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Chapter 5
Learning and Performance Innovation

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ABSTRACT

Great changes are occurring in learning and performance programs. Learner demographics are evolving, fiscal concerns are rising, and technological developments are increasing to impact current programs. As information and communication increase, organizations continue to rethink and review learning and performance objectives. Social and collaborative online resources are rapidly emerging to enhance and connect learners. Emerging technologies in the last five to eight years, such as wikis, blogs, digital media, social networking, open source, and mobile applications have created a different dynamic for learning performance beyond the traditional educational experience. Shifting technological trends have altered how these learning and performance opportunities will occur, and how to best engage individuals in both content and experience. Learning and performance leaders are strongly encouraged to embrace these new challenges and to produce best practices for learning and performance innovation.

Innovations in learning and performance possess the ability to enhance academic programs which encourage educators, businesses, and other stakeholders to reach their objectives. This chapter will address the subject of learning and performance innovation as it directly relates to educators, training personnel, performance specialists, and leaders. Further, this chapter will broaden the definition of innovation to include the utilization of theory, system, processes, and tools that advance society by improving skill sets, promoting global and local connectivity, and increasing productivity and knowledge.

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INTRODUCTION

Emerging technologies, such as wikis, blogs, digital media, social networking, open source and mobile applications, have created a different dynamic for learning and performance beyond the traditional educational experience. Referred to as forms of learning innovation and performance innovation, new approaches have allowed the enhancement of teaching, training, learning, and assessment to accommodate most learners. These learning and performance innovations provide a cooperative and collaborative venue that contrasts with the traditional classroom-lecture setting.

The term *Learning Innovation* encompasses creative, replicable and effective strategies, techniques, tools, or systems used to efficiently enhance the knowledge acquisition process of learners. Conversely, the term *Performance Innovation* encompasses creative, replicable and effective strategies geared towards reaching desired goals through human behavioral change and the measurement of this change. When implemented appropriately, these constructs collectively possess the potential to drastically enhance academic or training programs, and encourage educators, businesses and other stakeholders to efficiently reach their objectives.

This chapter will address the subject of learning and performance innovation as it directly relates to educators, trainers, performance specialists and leaders. Further, the authors seek to widen the definition of *innovation* to include the utilization of theory, system, processes, and tools that advance society by improving skill sets, promoting global and local connectivity, and increasing the productivity and knowledge of a society.

Definitions for Understanding

To best discuss the areas of learning and performance innovation, it is necessary to define a few terms that the authors will be utilizing throughout this chapter. For both performance and learning there might be specific terms; however for commonality and referencing we will define the terms used in this chapter. The *Learner* is an individual who gains knowledge, comprehension, or mastery through experience or study. The *Learning Facilitator* is an individual responsible for assessing the skill level of learners, planning the learning experience, implementing the learning plan, and evaluating the acquisition of knowledge after the plan is executed. Examples include, but are not limited to, teachers, instructors and trainers.

The term *Distance Education* encompasses formal learning in which the learning group (learners, resources, and facilitators) is physically separated, but virtually connected through the use of interactive telecommunication systems. Whereas, *Interactivity* is the degree to which technology supports and enables human collaboration. Finally, *Emerging Technologies* are the digital tools and online resources which comprise cutting-edge developments and represent contemporary advances and innovation around the 21st century in various fields of technology (e.g., social networks, mobile computing devices, social media, and open education resources, etc.).

Background: The Evolution and Trends for Learning and Performance Innovation

Over the past ten years, Internet accessibility, the nature of the web, and contexts for learning have all been transformed, along with the need of technological competencies for learners, teachers, and administrators (Greenhow, Robelia & Hughes, 2009). Because this digital evolution is occurring during the second decade of the World Wide Web, these new uses of the web have been termed 'Web 2.0' (Shelly, G. & Frydenberg, M., 2011). Internet connectivity and digital ability have become a necessity for learners, and a critical requirement to excel in learning and performance. Learners now have the ability to connect and interact with knowledge, materials and peers around the world.

Global demands for increased improvement in education and training curriculum are increasing due to its necessary element in expanding economic prosperity and demand for improved quality of life.

