
As my resume indicates, I am currently enrolled in my second year of the Computer Studies (MIS) Co-operative Education Program at College of the North Atlantic. I have completed programming courses in Visual Basic, Microsoft Access, and RPG. I am experienced in both Microsoft Word and Excel having used both of these programs in my previous work term. I have

good teamwork and personal management skills. Through completing a course while on my last work term, I also have gained knowledge in Java, HTML, and web security.

Thank you for considering me for this Co-operative Education position. I am available at your convenience for an interview and I can be reached at (709)368-5682 or by e-mail at cleat@nf.sympatico.nf.ca.

Sincerely,

Anna Cleat



Appearance

- Wear casual business clothing. Men should wear a pair of dress pants with a sports jacket, shirt and tie. Women should wear a skirt and dress blouse, or a simple business style dress. You should avoid flashy colours and wild hairdos. What ever you decide to wear, make sure you are neat, clean, and comfortable.

- Be punctual. Most interviews will be scheduled in the co-op interview room and you should arrive fifteen minutes early for your interview. If you are going to be late because of car trouble or an accident, call the co-operative education office and explain the situation. They may reschedule your interview but they do have the option to cancel it. Sleeping in or forgetting about the interview is not a good reason to be late.

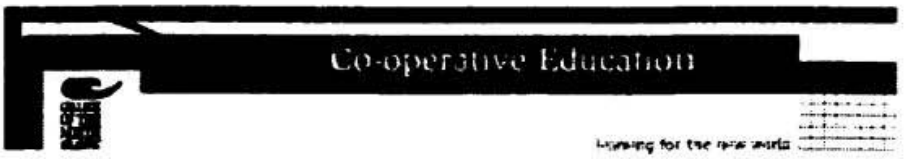
- The first thing you should do when you meet the interviewer is to shake their hands. Be sure to use a firm grip and show confidence in yourself.

- Do not go into the interview chewing gum. Remember, you are trying to make a good first impression. If you smoke, you should avoid doing so just before your interview. If the person interviewing you does not smoke, they might be turned off by the smell of second hand smoke.

- Be sure to make eye contact while you are speaking. Do not stare at the floor or ceiling. This can make a very negative impression and can suggest uncertainty. The interviewer will be looking for someone who is confident in what they do.

- Your body language is also very important. Make sure you sit in your chair without slumping and avoid tapping your fingers or fidgeting. If you take a briefcase into the interview with you, lay it on the floor next to you. If you

bring in a portfolio, be sure to lay it on the desk; do not keep it in your hands.



Attitude

- Avoid bragging about your abilities. No one likes someone who is arrogant. Pay attention when the interviewer is asking questions and be enthusiastic and prompt with your answers.

- Elaborate on your answers. Never answer a question with just a couple of words. However, do not spend too much time answering questions with complicated information. You should assume that the interviewer may not know the topic well and therefore your answers should not be given in very technical terms. It is always better to enhance an answer by relating the question to a similar event in a previous job or in the classroom.

- Do not seem more concerned with money or how you will benefit from the position. Remember, the interview is about what you can do for the company, not what the company can do for you.

- Never do anything that could be considered rude or discourteous. If you are introduced to other people that work at the company, be polite and shake their hands. The employer would like to know how you will respond to other people in the work place.

XBack

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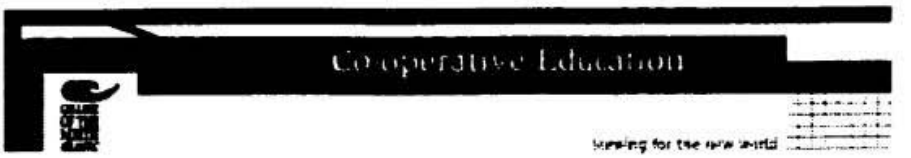

Knowledge

- The employer will want to know how you developed skills listed on your résumé. You must be prepared to discuss your experience and education and show how it is relevant to the position for which you are being interviewed.

- You should research every company with which you have an interview. The interviewer may ask you what you know about the company. You should know how large the company is, what products or services they provide, how long they have been in business and any other pertinent information.

- You should always have questions ready to ask the interviewer. It could be something about the position for which you are applying or about the business itself. Always have a couple of extra questions in mind because the interviewer may have answered some of the questions you had prepared while explaining the position.

- If a student is currently on a work term at the business, you should talk to the student who is doing their present work term at the company. They will be able to tell you what type of work you will be performing and will be able to give you some information on the company.

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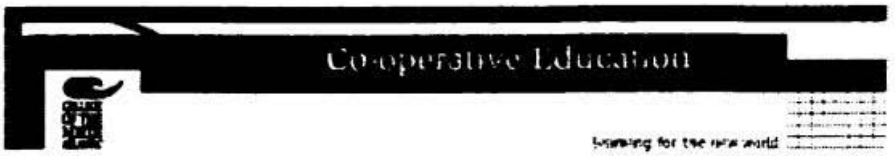

Frequently Asked Interview Questions

Q: Why are you applying for this position?

Q: What are some of your greatest strengths/weaknesses?

Q: What do you know about the company?

Q: What do you have to offer this company?

Q: How well do you get along with others?

Q: Where do you see yourself in five years?

Q: What type of work have you done before that relates to this job?

Q: How would you describe yourself?

Q: Why should I hire you?

Q: How well do you work under pressure?


