PAPER FOLIO ONE: FOUNDATIONS OF WORKPLACE LEARNING

PAPER FOLIO TWO: WORKPLACE LEARNING –

INFLUENCES AND APPROACHES

PAPER FOLIO THREE: AUTHENTIC ASSESSMENT OF LEARNING

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Abstract

These paper folios presented the theory, research and practice on workplace learning, encompassing a review of relevant literature -- human resource development, learning organizations, organizational learning, learning theory, instructional theory and methodology, authentic assessment, portfolio assessment, and career development. The development of these paper folios was a challenge, considering the complexities of today's global workforce.

Paper Folio One, *Foundations of Workplace Learning*, examined the evolution of workplace learning, its nomenclature, and the influence of learning theories.

Paper Folio Two, *Workplace Learning - Influences and Approaches*, focussed on several perspectives -- the emergence of complex trends, issues, challenges and the influence of instructional theory on workplace learning approaches.

Paper Folio Three, *Authentic Assessment of Learning*, presented the theory, complexities and applications of authentic assessment methodologies, as well as the influence of learning styles and self-directed learning. It also highlighted constructivist thinking within a framework of prior learning assessment and recognition (PLAR) and portfolio assessment. In summary, these paper folios captured *a snapshot* of workplace learning - the past, the present, and the future.

Acknowledgments

These paper folios had a long gestation, and during that period, their actual delivery date was in serious doubt until this moment. But alas, every roller coaster ride eventually comes to an end and the feeling of accomplishment, having stayed the course, has made this particular trip worthwhile.

Of course, any journey is less formidable with the ongoing support of faculty, colleagues, coworkers, fellow graduate students, friends and family. Specifically, I acknowledge the expert guidance from my advisor, Dr. Mildred Cahill, Faculty of Education. She has significantly influenced my career journey and I owe her a huge *thank you* for the many *pokes and prods* to this particular *finish line.* In addition, a sincere thank you to Dr. Eileen Bragg, Instructional Development Office and Dr. David Philpott, Faculty of Education, both of whom provided their expertise, time and thorough analysis of these papers.

Equally important was the loving support of my family – my husband, Richard, and my daughter, Andrea and her friend, Jamie Johnstone -- thank you so much for your patience and eternal optimism that this effort would finally reach this successful conclusion.

Thank you, everyone!

Dedication

I dedicate this effort to the loving memory of three very special people -- my parents, Gordon and Mary Walsh, and my son, Paul.

Education was so important to my parents and their dream that I get a *good education.* I could never thank them enough for giving me that value -- a love of lifelong learning. My father *went back to school,* the Fisheries' College, in the 1950's. He was 45 years old and had been out of school for 30 years! He became a *master mariner,* and he subsequently navigated ships throughout North America and Europe. My mother was so very proud of her spouse, Captain Walsh, and recounted many times his achievement -- *top marks in his class!* My mother was always *good at everything.* She did not like unfinished projects. She never failed to ask me if I had *my work done,* referring to these paper folios. I miss those gentle *nudges.*

Finally, my son, Paul, left me a legacy of cherished memories during his 18 years. His singing and artistic talents were evidenced by many, as well as his love of life itself. Paul's passing caused me to reconstruct my own values and find new meanings for *all that is truly important in my life's journey.*

PAPER FOLIO ONE: FOUNDATIONS OF WORKPLACE LEARNING

Introduction

Workplace learning, as a concept, has been described within the context of employing organizations and employees and considered from a number of diverse perspectives (Rothwell and Sredl, 2000; Senge, 1999; Tight, 1996). This paper has been developed to focus on several key components of workplace learning, namely, the evolution of workplace learning, the language of workplace learning, and the influence of learning theories on workplace learning approaches for the workforce of the 21st Century.

The Evolution of Workplace Learning

A Sketch of Past Centuries

The foundation of workplace learning has spanned many centuries and, in particular, its development has been building momentum with the ever-changing and challenging workplace landscape in this 21st Century. Historically, workplace learning has been traced since the time of AD. 1100, when apprenticeships and guilds began to emerge (Rowden, 1966). Watkins (1995) delineated a comprehensive summary of workplace interventions from the 1700's onward. This involved the emergence of factory schools, followed by apprenticeship models for machinists in the 1800's and for railway workers in the early 1900's. Other significant

milestones, (discussed by Watkins), included the time and motion studies of Frederick Taylor, which were intended to "improve efficiency and reduce worker strain" (p. 5), the management school of Gilbreth, who introduced job instruction training and Juran's contribution to total quality management (Watkins, 1995, p. 5).

Both World Wars profoundly impacted industry training for workers. For example, Watkins (1995) referred to the "show, tell, do, check" method for training shipyard workers as early as 1917, a method used in on-the-job training programs today. As the war ended, it had become apparent that the "veterans possessed the knowledge, skills, and attitudes to win a war, [but] they had little knowledge about peacetime employment" (Rowden, 1966, p. 5). Therefore, employers began to utilize successful military training interventions in post-war labour force development.

At the same time, the first train-the-trainer programs had been introduced as a means to train those involved in the war effort to ensure that the defense system worked and that the necessary day to day problems could be solved at many levels in the defense industry (Watkins, 1995). In fact, the train-the-trainer methodology has continued relevance in today's workplaces, particularly, in the skill-based technical operations involving routine skills and related behaviour.

The need to support training providers emerged in the early '40s, resulting in the widely recognized professional resource, the American Society for Training and Development being established (Watkins, 1995). The groundwork laid in the first half of the 20th century has its place firmly situated in the decades that followed and into this century.

Post World War II to the Twenty-First Century

In the 1960's, the concept of organizational development emerged, introducing the concept of teamwork and the development of the employing organization (Watkins, 1995). She noted also the events of the 1970's, as various movements, including civil rights, necessitated major changes in support of employees – the rights of minorities, affirmative action legislation, standards for professions -- all necessitated shifts in training focus. Some examples were -- introduction of awareness programs for employee assistance, interpersonal skills training and career planning seminars. The impact of that decade has continued into this century. In fact, these employee support mechanisms have become equated with today's recruitment and retention strategies (Watkins, 1995).

The 1980's and 1990's hold particular significance for the changing face of training, resulting from globalization, economic challenges and technological advances. Chaykowski and Lewis (1994) posited the increased competitiveness

resulted in training interventions to improve employee performance. Those years have been characterized by distance education models using multimedia delivery methodology and increasing numbers of instructional developers.

During the 1990's, globalization influenced how training could be delivered. According to Watkins (1995), when permanent positions were replaced by increasing numbers of temporary, part-time, and contract workers, the following impact occurred:

> This has left the field of human resources depending on a number of differentiated systems for delivering training, including management consultants, internal company trainers, external training agencies, such as training companies, community colleges, union schools and training centres and multimedia companies specializing in training courses on video, on CD-ROM or in print. Partnerships between colleges and businesses, between public schools and businesses, and between business to provide training have emerged (Watkins, 1995, p. 6).

The various dimensions of workplace learning, as viewed from this brief chronological sketch of the past, have evolved from the simple "show, tell, do, check" (Watkins, 1995, p. 5), to complex training and development challenges -- the focus of Paper Folio Two. Assuming the goal of an organization to meet performance objectives has been clearly defined, then, determining strategies to support that goal has been the role of the trainer in the past. However, managing knowledge, resulting from sophisticated information technology systems has become a daunting task for the

provincial public service. The key stakeholders, (for example, managers, educators, designers, planners, consultants, and trainers), have been attempting to satisfy both individual and organizational needs. The depth and breadth of industrial, societal, economic and political forces have significantly influenced development and scope of workplace learning, resulting in its own distinct, and frequently confusing, terminology.

The Language of Workplace Learning

The term, *workplace learning*, has been routinely identified within the context of training interventions, designed to improve the performance of the workplace. It has also been associated with opportunities referred to as human resource development and organizational development (Watkins, 1995). Rothwell and Sredl (2000) offered a different perspective and pointed to negative consequences associated with the ever-increasing terminology, resulting in inconsistencies and causing confusion in the field of human resource development. The next section has captured definitions and various perspectives on the following: workplace learning and performance, human resource development, training and development, career development and organization development. These terms have provided ongoing publishing opportunities, resulting in a plethora of books, manuals, guides. Their availability in any well

stocked bookstore and library has attested to the ongoing challenge to provide creative workforce development solutions to the ever changing needs of employees and their employers.