The shift in online information and communication is collaborative and multi-dimensional. New emerging trends will influence learning and performance, specifically to increase globalization, encourage collective intelligence and produce user-generated content. These emerging technologies possess the ability to alter and challenge organizations. Traditional classroom models must be reviewed to consider new, shared online spaces and networks for learning experiences including social media and open educational resources. Learners utilizing Web 2.0 tools such as wikis, blogs, meta tags, and social networks will exponentially grow community websites and collaborative educational opportunities that are user-generated and user-distributed (Baraniuk, 2007). Content creation allows individuals to engage in the multi-dimensional and in-depth learning.

Web 2.0 tools facilitate participatory, collaborative, and distributed practices within social media enabled formal and non-formal spheres of everyday activities (Greenhow, Robelia & Hughes, 2009). Since the web now provides greater opportunities for participation, learners are beginning to see benefits and value of open and transparent practices. These social and innovative technologies have created a space for learners to create and share content with one another. Web 2.0 tools and the semantic web increases intelligence through natural language processing, data-mining, machine learning, and other artificial intelligence technologies that provides learners' needs and behavior for a richer and more meaningful learning environment (Baraniuk, 2007).

The New Media Consortium (NWC) and the EDUCAUSE Learning Initiative (ELI) have collaborated on The Horizon Report project to explain the technological trends likely to impact teaching, learning, research, or creative expression within learning-focused organizations (Horizon Report, 2009). New and exciting learning technologies are developed each day. The 2009 Horizon Report identifies the adoption of mobiles learning, cloud computing, geo-everything, the personal web, semantic-aware applications, and smart objects to alter the education in the next five years. This rapid development of digital technologies and their use in learning enables individuals to interact with new learning and performance ecologies.

In considering the innovations for performance, it is important to review online performance management systems, blended learning experiences, and electronic improvements to assessment and feedback. Human Performance technology is the study and ethical practice of improving productivity in organizations by designing and developing effective interventions that are results-oriented, comprehensive, and systematic (Pershing, 2006). To increase performance efficiency, a variety of technological tools and systems have helped to streamline the performance workflow. A thorough performance analysis to review the organizational needs, will likely provide insight for the management division, take into account the social structure and include physical and technical systems that may be required for learning and performance innovation implementation.

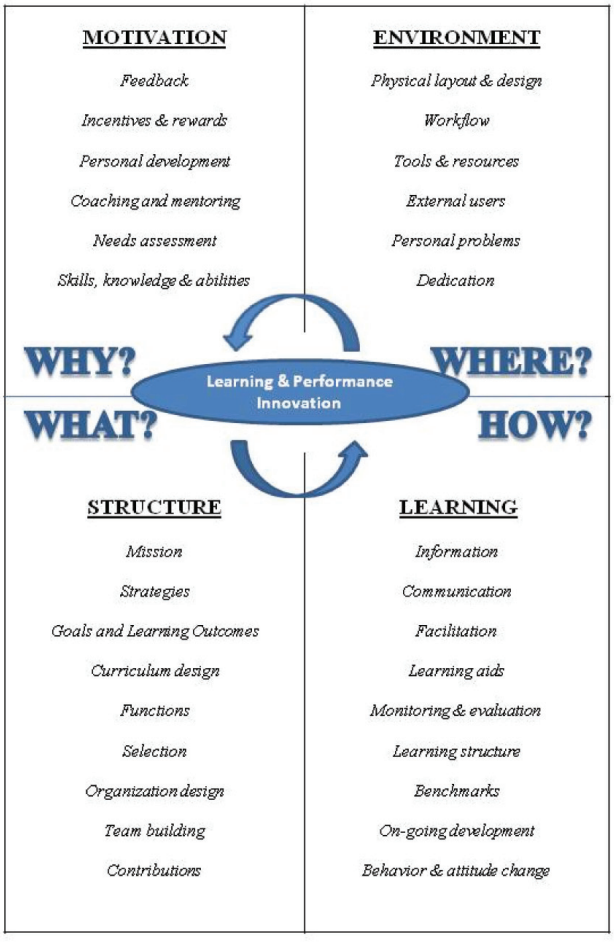
Performance innovation is part of an overall process which is designed to create value for an organization. Human Performance Technology (HPT) evaluation and change are driven by the objective to solve problems or issues of an organization with the support of a variety of models, theories and practices from many professional fields (Pershing, 2006). For both performance and learning, the key motivation for innovation comes from the design, development and implementation of the critical resource. Innovation and moving forward always begins with the "if" or what might be. Figure 1 demonstrates the cycle that both learning and performance take when considering the

design and content for effective learning objects to best address the innovation question.