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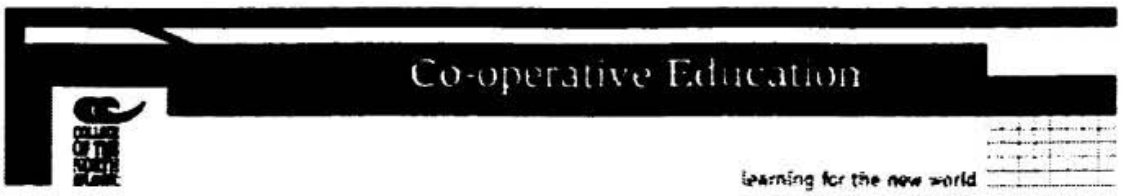

Sample Work Term Evaluation Form

Name of Student:

Program:

Work Term #:

Name of Company:

Telephone:

Name of Supervisor:

Title:

Thank you for supporting your co-operative education student throughout this work term. Based on the student's performance over the whole of the work term, I would appreciate you completing this form. Your feedback is a critical component in work term evaluation, and it will comprise 30% of the student's work term grade. Please assess the student's performance and discuss the completed form with the student. Your observations provide valuable feedback for career development.

Please submit the completed form to Heidi Janes, Co-operative Education Coordinator, Prince Philip Drive Campus, P.O. Box 1693, St. John's, NF A1C 5P7.

Check the statement which best describes the student.

Interest at Work

☐ High interest in job. Very enthusiastic. Takes pride in doing well.

☐ More than average amount of interest and enthusiasm for the job.

☐ Average amount of interest and enthusiasm for the job.

☐ Limited Interest.

☐ Little interest or enthusiasm for the job.

Initiative

☐ Self-starter. Asks for new jobs. Looks for work to do.

☐ Acts voluntarily in most matters.

☐ Acts voluntarily in routine matters.

☐ Relies on others. Must be told what to do frequently.

☐ Always waits to be told what to do next.

Standard of Work

☐ Excellent

☐ Very Good

☐ Good

☐ Fair

☐ Poor

Judgement

☐ Excellent

☐ Very Good

☐ Good

☐ Fair

☐ Poor

Dependability

☐ Excellent

☐ Very Good

☐ Good

☐ Fair

☐ Poor

Response to Supervision

☐ Expresses appreciation and takes prompt action on suggestions by supervisor. Open-minded and confident.

☐ Willingly accepts suggestions and criticism by supervisor.

☐ Accepts suggestions and criticism by supervisor in a satisfactory manner.

☐ Reluctantly accepts suggestions by supervisor. Sometimes fails to recognize own limitation.

☐ Resents suggestions and criticism supervisor or needs close supervision.

Interpersonal Skills

☐ Excellent ☐ Very Good ☐ Good

☐ Fair ☐ Poor

Written Communication

☐ Excellent ☐ Very Good ☐ Good

☐ Fair ☐ Poor

Oral Communication

☐ Excellent ☐ Very Good ☐ Good

☐ Fair ☐ Poor

Overall Performance

☐ Excellent ☐ Above Average ☐ Completely Satisfactory

☐ Needs Improvement ☐ Unsatisfactory

Attendance

☐Satisfactory ☐Unsatisfactory

Punctuality

☐Satisfactory ☐Unsatisfactory

Grooming

☐Appropriate ☐Inappropriate

Areas of Strength

1.

2.

3.

Areas for Improvement

1.

2.

3.

Comments on Overall Performance

Supervisor's Signature Date

Student's Signature Date

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or e-mail: info@northatlantic.nf.ca

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Co-operative Education

learning for the new world

Prospective Student Information

Benefits for Students

Co-operative education students learn from the classroom and the workplace. They gain relevant work experience, develop confidence working with people, and gain the skills necessary to obtain program-relevant permanent employment after graduation.

Lemonte Squibb and
Usha Vidyasankar
Xwave Solutions

Work Terms and the Job Description

Work terms begin in May, January, and September and have a maximum duration of 16 weeks and a minimum duration of 12 weeks. Junior students complete the spring work terms, senior students are placed in the fall, and the work term two students are on their placements from January to April.

The Co-operative Education Office begins their search for work terms for these students the second week of the semester. Job packages, which contain information on the program of study and the requirements that of the work term, are sent to prospective employers. If the employer is interested in hiring a work term student, they forward a job posting to the co-op office. The first round of job postings take place during the second month of the

semester. If a student is interested in one of the postings, he/she must submit a cover letter and résumé for that posting to the office. Once the posting has closed, the cover letters and résumés, along with transcripts, are sent to the employer. The employer selects the candidates for interviews and notifies the co-op office. The office is responsible for setting up interview times and will contact the candidates and inform them. The interviews are usually held in the Co-operative Education Conference Room; however, they may also be conducted at the employer's business. Once the employer has ranked the successful candidate, the office is notified and the candidate is offered the position.

Prior Learning Assessment and Recognition

As outlined by the Department of Education in its Prior Learning Assessment and Recognition (PLAR) information kit, there is a growing problem in which people and industry are experiencing a continuous turnover in the workforce. With downsizing and restructuring occurring, many traditional industries are no longer viable. From a Newfoundland and Labrador perspective, a classic example of such restructuring is the northern cod moratorium.

