

Integrating Workplace Essential Skills into Curricula: A Process Model

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A Process Model for Integrating Workplace Essential Skills into Existing Curricula

Introduction

Changes in the workplace are constant and always have an impact on individual workers. Safety legislation and increased technology call for workers to engage in more training. A hot economy in many parts of Canada means a tighter labour market. A leaner approach to production requires workers to take on more tasks. The ability of workers to respond to the changing workplace demands has become a point of concern as the workplace changes.

Recent years have seen much research to identify the skills that workers need in order to be successful in their workplaces.

- The Conference Board of Canada listed the skills that employers wanted their workers to have. These included communication, problem solving, positive attitudes and behaviours, adaptability, working with others, and science, technology and mathematics skills.
- The first International Adult Literacy Survey (IALS) described Canada's adult literacy skills for functioning in society and compared them with eleven other countries. IALS revealed that 42% of Canadians functioned at less than a level 3 – the level considered a suitable minimum for carrying out daily life and work activities in our complex society.
- Human Resources and Skills Development Canada identified the skills that are essential for success in all occupations. From this research, HRSDC profiled particular occupations describing how workers actually use a set of nine essential skills in carrying out job tasks and the level of ability required to do the tasks.

As a result of changes in the workplace environment and the increased awareness around the essential skills that workers need, educators and government funders have begun to look at ways of including workplace essential skills as part of programs that prepare people for the workplace. The majority of adult learners enter upgrading and training programs with the workplace as their ultimate destination. Whether they simply take a short pre employment program or whether they progress along a longer educational path, most learners will sooner or later find their way to the workplace.

Other factors are also driving the need to include workplace essential skills in academic and pre employment curricula. In many parts of Canada employment opportunities are luring people away from improving their education and into the workplace. However, the modern workplace requires workers to have higher essential skills levels in order to succeed. Furthermore once learners are in the workplace it becomes increasingly difficult to return to school to upgrade basic skills. Therefore it is vital to include the skills essential for workplace success in upgrading and training curricula.

Some funders have decreased the amount of time allocated for learners to complete their education supported through training allowances. In addition some provinces are mandating that academic skills be taught with a workplace context. That makes it important to include workplace essential skills as part of curricula for upgrading and training programs. Consequently, many basic education programs are moving from the traditional path of offering one or more years of adult literacy courses, followed by a year of employment training to a shorter training path that fully integrates adult literacy skills with the essential skills necessary for the workplace.

Whatever the drivers for change, there is no doubt that learners will benefit from instruction that integrates academic and workplace essential skills. Teaching academic skills in the context of the workplace can be highly motivating for students. They are able to recognize a direct application of the skills they are learning. The integration of essential skills into curricula facilitates the transfer of skills learned in the classroom to the workplace.

Research carried out by Human Resources and Skills Development Canada (HRSDC) has identified the essential skills required for a multitude of entry level occupations. Alberta Workforce Essential Skills (AWES) has utilized the HRSDC bank of essential skills profiles in developing a ***Process Model for Integrating Workplace Essential Skills into Curricula (Process Model)***. This process provides guidance in:

- how to identify the workplace essential skills that learners must have to succeed in getting and keeping employment
- how to include these skills in curricula.

Definition of Workplace Essential Skills (WES)

Workplace essential skills apply to all occupations; they are the skills that enable people to do their work. There are any numbers of definitions for essential skills but for the purpose of this Process Model, the definition of Human Resources Development Canada will be used. It is as follows:

Workplace essential skills are enabling skills that

- Help people perform the tasks required by their occupation and other activities of daily life
- Provide people with a foundation to learn other skills
- Enhance people's ability to adapt to change

Essential skills are not the technical skills required by a particular occupation but rather the skills applied in all occupations. For example, reading skills are required in all occupations. The complexity and purpose of the reading task may vary from reading 3 words on a safety sign to reading 25 pages of policies and procedures in a workplace manual.