The last few years have seen a tremendous increase in the use of social media tools and services. As this new generation of web-based tools and services empowers learners to easily create and share content, learning facilitators need to better understand how to utilize these resources to have a considerable impact in their professional practice (Geser, 2007). Many of the aforementioned emerging technological trends are initiating a new frontier for learning and performance innovation.

Leadership from within each institution or organization is crucial for learning facilitators to receive adequate support to implement changes for instruction, research and learning. Current professionals who are interested in engaging with these innovations must stay abreast of these emerging technological trends and changes facing learning and performance. It is necessary to critically evaluate and participate in this evolution of social media and open education resources in pursuit of impacting learning and performance programs worldwide. It is never the specific tool, but rather the assessment and purpose behind these forms of

Figure 1. Learning and performance innovation [Adapted from Performance Map (Addison & Johnson, 1997)]



innovative curriculum. Information and resources often overlap between learning and performance innovation. To gain support and momentum, it is critical that learning and development contribute to one another's development. The connections of learning and performance will encourage enhancement and growth for a variety of educational practices and industry needs.

Connecting Learning and Performance Innovation

Technology has become an integral part of our society, and is being driven by a rapidly changing, globalized economy, dependent on immediate data and results. Learning now occurs in manners never imagined in the 1950s, and barely conceived in the early 1990s, allowing individuals to network and learn from others simultaneously in remote locations. Due to the common technological resources and tools impacting both learning and performance innovation, it is increasingly necessary to reflect upon the common theories creating the paradigm shift for current learners.

Several years of research have revealed that learners are diverse, changing, and adaptable. Although the primary goal of secondary and post-secondary education remains the same, educators must strive to be flexible and adjust to meet the vast variation of learning needs of learners who now have skills, needs, and desires that vary from learners of past decades. As our world becomes digital, our classrooms must begin to follow suit.

A Model for Learning and Performance Innovation

Both learning and performance structures draw from similar resources and theoretical backgrounds to best inform their programs and models for learning. In thinking about performance and learning innovation, the authors will later outline the key theories that provide the most comprehensive ideas for any innovation framework for learning and performance programs. There are both benefits and challenges to learning and performance technology for innovation in education and training; therefore, it is highly important to understand what types of learning and performance practices are best utilized with technology since these fields are often diverse in nature. An illuminating way to illustrate this point is by referring to the Advising and Counseling Continuum Model created by Kuhn, Gordon, & Weber (2006) in Figure 2. The model includes five continuums for learners, such as informational, explanatory, developmental, mentoring and counseling, and how each of these points fit in on the continuum by way of purpose, content, focus and length of contact.

This model provides an excellent way of presenting the challenges and benefits of different types of technologies as they relate to learning and performance innovation. Two examples can demonstrate this for the Informational and Exploratory points on the continuum. Technology provides a centralized source for maintaining and storing information so that it is readily available. Many of the goals we seek to achieve in the Informational and Explanatory points on the Kuhn, Gordon and Weber (2006) continuum can be handled through appropriate technology to reach learners in an easy and accessible way. Web-based uses of this technology have been available in learning and performance for years; however, the concern is more often expressed at the use of technology with the Developmental, Mentoring or Counseling points on the continuum. These require the understandings of the capabilities of the technology along with the types of learning needs and outcomes sought. The critical need to provide shared information for your curriculum, while conducting evaluation and assessment for cost effectiveness and learning outcomes, is the new reality for all learning and performance programs. Technology will not solve all of our learning and performance issues, but thoughtfully implemented and applied, it can definitely help.