This trend is causing a marked increase in the number of older students returning to the classroom. Many of these students are returning to formal education in order to remain current with emerging technologies, while others are seeking to change careers completely. The Department of Education states that "mature students often bring a broad range of knowledge and skill to a course or program because of their many work and life experiences".

The process of formalizing the assessment of these skills is called Prior Learning Assessment and Recognition (PLAR). Human Resource Development Canada defines PLAR as "involving the identification, documentation, assessment and recognition of competencies, such as skills, knowledge, and abilities, that have been acquired through many means of formal or informal learning, e.g. work experience, training, independent study, volunteer activity, travel or hobbies".

As a result of this many students may be eligible for credit for courses based on this life or work experience. For example, you may believe that you are quite proficient in the Windows operating system, but have no formal course in this subject area to apply for an exemption. This is a case where PLAR is useful. A student may go to the Student Services office and ask for an application for PLAR. It is then passed on to the coordinator of the particular department. This person may request an interview with you to go over the assessment options that are available to test your knowledge. Once it is agreed that some form of assessment is required, the coordinator passes the request along to the content expert in the faculty.

There are six different assessment methods available to the assessor, and he/she may choose to opt for one or more methods depending on the material being tested. The six methods are:

1. Challenge Examinations

    - In most cases, when a student is requesting a credit for a particular course through PLAR, an instructor who is teaching the course will provide and administer a copy of a final examination that will test the ability of the student. This may not be the only method used, but it is the most frequently used one.

2. Portfolio Development

    - When using this method, students are obliged to put together a package of information that will describe themselves with such items as a portfolio consists of a chronological record, life history paper or bibliography, statements of learning, individual essays for each course and the documentation that supports the claim of learning.

3. Performance Evaluation/Simulation

    - This method measures the ability of a student to perform certain tasks for a given subject area. If the real situation is not possible, then some form of simulation is created and the student is assessed accordingly.

4. Interview/Oral Examination

    - An oral examination is a type of challenge examination that is given to a student in lieu of a written one. An interview would give the assessor an opportunity to ask pointed questions in order to determine the suitability of a prospective candidate. This method is not used very often.

5. Product Assessment

    - This method allows a student an opportunity to provide samples of their work or products that provide proof of experience. It can be used as a stand-alone method or with another method like portfolio development.

6. Assessment of Non-Credit Courses/Programs

    - This method gives recognition for work-based education and training, union, professional and government-sponsored initiatives, and non-credit courses. These non-credit courses are assessed for equivalency with a particular credit course and as a result, partial or full credit could be given. Normally, a challenge examination would also be required, but this is up to the discretion of the assessor.

If you questions regarding PLAR, please phone the Co-op office and they

will direct you to the appropriate individuals.

Co-operative Education Programs

- Programmer/Analyst (Co-op)
  - Programmer Analyst (Co-op) - Networking
  - Programmer Analyst (Co-op) - Business
- Automotive Technology (Co-op)
- Geomatics Engineering Technology (Co-op)
- Industrial Engineering Technology (Co-op)
- Electrical Engineering Technology (Co-op)
- Environmental Technology (Co-op)
- Integrated Information Systems (I^2S)

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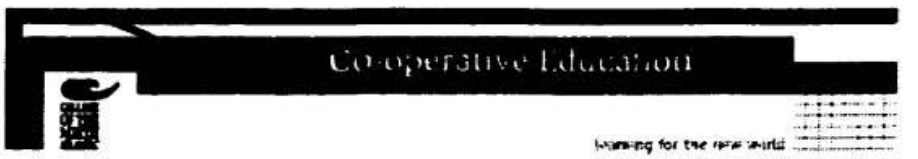

Co-operative Education Academic Regulations

Academic Terms

While you are registered in the first year of your program, term 1 is governed by the College's general regulations regarding promotion to the next term. Each term thereafter, the College will use a block promotion method. This means that for co-op students to be eligible for the next semester, a student must complete all courses successfully (no mark less than 50%) and have a semester and combined grade point average of at least 2.00.

The following table will outline the semester(s) that will comprise the block:

Block	Eligible For
Terms 1 & 2	Work Term 1
Term 4	Work Term 2
Term 6	Work Term 3
Term 8	Graduation

Exemptions

During a student's first year, there is no limit on exemptions, as per the College's general regulations. However, after the first work term, a student will be granted exemptions that account for no more than 20% of the total credits for that term, normally 4 credits.

Promotion Status

When using a block promotion model, a student's status at the end of each term following terms 1 and 2 will be either:

- Clear Promotion
- Probationary Promotion
- Promotion Denied

Clear Promotion

Clear promotion requires that you have completed all of the requirements from the previous term with a term and combined grade point average of 2.00, and with no mark below 50%. A student who has a clear promotion can proceed to the next term of the program.

Probationary Promotion

A student is granted probationary promotion if, with the successful completion of **one** supplementary examination or by rewriting an examination in **one** course in which the student received a 50 or 55, he/she can meet the requirements set out in the Clear Promotion section. Students finding themselves in this situation are encouraged to meet with the Program Coordinator.

A student who has already obtained a work term will be able to complete the work term. He/she will also be required to write the supplementary examination rewrite before the registration date of the next semester. If the student still fails to meet the standards of Clear Promotion, then he/she is denied access to the next term and will have to complete all or part of the

term he/she failed. A student may not repeat a term more than once. It should be noted that because the student has finished the work term, he/she would not be eligible for that work term again.