Essential skills go beyond the pre employment skills needed to apply for the job, for example, resume writing, job search skills, or interview techniques. They include the skills to:

- Get the job
- Perform the job
- Maintain the job
- Advance on the job
- Change jobs when desired

A Case for Integration

In today's competitive employment market, workers are expected to come into the job with the workplace essential skills needed to carry out workplace tasks. Today's workplace is constantly changing as environmental and safety requirements become more stringent. Workers must take on more responsibility often under less supervision. They need higher levels of document use skills, oral communication, numeracy skills, thinking skills, and computer use to be able to participate in job-related training and to move up or move laterally in the workplace. The onus cannot be on the employer alone to help workers develop their skills. Training organizations, colleges and institutions have a responsibility to help equip learners at all levels with the skills essential for workplace success especially when learners have no previous workplace experience.

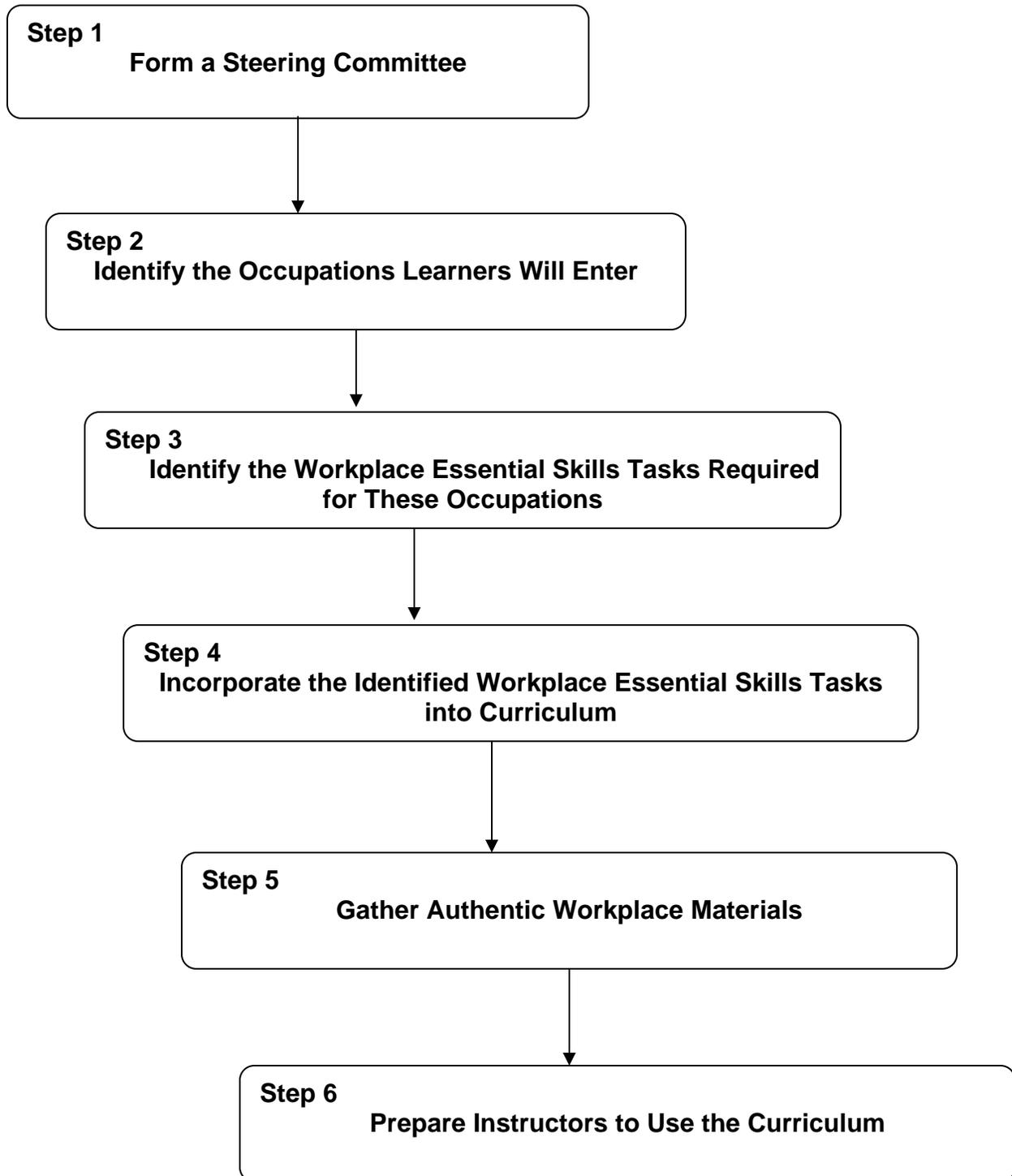
Present adult basic education curricula focus on developing the foundation skills that learners need to succeed in an academic path. However, most lack a workplace context. Pre employment curricula focus on providing the specific, technical skills for a particular occupation but do not include the essential skills which are the 'velcro' to which other learning sticks.