Figure 2. Kuhn, Gordon, and Weber's Advising to Counseling Continuum Model

	Informational	Explanatory	Developmental	Mentoring	Counseling
Purpose	Informational	Clarification	Insights	Growth	Pinpoint problem
Content	Information	Procedures	Opinions and values	Values	Devise resolutions
Focus	The information	The institution	The student	The person	Modification of student's behavior
Length of Contact	5-15 minutes	15-30 minutes	30-60 minutes	Varies, many contacts are made	Determined by severity of problem

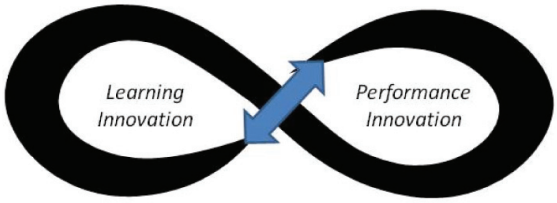
Best Practices: Tools, Systems, & Processes Learning & Performance Innovation

Modifications in learning outcomes may not be achieved merely through the use of only one form of learning or performance innovation. Learning theory, methodology, and various forms of technology must be implemented cohesively. The teaching or training methodology should be embedded within a sound and supportive learning theory, while the integration of technology should then serve as the synergistic component to create sound instructional practices (Muniandy, Mohammad & Fong, 2007).

As demonstrated by the collaborative themes previously discussed in this chapter, *learning innovation* and *performance innovation* are simply a continuum of one another as demonstrated in Figure 3. Although the terms are not synonymous, it is imperative that the significance of both constructs be mutually explored and embraced systematically.

A system is a concept or mental construct for understanding how things operate (Daniels & Esque, 2006). With regards to learning and performance innovation, each field best informs the other of best practices systematically. When something is viewed as a system, it often possesses the following components: input, a processing system, processing system feedback, outputs,

Figure 3. Learning and Performance Innovation Continuum Model (Allen, Bracey & Pasquini, 2010)



a receiving system, and receiving system feedback (Brethower, 1982). From this perspective, all systems control themselves by evaluating its outputs based upon the receiving-system requirements; thereafter, performance occurs. However, the key predictor of success is the learner's commitment to the output requirements; hence, learner requirements must be realistic, clear, and constant—not frequently changing.

In thinking about systems, processes, and tools, there are best practices and ideal components of successful performance innovation:

- Ensure that professional development in technological applications keep the pace with the organizations purchases and installation of technology.
- Encourage and accept learner autonomy and initiative.
- Ensure that learning becomes the result of research related to real problems.
- Allow learner responses to drive lessons, shift instructional strategies, and alter content (Lunenburg, 1998).
- Encourage learners to engage in student-to-student dialogue, which is the foundation upon which cooperative learning is based (Slavin, 1990).
- Instead of simply providing a platform for simple memorization or drill and practice, technology should serve as a set of tools for knowledge construction through a variety of simulations and problem-based learning environments (Overbay et al., 2010).

THE THEORETICAL FRAMEWORK FOR LEARNING AND PERFORMANCE INNOVATION

Self-Directed Learning

No longer is it mandatory that education be instructor-centered. Technology has allowed the instructor to most effectively facilitate "self-learning" through a variety of instructional design enhancements. Self-directed learning is an attractive, complex, and ambiguous concept that emphasizes human capacity, the potential for behavior change, and self-evaluation (Danis, 1992). This form of learning is a vital component of the digital revolution, and begins with an incentive to learn. Although students vary in their desires for autonomy and guidance (Magolda, 2007), self-directed learning develops autonomous learners who are able to control and take responsibility for their own learning (Ng, 2008).

As instruction becomes more learner-centered and self-directed, there is also a growing emphasis on academic accountability and a global shift from course-completion to competency. Becoming a professional is not a process of substituting theory by experience, but a process of fusing theory and experience together (Bromme & Tillema, 1995). Hence, becoming a leader in the distance learning and training management communities not only requires becoming knowledgeable of various forms of learning innovation, but also taking time to explore them in pursuit of improving performance. To encourage improved human performance, it is vital to respect the learner's ability and ensure that performance requirements are recognized and understood prior to the completion of tasks (Daniels & Esque, 2006).

Several models of self-learning exist; however, the majority of these models assume that learners must actively develop their own meanings and goals, while potentially monitoring and regulating some features of their cognition and motivation (McKeachie, Pintrich, & Lin, 1985; Zimmerman & Schunck, 2001). Another common characteristic among models is the presence of standards or goals being set and used as benchmarks throughout the knowledge acquisition process (Bracey, 2010). Due to the independent nature of the program structure, distance education should be student-centered, mainly moving learners from dependency toward self-directedness (Richards et

al., 2004). However, achievement of self-direction depends on one's level of psychological and social maturity, as generated by the assumption of adult life roles, as well as one's internal or external locus of control (Knowles et al., 1998). The self-directed learner's ability to participate and engage in learning offers learners the opportunity to construct their learning process.