Workplace Learning and Performance

Improved performance has always been at the centre of any planned training initiatives for employees. In the last decade, there has been increasing emphasis on organizational performance (Rothwell and Sredl, 2002). This has caused employers to develop integrated responses to needs within workplaces for learning interventions. The process used has become a systematic one, requiring both analysis and responses to the specific needs of each - employing organization, individual, and work groups.

"Workplace learning and performance create positive, progressive change within organizations by balancing human, ethical, technological, and operational considerations" (Rothwell and Sredl, 2000, p. 5). They represented the essence of strategic human resource management to which organizations have now directed their attention. There has been increasing awareness and need among employing organizations to establish strategic priorities from which the broader human resource development issues flow, particularly workforce development, focussing on both efficiency and employee enhancement (Rowden, 1996).

Rothwell and Sredl (2000) also offered increased encouragement to those in the workplace, responsible for interventions -- workplace learning professionals, occupying such roles as managers, designers and facilitators of learning opportunities. These roles have been traditionally assigned to human resources personnel within organizations unless an organizational performance goal required the services of an external consultant to achieve its target. Regardless of the provider, performance at all levels in the organization has been gaining increasing attention in today's global workplaces. Paper Folio Two will describe the trends and issues impacting workplace performance.

Human Resource Development

This section has focussed on presenting various perspectives associated with the term -- *human resource development*. This term has become popular from several perspectives, not only in the workplace, but has also focussed on economic perspectives. The term originally evolved from the broad array of employee responsibilities and roles associated not only with personnel (payroll and benefits), but also, training and staff development (Tight, 1996). This author further explained that the term has now centered on a more holistic effort.

More precisely, Rothwell and Sredl (2000) have defined human resource development as "the integrated use of

training and development, organizational development and
career development to improve individual, group and
organizational effectiveness" (p. 2). This definition had
particular applicability for this writer, who has followed
guidelines established for the developing strategic human
resource plans within the provincial public sector.

Human resource development has been viewed as crucial
to all facets of learning organizations. As a concept that
has evolved from influences in the economic and
technological sectors (Tight, 1996), a discussion of the
interconnectedness between human resource development and
learning organizations will continue to have relevance in
today's global workplace. Therefore, investing in workplace
learning to develop human resource capital has been driven
by the need to achieve strategic goals, contributing to an
organization's bottom line.

The most common approach used by organizations to
develop its workforce has been the implementation of
training and development programs based on a comprehensive
needs analysis. Such learning needs analyses have been
considered an essential component of the public sector's
human resource planning in Newfoundland and Labrador.
Strategies to ensure both relevance and utility of such
analyses have become the primary responsibility of the staff
development and training officers and managers. The roles
of these employees have been continuously redefined in the

midst of very limited capacity -- the time, the finances and the availability of trained personnel.

Training and Development

The term, training and development, has been used to refer to organized activities, designed to improve the knowledge, skill, and behaviour needed in specific occupations, positions, and roles with the workforce in order to achieve assigned tasks (Rothwell and Sredl, 2000). However, Tight (1996) suggested that training events generally involved short-term responses to a need, whereas the concept of development suggested longer term involvement with the individuals or groups. This language has been widely accepted in today's workforce. References to training events - seminars, workshops, on-the-job training, conferences and courses need no explanation. However, developmental opportunities -- secondments, cross-training, mentoring, and coaching -- have had an *implied* complexity because they have not been as easily defined and transparent as the training schedule.

The assessment and recognition of informal and incidental learning, that is, the employee development in various contexts, has sparked recent interest and its relevance to this discussion will be examined in Paper Folio Three, *Authentic Assessment of Learning.*

The training and development industry has evolved into

a complex system of supports for employers and employees and
has incorporated numerous benefits of technological advances
in e-learning methodologies. Training and development
interventions have been generally grounded in a needs
assessment process related to the job requirements.
However, there has been a growing recognition for other
planned interventions, including succession planning, to
ensure the retention of employees within the organizations
and to support their career development interests.

Career Development

Herr and Cramer (1996) suggested that any
organizational efforts to support individual career needs
must be linked with human resource development requirements.
The goals of any career development programs in workplaces
have been designed to support the assumptions of increased
retention and improved productivity. Herr and Cramer
further stated that there has not been any conclusive
research that has supported these assumptions. From my
professional experience, career development interventions
have been offered in the provincial public sector in two
circumstances: 1) as a support mechanism to offset the
impact of downsizing; and 2) to ensure the integration of
disabled persons into the workplace.

Policies affecting larger population of public sector
employees have not existed, even though researchers (Herr

and Cramer, 1996; Tight, 1996; Rothwell and Sredl, 2000) advocated their short and long term, twofold benefits - the support for employees and ensuring that right mix of human resources has been retained to meet the goals of organizational development through strategic planning processes.

Organizational Development

Organizational development has been differentiated as an outcome of one or many of the systematic interventions, focussed on changes to improve the performance of the whole organization or specific individuals or groups. Rothwell and Sredl (2000) stated organizational development has been known to help with all facets of organizational culture -- improved decision-making and problem-solving skills have been documented. They further reasoned organizational development held an all-encompassing approach to activities associated with the learning in the workplace -- in house training, formal education courses and efforts directed toward career mobility.

Watkins (1995) has identified a similar view, but also, posited organizational development as an outcome of an integrated human resource development strategy, central to any organizational growth and essential as a support to individual learning needs and growth.

One of the widely known contributors to the discourse on individual learning needs has come from Maslow, (cited in Knowles, 1984). Maslow's view was that the basic need for self-actualization happens as a result of reaching one's full potential, that is, using all of one's talents and capacities. Maslow's insight provides a useful bridge to the next section on the factors which defined individual and organizational learning needs within the context of workplace learning.

Individual and Organizational Learning Perspectives

Most definitions of learning have included the words: behaviour, change, and experience. Maples and Webster, as cited in Merriam and Caffarella (1991), offered the following definition: "Learning can be thought of as a process by which behaviour changes as a result of experience" (1991, p. 124). In addition, Merriam and Caffarella (1991) situated learning in the context of organization learning as "a means to an end that helps an organization better satisfy its customers, create excellent products and services, win its wars or improve the quality of life" (p. 9), all of which has been accelerated by constant technological change.

Other researchers have held similar viewpoints. "Just as individuals are the agents for organizational action, so they are the agents for organizational learning" (Argyris

and Schon, 1978, p. 19). Organizational planning goals have been naturally dependent on employee action to achieve their intended outcomes. "Learning at the organizational level has been constrained only by the ability of individuals and teams to learn, so enhancing individual and team learning is a good starting point" (Nayak, Garvin, Maira and Bragar, 1995, p. 27).

Bierema (1996) pointed out that "the challenge of becoming a learning organization lies in the ability to truly change the organizational structure of development and management from fragmented, machine-like bureaucracies, to fluid, connected networks" (p. 22). The efforts by these writers to delineate individual learning from organizational learning were comprehensive and involved complex solutions for 21st century workplaces.

Some appreciation for the complexities of individual learning, organizational learning and workplace learning can be gained from a discussion on the theoretical foundations influencing these concepts -- learning theories.

Learning Theories

Knowles (1984) stated that "a theory is a comprehensive, coherent and internally consistent system of ideas about a set of phenomena" (p. 5). Knowles further posited that learning theories were produced in the first half of the twentieth century and since then, considerable

attention has been paid to interpreting them (Taylor, Marienaw, and Fiddle, 2000). Since learning theory involved interpreting the behaviour of human beings, there has been no apparent reason why such discourse would ever end. Theories provide roadmaps from which one can plot a journey, and the wealth of literature has offered a very interesting road trip.

