

# Technology-Enabled Asynchronous Learning Experiences --

## A Workplace Literacy Project

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**Abstract:** The project focused upon the production of a series of computer-mediated instructional modules that will assist adult learners to enhance their functional and effective use of concepts and critical vocabulary related to two technical vocations (e.g., carpentry/woodworking and food services). The rationale for this project was founded upon the speculation that many adults wish to enter the workforce, but oftentimes possess low levels of literacy that serve as an impediment to obtaining employment. This finding is supported by the “Adult Literacy and Life Skills Survey” which identified that more than 50 per cent of survey respondents tested at or below Level 2 literacy, which would reflect a “...low or very low level of functionality with basic literacy and essential skills for the workplace.” (Desjardins, Werquin, Murray, & Clermont. 2005).

### Introduction

Advanced computer-based training programs are less common within the field of adult literacy programs, in part because of the high cost associated with their delivery as well as the relatively low skill and proficiency with computer use by certain of the learners (Millar, 2004). However, according to Wells (1998), and Nelson (2003), there is a strong desire to acquire these skills by many adult learners as they are considered to be essential abilities in order to participate in a knowledge-based economy.

At the current time, industry-specific computer-mediated software programs that focus upon essential skills and workplace literacy development are not readily available (Barker, 2005). In particular, computer-mediated instructional modules that can be self-paced and adapted to the needs and abilities of the individual learner, coupled with one-to-one instructional support to prepare adults for employment in various workplace technical vocations (e.g., carpentry and the food services industry) are not widely available for the adult learner with low-literacy abilities (Thomas & Buck, 1994). Campbell (2005) contends that workplace literacy-learning programs, if utilized effectively, will enable “marginally skilled employees” to improve their essential skills in literacy to the degree where they may be gainfully employed.

### Background

Stella Burry Community Services (SBCS), through its programs New Beginnings and HOPEworks, assists adults to address individual barriers to employment so that they might make attachments to the workforce in ways that are meaningful to them and are sustainable. Participants in these programs are individuals who may have had long histories of unemployment as a result of a the lack of experience or education, involvement with the justice system, health issues which interfere with their

ability to access and maintain employment as well as a range of personal experiences which have prevented them from successful work. The two SBCS programs provide participants with intensive “life skills” training through group and individual counselling as well as a variety of other work-related experiences and skills training so that, at the conclusion of the programs, participants are better able to access employment opportunities or pursue further education that would lead to career development.

Very often, participants in these programs possess very low levels of literacy. As a consequence of this situation, even though these persons may achieve considerable personal growth and acquire basic essential and vocational skills as the result of their involvement in their SBCS programs, they may still have impediments to gainful employment because of the lack of functional literacy.

To address this situation, in 2005, SBCS was successful in adding Adult Basic Education (ABE) Level I to the range of employment programs it offers. ABE Level I programs typically deal with individuals who have abilities in reading up to a grade six instructional level, as documented by standardized testing or through the utilization of published informal reading inventories. This additional offering at SBCS has provided a number of students with the opportunity to build on their literacy skills and greatly improve their potential for employment or further education, through the effective and functional use of reading, writing, basic numeracy and oral communications.

SBCS continues to make enhancements to its two employment programs by developing external and internal partnerships that might provide career development opportunities for graduates in fields where entry-level employment is most abundant. Two specific vocational opportunities have been identified to link graduates with training in carpentry and businesses within the food services industry.

To further address this situation, and to provide the basis for training, administrators at SBCS submitted a grant proposal to the Adult Learning, Literacy and Essential Skills Program (ALLESPP), a program developed under the auspices of the Human Resources and Social Development Canada (HRSDC). ALLESPP “...seeks to promote lifelong learning by reducing non-financial barriers to adult learning and facilitating the creation of opportunities for Canadians to acquire the learning, literacy and essential skills they need to participate in a knowledge- based economy and society.” (<http://www.hrsdc.gc.ca/en/hip/lld/olt/ADULTLESPP.shtml> ). As a result of this grant application, ALLESPP provided a grant of \$65,000 for the development and implementation of this project.

