



The Centre for Literacy
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Embedding literacy
and essential skills
in workplace learning:

**Breaking
the solitudes**

Jay Derrick • April 2012

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Canada

Funded by the Government of Canada's Office of Literacy and Essential Skills (OLES), Human Resources and Skills Development Canada

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PREFACE

The two solitudes of workplace learning in general and Workplace Literacy and Essential Skills (WLES)

by Nancy Jackson, OISE, University of Toronto

This paper invites readers to “connect the dots” between what are quite commonly two solitudes: the community of people concerned with workplace learning in general and those concerned more specifically with workplace literacy and essential (or basic) skills. Of course, there is great diversity in the composition of these two communities and the ways they are or are not connected in various countries or jurisdictions. Nevertheless, I broadly characterize this division as follows:

The group concerned with workplace learning in general might commonly consist of business managers and HR professionals who try to implement both organizational learning strategies (e.g. “learning organization”), training and development programs, and/or individual training strategies (e.g. employee development plans) across public and private sectors. It might also include the host of staff trainers and training consultants assigned to implement such strategies. Conversations at this level have expanded over the past twenty years, and typically include debate over whether workplace learning, such as the types noted above, should be viewed as a core business/organizational development strategy or as an “add-on” that is “nice to have” if or when funds are available. These debates are prominent in academic journals, such as *The Harvard Business Review*, in professional business management magazines, such as *American Business Magazine*, and at conferences such as those offered by the Canadian Society for Training and Development.

By contrast, the group concerned in particular with workplace literacy and essential (or basic) skills has typically had a different profile, much “closer to the ground”, and with greater variations across jurisdictions. This group might include agencies or people who work as literacy or workplace essential/basic skills consultants to business or governments, or for sector organizations or training centres, or as full, part-time or contract instructors in colleges or school boards or community agencies, or as workplace educators in dedicated agencies such as Workplace Education Manitoba or Workbase NZ. Conversations at this level are typically about promoting workplace literacy and essential/basic skills as strategies to

enhance the employability and productivity of individuals, and only indirectly about the productivity of organizations. Training activity at this level is typically mediated by government policies, dependent on government funding, and informed by government-funded publications or tools (e.g. Essential Skills tools in Canada, *Focus on Basics* (US), Skills for Life (UK)).

Unfortunately, dialogue between these two groups is rare in Canada. Workplace literacy/essential skills advocates usually do not have a place at the "table" where overall organizational learning strategies are discussed and developed. Conversely, organizational development experts do not have a place at the table where workplace literacy and essential skills policies and programs are designed. This results in the oft-remarked situation in which literacy and essential/basic skills efforts are a "bolted-on" rather than "built-in" element of organizational learning/development strategies and business planning.

The unique contribution of Jay Derrick's paper is that it brings these two conversations together. It asks us to think about "embedding" not just as a pedagogical strategy within literacy and essential skills work, but also about "embedding" WLES work as a key element of workplace learning overall and as a strategy for organizational development.

This is a revolution in thinking, and a challenge. However, making this connection would offer enormous potential for increased effectiveness and return on investment for all types of workplace learning, including literacy and essential skills initiatives. It is a highly significant vision that deserves broad attention by those working in both areas of workplace learning and by those developing the policies that often define the boundaries between these groups.

March 2012

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RESEARCHER'S NOTE

I prepared this literature review as a background paper for The Centre for Literacy's 2011 Summer Institute on *Workplace Literacy and Essential Skills: Embedding Practice, Preparing Providers*. The research was conducted between January and May 2011. I concentrated on English-language documents and reports published since 2000, but included some older relevant material. Most were available online. Full references are given for all key documents.

METHODOLOGY

The search methodology for this review consisted of an electronic database search and manual searching of reference lists. The database search, conducted through ERIC, covered the years 2000-2010. A search using the keyword "embedded" produced no returns. Using the keyword "workplace" within documents tagged as "adult basic education" yielded 102 resources. I also collated relevant research with which I was familiar, and manually scanned reference sections of articles. The majority of publications on workplace adult basic education have focused on how to make the case for such programs in unpromising political or economic environments, or have identified the barriers to doing this and suggested strategies to overcome these barriers. A smaller body of work has tried to identify the best educational methodologies for workplace adult basic education. This review looks mainly at the second group of publications.

LIMITATIONS

The review was conducted in a short time frame and does not include every relevant document; I selected those I consider the most relevant from English-speaking countries, and acknowledge that the choice was influenced by my interpretation of the concepts. I explain the rationale for the choices in the document. Following feedback from Summer Institute participants and from external reviewers, I have made revisions.

ACKNOWLEDGMENTS

I would like to acknowledge my gratitude and appreciation to Nancy Jackson, Linda Shohet, Anne McKeown and Katherine Percy for their substantial contributions to this paper, which in a very real sense has been a collaborative effort. I owe particular thanks to Nancy Jackson who helped clarify the argument that had been implicit in the first draft of this paper about the need to connect workplace literacy and essential skills to a larger domain of workplace learning in general. I have made it explicit in response to her insight.

Jay Derrick

March 2012

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None of the key terms in the title of this review – “embedding”, “literacy”, “Essential Skills” or “Literacy and Essential Skills” – is well defined, and the concepts and practices they refer to often have different names in different places and over time. The term “embedded” is relatively new in the context of adult literacy and workplace basic skills. In the U.S. and Canada, the terms “contextualized” or “integrated” when linked to literacy generally imply something similar. In England, these terms are applied to learning in community or college settings as much as to workplaces.

EMBEDDING

As recently as 2002, a substantial review of workplace adult basic skills in the UK did not use the word “embedded” at all (Payne 2002). The term “embedded” has, however, been taken up strongly in England since 2006, although not universally used to describe the broad approach to planning and provision it implies. Its uptake followed reports from an action research project funded by the National Research and Development Centre for adult literacy and numeracy (NRDC) (Roberts et al 2005, Casey et al 2006). “Embedding” literacy, language and numeracy (LLN) within other learning has come to be seen in England as an important and effective approach to teaching and learning, particularly in the context of pre-vocational training courses in colleges of further education. The focus of discussion and debate has shifted from whether embedding is a good idea in principle, to effective implementation of the approach. During this period, practitioners in England have been encouraged to embed LLN learning in many contexts, from community education, prison education, courses in computing for pensioners, to full-time vocational training programs in occupations such as Health and Social Care and Engineering. “Embeddedness” became a formal indicator of quality in English government inspection frameworks, and was also applied to workplace programs to which the government contributed funding. However, it is important to note that the NRDC study focused on pre-employment vocational training programs in colleges. It did not do research on provision in workplaces.

The recent major report that did address workplace basic education, also from the UK (Wolf and Evans 2011), is mainly concerned with measuring the benefits of programs for individuals, employers, and society, rather than with approaches to teaching and learning.

No studies included in this review compared the effectiveness of different pedagogical approaches in workplace basic education programs on an empirical basis. The most common research-based studies generally argue for particular approaches to planning, pedagogy and curriculum organization from the perspectives of different theories of knowledge, learning, business

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management, justice and social equality, globalization or new literacies. Among these, as examples, are Sticht (1997), Imel (2003), Gee et al (1996), and Belfiore et al (2004). Some studies take a predominantly cultural view of learning in the workplace, a very broad view that sees both formal and informal aspects of the whole workplace environment as relevant. Others take a narrower focus by looking only at formal literacy and essential skills programs, achieving a more precise analysis but ignoring potentially important informal learning activity.