Promotion Denied

Promotion is denied to a student who does not meet the requirements of Clear Promotion. If a student fails two or more courses, they are automatically denied promotion. If a student is unsuccessful in his/her supplementary examination or examination rewrite, then that student is also denied promotion. While this does not mean that you are academically dismissed, it means that you will have to repeat some or all of the courses in which you were denied promotion. Under no circumstances will a student be allowed to repeat more than two academic terms. A student may not repeat a given academic term more than once.

Students may be required to withdraw from the program at any time if, in the opinion of Academic Council, they are unlikely to profit from continued attendance. The Co-op Coordinator and the Program Coordinator may make this determination.

If you are not satisfied with any of the above regulations, there is an appeals process that is available to all students at the College. All students are encouraged to seek consultation at the Student's Service Office in their respective campus.

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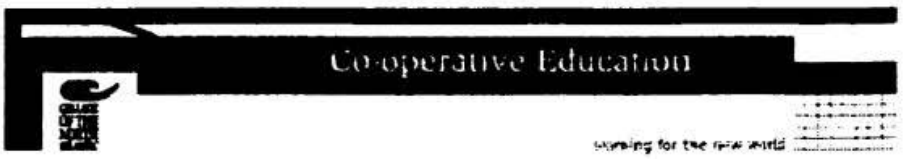

Questions Frequently Asked by Students

- How does co-op work?
- Why co-op?
- What is a co-op term?
- How long is a co-op term?
- When do co-op work terms take place?
- Am I guaranteed a work term placement?
- Where are the co-op work terms located?
- Are there opportunities in the St. John's area for everyone?
- Can I find my own work term placement?
- Does co-op cost extra?
- Why do I have to pay the college a co-op fee if I find my own work term placement?
- Will I be paid during my co-op work term?
- Will my co-op salary pay for all my expenses?

- Can you assist me in finding suitable housing if I accept an out of town co-op term?

- What happens if I decide part way through the term that I don't like my job or employer?

- I have to take a couple of days off to be the maid of honour for my best friend's wedding... Or ... I can't leave the area because my best friend is getting married and I'm in the wedding party.

- What can I do if my employer wants me to work overtime but doesn't want to pay me for it?

Keith O'Driscoll and
Blair Barfitt
Department of Government Services and Land

How does co-op work?

Co-op programs include a sequence of work terms and academic terms; these work terms are related as closely as possible to the academic program. To graduate with a co-op education diploma, you must meet all academic requirements and complete the required number of co-op terms for the program.

Why co-op?

There are many benefits to learning in this fashion, including the fact that co-op experience makes a graduate more employable, helps a graduate secure employment more quickly, and helps a graduate earn a higher salary and

have lower student debt loads.

What is a co-op work term?

A co-op work term is an employment agreement between a student and an employer. Co-op terms are related as closely as possible to your program of study.

How long is a co-op term?

The minimum co-op term is 12 weeks; the maximum is 16 weeks. Start and finish dates correspond with academic terms, and are negotiable with the employer.

When do co-op terms take place?

When co-op work terms take place vary by program. The following is an example of when the Programmer/Analyst work terms take place.

	Fall Semester	Winter Semester	Summer Semester
First Year	Academic Semester	Academic Semester	Work Term One
Second Year	Academic Semester	Work Term Two	Academic Semester
Third Year	Work Term Three	Academic Semester	-

Am I guaranteed a work term placement?

Co-op coordinators work diligently to locate possible co-op positions to which students may apply. These are not guaranteed jobs, they are simply "opportunities". Some employers post their co-op positions at several institutions, so a student from the College of the North Atlantic may not always be the successful candidate. It is ultimately the student's responsibility to secure a suitable co-op position.

Where are the co-op work terms located?

Co-op employers are located all across Canada, and beyond! The opportunity to live, work, and learn in other places is just one of the many benefits that a co-op program offers.

Are there opportunities in the St. John's area for everyone?

There are rarely enough quality positions in the metro area for all co-op students who would prefer to stay in St. John's. In fact, in some disciplines the majority of the co-op opportunities are outside the province. You should seriously consider co-op opportunities outside metro because many provide learning opportunities which are unavailable locally. Remember -- co-op is about experience and growth (both personal and professional)!

Can I find my own work term placement?

All students are ultimately responsible for securing their own co-op work terms so it is always a good idea to try and find your own job. The co-op coordinators will help you in any way they can.

Does co-op cost extra?

Co-op students pay a co-op program fee for this value-added portion of their academic program.

Why do I have to pay the college a co-op fee if I find my own work term placement?

Co-operative education is an academic program which includes co-op work terms. Like all courses you enroll in, a tuition fee applies. In addition, coordinators spend a great deal of time on the phone or fax, securing letters of offers, job descriptions and promoting co-op even before your co-op term begins. In addition, once you are in your position, the college spends time and money to ensure your co-op term is of benefit (through work site visits and telephone and fax correspondence).

Will I be paid during my co-op work term?

Students are treated as regular employees in terms of labour standards of practice. Rates of pay vary depending on the co-op term, the student's qualifications, and industry standards.

Will my co-op salary pay for all my expenses?

That depends on your co-op term and your expenses. You should not expect to earn sufficient money to both support yourself and pay tuition; however, co-op students generally have a lower debt load than non co-op students.