Merriam and Caffarella (1991) stated learning theories provide "...a vocabulary and a conceptual framework for interpreting the examples of learning that we observe [as well as a mechanism for] suggesting where to look for solutions to practical problems" (p.125). From this statement, it has been possible to derive that learning theories influence the development of workplace learning interventions, creating human resource development solutions to individual and organizational learning needs. In a more recent book, Merriam and Caffarella (1999) have *reconstructed* their thinking and highlighted the growing interest in context, experience and culture on adult learning theories. The increasing significance of adult learning from all types of experiences has been one of the main elements, comprising Paper Folio Three. However, that discussion has been preceded by a brief look at adult learning theories -- behaviourism, cognitivism, humanism, social learning, and constructivism.

Behaviourist theory, attributed to the work of John B.

Watson and founded on the theories of Skinner, Thorndike, Tolman, Guthrie, and Hull (Merriam and Caffarella, 1991) has been based on three assumptions - the behavioral change occurred as a result of learning, the environment directly influenced what was learned, not the learner and finally, rewards were essential to reinforcement of the behaviour. Marsick (1987) held that this type of model was operated like an assembly line.   The influence of behaviourism has been well grounded in today's competency-based models for assessing pre and post performance of employees for the purpose of developing learning plans in many workplaces.

Cognitivism, attributed to Gestalt psychologist, Bode, "...proposes looking at the whole rather than its parts, at patterns rather than isolated events...Perception, insight, and meaning are key contributions to cognitivism...Learning involves the reorganization of experiences in order to make sense of [them] (Merriam and Caffarella, 1991, p. 129).   The locus of control has remained with the learner, not the environment, as the individual attempted to solve problems and gain insight from the process.

Converging with cognitive learning theory were theories of instruction attempting to unite what was known about learning. As an example, schema theory (Merriam and Caffarella, 1991), allowed an appreciation for the organization of prior learning or knowledge, recognizing its usefulness to adult learners at different ages.   The

potential workplace value for the recognition of prior

learning experiences, within the context of constructivist

theory, will be discussed in Paper Folio Three, *Authentic*

Assessment of Learning.

The humanist perspective, influenced by cognitive

theories of learning, has embodied the notion of human

growth and potential for learning from experience. This

theory

> emphasizes that perceptions are centered in
> experience, as well as the freedom and
> responsibility to become what one is capable of
> becoming. These tenets underlie much of adult
> learning theory that stresses the self-
> directedness of adults and the value of experience
> in the learning process (Merriam and Caffarella,
> 1991 p. 132).

Merriam and Caffarella (1991) noted that Maslow's

hierarchy of needs has been at the centre of humanistic

psychology. The need for self-actualization, influencing

motivation to learn, has been relevant to the development of

workplace learning interventions. Knowles (1980) has made a

significant contribution with his notion of andragogy,

defined as "the art and science of helping people learn" (p.

43), focussing on the differences in childhood learning and

adult learning.

Rogers' (1983) book, *Freedom to Learn for the 80's,*

offered considerable insight into the learning debate,

focussing on individual growth and development,

characterized by the following elements:

1. The learning intervention -- consideration should

be given to both the affective and cognitive dimensions;

2.   New meaning -- self-initiated, not an external
event;

3.   Pervasive - knowledge, skill and attitudes improve;

4.   Learner evaluation -- a need should be met;

5.   Essence -- learner decides on the essence of the
total experience and its relevance.

Earlier writings by Cross (1981) noted that
individuals' natural curiosity for learning has been always
enhanced in supportive learning environments. Rogers (1983)
built on the notion of experiential learning, finding its
expression today in all aspects of workplace learning. This
concept had been first introduced by John Dewey in the early
1900's (Merriam and Caffarella, 1991). Rogers also pointed
to the research to support the humanistic orientation,
arguing that both the problem-solving and creative abilities
of trainees improve when the facilitator encouraged them to
take responsibility for their own learning.

Social learning theory emerged in the 1940's from the
work of Miller and Dollard as a way to explain "social-
personality phenomena...with more objective and reliable
concepts of a learning theory...[such as] imitative learning
[being] the result of observation, overt responding and
reinforcement" (Merriam and Caffarella, 1991, p. 135).
However, Bandura (1977) created the path for social learning
as completely separate from the behaviourist tradition. His

view was "social learning theory emphasizes the prominent roles played by vicarious, symbolic and self-regulation processes in psychological functioning" (p. vii). Bandura's work highlighted the potential of human learning through observation of other's behaviour and by direct experience.

Marsick (1987) summarized the behaviorist and humanist paradigms this way: "Training under the old [behaviorist] paradigm prepares people for machine-like work...Learning under the new [humanist] paradigm involves reflection by individuals and working groups upon their own experience as part of the organizational whole" (p. 3). From the writer's position in the public sector, efforts have focussed on combining both models. The behaviourist interventions have focussed on technical competence while the humanist paradigm has not been intentional. It has simply evolved from the needs, both internal and external, centering on leadership development, and innovation responses aimed toward service excellence.

The Emergence of Constructivist Theory

Connectedness and empathetic variables, central to the constructivist approach, give facilitators of workplace learning unlimited opportunities to be imaginative and show passion for all ways of learning and knowing. Some writers (for example, Barakett and Cleghorn, 2000; Brockbank and McGill, 1998; Merriam and Caffarella, 1991; Peavy, 1998),

have offered learners a different view of learning outside the structure of formal settings. The meaning employees attach to on the job training has evolved from learning by doing the work related tasks. More specifically, experiential learning has been at the centre of emerging interest in constructivist thinking (Peavy, 1998).

Previous to this, Kolb (1984) has summarized learning this way: "a process whereby knowledge is created through the transformation of experience" (p. 38), building on the notion that a constructivist model acknowledged the cultural capital of all learners, demonstrating respect for diversity and culture in the learning process (Barakett and Cleghorn, 2000; Peavy, 1998). These researchers posited reflective practice or the social reconstructivist model to become more prevalent in educational settings, particularly in the training of helping professionals. Brookfield (1990) addressed the essentials of reflection, very simply:

> So if you have forgotten what inspired you to become a teacher in the first place, and if you can't recall why you felt it was such an important way to spend your life, make a deliberate and repeated effort to revisit the sources of your decisions and to drink from the waters there (p. 28).

Hill (1999) described Kolb's model as a circular process, holding on to the four distinct dimensions, but renaming them "awareness, struggle, building and preservation" (p. 9). This represented an Aboriginal perspective on learning, while building on Kolb's (1984)

theory that the "most powerful and adaptive forms of learning emerge when the four elementary learning modes or strategies are used in combination" (p. 65).

Peavy (1998) held that constructivist thinking, dating back to the 15th century, has not been widely accepted by behaviorists, cognitivists and humanists. "It is becoming more and more apparent to serious thinkers that the positivist foundations... can no longer serve as a legitimatizing basis for ...helping professions" (p. 9). He believed the relational and social elements of working together with others, as well as the ever changing, dynamic meaning and movement in which human beings engage, necessitated a new model for those helping others -- "SocioDynamic Counselling" (Peavy, 1998). An application of the key elements of applying that model will be discussed in Paper Folio Three within the context of PLAR.

Summary

This paper has been a reflection on the evolution of workplace learning and the theoretical perspectives that have shaped its instructional development, and its applications for workforces of many decades. It has become evident which interventions have stood the test of time. However, there have been emerging trends and issues: globalization of the workforce, technology, demographics and many others - all of which have created trends and issues

unique to the twenty-first century and influenced the landscape of workplace learning, in particular, the role of trainer.

Historically, the primary role of trainer, that is, a workplace learning professional, was to ensure that employees can do their current jobs. From the previous discussion, it has been obvious the role of trainer has evolved into a very complex one, particularly, when examined within the context of the theoretical underpinnings of instructing, teaching and learning. Marsick and Watkins (1999) posited "who is leading and managing the learning efforts in order to accomplish business results is a critical factor" (p. 6).