Constructivism

As self-directedness in learning is a critical trait, it is also important to make meaning of your connections to learning matter. Constructivism is a learning theory which revolves around the notion that learning consists of constructing, creating, inventing, and developing one's own knowledge (Marlowe & Page, 2005). Each individual's perspective of life varies; hence, education should not teach one objective truth—instead, it should help people arrive at their own personal constructions of reality. Further, when knowledge is 'constructed,' the tools (e.g., various forms of technology) to support that construction become extremely important (Herring, 2004). Individualized instruction, small group work, and problem-based learning are all elements of this movement.

A broad spectrum of modern instructional strategies and platforms may be integrated within problem-based curriculum to increase effectiveness (Newell, 2003)). This form of instruction places responsibility on students to access information, recognize gaps in their own knowledge base, achieve goals, and monitor understanding. It is also utilized by facilitators to support the development of self-regulated learning (Karabulut, 2002). When implemented, learning facilitators should serve as cognitive coaches who model interest and enthusiasm for learning, in addition to nurturing an environment that supports open inquiry (Torp & Sage, 2002). Problem-based learning helps learners realize the connection between academic content and the accomplishment of complex real-world (or simulated) tasks.

As the appreciation for constructivism becomes more prevalent, altering assessment practices is likely to affect curriculum, instructional methods, and learners' understanding of the meaning of their work. A current trend, known as Authentic Assessment, meets this demand by connecting the way assignments are assessed with the manner in which knowledge and competence are judged in the workplace. This method of evaluation includes any activity that engages learners in real-life application of skills and knowledge (Butts, 1997). However, in implementing authentic assessment, instructors must ensure that their efforts reflect learning theories, promote additional learning, use both kinetic and artistic measures, recognize errors as intrinsic to learning, and are rated by clear and defensible criteria (Little, 1992). Both constructivism and authentic assessment provide learners the platform for engagement and interaction for learning.

Multiple Intelligences

The idea of multiple intelligences (MI), introduced by Howard Gardner (1983), has been vastly embraced by learning professionals since its development. Gardner views intelligence as 'the capacity to solve problems or to fashion products that are valued in one or more cultural setting' (Gardner & Hatch, 1989). He initially formulated a provisional list of seven intelligences. In Table 1: Multiple Intelligences and Technology, the theory suggests that everyone possesses each of the following intelligences to various extents connected with their relation to technology according to the follow multiple intelligences: linguistic, logical-mathematical, spatial, musical, bodily-kinesthetic, interpersonal, intrapersonal, naturalistic, and existentialist. The first two have been typically valued in schools; the next three are usually associated with the arts; and the final two are what Howard

Gardner called 'personal intelligences' (Gardner, 1999). Two more were added a few years after the originals were developed. The technology component of the following model was adapted from research conducted by Ian McCoog (2007).

In order to effectively integrate the MI theory with technology, learning facilitators must first assess the strengths and weaknesses of the learners. Differentiating instruction along the parameters of MI takes a great deal of creativity and dedication; however, when implemented efficiently, learner achievement has the capacity to be impacted tremendously in a positive manner (McCoog, 2007). In thinking about design and implementation of innovation for learning and performing, a variety of techniques and technologies can be utilized to reach multiple layers and areas of intelligence.

PERSONAL LEARNING NETWORKS & THE COLLABORATIVE WEB ENVIRONMENTS

Through the development of emerging technologies, the accessibility of online networks and personal learning environments (PLEs) improve learning and performance innovation. With the advent of Web 2.0 and social media resources, learner facilitators now have the ability to utilize a variety of online resources that are accessible, easily deployable and increasingly high functioning online resources. Oftentimes, digital tools can compliment current learning practices and optimize the learning experience. These social technologies provide spaces for information dissemination, community building, and interaction. Learners engage and contribute to their learning network through these collaborative, online me-

Table 1. Multiple Intelligences and Technology (Gardner, 1983; McCoog, 2007)