Can you assist me in finding suitable housing if I accept an out of town co-op term?

Finding housing in another city is not as difficult as it might seem. Some cities like Toronto and Ottawa have many co-op students moving in and out every four months it can be very easy to secure housing. In some situations, a College of the North Atlantic student may presently be at the company in the co-op term before you, and you can retain their living arrangements, or he/she can help you find another location. Some employers are excellent in helping the student locate housing. The Co-op office may also have some information about housing in other cities. You could also use the Internet to locating housing in another province.

What happens if I decide part way through the term that I don't like my job or employer?

Remember, all co-op terms will be learning experiences. Each one will provide you with information that will help you make decisions when you graduate (the type of company you want to work for, the type of job you want, etc.) Your co-op or faculty advisors are always available to discuss your co-op term, so if you are having any difficulties, please talk freely and we will always help toward a successful resolution.

I have to take a couple of days off to be the maid of honour for my best friend's wedding... Or ... I can't leave the area because

my best friend is getting married and I'm in the wedding party.

Co-op is your money and time - it should be spent well. You will only get out of it what you put into it. We recommend that you exercise caution in asking for extra time off; however, most employers are fair and flexible for such things. Discuss it with your supervisor, keeping in mind that your co-op term is your primary responsibility.

What can I do if my employer wants me to work overtime but doesn't want to pay me for it?

In most industries, people get ahead through lots of hard work and in many cases, long, extra hours where they are not paid. Your employer knows the labour laws and codes, and most would never exploit their employees. If you are ever placed in a position in which you think an employer is taking advantage of your good nature, contact your co-op coordinator immediately.

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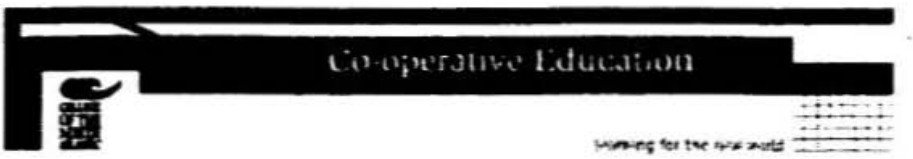

Employability Skills

What are Employability Skills?

The Conference Board of Canada defines employability skills as generic skills, attitudes, and behaviours that employers look for in new recruits. In the workplace, as in school, the skills are integrated and used in varying combinations, depending on the nature of the particular job activities.

How are Employability Skills Developed?

Employability skills are developed in school and through a variety of life experiences outside the school. The student, the education system, and employers share in the responsibility of developing these skills in our young people.

While the Conference Board of Canada is probably the most respected and widely referenced web site on this topic, there are many other excellent web sites that contain information on the topic of employability skills for students. The aim of this page is to extract the best portions of the Conference Board of Canada web site and other sites, as well as published reports on this topic. This will give you, the student, a good idea what sorts of skills are going to be needed if you are going to obtain successful employment when you graduate. These skills can also be utilized by co-operative education students during their work terms. This page will contain three major links to other pages developed especially for this web site. The

first link will contain information extracted from the Conference Board of Canada. The second link will contain information extracted from other sites, such as the Government of British Columbia. The third link will contain information for students in Information Technology Co-op programs. The information for this page is extracted from the report titled Information Technology -- Closing the Human Resource Gap in Newfoundland and Labrador. You will see that regardless of whatever page you view, there are common skills that are evident throughout.

But before you leave this page, you should assess your employability skills. Click here to link you to an Employability Skills Test. It contains three sections:

1) An Academic Skills Checklist
2) A Personal Management Skills Checklist
3) A Teamwork Skills Checklist.

Afterwards, have a look at the three pages mentioned earlier and get an explanation of the various skills from the various references.

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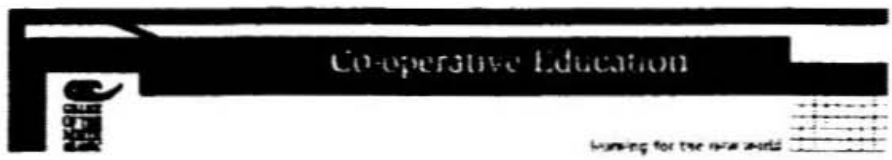


The Conference Board of Canada Employability Skill Profile

Academic Skills

Communicate

- Understand and speak the languages in which business is conducted
- Listen to understand and learn
- Read, comprehend and use written materials, including graphs, charts and displays
- Write effectively in the languages in which business is conducted

Think

- Think critically and act logically to evaluate situations, solve problems and make decisions
- Understand and solve problems involving mathematics and use the results
- Use technology, instruments, tools and information systems effectively
- Access and apply specialized knowledge from various fields (e.g.,

skilled trades, technology, physical sciences, arts and social sciences)

Learn

- Continue to learn for life

Personal Management Skills

Positive Attitudes and Behaviours

- Self-esteem and confidence
- Honesty, integrity and personal ethics
- A positive attitude toward learning, growth and personal health
- Initiative, energy and persistence to get the job done

Responsibility

- The ability to set goals and priorities in work and personal life
- The ability to plan and manage time, money and other resources to achieve goals
- Accountability for actions taken