The shape of workplace learning interventions has been largely influenced by both the cognitive and behaviourist model. While the other three models – humanist, social learning and constructivist have been central to the self-actualization of individual, workplace learning interventions have been generally constructed to support the organizational needs using instructional models centered in the road maps created by learning theories. These models have resulted in "big business" for developers and instructional designers and have influenced trends, issues, expectations and outcomes from both organizational and individual perspectives. Paper Folio Two, *Workplace Learning – Influences and Approaches*, has provided the

opportunity for a synthesis and analysis of the trends and issues, their implications and practical applications associated with workplace learning in the 21st century.

PAPER FOLIO TWO: WORKPLACE LEARNING - INFLUENCES

AND APPROACHES

Introduction

This paper folio presented the influences on as well as approaches to workplace learning from several perspectives: emergence of complex trends and issues, the impact of learning theory and instructional theory on approaches to workplace learning, and finally, the challenges shaping the role of workplace learning professionals.

Emerging Trends and Issues

Senge et al. (1999) and Watkins (1995) have made key contributions to the literature of workplace learning, focussing on emerging trends and issues, challenges and impacts, globalization, technology, learning organizations, outcomes of technological advances, the changing needs of employees, and the evolving role of the workplace trainer. Similarly, Rothwell and Sredl (2000) have augmented these writings of Senge et al. (1999) and Watkins in this statement:

> The foundation of WLP [workplace learning] is helping people and organizations to improve performance; the field itself is undergoing dramatic and transformational change as a direct consequence of environmental pressures on organizations, new developments in organizational, group and individual learning theories and methods, and new approaches to achieving organizational results (2000, p. 179).

The most prevalent of the these trends and issues have been furthered elaborated on in the proceeding sections.

Globalization and Technology

In a comparative study of six countries, edited by Belanger and Tuijnman (1997), a significant trend was documented - globalization of the workplace. Coupled with this trend were the changing conditions of work resulting from advances in technology, thereby impacting changing expectations of workers and their employers. Their research extended to diversity pointing to other significant factors, such as demographics, age and gender.

Another effect of globalization has been the changing faces in the new world of work - contract based, project based and short term for many workers. Loyalty has been questioned. Employees' needs became paramount and they have been more ready to change careers. Watkins (1995) has cautioned "skills leave with departing employees...[and] employees' attitudes toward training in this context are changing. Training becomes knowledge, which is transportable. [Therefore], the workplace is increasingly one's laptop computer - wherever it is located" (p. 13).

This trend arrived with technological advances in the last decade and has been uprooting traditional values -- security and loyalty. Conversely, this writer's experience has been characterized by collective agreements, permanent

jobs, limited career mobility, and traditional human resource policies with limited flexible work arrangements. However, positive approaches within that same environment, designed to address several challenges - changing demographics, technological advances and leadership development - include a graduate recruit program, a broad range of organizational development initiatives, and more recently, a government-wide human resource planning initiative.

Watkins (1995) has provided food for thought -- should all facets in the public sector workplaces be forced to consider the value of becoming learning organizations? Have new strategies minimized the negative impact of downsizing and retirements on corporate knowledge? This necessitated an integrated strategy of individual and organizational performance models for documenting outcomes, highlighted in Paper Folio One. The next section, *High Performance Workplaces,* will describe how organizations strive to be the best they can be in order to remain competitive.

High Performance Workplaces

Another influential outcome of globalization was the trend toward "high performance workplaces...[resulting in a] call for a major adult education and training effort... [with] the emphasis on learning while working and working while learning" (Watkins, 1995, p. 5). In reality, on-the-

job training has been the simplest, less costly option for
many employers, but, not always the most beneficial in terms
of productivity because the resources to manage and evaluate
the on-the-job training have not been organized. Such
efforts have often been *off the shelf* and developed to meet
individual, group, or organization learning needs.

From the perspective of accountability and performance,
high-performance workplaces have been viewed as essential
for improving the bottom line. Chaykowski and Lewis' (1994)
two year research project on trends in Canada found evidence
of substantial training efforts by employers. However, they
also concluded that a need existed for systematic research,
informing decision-makers on the impact of formal and
informal training efforts on organizational goals. Watkins'
(1995) summary of goals for a high-performance workplace has
captured the potential nucleus of a future research effort:

> ... [A high-performance workplace] emphasizes
> self-managing teams, study circles, flexible
> rather than narrow job design, flat organization
> structures, employee problem-solving groups,
> information and office technologies, just-in-time
> learning and production, the ability to meet
> customer needs, and, particularly, innovation and
> total quality management. People's knowledge,
> skills, and qualifications are key to all these
> priorities (p. 5).

In an ideal world, foregoing goals (Watkins, 1995) have
created an organizational vision truly valuing employees.
However, the impact of corporate downsizing, mergers, loss
of permanent jobs as well as the organizational knowledge

and changing demographics has created a need for immediate responses through the creation of strategic and operational plans, from which the most critical human resource issues will be incorporated into another plan -- a human resource plan.

Human resource plans have provided the focus for identifying strategies to acquire new and changing skill sets for the organization. In order to ensure that such plans are implemented, workplace learning professionals, trainers, human resource managers, as well as a host of other descriptors representing the field, have assumed new roles as well as acquired specialized competencies. Unfortunately, the contribution by human resource practitioners toward implementing the business plan, has been often ignored by top management (Rothwell and Kazanas, 1994). In this writer's environment, there has been a concerted effort at the senior management level, to collaborate with all human resources divisions on the development, implementation and management of strategic human resource policy and interventions.

Learning Organizations

Organizational learning, or learning organizations, have been influenced by politics and economics for more than a decade, and this trend has been evaluated as one that is likely to continue (Schwandt and Marquardt, 2000).

"Learning at the organizational level is constrained by the ability of individuals and teams to learn, so enhancing individual and team learning is a good starting point" (Nayak, Garvin, Maira and Bragar, 1995, p. 27). In fact, they alleged the interdependence between individuals and the organization has been such that the involvement of employees in individual learning has been prerequisite to any organizational learning.

Organizational learning has contributed to the concept of continuous learning because the organization, like an individual, has demonstrated its need to grow and develop over time. The term, in fact, has helped shift the focus from training to learning, a more encompassing, holistic view.

It has become clear that learning organizations have not evolved as a separate entity. This notion of leadership has been a central tenant to the development of a learning organization. The interest in becoming a learning organization has been increasing, but a disconnect has been developing between the vision of the organization, the day to day operational issues, the productivity and the behaviour of employees as a direct result of downsizing (Schwandt and Marquardt, 2000). They concluded the efforts toward developing learning organizations have not been straightforward and created confusion, even disenchantment. Even though there has been increasing recognition of the

need for knowledge management and related workplace learning strategies, efforts within the public sector directed toward developing highly effective leadership at many levels in the organization have been inadequately resourced in terms of time, money, and human resource managers.

The concept and practice of *leadership* has been at the centre of the dialogue on the workplace learning within the provincial public sector and in most of the literature incorporated into this paper folio. In spite of all the rhetoric, Starkey (1996) pointed to the difficulties in finding the leadership in order to create both adaptive (coping) learning and generative (creative) learning strategies, which are the essence of learning organizations. He further held that the heroes and those in charge of the troops represented continue to traditional workplaces.

Leaders in today's learning organizations have been charged with exciting, challenging roles --designers, teachers, and stewards. "These roles require new skills: the ability to build shared vision...In short, [they] are responsible for building organizations where people are continually expending their capabilities to shape their future...(p. 290-291)". Rothwell and Kazanas' (1994) text presented various summaries, outlined the roles, responsibilities, strategies, and competencies for those faced with the enormous undertaking -- strategic human resource development within today's workplaces.

High performance workplaces have been known to present
challenges related to innovation (Senge et al., 1999). The
development of learning organizations has this key objective
-- maintain a competitive advantage in an age of
technological advances. Senge et al. (1999) further added
increased knowledge has necessitated the finding of
resources to deliver learning at various levels - individual
employees, workgroups, managerial and executive. To
accomplish this at all levels, "workplace learning programs
will need to promote shared understanding, vision and
values" (Watkins, 1995, p. 13). While efforts at strategic
planning in the public service have had the attention of
many executive and managerial employees, the resources to
design appropriate responses to strategic issues have not
been prevalent. However, there have been increasing efforts
directed at linking government's budgetary process, its
organizational goals and human resource planning in order to
design and maintain a high performance, learning
organization.