## **Rationale for the Project**

To ensure the greatest possibility for success, additional work-related workplace literacy training is necessary so that participants can develop a working understanding and functional use of the vocabulary unique to vocations (e.g., carpentry and food-services) when they commence employment in these fields of employment. To achieve this, SBCS proposed the development of computer-based training modules that could be self-paced, and that enable the student to become functional and conversant with the terminology of each of the two identified workplace fields in a contextually appropriate manner.

Some computer-based training software does exist for the proposed skill areas that were the focus of this project. A review of these programs, however, indicated that they required a level of competency with reading ability as well as specific vocabulary and terminology that would generally have been beyond the grasp of the target population (Carter & Titzel, 2003).

*Language and Literacy Researchers of Canada (LLRC)*, a special interest group within the Canadian Associate of Curriculum Studies, a constituent association of the Canadian Society for the Study of Education, presented a position statement in May of 2008. Within this broad statement to present an overall definition of literacy, LLRC defined one of the roles of literacy, in part, as being a process that individuals undertake within a various “developmental, socio-cultural and media contexts.” To assist learners in reaching this goal, they suggest that literacy educators “support learners in a way that enhances learning” so as to “recognize individual variations in learners and to allow for differences in learning opportunities and timelines.” This project sought to provide this form of assistance to low-literacy adult learners in the form of opportunities to utilize a series of self-paced computer-mediated instructional modules.

Curtis and Longo (2001) contend that “Knowledge of word meanings and the ability to access that knowledge efficiently are recognized as important factors in reading and listening comprehension, especially as students progress to middle school and beyond.” Their research project focused upon the use of direct teaching of vocabulary and its application in given contexts. Their contention that effective vocabulary and concept learning and understanding must occur in a context is consistent with the basic premise of this workplace literacy project, which attempted to create an authentic technology-enabled asynchronous learning experience for low-literacy adult learners.

Long (1997), in a national study for ABC Canada’s Literacy Foundation, sought to determine the impact that basic literacy skills programs might have upon an array of Canadian workplace situations and contexts. One of her main conclusions was “Central among the motivators for Canadian workplaces to start basic skills programs is the increased need for reading, writing, and verbal communication due to training requirements and technological developments.” Whereas her findings helped to demonstrate the need for some within the workplace to improve upon their literacy abilities, one question that her research did not address was a way to help low-literacy adults obtain some meaningful employment within this overall workplace sphere. Again, this workplace literacy project, which attempted to create an authentic technology-enabled asynchronous learning experience for low-literacy adult learners, is one route in assisting an individual adult learner to obtain this initial employment opportunity.

Sternberg (1987) contends that to be effective, vocabulary learning must occur in a relevant context. In traditional vocabulary instruction, the lesson usually begins with a story or article that students read (i.e., the context), and words are selected for further discussion (i.e., in isolation). This project attempted to design an intervention in which adult learners would be actively involved in a variety of receptive and expressive language contexts (e.g., listening, reading, writing and speaking) in which they learned word meanings of critical workplace vocabulary.

The aim of this project was to make use of the latest advances in instructional technology to provide low to very low literacy learners with opportunities to acquire a functional use of workplace specific language in vocations which offer considerable entry-level employment opportunities (Askov & Clark, 1991).

## **Focus of the Project**

This project engaged content experts in the areas of carpentry and the food-services industry to provide input on the essential skills, vocabulary and foundational knowledge in these areas of technical training that were being pursued by the participants in this project. It was felt by all involved in this project that the potential for entry-level, sustainable employment by the participants would be enhanced with their having both a technical hands-on expertise in either carpentry or food-services, but also, having an understanding of the relevant concepts and vocabulary of these areas, along with an ability to read these concepts and vocabulary. Working with the content experts was an adult literacy specialist who converted the content and designed an instructional approach to achieve the desired learning outcomes. The literacy specialist took the specific workplace concepts and vocabulary from the carpentry and food-services content experts and rewrote this information in the form of a script which was utilized as the guide for the computer-mediated literacy programs and the workbooks for carpentry and food-services.