Since there is little research on embedding in workplace basic education, this paper instead tries to offer a useful way of thinking about the concept of embedded workplace LES in general. It is structured around the idea that we can distinguish a range of “model” approaches to embedded workplace LES in practice, and that these models can help us understand both the challenges and potential benefits of each. The paper outlines four models of “embedded” approaches, drawing on and developing the work of several key thinkers, in particular Jurmo (2004) and Unwin and Fuller (2003). It defines terminology, discusses each model in detail, and summarizes a few key publications relevant to each.

In the context of this paper, “embedding” refers to various models for teaching and learning literacy and essential skills by incorporating relevant learning activities inside, or through, the learning and teaching of other workplace skills and knowledge. In its practical implications, it is similar to “contextualized” or “integrated” approaches to workplace literacy learning.

LITERACY AND ESSENTIAL SKILLS

There are no standard definitions of “literacy”, “essential skills” or “literacy and essential skills”. The meaning of “literacy” is contested within individual and across different academic disciplines such as psychology, social history, and pedagogy, and the picture is further complicated by varied uses of the term in policy documents from different countries and different times. The term “Essential Skills” in Canada, like “Skills for Life” in England, is both a technical term defining specific activities governed by particular funding and evaluation policies, and also at times a kind of brand used to help communicate related policy (for a detailed discussion of the various Canadian definitions, see Salomon 2010). There are further complications because policy documents rarely define or reference terms in relation to previous work as is common in academic publications. The International Adult Literacy Survey (IALS, see Statistics Canada IALS website, accessed April 5, 2011) has been a powerful influence on recent policy terminology in this field. The 1994 IALS initially adopted the following definition of literacy:

Since there is little research on embedding in workplace basic education, this paper instead tries to offer a useful way of thinking about the concept of embedded workplace LES in general. It is structured around the idea that we can distinguish a range of “model” approaches to embedded workplace LES in practice, and that these models can help us understand both the challenges and potential benefits of each.

"Literacy is using printed and written information to function in society, to achieve one's goals, and to develop one's knowledge and potential."
(Kirsch 2001)

This definition includes reading and "quantitative literacy", but not writing, which is not directly measured in the IALS survey. In the current international comparative survey, the Programme for the International Assessment of Adult Competencies (PIAAC), being conducted by the Organization for Economic Co-operation and Development (OECD), literacy is understood as:

"the interest, attitude and ability of individuals to appropriately use socio-cultural tools, including digital technology and communication tools, to access, manage, integrate and evaluate information, construct new knowledge, and communicate with others." (OECD Adult Literacy website, accessed April 22, 2011).

This definition, described as being "for the information age", includes students' motivation and attitudes, as well as technical skills, as factors in competence.

The OECD had earlier identified "key competencies" needed by individuals for life in general, a list clearly related to the PIAAC definition of literacy:

- *the ability to use a wide range of tools to interact effectively with the environment*
- *the ability to interact in heterogeneous groups*
- *the ability to act autonomously* (OECD-DeSeCo 2005)

These definitions are understood to apply in any context. Typically, government agencies in English-speaking countries tend to define literacy as a context-free list of competencies and see "workplace" or "employability" skills as complementary and additional. For example, the Human Resources and Skills Development Canada (HRSDC) website defines literacy as "including reading, writing, document use, and numeracy". It lists Essential Skills in another grouping as those needed for the workplace. They include literacy, and five additional ones: computer use, thinking, oral communication, working with others and continuous learning (HRSDC website, accessed April 22, 2011).

Another example, in England, a major government initiative between 2000 and 2006 branded literacy, numeracy and language (English for Speakers of Other Languages) as part of "*Skills for Life*". They were defined

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as speaking, listening, reading, and writing (for both native speakers of English and those for whom English was a second or additional language), and numeracy. Since 2006, UK policy-makers have renamed this area of learning “*Functional Skills*” [See SIDEBAR], though “*Skills for Life*” is still widely used in the field.

Similar frameworks define the relevant knowledge, skills and behaviours that make a person employable; some incorporate literacy and associated skills, some do not. These frameworks are currently known in England as “Employability Skills” [See SIDEBAR].

EMPLOYABILITY SKILLS

In contrast to specific trade, craft or professional skills and to the basic skills of literacy, numeracy and language, the additional employability skills are sometimes referred to as “soft skills” in the UK and other countries.

In Australia, “workplace communication” is preferred to “language, literacy and numeracy skills” which is seen by some as having “possible worker deficit connotations” (Bradley et al 2000). The preferred term evolved “[d]uring the 1990s, [when] industry recognised that language, literacy and numeracy skills underlie all areas of work to some extent. There has also been a growing realisation of the importance of relationship skills in team-based workplaces. This bundle of skills is often referred to as ‘workplace communication skills.’” (Bradley et al 2000)

For HRSDC in Canada, Employability Skills are additional to but overlap with literacy and essential skills, and include skills and attributes similar to those listed above, such as team-work, time-keeping, integrity, and autonomy. Australia has produced comparable documents (NCVER 2003). Similar initiatives and frameworks can be found in all English-speaking countries (Curtis 2004). Australia, in particular, has strongly emphasized the workplace as a site of learning in LLN policy and practice (Mendelovits 2011). Despite the more nuanced, flexible and research-based approach pioneered by the OECD, the distinction between literacy skills and workplace, essential, or employability skills is common in policy documents from English-speaking countries. This may be connected to a widespread assumption by policy-makers that this approach will make assessment and evaluation easier and support greater accountability.

Some commentators have pointed out that these definitions and lists of abstracted skills may be problematic. For example, the Canadian Union of Public Employees (CUPE), while it recognizes that the HRSDC Essential Skills are “better than crude indicators such as grade level proficiency” and that they could be useful as self-assessment tools, suggests that they

FUNCTIONAL SKILLS IN THE UK

Functional skills in English, mathematics and information and communication technology (ICT) help people to gain the most out of life, learning and work. The skills are learning tools that enable people:

- to apply their knowledge and understanding to everyday life
- to engage competently and confidently with others
- to solve problems in both familiar and unfamiliar situations
- to develop personally and professionally as positive citizens who can actively contribute to society.

(Qualification and Curricula Authority (QCA) 2007)

“EMPLOYABILITY SKILLS” A TYPICAL UK EXAMPLE

- knowledge of organizational values
- the ability to deal with and solve issues
- literacy, numeracy and a basic understanding of and ability to use IT
- the ability to work as part of a team
- willingness to develop and improve one’s own skills
- being adaptable and flexible at work
- the ability to communicate face-to-face and in writing

(Employers’ Organisation 2004, quoted in Newton et al 2006)

"promote a simplistic view of literacy and education" and that they could be used for "just-in-time" training that serves the needs of employers rather than workers (Moriarty 2009). Nevertheless, other programs such as *SkillPlan*, a construction industry workplace learning initiative in British Columbia with strong employer and union support, build the HRSDC definitions firmly into their resources and services.

The varied but similar terminology and definitions used to describe workplace skills, in different countries and at different times, are potentially confusing. To avoid this as much as possible, this paper uses the Canadian term "Literacy and Essential Skills" to include Literacy, Language and Numeracy (LLN) (the term used in the UK, Australia and NZ), and the more generic employment dispositions and abilities identified by the OECD project, which are assumed to include the "employment skills" in the Canadian HRSDC definition of Essential Skills.

WORKFORCE LEARNING

Workforce learning is understood to include all formal and informal learning in which people at work are engaged. It includes both employee training courses at workplace sites and informal learning from conversations between workmates, discussions with a line-manager, watching someone else work, or through engaging in a work activity. It is differentiated from training that people might undertake to become employed, i.e. before they are at work.