Creating the Learning Environment

    In considering the resources needed, Carnevale, Gainer,
and Villet, as cited in Watkins (1995), have stated the
dilemma. "A shorter and shorter knowledge half-
life...[means] many workers will need to be retrained again
and again. Skills needed for the new workplace are

information and cognitive skills. These will also demand

both different workplace learning approaches and a more

constant stream of educational experiences" (Watkins, 1995,

p. 9). Workplace learning professionals have been given the

responsibility to find strategies to create learning

organizations, not as a matter of choice, but a means of

survival (Schwandt and Marquardt, 2000). As previously

discussed, strategic plans, human resource plans and

learning plans have become the hallmarks for accountability

and improved organizational performance. The foundations

for workplace learning interventions have been established

for many centuries as noted in Paper Folio One, *Foundations

of Workplace Learning.* The next section will incorporate an

overview of the complexities associated with the learning

and instructional development discourse.

The Learning versus Instruction Debate

The old debate, *what comes first -- the chicken or the

egg,* seemed an appropriate analogy to the learning versus

instruction discourse. From the previous section, *Creating

the Learning Environment,* the responsibilities and needs of

providers and consumers of learning experiences have been

briefly addressed. Similarly, Tight (1996) has pointed out

that adult educators, workplace trainers, facilitators and

many other human resource employees view themselves as

facilitators of workplace learning. In the proceeding

section, the self-directness of learners, the influence of learning styles and the common instructional methodologies will be highlighted.

A primary role for the trainers has been to create the environment where self-directed learning can occur. Tight (1996) noted "whatever teachers call themselves, they remain primarily concerned with how best to encourage and develop relevant learning in their clients" (p. 27). He further added trainers create responses to identified needs for the purpose of changing behaviours, as examples, productivity and customer relations. He claimed the associated processes "involve negotiation, recognition of experience and some kind of partnership between learner and teacher, trainer, facilitator or whatever" (p. 26). This notion has supported the tenants associated with constructivist thinking advanced by Peavy (1998). Brundage, Keane, and MacKneson (1993) contributed to this discourse in a unique way, presenting a step by step case study approach to planning and implementing adult learning programs.

Tight's (1996) perceptions have been borne out of what has already been documented on experiential learning, formal learning, informal learning and self-directed learning by others (Knowles, 1975; Marsick and Watkins, 1990; Merriam and Caffarella, 1991; Rogers, 1986). Paper Folio One, *The Evolution of Workplace Learning,* illuminated various interventions developed to train employees. Of course,

their views were driven by industrial and economic development issues and the self-directedness of learners was not addressed. In this paper, the impact of globalization, technological advances, the shift from skills-based industries to information and knowledge management have been presented in the context of shaping existing learning processes and instructional models, constructing new ones, and reconstructing based on both individual, group and organizational learning needs.

There is a plethora of literature and philosophical stances on instructional approaches (Birkett and Cleghorn, 2000; Davies, 1981; Dirks and Prenger, 1997; Galbraith, 2001; Rothwell and Sredl, 2000). However, Rothwell and Sredl's work has been found to be most useful to the discourse in this paper folio. It is constructed in a familiar language and has very practical relevance for workplace professionals. The four theoretical approaches to workplace instruction included subject-centered, objectives-centered, experienced-centered, and opportunity-centered approaches.

While a discourse on these four models has been deemed an important contribution to this paper folio, it has become increasingly evident such discourse has no application unless situated within the context of theories about self-directed learning and learning styles. Both theories, centered on needs of learners, have shaped the instructional

models referenced above. Tight (1996) has discussed the work of Brady, Joyce et al., suggesting "...the focus of attention [for workplace trainers] is less likely to be on methods, or models for teaching, and more likely to be on learning and learning processes" (p. 27).

From this writer's perspective, paying close attention to both the models and the processes has been shown to produce more effective outcomes for both employees and their employers. Questions related to *what, how and when* learning the learning occurred will be considered in the next paper within a context of assessment of experiential learning. The bigger question to be answered is how can employees demonstrate their learning, regardless of the circumstances and type of instructional model used; what can employers reasonably do to recognize that learning has occurred?

Learning Styles

The literature (Brookfield, 1986; Kolb, 1984; Saltiel, 1995) has shown both learning process and individual learning styles influence workplace learning interventions, instructional approaches, and more recently, management development programs. Kolb's (1984) model of experiential learning has provided a framework for both instructional designers and learners. He defined experiential learning as "the process whereby knowledge is created through the transformation of experience" (1984, p. 38). His model of

learning has been represented as a four-stage cycle, involving the following abilities: "*concrete experience* (CE), *reflective observation* (RO), *abstract conceptualization* (AC), and *active experimentation* (AE)" (p. 271). The model has built on the notion that learners have direct experience with creating meaning from the knowledge. This model has served to inform the development of management development programs at university level, where research has demonstrated "...managers on the whole are distinguished by very strong active experimentation skills and are very weak on reflective observation skills" (p. 277). This writer's experience in the field of human resources has been just that managers, highly competent in meeting operational requirements, disallow themselves the opportunity to participate in either individual or group process for the purpose of self-assessment of their own learning strengths and weaknesses.

The provision of simulated work experiences for the learner, supported by a facilitator, have been shown to create conditions for experiential learning and achievement of two goals: to acquire new knowledge or skill and to assess one's level of strengths or identify skill gaps. "This helps in the application of what has been learned, and provides a framework for continuing learning on the job. Learning is no longer a special activity reserved for the classroom; it becomes an integral and explicit part of work

itself" (Kolb, p. 278). Paper Folio Three will focus on
authentic assessment of learning to recognize employee
development, providing an opportunity for further
consideration of the dimensions of Kolb's model to PLAR.
However, previous to that discussion, the importance of
self-directed learning will be highlighted.

Self-directed Learning

Marsick (1987), Rothwell and Kazanas (1994) have stated
self-directed learning can be useful at all levels in an
organization's hierarchy. Opportunities for self-
directedness within employee development frameworks evolved
in the previous century and have continued relevance,
particularly in reference to on the job training. Marsick
described it this way: "Self-directed learning is thus
considered as something a person does for him or herself;
the trainer's responsibility is primarily that of providing
a conducive setting and assistance in the learning process
as needed (p. 18). While a commonly accepted definition of
self-directed learning has not been achieved, since first
introduced by Knowles (1975), it has been accepted as

> a process in which individuals take the
> initiative, with or without the help of others, in
> diagnosing their learning needs, formulating
> learning goals, identifying human and material
> resources for learning, choosing and implementing
> appropriate learning strategies and evaluating
> learning outcomes (p. 18).

Myths have evolved that isolate learners when they have

been identified as self-directed because they have been
viewed as a superior not needing any support. However,
popular practice has shown adult learners have the ability
to muster the supports for their learning from numerous
sources to accomplish their learning goals.

> Learning from one's work, self-directed learning
> projects and desktop learning strategies will
> place responsibility for training in the hands of
> the learner. Responsibility for workplace
> learning is becoming diffused throughout many
> tasks, functions and roles. This trend makes
> learning coterminous with work, a necessary
> evolution in an information era (Watkins, 1995,
> p. 12-13).

Marsick (1987) stated that "the heart of self-directed
learning is the shift of control from managers and training
experts to the employees themselves" (p. 107). This has
reinforced the notion of the changing competencies of the
workplace trainer to both facilitator and resource person.
The accrued benefits, for the organization as a whole,
resulting from allowing employees the autonomy to make
decisions regarding their learning needs, have not yet been
measured. However, they are believed to be significant in
terms of enhanced productivity, employee retention and
increased organizational performance.