To maximize the time learners spend with class instruction, curricula should integrate or splice relevant workplace essential skills with particular course content and facilitate activities to make the course more purposeful to entry into the workplace. Integrate means to 'bring all parts together into a whole'. Splice means 'unite or join by interweaving the strands'. We have to identify the 'strands' of essential skills needed for the workplace and the existing curriculum competencies and weave them together into a whole. In that way the skills for each are not taught in isolation but are part of a whole. This integrated approach to education provides learners with both academic skills and workplace essential skills.

The end result is that graduates who have acquired essential workplace skills as well as the skills and knowledge they traditionally receive can not only get a job, but also get employment with a future.

The integration process does not call for a completely new curriculum but largely is a process of taking an existing set of academic competencies and giving them a workplace context. Thus it implies a need to prioritize the skills learners must have for the workplace. This process will lead to revision of curriculum and of supplementing it with authentic workplace tasks and skills.

The Process Model



STEP 1

Form a Steering Committee

An active steering committee is very important for ensuring the success of the integration process. Having people at the table who have a vested interest in the final product will have a positive impact on the project work. A steering committee serves as a vehicle to:

- give stakeholders an opportunity to identify needs, issues, concerns, and topics
- ensure that the curriculum reflects the needs of all players
- encourage buy in and ownership
- build trust, contacts, and interests.

A. Identify individuals who have an interest in seeing the integration succeed

The steering committee should be a working team made up those who have a stake in the instruction. The team should include:

<i>Decision makers</i>	It is important to have someone who has authority to make decisions, enact change and see that the curriculum is implemented.
<i>Instructors and trainers</i>	Since these individuals will be responsible for the delivery of the revised curricula, it is critical that they are “at the table” in the beginning stages. They need to buy into the inclusion of essential skills and be ready to accept changes
<i>Essential skills consultant</i>	It is beneficial to have someone at the table that has experience in the field of workplace essential skills. This person can provide training to the rest of the committee on workplace essential skills.

The team could also include:

<i>Industry spokesperson</i>	Bringing the voice of industry to the table will ensure that the essential skills identified are those most required for success on the job.
<i>Learner representative</i>	A learner who has had experience in the workforce may be able to identify skills that he/she lacked or used most commonly.
<i>Curriculum writer</i>	A curriculum writer may need to have contact with individual members of the steering committee for the work of integrating essential skills.

B. Bring committee members together to determine their parameters

Parameters that must be covered in the first meeting include:

- roles of the members: chair person, project manager, etc.
- expectations of what each person will do
- project goals and objectives
- time lines

C. Provide background to the steering committee

Do not assume that everyone on the team knows about workplace essential skills or about the work that has been done in this field. In fact quite the opposite may be the case. It is necessary to give committee members the opportunity to learn about the field of workplace essential skills, the research that has been done and the resources that are available. This information may have to be repeated and re-presented regularly. Committee members could explore the wealth of resources on their own or have the information delivered in a workshop format.

STEP 2

Identify the Occupations Learners Will Enter

In order to incorporate the necessary workplace essential skills into curriculum, we must identify what specific skills to include. Therefore it is important to determine what occupations learners will most likely be entering.