"Workforce literacy and essential skills" (WLES), therefore, is understood in this paper to mean any learning, formal or informal, in the area of basic and generic employment skills, as discussed above, that is accessed by employees through their workplace.

The paper draws together debates about workplace learning, in general, and about WLES, in particular. It implicitly argues that these debates are interconnected and that each is diminished and partial without the other. As Nancy Jackson has identified in her Preface, these domains rarely overlap, let alone connect: their respective participants work and talk within different "solitudes". She argues that we need to think about "*embedding*" as a key element of a larger strategy for organizational development" and calls this "*a revolution in thinking*"...(Preface).

B. EMBEDDED WORKPLACE LITERACY AND ESSENTIAL SKILLS: AN ANALYTICAL FRAMEWORK

The paper now looks at three distinct approaches to workplace literacy education (Wolf and Evans 2011, Jurmo 2004, Unwin and Fuller 2003). Unwin and Fuller bring in two concepts from the general literature on workplace learning, that of “expansive” and “restrictive” workplace environments and cultures for learning. These approaches and concepts are then used to create a new analytical framework of four models of embedded workplace literacy and essential skills that may help us think about WLES as a seamless part of workplace learning.

1. THE WOLF AND EVANS MATRIX

There has been little systematic research on workplace adult basic education programs, and what there is says little directly about teaching approaches. One of the most recent is a report on a 7-year longitudinal study in England that aimed to identify the benefits to employers and to individual learners of workplace basic skills programs (Wolf and Evans 2011). It collected quantitative and qualitative data from learners and employers at different points in time, and linked these to measures of the impact of improved skills levels on the broader economy. One of its major findings is how difficult it is, even with goodwill and determination on the part of both employers and the practitioners, to support sustainable programs in workplaces using the English funding and accountability systems for adult basic education. As a result, they note that practitioners and employers have become highly pragmatic in establishing and maintaining programs, rather than being driven by research or political views on the most appropriate pedagogical approaches. In many cases, the researchers note, the barriers created by funding and accountability systems effectively prevented provision from taking place or ensured that programs were short-lived.

This important study did not use the concept of “embeddedness” in its analysis. Rather, it used a matrix of analytical perspectives and theoretical lenses based on broader research fields of workplace learning in general and the impacts of learning on individuals, employers and on society. Wolf and Evans (2011) argue that there is an important contrast between “human capital”, or “technical” approaches to workplace literacy learning on the one hand, and “social practices”, or “situated” views of literacy, on the other. Their matrix is reproduced here:

EMBEDDED WORKPLACE LITERACY AND ESSENTIAL SKILLS: AN ANALYTICAL FRAMEWORK

THEORETICAL LENSES ANALYTICAL PERSPECTIVES	LITERACY AS HUMAN CAPITAL, TECHNICAL	LITERACY AS SOCIAL PRACTICE, SITUATED
Focus on the learning individual	Literacy is perceived as a clearly-defined set of technical skills. The absence of these can have negative impacts on an individual’s economic and social opportunities.	Emphasizes the social context of literacy
Focus on the social organization of learning	Emphasizes shaping and organizing education and adult learning “provision” for socio-economic ends such as increased productivity, social mobility	Emphasizes contexts and environments for learning; informal and “everyday” learning

(Reproduced with slight adaptations from Wolf and Evans 2011, p. 20)

Wolf and Evans’ matrix grows out of a formal research project but, because it was primarily designed to help understand different ways of measuring impact, it is not entirely appropriate for the purposes of this paper. Approaches to teaching, such as an “embedded approach”, are largely immaterial to these categories. This matrix can, however, help us understand how workplace basic skills programs might contribute to different existing models of workplace learning in general. The gap between the human and social capital perspectives is an example of the divide that Jackson (2012) refers to as the two “solitudes”: on the one hand people concerned with workplace learning as part of business strategy and a driver of economic productivity, and on the other, those working “at the coal face”, concerned with individuals’ employability and productivity. The matrix will be re-introduced in Section C (p. 17).

EMBEDDED WORKPLACE LITERACY AND ESSENTIAL SKILLS: AN ANALYTICAL FRAMEWORK

2. WORKPLACE LITERACY EDUCATION: DECONTEXTUALIZED AND CONTEXTUALIZED APPROACHES

The second approach we look at proposes a conceptual model for analyzing workplace *literacy* learning. Part of the overall argument here is that these different conversations need to be brought together if workplace learning in general, and WLES in particular, is to realize its full potential.

Paul Jurmo has been one of most internationally influential thinkers and writers about workplace literacy education for several decades. In 2004, he outlined two broad categories of workplace literacy education, with the second divided into two sub-groups:

- a. The Decontextualized Approach
- b. Contextualized Approaches:
 - i. The Functional Context Approach
 - ii. The Collaborative, Problem-posing Approach

The framework of these approaches offers a useful tool for analyzing and evaluating the literature on embedded workforce learning, provided we are careful about terminology and concepts which vary from country to country. While Jurmo does not use the term “embedded”, his two “contextualized” categories seem to refer to related ideas. Although he described the “Functional Context” approach as involving “a fairly narrow interpretation of contextualization” (2004), nevertheless, it offers literacy learning that is deliberately embedded in tasks expected to make workers more effective in their job roles. The category “collaborative, problem-posing” implies embeddedness in the sense that literacy is intended to improve through taking part in “continuous improvement” and other “whole-organization approach” procedures in the workplace. Implying that both the worker and the workplace are transformed through effective learning, this approach takes a more holistic view of workplace learning. It aims to address and take account of, if not resolve, issues of power and agency, and therefore goes beyond a merely technical view of literacy learning.

3. EXPANSIVE AND RESTRICTIVE WORKPLACE ENVIRONMENTS

Another analytical tool, that of “expansive” and “restrictive” workplace learning environments (Unwin and Fuller 2003, Engestrom 2001), taken from the general literature on workplace learning, adds an important concept to thinking about embedding. This perspective notes that workplaces and management cultures are not all the same, and that the differences between them are important for planning and implementing effective workplace learning. It suggests that we conceptualize organizations as:

standing on an expansive-restrictive continuum. At one end are what we call “expansive” characteristics, for example: the way skills are distributed widely throughout an organisation as opposed to restricting them to certain employees; the way skills and knowledge of all employees, not just the so-called “knowledge” workers are valued; and the way managers enable rather than control the workforce. At the other end of the continuum lie “restrictive” characteristics which display a much narrower approach to work design, to learning opportunities, and to organisational behaviour more generally (Unwin and Fuller 2003).

Unwin and Fuller argue that the way workplaces organize themselves and their missions determines their position on the expansive-restrictive continuum. They present this in two linked tables [See Table 1 and Table 2]:

TABLE 1 WORK ORGANIZATION AND MISSION

EXPANSIVE	RESTRICTIVE
Widely distributed skills	Polarized distribution of skills
Technical skills valued	Technical skills taken for granted
Knowledge and skills of whole workforce developed and valued	Knowledge and skills of key workers/groups developed and valued
Cross-disciplinary groups/communication encouraged	Bounded communication and work
Manager/supervisor as enabler	Manager as controller
Chances to learn new jobs/skills	Lack of workplace mobility
Expanded job design	Restricted job design
Bottom-up approach to innovation	Top-down approach to innovation
Formative approach to evaluation	Summative approach to evaluation
	<i>continued on next page</i>

EMBEDDED WORKPLACE LITERACY AND ESSENTIAL SKILLS: AN ANALYTICAL FRAMEWORK

TABLE 1 WORK ORGANIZATION AND MISSION – *continued*

EXPANSIVE →	RESTRICTIVE
Individual progression encouraged – strong internal labour market	Weak internal labour market – recruitment usually from outside to meet skill needs
Government-funded initiatives absorbed as part of a long-term workforce development strategy	Government-funded initiatives bolted on with little understanding of purpose