Many employees, in this writer's experience, have
valued both employer-driven learning interventions, as well
as those over which they have autonomy. Yet, access has not
always been easy for either type even when the self-
directedness of the learner was evident. For example, one

U.S. study (Belanger and Tuijnman, 1997) showed a lack of time and financial resources limit participation of workers, who expressed the need and interest in formal adult learning. They found expectations for employees to fund their own formal education, even when limited financial capacity to pay for such undertakings was apparent. Not surprising, they also found that management has had a higher probability of having financial assistance for formal education. These facts have relevance in the provincial public sector -- there has been increasing attention given to developing leaders at the management and executive levels, almost to the exclusion of all employee classifications.

Instructional Approaches

      As previously referenced, the views of Rothwell and Sredl (2000) have been used to present the depth and breadth of instructional theory in this section and to show its impact on curriculum development for workplace learning interventions. The four most prevalent approaches -- subject-centered versus objective-centered, experience-centered, and opportunity-centered will be described with the goal of creating added value to the discourse on learning.

Subject-Centered and Objectives-Centered Approaches

Within the context of organizational needs, Birkett and Cleghorn (2000), and Rothwell and Sredl (2000) maintained the subject-centered approach, or the transmission model, as the direct method for the delivery of classroom training. The process has always been simple: the facilitator conducted a needs assessment, asked the managers what topics were needed in order to meet job requirements and organized a learning event to meet those needs. The marketplace has offered a wealth of guidebooks, (Cadwell, 1995) on the *steps* to *determine, design, and deliver* such events.

In contrast, Rothwell and Sredl (2000) described the objectives-centered approach as one where barriers to effective job skills and behaviour were identified through a performance audit and measures established to correct the discrepancies. Another application of the objective-centered approach has been useful for developing competency-based curricula by using instructional systems design (ISD), behavioural skills-outputs (BSO), and DACUM (developing a curriculum (Rothwell and Sredl, 2000). "The systematic design of instruction, behavioural objectives, notions of the instructor's accountability, programmed instruction, computer-assisted instruction, competency-based education...are solidly grounded in behavioural learning theory" (1991, p. 128). While these two approaches have value for learning interventions in some circumstances, the

experience-centred approach has become increasingly popular with the growth of learning organizations.

Experience-Centered Approach

Rothwell and Sredl (2000) have referred to three types of experienced-centered curricula: creativity-based, action-based and concept-based.

1.   The creativity-based method has been used to generate *ideas*, not to *build skills* and incorporate the concepts of divergent or creative thought. There has been increased emphasis on *problem-solving* and *creativity*.

2.   The action-based method has been regarded as an organizational development approach similar to the creativity-based method. This model "places more emphasis on participative decision-making in the selection of problems and methods of dealing with them" (2000, p. 294).

3.   The concept-based method has been important in identifying "critical concepts associated with successful job performance by talking to job incumbents or supervisors, or by observing successful and unsuccessful performers" (2000, p. 295). Following a ranking process, and the establishment of a "learning hierarchy", lesson plans and units were developed. The goal of this approach was intentional -- the exclusion of unimportant tasks and the intent of maximizing "payoff". Obvious disadvantages of this curriculum model were costs and focus on past behaviour

and performance. A more proactive, future needs model, will be needed to support both organizational and employee development, the essence of the next approach.

Opportunity-Centered Curriculum

Rothwell and Sredl (2000) outlined four common methods key to the opportunity-centered curriculum -- the individualized-informal, the individualized-contractual, the group-oriented and action learning approach. The first two methods, the individualized-informal and the individualized-contractual, were defined in terms of Tough's (1979) learning projects, that is, how individuals showed they were self-directed, and took charge of their own learning by engaging in at least eight learning projects on a yearly basis. He found that adult learners decided to meet their needs through formal and informal learning events and evaluated them based on their own future goals. Such learning events have not needed learning plans in the past.

Alternately, if the learning event was individualized-contractual, a learning plan has been required. The role of the trainer, in consultation with the manager and the employee, involved identifying learning activities to meet the formalized goals. This method has been very successful because it has taken individual needs into consideration and allowed individuals to select meaningful learning projects, motivating them to acquire new knowledge, skill and

attitudes (Rothwell and Sredl, 2000).

A major disadvantage of this method has been people pursued their career goals outside the organization. It has been the writer's experience, in the public sector, organizational policies limit the number of courses and contributions to learning projects for personal and career development purposes. Yet, providing structure to experiential learning, contracting with employees, mentoring, and secondments have been viewed as proactive strategies to support knowledge management (Foley-Curley and Kivowitz, 2001).

The third method, group-oriented, suggested by Rothwell and Sredl (2000), has focussed on the approach of "questioning", requiring the facilitator to support learners "through discovery, group interaction and experience-sharing" (p. 298). The structure of this approach has made it difficult to predict organizational outcomes since the focus is on individual learning goals unless concrete steps are taken to ensure there is a connection between individual learning goals and organizational goals.

Finally, action learning methodology has attracted increasing attention from researchers as well as from workplaces, particularly for the purpose of executive development (Rothwell and Sredl, 2000). Marsick and Warwick (1999) presented the findings of a study where teams of learners were established to develop appropriate business

and organizational responses, including the delivery mechanism for the training. They pointed out that action learning has been very useful to instructional design, that is, experts were sought to create a curriculum designed to meet an organizational need.

One obvious benefit of action learning was learners were involved at the outset and that it built on their knowledge and skills, thereby, contributing to the *collective learning*, a central construct in the debate on *organizational learning*.

Developing Learning Experiences

Jackson and MacIsaac (1994) have identified a number of areas as important considerations when developing learning experiences for adults: the value of prior learning experiences, learning styles of adults, providing opportunities for active involvement, collaborative efforts evident among adult learners, and the contextual issues affecting the learning. These elements hold particular relevance for professionals who develop workplace learning experiences.

Jones (1994) referred to Dewey (1916, 1986) who observed that "...adults learn most naturally whereby they have a problem solving experience with relevant, real-life issues. Critical to that learning experience is skill in purposeful reflection" (p. 23). The essence of this

observation has been examined within the context of developing portfolios within an authentic assessment framework for the purpose of recognition.

Summary

This paper has been using a *broad brush* to create a landscape on workplace learning trends, issues and significant learning and instructional models and approaches. It has not addressed the rising expectations by organizations for positive outcomes, particularly, increased performance and improved competitiveness resulting from workplace learning initiatives. The influences of knowledge management strategies, learning organizations, growing interest in competency-based performance, e-learning solutions, increasing requirements toward accountability, the impact of globalization on downsizing and career development have necessitated an increase in the provision of workplace learning.

Employees engage in learning experiences to build on knowledge, skill and abilities in constantly changing work environments. This may be intentional because it supports their financial needs and career aspirations. However, mechanisms for judging the worth of their efforts and those of their employing organizations have not been clearly defined.

The multiple contexts and structures for workplace

learning interventions have given rise to further discourse on the assessment and recognition of experiential, informal and self-directed learning. Paper Folio Three, *Authentic Assessment of Learning*, will present an analysis of such complexities and the potential value for authentic assessment strategies for both employees and their organizations.

PAPER FOLIO THREE: AUTHENTIC ASSESSMENT OF LEARNING

Introduction

Paper Folio Three, *Authentic Assessment of Learning*, describes the theoretical foundations of authentic assessment, self-directed learning, constructivism, prior learning assessment and recognition (PLAR) using the process of portfolio development. Both individual and organization learning strategies have influenced the discussion on new methodologies, supporting workplace assessments. The broad goal of this paper was to highlight the potential value of authentic assessment of learning to employees and their organizations in 21st century workplaces.

Understanding Authentic Assessment

A Definition

The term *authentic assessment* has been associated with nontraditional assessment means, alternative assessments, performance assessments and portfolio assessments for a number of decades. In the literature, Engel (1994) wrote "authentic assessment...implies assessment practice that contributes directly to classroom instruction and to education...In assessment, authenticity implies that the results can be trusted partly because the methods support long-term purposes" (p. 24). In addition, authentic assessment has been linked with productivity and

collaboration -- employees and workplace learning professionals working together. Higher level skills and understanding have always been difficult to evaluate in traditional ways because they have been tied to creativity, personal characteristics, self-confidence, risk-taking and the notion of documenting learning over time. Engel (1994) has advocated that developing portfolios have best represented authentic assessments, where learners have revealed themselves in the context of their lifelong learning experiences.