Adaptability

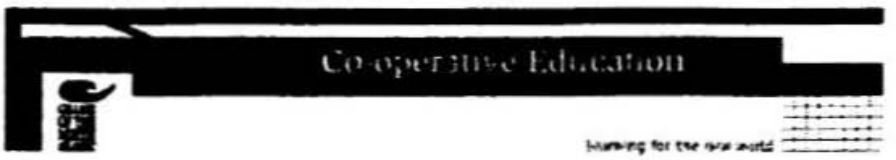
- A positive attitude toward change
- Recognition of and respect for people's diversity and individual differences

- The ability to identify and suggest new ideas to get the job done - creatively

Teamwork Skills

Work with Others

- Understand and contribute to the organization's goals
- Understand and work within the culture of the group
- Plan and make decisions with others and support the outcomes
- Respect the thoughts and opinions of others in the group
- Exercise "give and take" to achieve group results
- Seek a team approach as appropriate
- Lead when appropriate, mobilizing the group for high performance



Employability Skills from Other Resources

Government of British Columbia

According to the Government of British of Columbia's Ministry of Advanced Education, Training and Technology, there is a remarkable level of consistency in the views expressed by respondents across all sectors concerning employability skills. They also state if individuals wish to enhance their employability in any sector or organization they would be well advised to acquire the abilities and skills and develop the qualities described below:

1. Act with common sense in the work context. This means acting in a way that is sensitive and responsive to customer expectations and needs, dealing effectively with customers; talking and writing in a way that is relevant to the organization through knowledge of the business and its activities; identifying with the company.

2. Be willing to learn new uses of information technology.

3. Act ethically and with integrity; be productive, cooperative, accountable, responsible, flexible, and positive (especially about change).

4. Receive, comprehend and interpret complex instructions; talk with, provide to, and seek and clarify information from, co-workers,

customers, clients and those in authority (in person and by telephone).

5. Write clearly, concisely and to the point, consistently conforming to grammatical conventions and using correct spelling.

6. Be concerned with personal well being; maintain standards of hygiene and dress which conform to an organization's expectations.

7. Extract and record numerical data and carry out calculations with high levels of accuracy, involving addition, subtraction, multiplication, division, and the use of percentages.

8. Be alert to what is happening at work and be able to identify, investigate, and evaluate potential and actual problems; be able to report them concisely and clearly orally and in writing.

9. Take responsibility for own learning, learn through working with others, from manuals and from mistakes.

10. Manage the use of time; master, plan and undertake a number of activities which are inter-related or overlap in time.

11. Work within and contribute to the effectiveness of a team, respecting differences; take responsibility and be willing to make decisions.

12. Set up and operate equipment that can require selection from options or different settings.

13. Read to extract information and to interpret instructions from short notes and prose.

You will probably notice there are, as previously stated, there are many similarities with the information extracted from the Conference Board of Canada's Employability Skill Profile.

An American Perspective

Undoubtedly, some of our College's graduates will be seeking employment in the United States of America. With this in mind, an American perspective is being presented to give a broader view of employability skills.

This employability skills summary listed below are from the Mt. Pleasant Area Technical Center in the state of Michigan. It states that following skills are required by Michigan employers:

ACADEMIC SKILLS

These are the skills that help prepare you for training and education. They include communication, planning, understanding, and problem solving.

1. Read and understand written materials.
2. Understand charts and graphs.
3. Understand basic math.
4. Use math to solve problems.
5. Use research and library skills.
6. Use specialized skills and knowledge to get a job done.
7. Use tools and equipment.
8. Speak in the language in which business is conducted.
9. Write in the language in which business is conducted.
10. Use scientific method to solve problems.

PERSONAL MANAGEMENT SKILLS

The skills that help you develop responsibility and dependability. They include setting and accomplish goals, doing your best, making decisions, acting honestly, and exercising self-control.

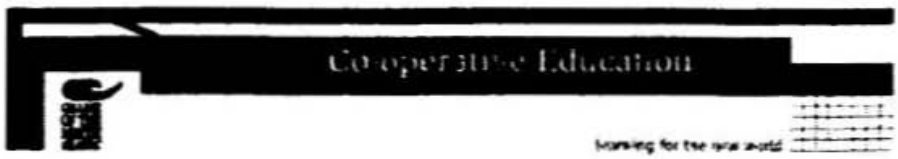
1. **Attend school/work daily and on time.**
2. **Meet school/work deadlines.**
3. **Develop career plans.**
4. **Know personal strengths/weaknesses.**
5. **Demonstrate self-control.**
6. **Pay attention to details.**
7. **Follow written instructions and directions.**
8. **Follow verbal instructions and directions.**
9. **Work without supervision.**
10. **Learn new skills.**
11. **Identify and suggest new ways to get the job done.**

TEAMWORK SKILLS

These skills help develop the ability to work cooperatively with a group. They include organizing, planning, listening, sharing, flexibility, and leadership.

1. **Actively participate in a group.**
2. **Follow the group's rules and values.**
3. **Listen to other group members.**

4. Express ideas to other group members.
5. Be sensitive to the group members' ideas and views.
6. Be willing to compromise if necessary to best accomplish the goal.
7. Be a leader or follower to best accomplish the goal.
8. Work in changing settings and with people of deferring backgrounds.