TABLE 2 ORGANIZATIONAL LEARNING CULTURES

EXPANSIVE →	RESTRICTIVE
History of training/handing down training values	Ahistorical, lack of organizational memory
Company maintains its commitment to learning	Shift in business culture can cause sudden shift in approach to workplace learning
Strong/distinct voice to champion workplace learning	Learning voice secondary to business voice
Learning activities are pro-active rather than reactive	Learning activities may appear <i>ad hoc</i>
Employees are given time to develop and reflect on their learning away from the workplace	All learning opportunities are confined to immediate workplace/work station
Traditional, knowledge-based vocational qualifications are valued, whole qualifications are valued	Competence-based vocational qualifications and unit-based approach are preferred for ease and speed
Strong concept of apprenticeship/ formation training model	Weak concept and little or no tradition of apprenticeship/formation training
Broad approach to developing whole workforce and organization	Emphasis on management training and behavioural change
Long term investment in people	Purpose of activities is often unclear
Good training reputation in local community	Reputation for products not training
Purpose of workplace learning is to enhance capability and improve performance – seen as mutually reinforcing	Purpose of workplace learning is to meet short-term commercial imperatives only
Approach to workplace learning evolves through incremental change	Approach to workplace learning reflects shifts in business strategy

(Reproduced with slight adaptations from Unwin and Fuller 2003)

EMBEDDED WORKPLACE LITERACY AND ESSENTIAL SKILLS: AN ANALYTICAL FRAMEWORK

The conception of expansive-restrictive can help us compare workplaces in different sectors, with different cultures and practices, and generalize about approaches to organizing and supporting learning. Conceptual tools such as this can offer practitioners working in different contexts some common ground to compare and evaluate experiences collaboratively.

The conception of expansive-restrictive can help us compare workplaces in different sectors, with different cultures and practices, and generalize about approaches to organizing and supporting learning. Conceptual tools such as this can offer practitioners working in different contexts some common ground to compare and evaluate experiences collaboratively. It can help researchers and practitioners isolate the most significant factors in successful WLES programs and suggest ways to share learning. This particular tool enables us to locate the specific concerns of WLES practitioners within the broader context of debates, discussions, and research about workplace learning in general. Understanding this broader context may give WLES advocates and practitioners new ways to engage with employers, funders and policymakers, whose preoccupations are likely to be much wider than WLES.

C. A FOUR-MODEL ANALYTICAL FRAMEWORK

The remainder of this paper proposes that the Wolf and Evans analysis that distinguishes between the human capital/social practices and the concept of expansive-restrictive workplaces proposed by Unwin and Fuller can be brought together to refine Jurmo's Collaborative, Problem-Solving approach. The result is a framework with four models to categorize degrees of embeddedness that can apply to WLES learning as well as to more general workplace learning. A key distinguishing factor among the four models is the extent to which curriculum is negotiable by the participants in the areas of general workplace learning and of literacy and essential skills. The framework is similar to Jurmo's but it divides his category of "collaborative, problem-solving" into two new categories called "situated-restrictive" and "situated-expansive" to reflect the importance of workplace environment and culture. The framework is summarized below and described in detail in the following sections with examples.

MODEL OF EMBEDDED WORKPLACE LES	CHARACTERISTICS	CONTENT OF LEARNING	FOCUS
Decontextualized	LES is not embedded: <ul style="list-style-type: none"> • literacy defined as technical skills • deficit model of learners • participants seen as passive recipients of learning • programs evaluated through individual assessment of learners • LES expertise brought in from outside • No collaboration between LES teachers and workplace trainers 	Workplace specific: Not relevant in this approach Literacy and Essential Skills: Defined as technical skills, fixed, non-negotiable	Restricted: The technical skills and knowledge of individual learners
Technical	LES is potentially embedded: <ul style="list-style-type: none"> • aims to teach both sets of skills at the same time • deficit model of learners • participants seen as passive recipients of learning • programs evaluated through individual assessment of learners • LES expertise brought in from outside • Variable collaboration between LES teachers and workplace trainers 	Workplace specific: Fixed, well-defined, non-negotiable Literacy and Essential Skills: Defined as technical skills, fixed, non-negotiable	Restricted: The technical skills and knowledge of individual learners

A FOUR-MODEL ANALYTICAL FRAMEWORK

MODEL OF EMBEDDED WORKPLACE LES	CHARACTERISTICS	CONTENT OF LEARNING	FOCUS
Situated-restricted¹	LES is embedded: <ul style="list-style-type: none"> • workplace curriculum defined narrowly as technical skills • social view of literacies and literacy practices • deficit view of learners in relation to work but not in relation to literacy • programs evaluated by individual assessment of work competencies • participants active in relation to literacy learning but not the workplace curriculum • LES expertise brought in from outside • variable collaboration between LES teachers and workplace trainers 	Workplace specific: Fixed, well-defined, non-negotiable Literacy and Essential Skills: Situating literacies approach, but main content and activities determined by narrowly defined workplace curriculum	Restricted: The technical and situated skills and knowledge of individual learners
Situated-expansive	LES is embedded: <ul style="list-style-type: none"> • workplace and literacy curriculum fully integrated with work processes • learners actively engaged in all aspects • focus on continuous improvement and the production of new knowledge • collaborative approach to continuous learning through work • primary focus of learning is the organization, not individuals • LES expertise provided from within organization 	Workplace specific: Situating view of work knowledge and practices, knowledge base not pre-determined, negotiable Literacy and Essential Skills: Situating literacies as social practices view, knowledge base not pre-determined, negotiable	Expansive: Improvement of work processes and learners as members of the workforce and as social beings

¹ The term "situated" assumes that skills are not context-free and fixed. It is taken from studies that highlight the particular characteristics or features of **specific** settings, including diverse workplaces, that influence the kinds of literacy skills called for and the ways in which they are used by participants. Among the most important theorists of this view are Jean Lave and Etienne Wenger: *Situated learning*, Cambridge University Press 1991.

A FOUR-MODEL ANALYTICAL FRAMEWORK

We now look at the four models in more detail.

1. THE DECONTEXTUALIZED MODEL

The first category is distinct precisely because it is decontextualized, i.e., not in any way “embedded”. It is included and briefly discussed because it serves as a contrast to embedded approaches. Jurmo identifies key features of the contrast. First, it typically takes an academic rather than a functional or applied approach to literacy learning, that is, it highlights an abstract set of reading, writing, speaking, listening, and perhaps mathematics skills derived from school-based curricula. These skills are seen as necessary and fundamental in themselves, rather than the actual skills and knowledge required in the workplace. Second, this approach tends to locate these skills in a hierarchical model of life and learning, that is, mastery of the “basic” skills is seen as needing to happen *before full participation* in life and work is possible.

The decontextualized approach might involve outside experts such as basic skills specialist teachers coming into workplaces to provide training, but because the content of the training is not specific to a particular workplace, there is no need for close contact or collaboration between the outside literacy experts and the workplace trainers. In its extreme version, specialist basic skills teachers are not required because the curriculum is completely pre-programmed and needs to be “delivered” to learners using context-free materials, by a non-specialist, or via a computer.