Multiple Intelligences	*Learning Characteristics*	*Ideal Strategies Incorporating Technology*
Linguistic	· Excellent written and oral skills	Internet research and presenting findings
Logical-Mathematical	· Work best with tangible projects and results	Using databases and spreadsheets to calculate and organize data
Spatial	· Extremely visual and creative · Results driven	Digital video-camera projects, computer-aided design, and paint programs
Musical	· Great listeners and creative	Cross-curricular projects with Interactive books, video and audio recordings, audio notations
Bodily-Kinesthetic	· Acutely aware of roles their bodies play in their learning	Video production, virtual field trips, and PDAs for data collection
Interpersonal	· Interact well with society · Love to talk	Presentations, email projects, and videoconferences
Intrapersonal	· Keenly self-aware · Self-motivated · Learn through meta-cognitive processes	Computer-based journaling, concept mapping, and internet research
Naturalistic	· Make connections between how content interacts with the natural world	Cameras, electronic databases, and spreadsheets
Existentialist	· Focus on big picture and why the world operates the way it does	Communication and problem solving applications, Web 2.0 projects

diums. Integration of these resources should be pondered thoroughly to ensure relevance and the interconnectedness of content knowledge, social or civic responsibility, career preparation, multicultural understanding, and personal growth. The interactive platforms introduced in the Web 2.0 movement have helped change the expectations for finding and learning information in a rapidly transitional world.

Several technological resources and tools have emerged to assist in meeting the needs of diverse students, promoting problem-based learning, encouraging communication, and supporting collaboration. However, using technology for the sake of employing new tools should not be the purpose of a development activity, nor should it be a deterrent for learning (Pasquini, 2010). The most profound impact of the social media and open educational resources is the ability to support and expand learning development. Social learning is based on the premise that our understanding of content is socially constructed through conversations about that content and through grounded interactions, especially with others, around problems or actions. Furthermore, the focus is not so much on what we are learning but on how we are learning instead (Brown & Adler, 2008). Web 2.0 resources such as social networks, blogs and microblogs provide learner facilitators and learners outlets to connect and engage locally and across the globe. Online forums, such as Twitter, have become an integral part of informal learning for learner facilitators to enrich knowledge and simultaneously widen the scope of personal networks. Often you will find various professionals participating in shared interest, ideas and discussion groups on blogs or online networks to gain support, ideas and resources. Professional development can be situated in collaborative workspaces and online interactive environments that include pictures, videos, slides, and other multimedia content.

Collaboration has become integral vast component of today's working culture; hence, many employers seek prospective employees who possess the ability to effectively communicate and work in teams with others to aid in the production of quality products. To collaborate successfully, it is also necessary for learners to have a variety of other skills and characteristics including (1) critical thinking and problem solving, (2) creativity and innovation, (3) leadership, (4) cross-cultural understanding, (5) information fluency, (6) computing and information technology fluency, and (7) career and learning self-reliance (Trilling, 2008). Collaborative web environments such as personal learning networks and personal learning environments truly ignite learning and performance innovation.

The terms Personal Learning Environments (PLEs) and Personal Learning Networks (PLNs) have been used interchangeably to describe a personalized learning network and environment both online and in real life that enhance the learner experience. A PLE is more of a concept than a particular toolset, such as. In contrast, a PLN is a structure that reflects relatedness to other people, such as. One learner describes his experience with PLNs & PLEs in his blog post:

"I have seen my PLN as the network of people I want to learn from and with, while the PLE is the environment or context in which I communicate with 'my' PLN" (Karlsson, 2010).

Other models of personal learning environments include various theories that learning and performance draw upon. The example of a PLE in Figure 4, demonstrates the importance of self-directed learning with innovation resources to help learners process their experiences.

Learning and Performance Innovation in Action: A Case Study

In reviewing the models and theories listed in this chapter, it is easy to recognize the overlapping ideas, and recognize that learning and performance innovation can be combined into the same prac-

Figure 4. Personal learning environment (Hiebert, 2006)

tice. One example of learning and performance innovation in practice is with Dr. Alec Couros' open access, graduate level course, Education, Curriculum, and Instruction (EC&I) 831: Social Media & Open Education, offered from the Faculty of Education at the University of Regina. The development and facilitation of this course is inspired by philosophies of the open source movement and social media trendsthat include open, transparent, and networked learning of its participants (Couros, 2010). The utilized a peer-supported pedagogical approach where future educators learn how to be actively engaged with social media and online in the learning process. This graduate educational program was re-designed to train instructors to think innovatively and model the best practices on the horizon for educational technologies and pedagogies.