Authentic assessments have been the subject of debate in terms of their capacity to predict readiness for occupational training (Jackson and MacIsaac, 1994). In addition, a direct assessment of performance has been highly regarded by potential employers. Dirkx and Prenger (1997) have developed a resource book for implementing theme-based instruction, adhering to authentic methods of assessment, and linking outcomes to both individual and organizational goals.

Supporting Theoretical Perspectives

Kolb's Model

In the previous paper folio, Kolb's (1984) model was examined in the context of learning styles. This model also has been an extremely useful guide for designing workplace learning interventions from an authentic assessment

perspective and allows it to be placed in a prior learning assessment context. Lewis and Williams (1994) posited this view of how the model could work. "Concrete experiences can be evoked by recalling past experiences,...reflective observation is cultivated by group discussion, reflective papers and journals, abstract conceptualization and active experimentation by means of a problem-solving approach" (p. 9).

In essence, employees construct and reconstruct the learning from both work, education and life experience. A constructivist approach (Peavy, 1998) has given employees the option of attaching new meaning to prior learning experiences as they recall them. A significant problem for employees has been the lack of recognition of experiential learning by those who plan, design, deliver, and assess adult learning from experience.

Dewey's thinking on the principles of "continuity and interaction", (as cited in Merriam and Caffarella, 1999, p. 223) has significance to this discussion. "The [first] principle of the continuity of experience means that every experience both takes up something from those which have gone before and modifies in some way the quality of those which come after" (1999, p. 223). Dewey's second principle, interaction, stated "an experience is always what it is because of a transaction taking place between an individual and what, at the time, constitutes his environment" (cited

in Merriam and Caffarella, 1999, p. 223).

Merriam and Caffarella (1999) restated the thinking of previous writers -- Dewey, Piaget, and Lewin, and presented four abilities, central to learning from experience:

> (1) An openness and willingness to involve onself in new experiences (concrete experiences); (2) observational and reflective skills so these new experiences can be viewed from a variety of perspectives (reflective observation); (3) analytical abilities so integrative ideas and concepts can be created from their observations (abstract conceptualization); (4) decision-making and problem-solving skills so these new ideas and concepts can be used to actual practice (active experimentation) (1999, p. 224).

Merriam and Caffarella (1999) described a comprehensive summary and analysis on the learning from experience debate, including case examples of practical contexts for ensuring that learners benefit from the ongoing discussion.

Portfolio has its *roots* in constructivist theory (Peavy, 1998), discussed in detail in the section, *Constructivism and Authentic Assessments*. In addition, Engel (1994) and Keiny (1994) have described the value of constructivist theory to assessment, learning, teacher education and professional development. Engel (1994) states that "the emphasis on meaning, as the emerging force behind learning, necessitates new assessment methods (using "new instruments" and looking in "new places")" (p. 23). From Engel's perspective, portfolio assessment can contribute to the shift in paradigms. "If one believes knowledge is essentially constructed rather than received by the learner,

there are unavoidable implications concerning what is taught, how it is taught, and how learning is assessed: what is taught needs to build on or be connected to what the student already knows" (p. 24). The learner or the employee would have the option of providing tangible evidence in a portfolio, and in fact, capture what has become commonly referred to as tracking one's learning journey.

Defining Portfolio

Arter and Spandel, and Wolf (as cited in Jackson and MacIsaac, 1994), defined "a portfolio [as] a purposeful collection of learner's work assembled over time that documents one's efforts, progress and achievements, [portrays] performance, [using] multiple sources of evidence collected over time in authentic settings (p. 64).

Jackson and MacIsaac (1994) argued "a major advantage of portfolios over other forms of assessment is that portfolios provide the opportunity [for the] learning to become visible" (p.64).

Wade and Yarbrough (1996) summarized a portfolio as "a set of artifacts that represented a range of decisions (Murphy and Smith, 1992) as well as a recorded each student's personal journey and a testament to gain and growth (Dickson and Durfee, 1992)" (p. 65). They further claimed portfolios permitted growth and learning to be evaluated over time. The important elements of authentic

assessment have been considered natural outcomes of portfolio development -- construction of learning events, personal meaning, self-directedness, reflective thinking and problem solving.

Constructivism and Authentic Assessments

As previously noted, portfolio assessments have been centred in constructivist thinking (Peavy, 1998). From the perspective of learning styles, a constructivist perspective involved both active participation and active reflection -- essential elements within any learning context. More specifically, "knowledge acquisition from a constructivist framework is viewed as a nonlinear and dynamic process that is enhanced by problem oriented and individualized approaches to instruction...[reinforcing] the importance of learner empowerment and self-directed learning...." (Jackson and MacIsaac, 1994, p. 22). Establishing a type of constructivist learning environment, with the corresponding theoretical considerations, has been the essence of authentic assessment strategies. "By viewing learning as a construction of the individual, not something to be absorbed from teachers and texts, they [as workplace learning professionals] are experimenting with a "portfolio assessment" approach to education [which] requires problem-solving and student reflection" (p. 23).

Self-reflection and Portfolio Development

According to Jackson and MacIsaac (1994), there were three levels of reflection. The first centered on remembering accomplishments by labelling and describing the documents in the portfolio. The second level required learners to construct meaning from which they gain insight into their learning. At the third level, reflection took the learner beyond the specific program and connected their learning with future goals.

While Jones (1994) and Paulson, Paulson and Meyer (1991) offered guidelines for constructing portfolios, they agreed the most critical components have been those related to ensuring personal commitment as well as opportunities for problem solving, feedback, and reflection. The use of journaling, group work, and oral presentations has been encouraged.

Jones (1994) places self-reflection at the core of portfolio development, but also stated individuals found self-reflection very difficult and needed evidence of both acceptable and nonacceptable performances, including ongoing support and encouragement to become more self-reflective. According to Jackson and MacIsaac (1994), the reflective comments in a portfolio have been shown to be integral to its worth and has helped learners consider answers to these questions: "What did I do? What does this mean? What have I learned? How might I do things differently?" (p. 67).

Basic Characteristics of Authentic Assessment

Darling-Hammond (1994) cited four basic characteristics, developed by Wiggins as having relevance to the assessment of workplace performance. The use of job descriptions, workplans and competency statements were noted as three possible yardsticks for measurement and comparison for these four reasons:

1. These yardsticks have been developed with clearly articulated performance measurement outcomes.

2. A transparent process has been established for these performance standards -- these have been sometimes a hidden agenda item.

3. Self-directed learning has been encouraged in this self-assessment process -- employees have been encouraged and motivated to evaluate themselves.

4. Employees have to demonstrate their competence level, not only to their coworkers, but to their managers during performance review.

As one example, practical applications of these steps have been in the recruitment and succession planning process, job rotations, secondments -- all of which have made important contributions to improving human resource development strategies within organizations.

Value of Authentic and Portfolio Assessment

Authentic assessments have provided employees with

opportunities for incorporating problem-solving experiences, identifying evaluation projects, completing oral and visual presentations, tracking learning experiences over time, and reflecting on any knowledge and skills learned through these experiences. A significant outcome has been the increasing value placed on experiential learning and self-directed learning and opportunities to refurbish older assessment models. "Portfolio assessment offers the opportunity to observe [employees] taking risks, developing creative solutions, and learning to make judgements about their own performances [and] to develop the abilities needed to become independent, self-directed learners" (Paulson et al., 1991, p. 63).

Jackson and MacIsaac (1994) have added that the notion that "portfolio assessment ... can support and promote learners in their passages through major adult transitions" (p. 26). They argued for opportunities for self-direction and individualized learning dependent on the adult learner's needs, and for "evidence" that focuses on strengths, not deficits or weaknesses as in traditional assessment models. They added that the portfolio development process represented a cumulative display of knowledge and skill of the learner. The value of tracking learning in organizations has been articulated by many as an issue in terms of capturing corporate knowledge and managing effective and efficient succession planning.