Part of the attraction of this approach, Jurmo notes, is that a school-based model is familiar to instructors, learners and employers, is convenient and relatively cheap because the curriculum is easily standardized, programmed and transferred between different contexts, and the teacher is seen as the expert in a hierarchical relationship with the learners. Assessing progress and achievement is relatively straightforward through standardized tests, and program evaluation can use achievement data to compare outputs across different programs. Finally, Jurmo points out that even “some literacy researchers support the view that literacy skills should be taught in a discrete, carefully sequenced way. This approach is thought to be especially appropriate for people at a low level of skills”. (Jurmo 2004)

The disadvantages of this approach are that workers have to take time out from work, which is expensive for employers, and cannot necessarily reinforce their learning by putting it directly into practice. Since this approach involves learning skills “in a vacuum”, the learners may never be able to practice them in actual work situations. The “transfer” of skills from training into workplace practice is assumed to happen automatically, even though much research demonstrates that this is highly problematic:

We know that the idea of simple skills transfer from one setting to another is very problematic – the fact that we can use common language to describe a skills group does not mean it is transferable intact. What we need to understand better are the processes by which skills are 'transformed' from one setting to another. Naïve mappings of key skills from one environment into another are not a basis for occupational mobility. Even 'near' transfer into related activities is far from simple....(Evans 2002)

In this model, the primary objective of learning is to improve literacy skills which are seen as essential prerequisites for effective working. This view began to be criticized in the 1990s, from the perspectives of cognitive science (Sticht 1997) and the “New Literacy Studies” (Lankshear 1998, Hamilton and Barton 1996). Both groups proposed alternative models. We look first at the model proposed by the cognitive science critics, here named the “technical model”.

2. THE TECHNICAL MODEL

The technical model, the equivalent of Jurmo’s “Functional Context Approach”, is also described as “Contextualized Learning” (Salomon 2009, Taylor et al 2008) and presented most clearly by Sticht (1997). Sticht argues that the primary focus of workplace learning should be improved job performance, and that therefore literacy learning should focus strongly on the specific literacy and essential skills required for specific job roles and settings. His approach is based on a cognitive theory that successful learning is the outcome of the interaction between three elements: what the learner already knows (knowledge located in long-term memory), the learner’s processing skills of language, problem-solving, and learning strategies, and finally the way information about the new learning is displayed. Sticht proposes four principles for workplace basic skills training:

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- That learning should relate as closely as possible to what learners already know
- That training materials should be useable by learners in the workplace when they have completed their training
- That literacy learning can be achieved by improving any or all of the learner's knowledge base, the learner's processing skills, or the training/instructional materials
- That assessment must be content and/or context specific to be meaningful

This approach is clearly contextualized, and so potentially "embedded", to the extent that learning primarily focuses on improving performance in the learner's job role, and sees literacy learning not as the primary goal but as a product of workplace learning. Typically in this model, the literacy curriculum, which has been designed and codified for all literacy learners wherever they are learning, is brought as a package from the outside into a specific workplace where it may be re-shaped to be taught alongside a similarly-packaged workplace curriculum. The extent to which these two curricula are integrated is the extent to which they are considered to be embedded. It could be argued that the emergence of the concept of "embeddedness" in England is a product of the fact that a clearly defined and standardized literacy curriculum has been codified in that country. "Embedded" teaching and learning can be seen as a pragmatic solution to the need to teach two distinct bodies of knowledge and skills (the literacy curriculum and the codified workplace curriculum) as far as possible at the same time, which saves training resources and better reflects research evidence on effective training.

Features of this approach include that training programs be designed around a detailed analysis of job roles, often determined by a literacy audit or survey of the literacy requirements of different job roles in terms of the tasks and the documentation they deal with. These might include formal documents such as job descriptions, appraisal report forms, or accident procedure instructions, but could include other texts such as health and safety posters or "News and Events" bulletin boards. This survey is the key to the design of programs, which are likely to be different for different job roles, but also different for similar job roles in different workplaces. Typically, the content of functional context learning is determined by the employer (Nash 2001), although trade unions (TU) may also be involved and influential, seeing workplace learning as a valid way to help improve conditions of service and promotion opportunities for their members.

Employers may welcome TU endorsement as a way to ensure that employees who need the training are more motivated to participate.

This approach requires a degree of close cooperation between external and internal specialists:

Outside experts – trained adult educators who specialize in worker basic skills – know how to conduct needs assessments, create customized curricula, and otherwise organize an effective worker education program. Internal experts – production managers, human resources specialists, technical trainers, supervisors – know the workplace and the workers to be served by the program and can shape the content of the program to ensure its relevance. (Jurmo 2004)

Program design is typically carried out by basic skills specialists working closely with designated “inside experts” to ensure that the programs are fine-tuned to the needs of the workplace. This collaborative approach will also usually apply to learner assessment and program evaluation. A principle of Sticht’s Functional Context Education calls for assessment and evaluation processes and tools to be workplace specific, but in practice many workplace literacy training programs share characteristics of both technical and decontextualized approaches.

Finally, this version of the contextualized approach has a “problem-solving” focus as opposed to “problem-posing” (see the next section). Issues and problems with either employees’ skills deficits or with work processes are identified, defined in technical terms, in relation to business or educational standards, or both, and then addressed through procedures which may include formal training programs into which literacy learning is integrated as far as possible.

The name “Technical Model” is loosely taken from Susan Imel (2003), in an article critical of the Functional Context orientation of the National Workplace Literacy Program that was funded by the US Department of Education between 1988 and 1994 (US Department of Education et al 1988), probably the most substantial example of this approach in practice. She notes that this orientation assumes that the inadequate basic skills of workers are a significant explanation for the economic problems of nations:

A FOUR-MODEL ANALYTICAL FRAMEWORK

The assumption that workers are not up to the demands of the workplace has resulted in the use of the functional context instructional approach with its focus on skill or competence as an individual characteristic. The approach that teaches the skills that employers feel are needed in the work setting is the educational model that prevails in the literature on workplace literacy. In the functional context approach, literacy is viewed as mechanistic and technicist with lack of literacy representing many of the most serious problems of contemporary society; thus workers with limited basic skills become scapegoats for the nation's economic ills. (Imel 2003, Castleton 2002)

This critique suggests that the literacy curriculum in the Technical Model is too narrow to reflect the real needs of the workplace or the employees. Rather, due to the increasing complexity of work, “far richer, more meaningful formulations of literacy than those offered in the functional literacy discourse need to be applied to the context of work to fully appreciate the role literacy plays for workers and for work” (Castleton 2000 quoted by Imel 2003).

This approach to Workplace Literacy and Essential Skills, even though “embedded” and concerned with workplace skills and knowledge, can be characterized, like the decontextualized one, as “technicist” (Imel 2003). The key difference between them is that this approach aims to teach a workplace-based curriculum based on problem-solving, and a literacy and essential skills curriculum (the two may overlap) both structured around the perceived deficits of learners.