This innovative experience provided insight for both the learner and learning facilitators about leveraging personal learning networks in open access and online learning environments. Students were able to make connections to learning material by reading reflective blog posts, sharing discussion points within Blackboard, and engage with peers in real time with Web 2.0 tools. The curriculum and content of this course was open and shared beyond the scope of the registered participants. Non-registered participants who joined in the graduate education class provided value for the registered learners with their insights and experiences in both the education and technology field. The course demonstrated open teaching methodologies, utilized emerging technologies and pushed the boundaries for building personal learning networks for online, distance education learning (Couros, 2010). The mentoring and scaffolding approach for learning was merely enhanced with multimedia tools and dynamic online interactions affiliated with social media resources.

The learning and performance innovation excelled with this type of learning environment. The online course was developed to enhance the original content and curriculum for the learner, by creating digital spaces to share, reflect, question and develop ideas around emerging learning technologies for the classroom. The primary learning environment for the initial EC&I 831 course was situated in a typical learning management system, such as Blackboard, Moodle, Ning and Wikispaces, where the learner facilitator provided assessment for learning outcomes and the course syllabus, however many learners found great value in connecting online through a variety of social media resources. The participation in blogs, digital portfolios, streaming media, video, voice threads and shared documents became a large contributing factor for learning success and emerging technologies helped develop learners' final digital projects (Couros, 2010). The learning experience developed with new methods for instruction and an innovative learning environment that promotes interaction and contribution to be successful in this course. This course format encourages developing a personal learning network, immerses learners in social media literacy, and supports learner-centered experiences that will be applied after the course concludes (Couros, 2010).

During both synchronous and asynchronous activities, the learner facilitator discovered how much connected online activities increase learner engagement, scaffolding and reflection. After the lecture ended, the learning continued as learners read and comment on blogs, post ideas on Twitter and form study groups amongst their social network connection. Beyond the scheduled weekly meeting, learners grew their personal learning networks (PLEs) to integrate and participate in learning outside the designated curriculum structure. The learning and performance networks provide opportunities for continued engagement and learning on-demand opportunities during the course of the learning experience and after the course comes to a close.

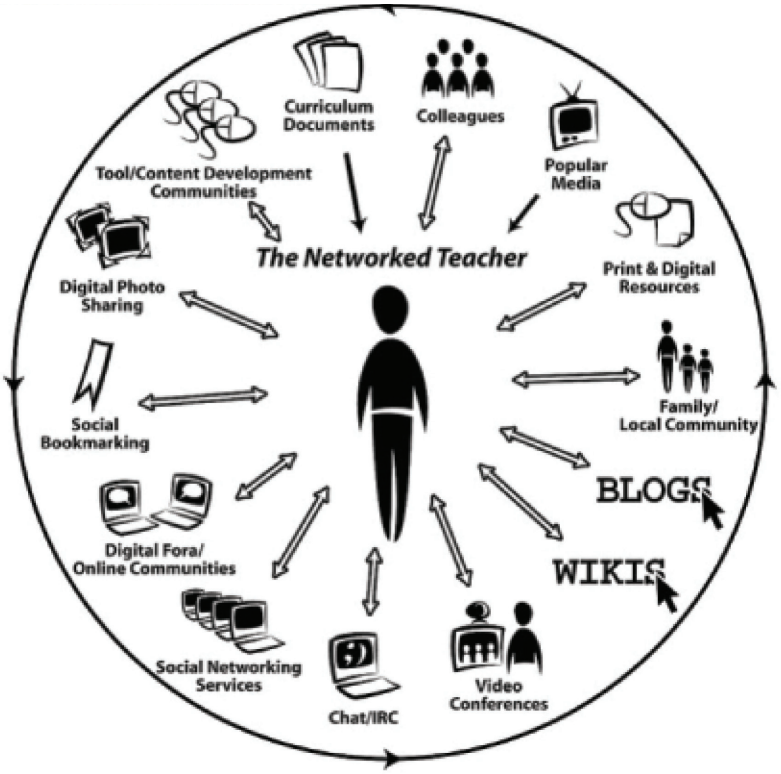
Couros (2010) encourages and empowers his learners to immerse in emerging technologies, critically assess the use of social media, develop learning networks, and continue the dialogue after the learning curriculum has concluded formerly. In Figure 5, Couros (2006) demonstrates a new learner facilitator model known as "The Networked Teacher." This diagram provides an example of how the role of the "teacher" is changing to include connections for active learning. The participatory impacts of social media activities identifies how emerging technologies will innovate and impact the learner facilitator role and to enhance the learner experience.