Employability Skills for Information Technology Students

The information contained in this web page is taken from the report entitled Information Technology - Closing the Human Resources Gap in Newfoundland. This report details the results of a study done by various departments of the Government of Newfoundland and Labrador, Human Resources Development Canada, the Canadian Information Processing Society - Viking Chapter, Operation Online, Inc., and the Newfoundland Alliance of Technical Industries. The report's focus was to determine the skills that are missing in today's Information Technology graduates. There were two main skills areas identified in the report: core technical skills and core soft skills. These **"core soft skills"** can be categorized as **"Employability Skills"**, which happens to be the focus of this web page.

While the core technical skills are important, it is safe to say that employers are looking for something more in a new employee. The committee responsible for the report surveyed approximately 230 companies and organizations, which is essentially all of the Information Technology companies in the province via a questionnaire. There was an 85% response rate; therefore, one can be confident that the information provided in the report is a true representation of the Information Technology industry in the province. The committee identified twelve core soft skills areas lacking upon graduation. The twelve are listed below:

1. Ability to Train Others

2. Ability to Work Independently
3. Communication Skills - Oral
4. Communication Skills - Written
5. Customer Service
6. Decision-making Ability
7. Interpersonal Skills
8. Organizational Skills
9. Problem Solving Skills
10. Project Management Skills
11. Team Building Skills
12. Willingness to Participate in Training.

As a result of the survey that was completed, there were six top core skills chosen, which are listed in the table below. You may click on a particular skill and a brief definition of that skill will appear, as it is described in the Human Resource Gap report. As you can see in the table that on two occasions, skills were combined because of their similarities, namely oral and written communication, and interpersonal skills and ability in team building.

Problem Solving Skills	**Customer Service**
Communication (Oral and Written)	**Interpersonal Skills and Ability in Team Building**
Ability to Work Independently	**Organizational Skills**

Problem Solving Skills

This whole industry revolves around identifying problems and then fixing them. Employees need to be able to recognize a problem and identify the steps needed to arrive at a solution. If you are having difficulty in knowing how to go about how to write a program, then you will experience great difficulty in any program involving computer programming or systems analysis and design.

Communication (Oral and Written)

Employees never work in totally isolated from everyone else. There is always going to be some type of interaction between co-workers and clients. Employees need to be able to explain their ideas to these co-workers and clients in a manner that is understandable. They also need to be able listen well in order to recognize and solve problems. Students must always look forward to making presentations or writing documentation or reports in their school work. The more experience a student has, the better employee he/she will become.

Ability to Work Independently

While this industry is **team-oriented**, an employee must be able to work with minimal supervision, take responsibility for a project and get the job done. It is imperative that during a work term that you are not be constantly looking for direction from your supervisor. You should show a lot of initiative. However, you should not spend a great deal of time on a problem that you cannot solve. Remember you are still part of a team, get some help!!!

Customer Service

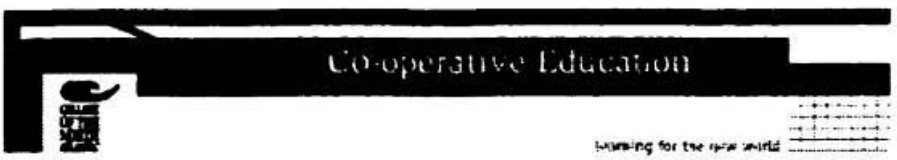
The Information Technology industry has become very competitive and customer-driven. All companies with a customer focus are more likely to succeed if they adhere to good customer service. Therefore, these employers will recruit those employees that, in their estimation, have good customer service skills.

Interpersonal Skills and Ability in Team Building

It is a very unlikely situation that a person will be the sole person working on a project. Most projects include various level of Information Technology professional, such as project leaders, systems analysts, programmer analysts and programmers. Therefore, it is important that employees be team players showing both co-operation and leadership abilities.

Organizational Skills

Rarely is the case that an employee will be working on one project or task at a time. Therefore, employees must be able to manage their time and efforts to co-ordinate their time when working in multiple projects. This is no different from the position you currently find yourself. You are doing five or six courses, each of which has assignment or projects. If you are keen on honing these skills, check out the following web site from Old Dominion University, which is recommended by the counselling staff at our college.



Employability Skills Checklist

The form displayed on this page is an assessment tool, which has been adapted from a web site on the old National Graduate Registry homepage. There are three checklists, each concentrating on a particular group of employability skills. You are asked to rate yourself on a scale of 1 to 5, where 1 means that you need the **MOST** improvement and 5 means that you need the **LEAST** improvement. You are encouraged to print this form and assess yourself honestly. The results will give you a better picture of your strengths and weaknesses in this area. Have a bit of fun with it!

Academic Skills Checklist

Academic Skills Checklist	Rating 5 = already quite good 1 = needs most work
	1 2 3 4 5
Communication • I speak clearly and concisely.	☐☐☐☐☐

• I listen to others to understand and learn.	☐☐☐☐☐
• I read, understand and use written materials, including graphs, charts and displays.	☐☐☐☐☐
• I write effectively in the languages in which I expect to conduct business.	☐☐☐☐☐
Thinking Skills • I can solve math problems and apply the results to everyday life.	☐☐☐☐☐
• I can use instruments, tools, technology and formulas.	☐☐☐☐☐
• I know how to apply a variety of specialized knowledge to help me solve problems in one or more fields, such as skilled trades, technology, arts, physical sciences and/or social sciences.	☐☐☐☐☐
• I know how to do research and use the library effectively.	☐☐☐☐☐
• I can think critically and act logically when problem-solving, evaluating situations or making decisions (rather than controlled by my emotions).	☐☐☐☐☐
Computer Literacy • I can work on a computer using a variety of software.	☐☐☐☐☐