A series of Australian training packages created in the late 1990s for specific industries based on competency standards are clear examples of the technical model for workplace basic skills. [see SIDEBAR]

More often, the technical and decontextualized overlap. Several studies from England in the past decade illustrate this. A 2007 report on the system for providing basic skills to members of the British Army describes a *Whole Organisation Approach/Lessons Learnt* (Basic Skills Agency). The system could be an example of the Decontextualized Model, as the basic skills provision is generally discrete and unconnected with other training although it is seen as “underpinning” all areas of training, both personal and professional. Embedded provision is mentioned only as a subsidiary service on “some pre-promotion education courses”. Yet this example also shows a powerful “whole organization” approach behind the system, with the comprehensive availability of provision, and the range of

AN EXAMPLE OF THE TECHNICAL MODEL

■ **Built In, not bolted on** (Wignall 2000) is an Australian guide on how to work with Industry-specific Training Packages. It is subtitled “an information kit for language, literacy and numeracy practitioners, training managers, industry trainers, about language literacy and numeracy issues in the delivery of Training Packages”. These are built around “endorsed competency standards which are the pre-determined or mandated outcomes of the training”. They embody a shift “away from classroom delivery of curricula and towards on-the-job assessment and customised or workplace contextualised training.” (Wignall 2000). The vision behind these guidelines is a form of embedded workplace literacy and essential skills (“workplace communication” is the preferred term in Australia), but one in which the workplace training is highly specified and “predetermined”. Programs within this model, as well as the Decontextualized Model, often use terms such as “delivery of curricula”, and “training package”, implying a commodification of learning, and an underlying philosophy of learning as the transmission of unproblematic content.

different types of support offered wherever personnel are stationed, in the UK or abroad. Supports include e-learning centres embedded in barracks and in operational areas, a VLE, and a large team of specialist basic skills tutors. However, the distinction between personal and professional development combined with the total separation between basic skills and other types of training also indicates an example of a technical model. The curriculum and purposes of learning are pre-determined, and learners are seen as passive recipients rather than active subjects. Indeed, a Venn diagram illustrating the inter-relationship between different types of training indicates a Category 1 Professional Development need as “current individual deficit”, for which “training, education and development is delivered on an individual basis” (Basic Skills Agency 2007). The terms “deficit”, and “delivery” as well as the emphasis on individual learning, are strong indicators of one of the first two models presented here.

Three studies by the UK National Research and Development Centre for adult literacy and numeracy (NRDC) of literacy, language and numeracy provision in vocational training courses and work-based apprenticeships, some of it embedded (Roberts et al 2005, Casey et al 2006, Sagan et al 2007), are also pertinent. Although they examined only courses in colleges of further education, the findings and recommendations are relevant to work-based programs, particularly those within the Technical Model. The study explored the impact of embedded approaches to literacy, language and numeracy on 79 vocational programs based in fifteen further education colleges and one large training provider in five regions of England. Nearly 2000 learners were enrolled in these courses, taught at school-leaver level or below, in five occupational areas: Engineering, Business, Construction, Hair and Beauty, and Health and Social Care. The study identified a continuum of “embeddedness” in practice, based on the perception of the learners, as being separate, partly embedded, mostly embedded, or fully embedded.

The study found that in embedded programs, compared to non-embedded programs:

- retention in programs was higher, particularly at L2 (school-leaver level)
- success rates in the vocational subject were higher
- learners were more likely to achieve basic skills qualifications
- learners believed that they were better prepared for their work

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The study also found that even though making one teacher responsible to teach both the vocational subject and LLN is often considered the route to full embedding, in these cases, learners were less likely to succeed with their LLN qualifications. Embedded approaches seem to work best when teachers with different expertise work together in a complementary way to meet learners' needs. The study also emphasizes that good relationships between teachers are vital: vocational and LLN teachers should plan and work together as a teaching team. They should share the same vocational objectives for their learners, be strongly learner-centred and prepared to learn from each other. This study suggests that the time and resources needed would be worth the investment. (Casey et al 2006, Roberts et al 2005)

3. THE SITUATED-RESTRICTED MODEL

As noted above, during the 1990s, two critiques of the decontextualized model emerged. The cognitive science critique claimed that it did not work because it ignored research findings on brain science and learning; it argued for what Jurmo calls the "functional context" approach, and resulted in a model of workplace literacy learning that we have called the Technical Model. The second critique came to be known as the New Literacy Studies approach, and emerged partly as a response to programs such as the U.S. *National Workplace Literacy Program* and the functional emphasis of policies on adult literacy in England.

New Literacies researchers paid attention to the workplace itself as a location for "literacy practices" and "literacy events" as examples of more generalized work practices and procedures. The workplace was seen as a dynamic and active cultural and political context with which individual workers interact. This overall approach emphasizes the need to confront the technocratic and relatively apolitical aspects of the Functional Context view, which, they argue, is more concerned with workplace productivity and efficiency than with the development of workers (Schultz 1992). This critique argued that a wider range of stakeholders should be involved in planning and oversight, including employee learners themselves.

In practice, however, in workplaces characterized by a "restrictive" learning environment, probably the majority, because the workplace-determined aspects of the curriculum are generally non-negotiable, the only space available to achieve these aims is in the literacy and essential skills elements. In this environment, employers are primarily concerned to address what are seen as performance deficits among the workers. If they

EXAMPLES OF THE SITUATED-RESTRICTED MODEL

■ *The Writing's on the Wall* (Nutter 2000). This Canadian publication based on five case studies is a manual to support workforce literacy learning programs in municipal authorities. It proposes twelve principles:

- Assign responsibility for the program to a committee with decision-making power
- Develop support for the program in all branches of municipal administration
- Integrate literacy into the municipality's long-term plans
- Establish clear roles for all partners in the program
- Tailor programs to each municipal workforce
- Empower employees and support employee goals
- Accommodate and respect linguistic and racial diversity
- Promote the programs in a positive and non-threatening manner
- Make participation voluntary
- Make the program accessible
- Respect confidentiality
- Develop an evaluation plan

These principles suggest a "situated" perspective in that programs are to be built around employees' learning needs and

continued on next page

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EXAMPLES OF THE SITUATED-RESTRICTED MODEL – *continued*

aspirations, but also a “restricted” perspective in that organizational issues are not considered as sources of problems. The organization’s goals are assumed to be clearly defined and non-negotiable, and in principle can be completely aligned with the learning goals of the employees.

■ **Professional Development Award: Developing Literacies Learning Programmes for the Workplace** (Crocker et al 2008). This professional development course, developed in Scotland to support literacy practitioners in workplace literacy learning contexts, has three units: Policy and Practice, Raising Awareness, and Planning for the Delivery of Learning Programmes. The assumptions are similar to those in the previous example: learners’ literacy needs and appropriate program design are seen as possible sources of problems and open to discussion and debate, but are subordinate to the goals of the workplace and the wider needs of the labour market, with which programs and practitioners need to align as thoroughly as possible.

take a “situated literacy practices” approach, they aim to empower employees through increasing their skills, knowledge and understanding of work processes, the wider economics and politics of their industrial sector, and the culture and politics of their particular workplace. Nevertheless, though learning might be structured around resolving problems in the workplace, these problems tend to be seen, at least by the employer, as performance deficits among employees (for example, failures in shop-floor communication because employees have different first languages). Within this model, the employer does not see the organization of work processes themselves as problematic. If organizational problems are admitted to exist, they are seen entirely as a matter for managers, and unrelated to Literacy and Essential Skills learning. In a “restrictive” work environment for learning, lower-level staff are assumed to have nothing to contribute to address this type of problem, including ideas or suggestions for organizational improvement.

A situated-restrictive model underlies two examples of guides, one Canadian (Nutter 2000), and one Scottish (Crocker et al 2008), developed to support workforce or workplace LES programs [see SIDEBAR]. Both support employees’ needs and aspirations but assume that organizational and labour market goals are non-negotiable.