This model can easily be applied and utilized for other education, training and development curriculums. Learning facilitators in this technological age must encourage learners to view knowledge as contextual, and see the value in working both individually and collectively to transform the world into what they envision it to become. Regardless of the techniques or tools utilized, ample research and planning are critical to ensure that learning and performance innovations are incorporated appropriately.

CONCLUSION

The future of learning and performance success is about being proactive, and sustaining the momentum of best practices and proven theory. A number of conditions are important in the integration of technology, including supportive leadership, social networks, adequate infrastructure, access, and proper training (Norris et al., 2003). Learning facilitators must continue to embrace various forms of learning or performance innovation, and strive to utilize technology to assist in capitalizing on the unique skills and learning needs of every learner. While change is a constant, the growth of technology and globalization has increased to bring about a new level of complexity to manage

Figure 5. The networked teacher (Couros, 2006)



for learning and performance innovation (Pershing, 2006).

The shifting innovation trends for learning and performance have altered how and when learning will occur. Many organizations have already begun the assessment and implementation of how to support learning and performance innovation strategies more efficiently. Emerging technologies are innovative resources designed to develop learning communities, enhance connections, share knowledge and support social learning. When learners become engaged in the process, they become creators and narrators of their own progress, and in turn, develop meaning and purpose in the learning experience.

Critical needs for both education and employment fields are moving forward with development and advancement. Employers desire to hire potential employees that are adaptable, flexible, and possess critical thinking, teamwork, and self-regulatory skills (Borthwick, 1995). To assist with the development of these skills, more post-secondary distance education programs are necessary due to increased enrollments in higher education, yet resources and qualified instructional designers are limited in many parts of the world. Hence, it is imperative that current professionals of the field continue to expand their knowledge base by seeking professional development opportunities, while simultaneously encouraging other potential leaders to enthusiastically embrace the various forms of innovation discussed in this chapter. When implemented collaboratively, learning and performance innovations foster learning success and efficiently prepare tomorrow's workforce.

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KEY TERMS AND DEFINITIONS

Artificial Intelligence (AI): The intelligence of machines and the branch of computer science that aims to create it.

Blackboard: Develops and licenses software applications and related services to over 2200 education institutions in more than 60 countries. These institutions use Blackboard software to manage e-learning, transaction processing and e-commerce, and online communities. http://www.blackboard.com/

Blogs: Short for the term,"web log," this is a type of website, usually maintained by an individual with regular entries of commentary, descriptions of events, or other material such as graphics or video.

Data Mining: The process of extracting patterns from data and an important tool used to collect useable information.

EC&I 831: Social Media & Open Education: An open access graduate course from the Faculty of Education, University of Regina. This course is available to both for-credit and non-credit participants. It features openly available, live, and recorded presentations from notable educators & theorists. It is anticipated that the open nature of this course will benefit all participants, especially in the fostering and development of long-term, authentic, educational connections. http://eci831.wikispaces.com

Machine Learning: A scientific discipline that is concerned with the design and development of algorithms that allow computers to evolve behaviors based on empirical data, such as from sensor data or databases.

Meta Tags: Meta elements are HTML or XHTML elements used to provide structured metadata about a Web page. Meta elements can be used to specify page description, keywords and any other metadata not provided through the other head elements and attributes.

Moodle: (abbreviation for *Modular Object-Oriented Dynamic Learning Environment*) A free and open-source e-learning software platform, also known as a Course Management System, Learning Management System, or Virtual Learning Environment (VLE). http://moodle.org/

Ning: An online platform for people to create their own social networks http://www.ning.com/

Open Education: A collective term that describes knowledge, ideas or important aspects of teaching methodology shared freely over the internet.

Social Media: Online applications for social interaction and content creation for accessible and simple publishing to share knowledge and information.

Web 2.0: A term commonly associated with user-centered web applications that promote information sharing, interaction and collaboration online.

Wiki: A website that allows the easy creation and editing of interlinked web pages for online collaboration and sharing.

Wikispaces: Wikis are simple web pages that groups, friends, and families can edit together. Starting your wiki at Wikispaces is fast, free, and easy. http://www.wikispaces.com/