- Learners in general adult basic education or upgrading programs will enter a broad spectrum of occupations. Many learners will go into entry level positions reflective of the job market.
- Some pre employment programs address a cluster of related jobs and graduates can go into a range of related occupations. Example: Pre-trades training, Policing and Security
- Some pre employment programs are very specific and the training is directed to that particular job. Learners entering the program have already determined that they want to do this job upon completion of the program. Example: Community Support Worker

Once learners finish the adult basic education course or pre employment program, where will they most likely find employment? Where in the labour force will they be heading? This can be determined in the following ways:

A. Consult with learners to determine their goals.

Ask learners who are planning to enter the workplace upon completion of a program where they plan to work. The learner has to be able to meet the education level requirements of the chosen occupation.

B. Research the labour market in the area

Find out which companies and industries will be hiring. Is there a new industry that will be looking for workers? Where are the job opportunities? The identified occupations need to reflect economic realities.

C. Research the records of recent graduates.

Where did recent graduates find employment? Placement offices in the colleges and institutions usually have records of where graduates are finding jobs.

STEP 3

Identify the Workplace Essential Skills Tasks Required for These Occupations

It is important to identify the workplace essential skills that learners will have to use in the workplace and the way in which they apply the skills to their jobs. The HRSDC Essential Skills Profiles identify the essential skills involved in work tasks for over 200 occupational groups. At least 150 profiles describe occupations from Skill Levels C and D of the National Occupational Classification which cover all occupations that can be entered with a high school diploma or less. The nine essential skills required for all occupations are:

- Reading Text
- Document Use
- Writing
- Numeracy
- Oral Communication
- Thinking Skills
- Working with Others
- Computer Use
- Continuous Learning

The profiles give a detailed analysis of the types and complexity levels of work tasks for each of the essential skills. By looking at the profile we get a picture of what tasks workers carry out and therefore what must be included in instruction to prepare learners for the workplace. Some learners may plan on entering occupations that have not yet been profiled. By finding a similar occupation or looking for commonalities among other occupations, we can still establish the essential skills required.

A. Research the essential skills tasks required

1. Examine the Essential Skills Profiles

- Check the Essential Skill Profiles website to research profiles that have been developed for the occupations identified in step 2. To find the website, use a search engine and search for *essential skills profiles*.

- If profiles are not yet available, find profiles for occupations that are similar in nature.

2. Interview workers in the occupation

If there is neither a profile nor a related one available, you can find out the skills workers use through an interview. Select 2-3 workers who are experienced in that job and ask them questions to identify how they use workplace essential skills. See Appendix A: Sample Interviews.

3. Consult with potential employers (optional)

Looking at essential skills through the eyes of the employer will provide valuable information. It will also connect the employers to the program. Coordination between the classroom and the workplace is beneficial to all concerned. See Appendix A: Sample Interviews

This is an optional step and while it is a very valuable step it may not be possible if there are restraints on the time allotted for course preparation.

- Become familiar with the workplaces that the workers will be entering.
 - Visit or talk to as many workplaces as possible. If there is a large plant or new business in the area that will be hiring a number of employees, then this is a place to start.
 - Tour the worksite and observe the workers at their tasks.
 - Talk to the workers and ask them what skills they feel are needed to do the job well.
 - Look at the bulletin boards for print materials workers should read.
 - Listen to the communication between workers and supervisors.
- Build relationships with those workplaces.
 - Consult with the managers and supervisors as to which essential skills they are looking for in their workers.
 - Talk to the trainers and the human resource managers and ask them what essential skills they expect workers to have in place when they enter the job. Ask what skills they will need for the training to be effective. Having them onside to provide materials, resources, and advice will prove invaluable.

4. Consult with learners

- Learners need to be active participants in their own learning and skills development. Many learners have already had some workplace experience and should be able to identify areas that may have challenged them, for example,

filling in accident forms or writing a memo. This step also gives learners buy in to the program. See Appendix A: Sample Interviews

B. Identify the Essential Skills Tasks Required

1. Construct a Skills Matrix

Each profile describes how the nine essential skills are used in the occupation through examples of tasks and a summary profile which may appear as a table or a list. Record the workplace essential skills common to the profiles of the identified occupations.

Gather information from the examples of tasks and the summary profiles. Do this for each of the nine essential skills that you are integrating.