4. THE SITUATED-EXPANSIVE MODEL

This model also arose as a critique of technocratic models of workplace literacy learning. It highlights the participation of employees in all aspects of programs, and seeks to embed learning in normal work activities such as continuous improvement and appraisal processes. It assumes that workers at any level may, in principle, make a significant contribution to problem-solving, work process improvements, and even organizational strategy, based on their specific expertise and knowledge. This thinking was influenced by the theory of “learning organizations” (Morgan 1997, Easterby-Smith 1997) which emphasizes the need for organizations to see their staff, wherever they work and at every level, as “information-gatherers” about changes in the organization’s environment, and as reflective experts on the work processes they are most familiar with. This model implies a different kind of organizational culture and mission from the restrictive model; it has a positive, developmental, “expansive” attitude towards learning by all employees in the workplace. Workplace literacy learning happens as part of normal work activities as Jurmo suggests:

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This process might result in a curriculum in which workers are organised as problem-solving teams rather than as traditional classes. These teams identify workplace problems and go through a problem-solving process to identify sources of the problems and steps to take to solve them. In the process, teams develop problem-solving, listening and speaking, research, teamwork, math, and presentation skills, while contributing to improvements in workplace operations. (Jurmo 2004)

This view rejects the notion of a literacy curriculum that must be mastered before workers can perform effectively, and aligns it with the perspective of what has come to be known as The New Literacy Studies (Hamilton and Barton 1996).

The New Literacy Studies critique of decontextualized learning is based on an ethnographic and cultural view. It argues that literacies are multiple rather than unitary, and that the whole idea of a distinct, generic, fixed and transferable list of foundation literacy skills misses the point. This approach focuses as much on the effective organization of the workplace itself, its culture, practices and procedures, formal and explicit, informal and tacit, as on the workers skills. The approach might include a technical literacy audit as found in the Functional Context approach, but takes a much broader cultural and ethnographic scope. By definition this would be a "whole organization" initiative. There would be no tension between the objectives of the literacy curriculum and the goals of the learners, and the goals of the employer and organizational learning objectives. Literacy learning, in an ideal form of a situated learning model, would be so thoroughly embedded that it is indistinguishable from organization learning. (Lave and Wenger 1991, Engestrom 2001)

A key advantage of this model is that it has the potential to harness the power of informal learning and align it with the aims of the organization as a whole and its employees. An extensive literature suggests that informal workplace learning is much more influential and effective in practice than formal learning, though it is difficult, if not impossible, to co-ordinate, control, and crucially, to evaluate quantitatively (Eraut 2004). An aspect of its potential is suggested by a 2007 survey in England of employees' preferences about learning aimed at improving their performance at work (Aldridge and Tuckett 2007): 82% of employees preferred less formal, more experiential modes of learning at work, expressed as "learning by doing the job on a regular basis", against only 54% who found courses helpful. Furthermore, the least skilled were least likely to find courses helpful.

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...in response to significant changes in workplace organization and culture due to rapid technological change and increased globalization, workplace learning must urgently focus on higher level literacies to deal with change and emerging digital technology.

The logic of the situated-expansive model suggests that rather than literacy expertise from outside, inside experts such as workplace trainers would have the necessary knowledge of literacy and essential skills, to ensure the complete integration of LES and workplace improvement curricula. This would, of course, require training for the workplace trainers.

It has been further argued (Gee et al 1996) that in response to significant changes in workplace organization and culture due to rapid technological change and increased globalization, workplace learning must urgently focus on higher level literacies to deal with change and emerging digital technology. As a result of these social, political and technological trends, all workplace learning needs to engage explicitly with issues of workplace democracy and participation. Effectively, these critics argue that the traditional content of "basic skills" is outdated, even from the "decontextualized" perspective.

5. TOWARDS A SITUATED-EXPANSIVE MODEL: HYPOTHESES FOR THE FUTURE

Since the situated-expansive approach has not yet found its way into practice, this section draws on studies that suggest how we might move toward a more expansive model of workforce and workplace education that embeds literacy and essential skills.

Critiques of Functional Context approaches

These two papers (Nash 2001, Imel 2003), mainly critiqued the Functional Context approach to workplace literacy learning, and began to develop an alternative vision for workplace literacy, focusing on participation by employees, in both the literacy and workplace curriculum. Nash (2001) argues for a "participatory" approach in which workplace literacy organizes learning through "critical inquiry", to enable workers to take "more control of their world" through the process of analyzing their situation:

A participatory approach is based on the belief that the purpose of education is to expand the ability of people to become the shapers of their worlds by analyzing the social forces that have historically limited their options....it incorporates both a collaborative process, which involves students defining their own needs and negotiating the curriculum, and a content focus on understanding one's experience within a larger social context to be better prepared to act upon that context. (Nash 2001)

A FOUR-MODEL ANALYTICAL FRAMEWORK

"Critical inquiry" means that the participatory approach "doesn't presuppose a particular solution (skills) to a pre-defined problem (workers)" which is the key indicator of the technical model. Nash notes, however, that *"a participatory model is welcome in few workplace settings. Practitioners are only able to weave it in, intermittently, with more traditional approaches"*.

Imel (2003) synthesizes ideas from several commentators, and argues for a pedagogy based on problem-posing inquiry, using a "socio-cognitive theory of learning that focuses on the connection between learning and doing", and situating the work not just in the workplace but in the wider world of the employees' cultural, social and historical environment (Castleton 2000, 2002). This argument is also reflected implicitly in recent studies of the social capital outcomes of adult literacy learning (Salomon 2010, NCVET 2010).

Productive and Participatory: Basic Education for High-Performing and Actively Engaged Workers

In a 2010 study, Jurmo argues that recent efforts to use employee education to increase worker participation, control, responsibility and reward within workplaces have failed because of lack of resources and operational and political resistance. The paper surveys three decades of "worker-centred education", and advances "a new model of worker basic education that enables workers to contribute to organizational efficiency while also participating at high levels of control, responsibility and reward."

Looking mainly at American examples, Jurmo argues that although many previous workplace basic skills initiatives were concerned solely to increase productivity and efficiency in the workplace, a number also aimed, to some extent, to help workers "participate at higher levels of control, responsibility and reward". Typically, these programs focused at least partly on such issues as protection against unfair practices at work, responding to changing working conditions, pursuing new job opportunities, protecting workers in the event of layoff, participating in workplace decision-making where possible, starting their own businesses, and preparing for retirement. These programs also in many cases focused on employer goals. Jurmo suggests that the *Equipped for the Future* initiative (Stein 2000) helped broaden the curriculum for basic skills programs to include "problem-solving, team-working, planning, research, self-advocacy, conflict resolution and other key skills, all of which would tend to support a 'worker-centred' approach to workplace basic skills." This led some programs to extend workplace curricula to include problem-posing rather than problem-solving (see Nash above), on worker rights, workplace issues,

occupation-specific work-readiness curricula, financial literacy, health and safety, leadership, and career planning.

Jurmo argues that workplace education can now be “a tool for both worker productivity and for more democratic workplaces”. He calls for “productivity through participation”, which requires rejecting the old polarity between employer-based and worker-based approaches. Both goals must be achieved, if companies are to survive and workers stay employed. He calls for programs and practitioners to pay more attention to research on effective approaches to workplace learning, to aspire to the highest quality of work, and to persevere in spite of continuing marginalization.