The development of self-assessment skills has been documented as important and portfolio assessment provides a mechanism for capturing and tracking learning over time (Jackson and MacIsaac, 1994). The Public Service Leadership and Development Program (Government of Newfoundland and Labrador) and the Centre for Management Development (Memorial University of Newfoundland) have been involved in the development of programs, responding to the increasing emphasis on self-assessment, documentation, tracking and recognition of what has been learned to minimize the duplication of learning effort.

Several authors, (for example, Paulson et al., 1991; Guillaume and Yopp, 1995), pointed out portfolio development represented a collaborative effort between learner and the assessor, allowed learners to exhibit progress and achievements, as well as, showed evidence of self reflection and learning. Paulson et al. also highlighted portfolios as "powerful educational tools for encouraging students to take charge of their own learning [and for] offering the opportunity for authentic assessments" (p. 61). Huba and Freed (2000) have offered very practical techniques for both learners and evaluators of learning when using a portfolio assessment model.

Johnson, as cited in Jackson and MacIsaac (1994) suggested educators use clear guidelines developing portfolios for assessment purposes, including the following:

> a diverse range of works that represent various
> key activities in the program; work assigned by
> the instructors [and supervisors] and work
> selected by the learner; an introduction in which
> the learner explains why individual pieces were
> chosen; a summary statement describing what was
> learned from the program and the portfolio
> assembly process (p. 68).

This can serve both formative and summative evaluation

purposes.

Evaluating Portfolios

A portfolio should not only include evidence of

learning milestones, but also evidence of how these

milestones were achieved. From a program evaluation

perspective, "portfolios provide evidence that can be used

in substantiating the degree to which an adult learning

program is achieving its intended purpose" (Jackson and

MacIsaac, 1994, p. 68).

Portfolios have been viewed to hold tremendous value

for self-directed learning (Paulson et al., 1991; Jones,

1994). Paulson et al. offered guidelines, encouraging self-

directed learners to begin the development of portfolios.

Grow (1991) referred to self-directed learning as that which

can be learned, and either hindered or helped by teachers.

He wrote that "...just as dependency and helplessness can be

learned, self-direction can be learned and it can be taught"

(p.127). Reflecting on which approach was most effective and

efficient has been an ongoing developing role for

facilitators of workplace learning -- the adult educators.

"Adult educators become interested in self-directedness through awareness of its central role in individual learning projects" (Jones, 1994, p. 23).   This prevalent and natural approach to learning, while nearly universal, has been difficult to create in formal settings. In the workplace, as in the postsecondary system, standardized assessment tools have been used to measure individual capabilities. For example, recruitment traditionally involved a face to face interview. However, the demonstration of relevant interpersonal skills and the ability to communicate using technology have been added to the recruitment process, ensuring it to be more pragmatic. At the same time, the applicant has been given the opportunity to show evidence of various competencies and to begin to track them in a portfolio.

Portfolio development, using an authentic assessment model, self-directed learning theory and constructivist framework, have been credited with two important practical human resource outcomes for employees, that is, 1) an accurate reflection of actual learning from experiences from work and life, and 2) the employee's contribution to the development of the assessment process. Therefore, the significance of new assessment paradigms in organizations has been growing. Globalization has created the need for new thinking about human capital as problem-solvers, critical thinkers, good communicators and independent

workers.   The result has been increasingly challenging for workplace learning professionals, whose role also has been to support organizational learning goals as well as to introduce and manage strategies for individual employee growth and development.

Components of a Portfolio

Dependent on the context for portfolio usage and the components differed, there have been extensive guidelines offered by Paulson et al. (1991). As a rule, the final product should show evidence of self reflection and demonstrate opportunities for employees to select what evidence of learning contributed to the intended outcomes. Paulson et al. posited the purpose, goals, contents, standards and relevant conclusions should be clear to the users and potential readers. The value of the contents may have changed over time and the contexts in which they were used, but the contribution to the lifelong learning interests of employee has not changed. For example, illustrations of growth, such as, skills improvement and observed behavioral changes have become increasing important in the global workforce. Finally, the foregoing researchers suggested providing different models of portfolios, including web-based tools for learning and reflecting, since such tools have made an important contribution to collaborative learning outcomes.

Assessment Methods: Relevant Issues

Mann (1997) referred to the time-consuming, individualized attention learners require when involved in portfolio development and that the challenge to this authentic assessment process needs increased attention. Mann (1997) made the following points:

> In the United States and elsewhere [PLAR] may be one of the most effective tools for providing access opportunities...for further education...Industry can no longer tolerate the costs associated with lock-step retraining and upskilling when the need does not exist. For all learners to be forced through the same set of prerequisites and learning activities is terribly costly, for individuals, firms and society at large, and is a major impediment to lifelong learning (p. 264).

Another major issue confronting authentic assessments has been standards. While there has been support for new models, Jones (1994) has cautioned about rigour and noted the portfolio assessments must be able to *stand up to the test,* making them valuable for all those involved but particularly the learner. "Unless the approach can be linked to high standards or a clear fashion, it will receive little respect or support from administrators or the general public" (pp. 27-28). She pointed out well articulated learning outcomes are crucial to any alternative methods of assessments. While an authentic assessment process has been notably more costly and required a greater time commitment, this concern has been resolved by trading time from group work to individual support, serving as a resource and feedback agent, and

training students to collaborate and to write self-reflectively.

Jackson and MacIsaac (1994) deemed the reflective value of portfolios as limitless across the lifespan in terms of indicating personal and professional growth and learning.

> Portfolios have the potential to extend beyond the boundaries of specific educational programs. This potential challenges educators of adults to consider how to assess learners within the broader context of their individual lives rather than narrowly in relation to the specific content of a class or program (p.70).

Ensuring the documentation is complete, relevant and manageable may encourage those who have been resistant to the idea of authentic assessments in general, and to the idea of portfolios in particular, to reconsider their position on both concepts.

Summary

This third paper has focussed on recognizing the workplace learning using an authentic assessment method -- portfolio development. In addition, there was growing support for the value of self-reflection as a central part of learning, professional development and lifelong learning. There has been no doubt that authentic assessment has enriched adult learners' experiences, and gave them autonomy and ownership with respect to their learning experiences.

Further study is needed, not only for the purpose of politicizing authentic assessment as a new trend in learning,

but for its potential value of ensuring the future of higher education meets the needs of 21st century learners. Adult learners know and understand what they value, but how they gain recognition for their learning needs closer examination. Adult learners need validation of the worth of their lifelong learning.

A portfolio may be the worthwhile method for tracking all methods and types of learning over time. Specifically, the portfolio development process has been viewed as an increasingly relevant authentic assessment methodology to support human resource development in today's global workplaces and has been discussed in this paper from the perspective of self-directed learning and constructivist theories.   The "one size fits all" traditional assessment strategies, for example, testing and interviewing, has been challenged within the context of authentic assessment using a portfolio development methodology.

An Epilogue

Workers in the human resource development *terrain,* in the provincial public sector, can be classed as *construction workers*, (the designers, facilitators, instructors, and trainers), and *forepersons*, (the managers, educators, writers, policymakers, planners, and researchers). Their roles involve effective and efficient response to the strategic issues facing government in this province. Improving and maintaining the competence level of public sector employees, as well as responding to emerging issues, will be an ongoing challenge.

The provincial public sector faces a number of resource issues -- human, financial, time and expertise. The changing landscape of the workplace demographics has been a reminder to decision makers that corporate knowledge will be leaving en masse in 10 years. In order to address this issue, openness to change the learning and development system will be required.

This is analogous to a highway under construction. What will be crucial are the necessary competencies to connect to the major roads, the secondary and the byroads. Without a doubt, the routes will be redrawn over and over in order to serve the best interests of the travellers. Undoubtedly, workplace learning is a highway that will be constructed and reconstructed to meet the needs of its users -- individual learners and their organizations.

To assist others, who may consider a similar learning as

this one, Appendix A has been added to these paper folios.

This is indeed evidence of the growing interest in the

complexities of workplace learning for employees in the 21st

century.

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Appendix A

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