There may be a large number of identified occupations and an even larger number of tasks. An effective method of managing and displaying this information is to construct a matrix of the skills common to all the occupations. The matrix serves as a visual display of the occupations and the essential skills they require. This step may be very time consuming, especially when 10 or more occupations have been identified but it is a very vital step in the integration process. See Appendix B: Sample Matrix

2. Make a list of the essential skills tasks to be integrated into the curriculum

Compile a list by looking at the skills matrix and selecting the items that apply to the majority of occupations identified in Step 2. Prioritize the items based on the number of occupations that use them. Do this for each of the nine essential skills that you are integrating.

When there is only one occupation, make a list of the essential skills tasks that were identified in the profile or the interviews for that occupation.

3. Confirm the list of skills and tasks (optional)

Consult with employers, workplace trainers, and if possible, workers, to verify the list of essential skills and tasks that you have drawn from available profiles. Ask them if these are the tasks used in their workplace. Ask what skills are missing from the list. Besides giving you a workplace viewpoint, it will serve to increase awareness of the importance of essential skills and create buy in and ownership.

Make any necessary revisions to the list.

STEP 4

Incorporate the Identified Workplace Essential Skills Tasks into Curriculum

Adult basic education curricula address core competencies in oral communication, reading, writing and numeracy. In addition they may specify competencies in thinking skills, career and life work, computer use, and cooperative skills. However, in adult basic education courses, many of the strategies associated with the essential skills are taught without reference to the workplace application. The relationship between the workplace and the classroom strategies needs to be articulated.

In pre employment programs the course outcomes or competencies address skills specific to the occupation. For example, a printing course teaches the technical skills such as pre-press art work, or post press bindery, but may not address the need for instruction in document use, oral communication or other essential skills.

This step in the process model aligns workplace essential skills with curriculum outcomes or competencies.

Integrate essential skills tasks into the competencies

- Look for obvious matches where the list of essential skills tasks matches the curriculum competencies.

Example 1a:

A sample list of essential skills tasks shows an **Oral Communication** task that workers must do: “*interact with customers/ clients/ public to provide/receive information, explanation, and direction*”.

An adult basic education curriculum identifies the following **Speaking** competency: “*(The learner) asks and answers questions to get information and clarify understanding*”

There is a definite match. Now expand the competency to include a workplace context.

Example 1 b:

Rewrite the competency to reflect the workplace perspective. *“(The learner) asks and answers questions to get and exchange information and to clarify understanding in workplace, community and personal interactions.”*

- Examine the competencies with an eye for where they have both an academic and workplace application but where only the academic perspective is stated.

Example 2 a:

A sample list of essential skills tasks states a **Reading Text** task that workers must do *“read memos, bulletins and electronic mail.”*

A competency in the area of **Reading to Comprehend and Respond** in an adult basic education curriculum says *“(The learner) comprehends/ understands text.”*

The match here is not so obvious because this is a very broad competency. A variety of workplace reading tasks may have to be listed under this competency. Revise the competency so that the workplace context is articulated.

Example 2 b:

We can give a workplace context as follows:

“(The learner) comprehends /understands texts (such as workplace memos, bulletins and electronic mail)”

- Determine which essential skills tasks from the list of essential skills tasks (prepared in Step 3) have not been covered and must be included. Add a new competency that reflects the missing essential skills task.

Example 3:

While writing is not a major requirement for entry level workers there is still some writing that is necessary. The workplace list indicated that *“Writing to keep a record/to document”* is an essential skill for the workplace and was not part of the competencies for writing listed in curricula for adult basic education or pre employment courses.

This competency, based on a workplace application, can be added, *“Write to keep a record or to document (logbooks, journal, and accident / incident reports).”*

Example 4:

In the competencies for listening listed for an adult basic education course there is no mention of *“listening to receive information, explanation, or*

instruction” yet this has been identified as an essential skills task for almost every identified occupation. This must be added to the curriculum.

Note: It is likely that there will be gaps in the area of document use. Document use is not usually covered in adult basic education or pre employment curricula but it is of major importance in the workplace. No job in Canada has yet been identified that does not use documents.

This is one area that will require the addition of several competencies such as the following:

Example 5:

“Read tables, schedules or other table-like text to locate specific information.”