The Learning Through Work Project

Finally, taking a different approach, a project in the National Health Service of the UK (Newton et al 2006, Unwin 2007, Braddell 2007, Stuart and Winterton 2009), researched ways to develop and improve learning by improving the design of jobs and work processes, rather than through formal programs of education, which face resource constraints in releasing staff from the shop floor. This project argued that on-the-job learning integrated with participatory people management has the potential to deliver genuine developmental learning, focused on the information processing and communication skills needed to effectively manage work activity. A literature review on literacy learning in low-skilled, low-paid workplaces found that job design was a critical factor in determining what skills were needed to perform specific jobs, and whether workers have the opportunity to use their skills:

Job design ... is dictated in large part by the nature and culture of the workplace. Low-paid jobs typically are characterised not just by an absence of the need for LLNIT (literacy, language, numeracy and IT) skills but also the opportunity to deploy them; in turn, this typically leads to a lack of engagement by lower paid employees, with subsequent ramifications for organisational culture and a focus on command and control. A culture of command and control in turn appears to be associated with an absence of appraisal and development systems for lower paid workers....in many organisations employing lower-paid workers, therefore, a vicious circle is established.... (Newton et al 2006)

The publications from this project argue that workplaces do not operate in the mechanical and apparently predictable way that technical approaches to literacy learning assume that they do. The relationship between workplace learning, organizational and management culture, formal

A FOUR-MODEL ANALYTICAL FRAMEWORK

procedures and documents, worker engagement with learning, appraisal systems, productivity and efficiency is complex and specific for each workplace. The project investigated the possibilities of learning through work in a number of settings in the UK Health Service, not just because of the barriers to releasing employees during work time, but because this might be a more effective way of achieving sustained learning. This led the project to focus, like Nash, on participatory management practices which, it argues, “ensure individuals have the ability, motivation and opportunity to participate in workplace activity”, and at the same time “to communicate how individual roles and responsibilities relate to the aims and objectives of the organisation (that is, the ‘job’ in its largest sense)” (Braddell 2007). This perspective prioritizes both continuous “learning-in-the-job” and continuous “learning-about-the-job” which develops collaborative engagement:

Engagement is also central to the rich learning that research, over the past two to three decades, has revealed occurs in the workplace, outside of any classroom, through work activity and the interactions that surround work. To differentiate it from learning-about-the-job, this sort of learning might be termed learning-in-the-job. It is best understood through a constructivist model of learning-as-participation. (Braddell 2007)

This view sees learning and productivity as mutually dependent. As suggested two decades earlier, learning

is no longer a separate activity that occurs either before one enters the workplace or in remote classroom settings. Nor is it an activity preserved for the managerial group. The behaviours that define learning and behaviours that define being productive are one and the same. Learning is not something that requires time out from being engaged in productive activity; learning is the heart of productive activity. (Zuboff 1988)

In a situated-expansive model, the key educator is a facilitator whose aim is to help workers examine and question all aspects of their work situation to understand it better, and to use this understanding to propose improvements in job design, to pose and solve problems, while at the same time improving their learning. This learning might be technically invisible unless it happened to be assessed. The Learning Through Work project evaluated various designs for the job of this educator/facilitator, part of which outlines the skills and knowledge needed, and a view about how such facilitators might be trained.

There is little evidence for the emergence of a preferred model for workplace literacy learning over the last twenty years. The Technical Model currently probably has more adherents in theory than the Decontextualized Model, but it is likely that in practice most programs are more decontextualized than not. On the other hand, research also suggests that even relatively short decontextualized programs, on balance, have positive benefits for individual learners, if not always for employers (Wolf and Evans 2011). Both situated models have strong proponents in theory, but there is little evidence of much sustained practice based on these models, even though research suggests they would be more effective. This may indicate the relatively limited communication between academic communities and workplace trainers in an under-funded field which is fragile and where programs are often short-lived. Some commentators have suggested the situated models are often seen as “worker-centred” models which tend to be described as idealistic at best, or politically motivated at worst (though this is rarely said about “employer-centred” approaches). The situated-expansive model, the only one not in any way based on a deficit view of learners, faces a number of serious barriers. It is seen in some quarters as ideological, it demands a strategic, long-term commitment from employers who need to “embed” it in the DNA of the whole organization, and its costs, benefits and outcomes are even harder to measure numerically. Jurmo (2010) and the Learning Through Work projects in the UK (Braddell 2007) offer different ways of trying to deal practically with these difficulties while still moving the debate forward.

In all the countries looked at for this paper, the greatest difficulty is the relative rarity of programs and their tendency to be short-lived; this is reflected in the low number of high quality research studies on workplace literacy learning in general. Benseman et al (2005) briefly surveyed the limited research evidence for common factors in effective workplace learning. They produced a list described as representing “a reasonable summary of practitioners’ accumulated wisdom in this area”, most of which imply approaches that incorporate embedding, and many of which also imply the need for “expansive” organizational environments for learning. The most widely indicated factors from their list are:

- High levels of commitment from company
- Supportive environment/culture of learning
- Adequate funding and time allocation
- Curriculum related to context (‘real life’)
- Program tailored to local situation
- Involvement of workers/unions
- Clear, ‘non-stigmatized’ advertising
- Provision free, voluntary and in work time

CONCLUSION

Unfortunately, they also note that in the reports they reviewed “there is no guidance as yet on teaching methodologies” (Benseman et al 2005).

The main issue in all countries is often “Will there be a workplace LES program at all?” rather than “Which approach to embedded LES should we adopt?” and, as noted in the research, practitioners and employers generally take the most pragmatic approach.

Nevertheless, trying to expand our thinking about how to do it better and well is essential, even if it appears to be idealistic, so that the inevitable pragmatic compromises do not become set in stone.

This paper has attempted to identify some tools to help us think about, debate and plan Workplace Literacy and Essential Skills programs. Such tools are necessary so that discussions between practitioners aiming to clarify good practice and successful approaches can get beyond mere descriptions of what happened. In order to compare and evaluate approaches, we need ways of thinking about WLES in general, at a higher level, and these models in principle provide one way of doing this.

It offers a few examples of projects and programs from a range of contexts and countries, and a summary of the findings of research so far on features of successful WLES provision.

All employers and policy-makers concerned with economic productivity are interested in supporting the continuing development of an effective workforce. Few would currently argue that workers should get all the learning they need at school and college. Work changes very quickly, recruiting and training new workers is in general much more expensive than upskilling or retraining existing staff; so workers need to be learners. Most employers accept this, and are interested in principle in supporting the learning of their workers. The point is that general studies of workplace learning suggest that key factors in successful workplace learning include the ways in which work is organized, and the management culture of the organization, as well as the choice of curriculum and the quality of the teacher. Above all, this paper has suggested that debates and discussions about WLES need to be located in the broader context of thinking about workplace learning in general.

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WEBSITES REFERRED TO IN THE TEXT

- HSRDC (Human Services Research and Development Centre, Canada)
<http://www.hsrc.org/>
- OECD (Organisation for Economic Co-Operation and Development) Adult Literacy
http://www.oecd.org/document/2/0,3343,en_2649_39263294_2670850_1_1_1_1,00.html
- PIACC: (Programme for the International Assessment of Adult Competencies)
http://www.oecd.org/document/7/0,3746,en_2649_39263294_44378247_1_1_1_1,00.html
- Statistics Canada IALS (International Adult Literacy Survey)
<http://www.statcan.gc.ca/pub/89-588-x/4152886-eng.htm>

APPENDIX 1

The following questions were developed for the 2011 Summer Institute in Montreal

QUESTIONS TO CONSIDER

Some key questions for practitioners, whether LES specialists or Workplace Trainers, suggested by the literature are:

1. Who sets program goals?
2. "Built-in or Bolted-on?" To what extent is the program part of a long-term, whole-organization strategy for development and improvement?
3. To what extent is the curriculum pre-determined and non-negotiable?
4. How much are participating employees involved in planning and evaluating programs?
5. How much is the curriculum and methodology of the program "situated": ie arising from the specific needs of these employees and this workplace?
6. Is the focus of the program mostly on individual learners improving their skills, or is there also a focus on improving work processes?
7. Is workplace learning aligned with worker appraisal processes: for example, are managers formally responsible for the development of their staff?
8. Is the culture of the workplace "expansive" or "restricted" in relation to worker development?
9. What is the nature of the collaboration between "outside" and "inside" experts?
10. What is the approach to learner assessment?
11. Who evaluates programs and against what criteria?



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