## **Target Population**

Students in the program were comprised of adult emergent literacy-learners who had experienced high levels of unemployment and who possessed a low level of education and skills development. For the most part, they have been long-term recipients of income support and, therefore, had little or no work history. According to Blunt and Richards (1998), the development of “work values” is of vital importance for adult learners.

In addition to the lack of literacy and other barriers to participation in the workforce, the targeted student population frequently required levels of support (i.e., consultations with social workers on an on-going basis) over and above that which would be available to them in typical educational environments such as the Community College system or other institutional settings. To meet the needs of this target population, SBCS provides an array of supports that helps to ensure that they can remain in the program and achieve some measure of success. This “circle” might include counselling to assist with personal or family issues, assistance with housing, advocacy within the justice system, addressing childcare needs and provision of short-term financial assistance and access to food. The availability of such services are very often the critical factor in maintaining attendance for students with multiple barriers so that they can resolve those issues that might otherwise interfere with participation and completion of programs, thereby preventing them from achieving graduation. Malicky and Norman (1994), contend that participation and “persistence” in adult literacy programs were dependent upon factors which were “multifaceted” (e.g., psychological, social and educational).

At the onset of the project, the literacy expert utilized the *Canadian Adult Reading Assessment* (CARA), developed by Campbell and Brokop (2005), to ascertain the instructional levels of potential students for participation in this project. It was felt that since the instructional materials were written on a fourth to fifth grade readability level, that the learners in this project should have at least a corresponding instructional level.

## **Program Design**

Two industry-specific computer-mediated programs were designed and written by the literacy expert within this project. Taking the information provided to him by the two content experts, he wrote the script utilized by the software programmers to format the two computer-mediated workplace specific literacy websites. The textual, audio and pictorial information contained in these websites were also placed on CDs for distribution to other interested non-profit stakeholders.

The literacy expert utilized a variety of readability formulas to rewrite the workplace-specific content to approximate a grade four to five readability level. Whereas learners have instructional levels, written materials have readability levels, and it was deemed essential to try and create materials that might be on a learner’s instructional level. From these rewritten contents, the literacy expert wrote the specific scripts for the two computer-mediated programs along with a workbook for each program. From these scripts, technical experts formatted the text for the carpentry unit and the food-services

The students in this project accessed the computer-mediated programs on the computers in the New Beginnings Computer Lab at the Stella Burry Community Services Bond Street Centre in St. John’s, NL. They accessed one of the two computer-mediated workplace literacy programs in an asynchronous manner, and progressed through these programs at their own rate. They were able to access the program and follow along with the audio sections with the use of headphones. In this manner, they were able to revisit as section as often as they wanted to help develop a real understanding of the concepts and vocabulary being presented in the various modules for each program.

## **Conclusion**

This project will enable the attainment of functional workplace literacy levels for learners through the use of a sophisticated computer interface that is intended to be engaging and motivating to the learner. The use of technology-enabled asynchronous learning experiences, where the learner “logs on” to commence a module or to return to the last entry, enables learners to advance at their own pace. It also permits a degree of anonymity in that others need not know the speed with which each learner progresses through the modules, which is an important facet of adult literacy education where learners have often tried to conceal their lack of literacy.

Use of the software will also provide ample prospects for the development of expertise and knowledge in the general use of computers. These are seen as essential skills, even in fields where

computer use was uncommon, such as carpentry and in the food services industry. Imel (1998) contends that “adults can learn content through technology while learning about the technology itself and developing the skill to use it completely” (p. 2).

Basic computer skills as well as access to the Internet will enable all learners – no matter which subject area they chose – to acquire 21<sup>st</sup> century skills that many of us now take for granted.

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### **Resources**

<http://www.distance.mun.ca/media/files/burry/food/food.php>

<http://www.distance.mun.ca/media/files/burry/>