Example 6:

“Complete forms by marking check boxes, recording numerical information or entering words, phrases, sentences, or texts of paragraphs or more.”

STEP 5

Gather Authentic Workplace Materials

To enhance the learning around workplace essential skills it is important to bring in authentic materials that represent actual tasks workers must carry out. It is important to gather authentic workplace materials for several reasons:

- They help instructors to identify what learners must know to be able to use the workplace materials
- They give instructors a context for how the tasks must be done
- They serve as a beginning point from which to develop instructional strategies
- They give learners the opportunity to practice skills they will use on the job
- They provide a direct application of learning

Examples of authentic materials include:

- manuals - repair manuals, safety manuals, procedure manuals
- telephone messages
- shift schedules
- forms - accident and injury, time sheets
- log books
- regulations and labels
- announcements from bulletin boards

There is a wealth of authentic materials available through the Internet. Authentic workplace materials and questions from these sites are available for classroom use.

- Authentic Workplace Materials – This resource provides many examples of materials (forms, tables, graphs, brochures, regulations, etc) that are actually used in many jobs across Canada. It is available at the Essential Skills Profiles home page.
- Measure Up Site – www.towes.com This site gives example exercises for all types of occupations using three essential skills – reading text, document use, and numeracy.

Ask for samples of authentic workplace documents if touring workplaces or meeting with trainers and human resources personnel or employees. Note: When you collect a blank copy of a document, ask for a sample of a completed one and an explanation of how to correctly complete it. You may need a release form that gives you permission to use the document. See Appendix C: Sample Release Form.

Ask learners to bring in any workplace materials they may have from previous workplaces or from their part-time workplaces.

STEP 6

Prepare Instructors to Use the Curriculum

There may be a lack of buy in from instructors and trainers. They may express concern that there is no time to add more content to an already overloaded course. Not all may see how workplace essential skills can fit into the existing program or even why they should be included. For some there is a learning curve in moving from delivery of the traditional program to one that has integrated workplace essential skills. There will be a need for awareness building, clear communication channels and teamwork.

A. Familiarize instructors with the integrated curriculum

Give instructors the opportunity to examine the curriculum and see how workplace essential skills have been articulated in the learning outcomes or competencies. Reassure instructors that the inclusion of workplace essential skills does not mean the exclusion of academic content. Show them how essential skills tasks do not replace the academic competencies but connect them to a workplace context. Help them to recognize how the learning tasks, such as scanning for details, are common to both academic and workplace competencies – the difference is in the materials used. Also show instructors of pre employment programs the value of including instruction in the essential skills.

Instructors will need to prioritize which essential skills are taught first and how much time should be allocated to teaching these skills. This decision should reflect the essential skills list from the matrix developed in step 3.

B. Familiarize instructors with workplace essential skills resources

Ensure that instructors and faculty have the resources and support needed. There are a number of web sites, print materials and resources available that instructors can access once they know where to look.

- **Measure up Site** This site gives problems using actual workplace documents from all types of occupations. The problem sets address reading text, document use, and numeracy and provide answers that walk people through the solution.
- **It's Essential** This website provides information and resources addressing both language and essential skills needs. It includes a Comparative Framework that bridges the Essential Skills Profiles and the Canadian Language Benchmarks. There are also Occupational Language Analyses of several occupations in the tourism sector.
- **AWAL** This site includes a database of activities that emerged from a professional development project for educators. The professional development workshops placed teachers in a variety of workplace environments to help them connect the curriculum they teach in the classroom with how that curriculum is used in the workplace. As part of the workshop, teachers developed relevant classroom activities.

Suggested resources:

- Workplace Communications
- WorkWrite Volume 1
- Workwrite Policies and Procedures

Order from Centre AlphaPlus <http://store.alphaplus.ca>

- Numeracy at Work
- Numeracy Rules
- Writing at Work
- Reading at Work
- Document Use at Work

Order from Skillplan www.skillplan.ca

- Making Choices: Teaching Writing in the Workplace

Order from www.literacyservices.com

(Optional) If possible arrange for instructors to visit a workplace, have a tour and interview a manager or supervisor. It will give them a perspective of the workplace essential skills required. It may be an opportunity for them to gather some authentic materials.