Personal Management Skills Checklist

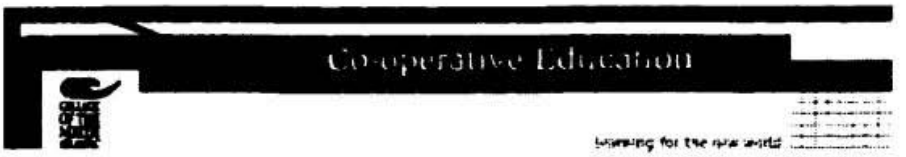
Personal Management Skills Checklist	Rating 5 = already quite good 1 = needs most work
	1 2 3 4 5
Responsibility • I am honest, ethical, respect others and I accept responsibility for my actions.	☐☐☐☐☐
• I attend school or work on a daily basis - and I arrive on time.	☐☐☐☐☐
• I have a positive attitude and show it through my behaviours, initiatives and energy.	☐☐☐☐☐
Organization • I set priorities and goals for myself in work and my personal life.	☐☐☐☐☐
• I plan and manage my time, money and other resources to achieve my goals.	☐☐☐☐☐
• I follow written and oral direction and instructions.	☐☐☐☐☐
Flexibility • I am always willing to try something new.	☐☐☐☐☐

• I respect people for their differences and diversity and expect that they will respect me for mine.	☐☐☐☐☐
• I think of new and creative ideas to get the job done.	☐☐☐☐☐
Career Development • I know my strengths and weaknesses and always try to improve.	☐☐☐☐☐
• I have started making plans for my career future.	☐☐☐☐☐

Teamwork Skills Checklist

Teamwork Skills Checklist	Rating 5 = already quite good 1 = needs most work
	1 2 3 4 5
Communicating • I make a point of understanding the goals of the group when working in a team and contributing to achieving these goals.	☐☐☐☐☐
• I listen and I am heard when I work in a team.	☐☐☐☐☐
Responsiveness	☐☐☐☐☐

• I plan and make decisions with others and then support the outcomes of those decisions.	
• I respect the opinions of others in my group.	☐☐☐☐☐
Leadership • I know when I should lead and when I should follow in order for the group to best accomplish its goal.	☐☐☐☐☐



On-line Job Postings

Please select the program of study for which you wish to post jobs.

- Programmer/Analyst
- Automotive Technology
- Geomatics Engineering Technology
- Industrial Engineering Technology
- Electrical Engineering Technology
- Environmental Technology
- Integrated Information Systems (I^2S)

Programmer/Analyst
Heidi Janes
Prince Philip Drive Campus
Telephone (709)758-7112
Fax (709)758-7299

Automotive Technology
Geomatics Engineering Technology
Integrated Information Systems
Paul Forward
Engineering Technology Center
Ridge Road Campus
Telephone (709)758-7003
Fax (709)758-7127

Industrial Engineering Technology
Electrical Engineering Technology
Gordon Genge
Engineering Technology Center
Ridge Road Campus
Telephone (709)758-7003
Fax (709)758-7127

For information on programs, courses or admissions please
Call Toll Free (within Newfoundland and Labrador): 1-888-982-2268
Outside Newfoundland and Labrador: 1-709-758-7037
or e-mail: info@northatlantic.nf.ca

Co-operative Education

learning for the new world

Programmer/Analyst

For Office Use Only
Job No. **99S-26**

The following is a job description for **Schlumberger Oilfield Services** in **St. John's**. If you are interested in this position, please address your cover letter to: Heidi Janes, Supervising Coordinator, Co-operative Education, College of the North Atlantic, P.O. Box 1693, St. John's, NF A1C 5P7. Important – Please include the Job Number.

Position Title:	Programmer/Analyst WT 1
Number of Positions:	1
Remuneration:	TBD
Dates of Placement:	From May 3 to August 20
Working Hours:	9:00 am to 5:00 pm

JOB DESCRIPTION:

Schlumberger Oilfield Services is a leading supplier of services and technology to the International petroleum industry. The company provides virtually every type of exploration, production and completion service needed in the petroleum industry.

The student will work alongside both the Schlumberger IPM Team Leader for Environment, Safety and Quality (ESQ) and Quality Specialist, based in the Hibernia Integrated Well Services (HIWS) Facility in Donovan's Industrial Park. The main tasks during the work term period will be as follows:

- Develop web interface for Access Database.
- Support ESQ Management Systems implementation.
- Maintain the ESQ database.
- Maintain the training database.
- Provide support for the ESQ Team Leader and Quality Specialist.
- Participate in special projects.

The successful applicant will, during the course of the term, become proficient in the use of Microsoft Word and Excel, and will gain a good understanding of ISO 9000 as well as environmental and safety issues. Candidates should possess a demonstrated proficiency in Microsoft Access.

QUALIFICATIONS:

Must be a Programmer/Analyst work term 1 eligible student.

Please submit your resume and cover letter to the Co-op office no later than 4:00 pm, Tuesday, March 23, 1999.

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For information on programs, courses or admissions please
Call Toll Free (within Newfoundland and Labrador): 1-888-982-2268
Outside Newfoundland and Labrador: 1-709-758-7037
or e-mail: info@northatlantic.nf.ca

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