Appendix A

Employer Questions to Identify Workplace Essential Skills Tasks

Which of the following essential skills tasks do employees use on the job? These are the skills that enable them to do the job competently and to do well in training.

- Reading on the job
 - Memos
 - Safety information
 - Manuals
 - Policies and procedures
 - Reports
 - Others: describe
- Reading and filling in documents
 - Forms
 - Tables and schedules
 - Graphs or charts
 - Drawings, diagrams
 - Others: describe
- Writing on the job
 - Notes to others
 - Comments on forms
 - Log book entries
 - Reports
 - Others: describe
- Speaking and listening to others at work, including supervisors and other workers
- Math at work
 - Money math: handling cash, preparing bills, making payments
 - Scheduling or budgeting time and money
 - Measuring and calculating
 - Analyzing data
 - Estimating
- Solving problems that happen at work
- Making decisions at work
- Using computers at work
 - Word processing
 - Email
 - Internet
 - Entering data
 - Other: describe
- Working with others

Appendix A Employee Interview to Identify Essential Skills Tasks

What essential skill tasks do you do in your daily work?

- What type of reading do you do on the job?
 - Memos
 - Safety information
 - Manuals
 - Policies and procedures
 - Reports
 - Others: describe

- What types of documents do you use?
 - Forms
 - Tables and schedules
 - Graphs or charts
 - Drawings, diagrams
 - Others: describe

- What do you write for your job?
 - Notes to others
 - Comments on forms
 - Log book entries
 - Reports
 - Others: describe

- Who do you talk to or listen to on the job and what is the purpose of that communication?
 - Supervisors, managers
 - Customers clients
 - Co-workers
 - Suppliers, etc

- What math do you do at work?
 - Money math: handling cash, preparing bills, making payments
 - Scheduling or budgeting time and money
 - Measuring and calculating
 - Analyzing data
 - Estimating

- Describe a problem that could arise and how you would solve it.

- What are two examples of decisions you have to make at work?

- How do you use computers at work?
 - Word processing
 - Email
 - Internet
 - Entering data
 - Others: describe

- Do you work independently or as part of a team?

Appendix B

Sample Matrix

Reading Text Tasks						
This matrix shows the type of text read but it does not show the purpose for reading.						
Type of Text	Trades Helpers and Labourers	Teacher's Assistant	Early Childhood Education Assistant	Cashiers	Nurse Aides & Orderlies	Bylaw/ Regulatory Officer
Forms with at least 1 paragraph of text			X	X		X
Labels with at least 1 paragraph of text			X	X		
Notes, letters, memos	X	X	X		X	X
Manuals, Specifications, regulations	X	X	X	X	X	X
Reports, books, journals		X	X	X		X

Appendix B

Sample Matrix

Document Use Tasks						
This matrix describes the document use performed by the workers in the occupational group. It does not attempt to show all the tasks from the profiles. It only lists a few and is intended to serve as a sample.						
Type of Text	Pulp Machine Operators	Truck Drivers	Heavy Equipment Operators	Chain Saw & Skid Operators	Sawmill Machine Operators	Other Wood Processing Machine Operators
read signs, labels, lists	X	X	X	X	X	X
complete forms, by check box, numbers, words, phrases, etc.	X	X	X	X	X	X
read forms, with check boxes, numbers, phrases, etc.	X	X	X		X	
read tables, schedules, table-like text	X	X	X	X	X	X
create tables & schedules						
enter information in tables and schedules	X	X				X
obtain information from graphs, charts	X	X				
interpret info from graphs and charts	X					

Appendix C

Sample Release Form

Use letterhead

Date

Authentic Document RELEASE Form

I agree to grant _____, its successor, licensees and assignees, the rights to use the accompanying forms for school base practice only. It is understood the forms will be kept on file at each campus _____. They will be used in the curriculum materials to illustrate examples of how reading is used in the workplace.

I hereby release the company from all claims or liabilities for wages, commissions or salaries; for libel, slander, invasion of right to privacy or any other infringement or violation of personal or property rights of any sort whatsoever.

DATE:

NAME:

SIGNATURE:

WITNESS:
