Facilitating Continuous Learning: A Review of Research and Practice on Individual Learning Capabilities and Organizational Learning Environments

Smita Jain
University of Memphis
404 Ball Hall
Memphis TN, 38152

Emery Trey Martindale
University of Memphis
404 Ball Hall
Memphis TN, 38152

Abstract

In a continuously changing work environment, employee knowledge and skill quickly becomes obsolete and requires constant updating. This paper will present a review of current research and practice on two intertwined topics: how organizations create and sustain a "continuous learning" culture and how individual employee attributes determine one's readiness for continuous learning. By identifying factors that improve the continuous learning culture, an organization can better motivate its employee to become continuous learners that will eventually lead to sustainable competitive advantage for the organization.

Descriptors: Continuous Learning; Employee Attributes.

Introduction

Continuous learning is important for short and long term success of both individuals and organizations. Among various benefits of continuous leaning for the individual is to learn better skill sets, enhance their ability to meet organizational goals, and to remain competitive in this job market and in the expanding global economy. Since continuous knowledge acquisition can potentially lead to increased productivity, it benefits organizations to remain effective, innovative and competitive.

Given the importance of continuous learning for both the individuals and the organizations, the topic demands attention. Since the workplace environment is so dynamic and every employee has unique attributes, continuous learning involves a combination of several things, and means different things to different people. When factors facilitating continuous learning are identified, organizations can benefit by implementing those factors to optimize continuous learning.

As organizations struggle to survive and prosper in the increasingly competitive environment, continuous learning is becoming an important component within an organization. The ability to learn and develop one's skills is becoming a core career competency (Hall & Mirvis, 1995). Individuals are increasingly responsible for their own career path that often requires varied skill sets and knowledge bases. This shift has radically changed the process of learning and the ability to continuously gain new skills and to improve on existing ones has become an essential recipe for career success (Maurer & Weiss, 2010).

The workplace activities and job requirements can have a deep impact on an employee's professional development. New skills can be acquired from a variety of sources: training, education, communication, but the work environment determines if these newly acquired skills translate into changed behavior on the job. Lack of opportunity to apply new skills reduces the motivation for learning. On the other hand, if an organization's culture is such that it recognizes or rewards the individuals who apply new ideas and skills, this might positively impact the continuous learning among the employees.

Along with the dynamics of work environment, individual learner attributes can also determine the motivation and desire for continuous learning. Literature suggests that older employees are less oriented towards learning and development (AARP, 1995; Cleveland & Shore, 1992; Maurer, 2001). Similarly experience can also hinder continuous learning. Schmidt, Hunter, & Outerbridge (1986) argue that if a person performs work that requires continuous learning but has been doing the work for a long time, it is possible that he/she is less inclined to engage in continuous learning as compared to an inexperienced person. However, Maurer and Weiss (2010) argue

that the experienced person knows the work in greater detail and hence recognizes the need for continuous learning to be an effective performer.

In addition to the above factors, individual's attitude towards learning can also influence continuous learning. Attitude towards learning include any or all of the following factors: ability to learn new things readily, tendency to pursue new development opportunities, openness to new ideas, readiness to learn, unlearn and relearn, identifying one's weaknesses (Maurer & Weiss, 2010).

This paper is about individual learner attributes and workplace learning environments. More specifically, our review addressed the following questions:

- What are the individual learner attributes (e.g., age, gender, educational background, self-objectivity, independent learning ability, work ethics) that indicate a learner is amenable to continuous learning?
- What factors within an organization (e.g., training support, dealing with subordinates, technical problem solving, networking) contribute to creating and sustaining a continuous learning environment?

This literature review provides a brief review of (a) What is a Continuous Learning? (b) Need for Continuous Learning at Individual and Organizational level (c) How individuals learn? (d) Attributes of Continuous Learners (e) Continuous Learning Culture.

To guide the literature search, various keywords such as 1) Continuous learning 2) Continuous learning in workplace 3) Learner Attributes and Continuous Learning 4) Employee Attributes were used in different combinations in electronic databases such as Eric, JSTOR, Project Muse, Springer, EBSCO host, and Wilson Web. World Catalog and Google Scholar were also searched with these keywords. The initial searches for articles in the databases were limited to last five to six years. But, due to the dearth of potential articles this restriction was skipped. The bibliographies of the references were mined to help locate the original works.

The results from this paper may provide some general insights about continuous learning and the factors that facilitate such a learning environment. We will discuss how these results can be applicable and can help improve the continuous learning culture within an organization.

Literature Review

What is Continuous Learning?

Presented below are some definitions of continuous learning, following which the authors try to conceptualize the term for the current paper.

Articles	Definitions
London and Smither (1999)	They define continuous learning as "self-initiated, discretionary, planned, and proactive pattern of…activities that are sustained over time for the purpose of applying or transporting knowledge for career development (p. 81)
Rasow and Zager (1988)	They explain "evolution in training" as a movement towards a continuously learning philosophy where employee efforts shift from formal training to everyday training.
Sessa and London (2006)	In their analysis of the definitions of continuous learning of their participants the themes that emerged are "learning is transformational" "continuous learning satisfies passion, compulsivity, or drive as well as a tendency to be curios that transcends job requirements." "Continuous learning means "trying something new" and "experiencing something old in a new way""(p.17) "Continuous learning at the individual level is regularly changing behavior based on a deepening and broadening of one's skills, knowledge, and worldview" (p. 18)
Tannenbaum (1997)	"The process by which individual and/or organizational learning is fostered on an ongoing basis"

After reading the definitions from the literature the author agrees with Kluge and Schilling (2003) who note that continuous learning is a relatively abstract concept. Here is how the authors conceptualize continuous learning.

- Continuous Learning is an ongoing process of learning and development in the organizational context. It does not have a clear beginning and end. However at the "end" it has to benefit the individuals' professional career and/or the organization. Thus, in a way continuous learning is a subset of lifelong learning.
- Continuous learning can be both formal and informal. It can encompass all day, every day, and every moment of learning; where ever an individual is consciously thinking, reflecting, learning.
- Continuous learning happens at individual to group to organization level and vice versa. At individual level it is self-directed; at group level it is collaborative; at organizational level it is providing opportunities, establishing structures and processes that support continuous learning.
- Continuous learning is difficult to measure.
- An example of continuous learning could be when a working individual finds out about a social networking site and takes the initiative to explore more about it and share the information with other colleagues that how they can also expose themselves to vast resources and opportunities through the networking site. Marsick and Watkins (1992) lay out three examples of continuous learning.

Need for Continuous Learning at individual and organizational Level

Various factors relative to business and organization trigger the need for continuous learning at all levels of employment. Expanding global economy and thus global competition, new inventions and innovations, fast-changing and updating technology, customer expectations, quality management, changes in demographics, skills demands depicts challenge for the flexibility of an organization operating in this scenario. Organizations are forced to adjust quickly and adopt new ways to remain competitive. Continuous learning thus becomes essential for surviving and prospering in dynamic and competitive environments (Mayo, 2000; Howard, 1995; Ilgen & Pulakos, 1999; London & Mone 1999; Thayer, 1997; Adler, 1999). Thus understanding factors that contribute to continuous learning are essential.

Since organizations learn when the employed individuals learn it is important for individuals to work hard and keep up with the expectations of the workplace. Frequent changes of knowledge and skill requirements on the job and the pursuit of better and multiple careers make continuous learning a necessity (Hall & Mirvis, 1995; Ilgen & Pulakos, 1999; Gibb, 2001). Continuous learning is also important for preventing skill obsolescence of unemployed persons. Seeking additional training/learning can help in reemployment (Wanberg, Hough, & Song, 2002; Leana, Feldman, & Tan, 1998; Vinokur, Schul, Vuori, & Price, 2000; Vuori & Vesalainen, 1999). Continuous Learning is also important for older unemployed individuals to ensure employability (Wanberg, Kammeyer-Mueller, & Shi, 2001). Continuous learning is a timely and important topic for both employed and unemployed individuals.

How individuals learn?

The heavy research in various disciplines on the topic of learning at the individual level shows the very importance of learning. Whereas various learning theories such as behaviorism, cognitivism explain how learning in general takes place there are many theories that just focus on adult learning because researchers believe and studies have been conducted to prove that adults learn differently than children. Since, there does not yet exist any theories of continuous learning the authors try to create a base by discussing theories about adult learning in order to explain continuous learning in the later part. However, the author does not assert here to capture every theory on adult learning.

Andragogy
According to Knowles's concept of Andragogy an average adult learner 1) is self-directed learners, 2) draws on his/her experiences to aid learning, 3) is ready to learn with changing social roles, 4) is problem centered in their learning, and 5) is best motivated by internal factors (Knowles, 1980). However, does all these characteristics always apply when it comes to continuous learning at workplace? Are all adults' self-directed learners at all stages of life? Are there more than these characteristics that can affect one's intent to learn continuously?

Experiential Learning
According to Kolb's experiential learning theory adults learn and create new experience for themselves when they actively test their abstract concepts which are formed after reflecting on an immediate experience they had had. It is

a four-stage cycle of learning which can be ongoing. Do all adults actively test/reflect and change as per their experiences? There is a big difference between having experience and learning from them (Marsick & Watkins, 1992).

Systems approach: Sessa and London (2006) propose three ways how individuals learn based on various learning theories and models: 1) Adaptation 2) Generation 3) Transformation.

      Adaptation: Individuals learn adaptively by reacting to a change in the environment. This learning is often unintentional and unintended but plays a very important role in everyday learning as the learning is automatic, individuals learn without conscious additional effort.

      Generation: Individuals can learn by generating new knowledge and conditions. This learning is often purposeful and more related to the cognitive learning process. This learning is important as it requires individuals to identify their learning gap/need.

      Transformation: In the process of adaptation and generation, individuals can transform by creating and applying frame-breaking ideas and bringing about radically new conditions. This type of learning is important as it encourages reflection and result in transfer of knowledge from learning to work.

In order to explain continuous learning it needs more than this general learning theories/approach.

Attributes of Continuous Learners

The phenomenon of adult learning is complex and though it has been studied for decades, we are far from fully understanding the workings of an adult mind amidst the complex environment. To make matters more complex now the term "continuous" is more valued with learning in workplace. Despite the fact, as discussed earlier, that learning is a natural process for all individuals; many individuals are not active continuous learners at work (Sessa and London, 2006). Such people require considerable support for meaningful learning (Bunker & Webb, 1992). By identifying attributes of continuous learners we can encourage those who need to learn. Some of the important variables that could have an effect on continuous learning are age, position, job experience, occupation, career insight, self-esteem, career interest etc (as cited in Rowold & Schilling, 2006). Informed from Rowold and Schilling's article, discussed below are some of the factors, often interrelated, that determine which individuals are more amenable to learn continuously.

Cognitive ability: There has been found empirical evidence that cognitive ability may influence individual's own perceptions of their development needs and/or capabilities to develop, which in turn determine the participation in developmental activities (Maurer et al., 2003). Individuals with high cognitive ability (Ellis et al., 2003; LePine, 2003) enhance their own learning as well as team learning. Holding all other factors constant, groups composed of individuals with high cognitive abilities and positive personality characteristics will more likely to learn and outperform groups made of individuals who are low on these traits (Tannenbaum, Beard, & Salas, 1992). Thus, organizations that want to increase learning should include individuals who are high in cognitive ability, for group projects.

Personality Characteristics: Candy (1991) suggests that to continuously learn an individual manifests personality attributes of personal autonomy in self-managing learning efforts. He provides a composite list of characteristics of an autonomous learner (p. 459-66). One of the many groups in the list is named "Show Confidence/Have a Positive Self-Concept" (p. 464). Extensive research on Bandura's theory of self-efficacy has shown that self-efficacy is a strong predictor of an individual's behavior and performance. Bandura argued that the stronger the self-efficacy, the more likely it is for an individual to select challenging task, persist at them and perform successfully (Bandura, 1997). Noe and Wilk (1993) support this in their finding that individual's self-efficacy had a significant effect on participation in developmental activities.

      London, (2003) found that people who are higher in their confidence in self-other relationships and the desire to enhance their own development will have higher motivation for self-verification and self-disclosure behaviors. The desire for self verification will encourage individuals to set learning goals and value differences among fellow group members. Groups members also help one define and reinforce their self-image, and enhance their social self-view. Individuals will join, stay, be committed and make individual contribution when fellow team members give feedback that supports one's self-concept. However, individual's don't appreciate others speculating inaccurately about their capabilities (De La Ronde & Swann, 1998; Corey & Corey, 2002). People who have distorted view of themselves or others are likely to have trouble working with group members (Chen &

Mallinckrodt, 2002) and thus can prevent interpersonal learning. For suggestions regarding ways to influence or manage development self-efficacy of employees see Maurer (2001).

Organizational Power: Organizational hierarchy of individuals may have an effect on an individual's intent to learn continuously. Individuals higher on the ladder are better at achieving their goals because they have improved executive function ability and, more specifically, the ability to update goal-relevant information and ignore goal irrelevant information (Smith, Jostmann, Galinsky, & Dijk, 2008); are more aware of and adaptive to stated organizational goals (Overbeck & Park, 2006); and have more resources and less constraints/restrictions. Individuals lower in position are concerned about appearing incompetent in front of those with more power. Thus when they are in a team with wide range of power levels present, these individuals may not be willing to actively contribute their ideas/suggestions (Edmondson, 1999) and thus limit interpersonal learning. Individuals may also hoard knowledge thinking that they would lose power to others by sharing their unique knowledge or they might want to get some benefit out of it and hence would release only part of their knowledge at strategic times (Wittenbaum, Hollingshead, & Botero, 2004; Haas, 2006). Furthermore, Bunderson and Reagans (2011) explain that individuals lower in position and power are less inclined to take learning-related risks because

"Keltner et al. (2003) concluded that power advantages appear to prompt an "approach" response pattern (positive emotion, attention to rewards, uninhibited behavior), whereas power disadvantages prompt an "inhibition" response pattern (negative emotion, attention to threats, inhibited behavior). An impressive and growing body of evidence supports this basic proposition. Individuals in positions of lower power experience more negative emotion (Langner and Keltner 2008), act in more situationally constrained ways (Galinsky et al. 2008), are less optimistic in their assessment of risks and less likely to take risks during social interaction (Anderson and Galinsky 2006, Magee et al. 2007), and are less likely to take initiative (Galinsky et al. 2003)." (p. 1184)

Last but not the least, when contributions or initiatives made by subordinates or individuals lower in the position are neglected or go unnoticed, it has a negative effect on further learning. Thus, organizational power and position may have an effect on individual's continuous learning intentions.

Age: Evidence indicates that older individuals (40 years or older) are less motivated to learn than younger employees and participate less in formal training and development activities (Niessen, 2006; Sonnentag et al. 2004; Warr, 2001). They perceive training as less supportive for their careers than younger workers. This might be because older persons have more knowledge and experience and consequently job related learning and development might not be important for older individuals. However, a contrasting view is that since older persons have more knowledge and experience they might overcome the learning difficulties. The relationship between age and continuous learning differ according to personal and situational factors.

Research on learning and cognition has demonstrated that older individuals learn slower than younger persons which might negatively affect their motivation for continuous learning. This is supported by Kanfer and Ackerman (2004) that when increased effort cannot compensate for the decline in the capacity for information processing it further impairs the self-efficacy of older learners. Age discrimination can also have a negative influence on self-efficacy to learn and develop.

Research with unemployed persons showed no age effects on retraining (Leana, Feldman, & Tan, 1998; Vuori & Vesalainen, 1999). However, with increasing age; 1) when finding a new job is more difficult for older individuals (Wanberg et al. 2001) 2) when there is lower expectation of getting a job 3) when there is decrease in desire for reemployment 3) when there is negative self-perception and self-efficacy due to age discrimination and negative views of society of their potential to adapt to a new job; 4)when there is a decrease in learning opportunities (Tucket and McAulay 2005); there is a disengagement in career related educational goals, learning and development. When workers close to retirement lose their jobs they often do not opt for further learning and development (Hanisch 1999).

Older individuals do not value relentless value of new skills. They value the social learning process. They believe in sharing work and experiences (Canning, 2011). Thus due to some of these reasons continuous learning may differ between younger and older individuals.

Gender: Tharenou (1997) reported in his study that women participate less in continuous learning than men. This might be due to various barriers as discussed in Women and Learning by Susan Knights (200). However, being the "Other" sex, women have to be continuously "engaged in a process of self-analysis; learning what a female manager

is by identifying the traits of a male manager that she does not possess" (Patricia & Sharon, 2003, p. 128). Role played by gender in continuous learning is poorly understood and needs more empirical evidence.

Educational background/aspirations: Birdi, Allan and Warr (1997) in their study found education-level differences in participation. There was positive relationship between more educated employees and work-based development in work time, voluntary job-related learning in one's own time and career planning activities.

Job Position: Birdi, Allan and Warr (1997) found in their study that higher level employees participated more in the required training courses, development activities and career planning. They also cite Green (1993) to mention that lower level employees are traditional non-learners.

Ability to recognize one's strength or weakness (Self-objectivity): Sessa and London (2006) are of the opinion that continuous learning is a risky affair for individuals because in this case one has to admit that either s/he does not know something or has to learn to it differently to be most productive. This ability to recognize one's weakness or strength, according to Maurer and Weiss (2010) is critical for continuous learning because then an individual realizes that he has room for improvement to reach relevant goals. This is supported in the research by Maurer, Weiss and Barbeite's (2003) that perceived need for development indirectly predicted participation. In the study conducted by McCall (1994), the interviewed executives indicated that knowing their strengths and weaknesses is one of the many characteristics of managers showing that they are open to learning.

Ability to learn from experience/mistakes: In the study conducted by McCall (1994), interviewed executives looked for signs of openness to learning and learning from mistakes when seeking managers with top-management potential. This means that when individuals recognize their mistakes and carefully reflect on their action they generate more learning from the available opportunities.

Work ethics: Research supports that employees who report strong job involvement are more likely to engage in formal continuous learning activities organized by the organization which are career related and goal oriented (Maurer & Tarulli, 1994; Cheng & Ho, 2001; Maurer et al., 2003; Rowold & Schilling, 2006).

Motivation to learn: Birdi, Allan and Warr (1997) found learning motivation as a significant predictor of a person's participation in voluntary activities. Maurer, Weiss and Barbeite (2003) found in their study that the major predictor of participation in learning activity was perceived intrinsic benefits (such as career planning/ exploration) or outcomes more than the expectation that participation will lead to economic rewards or other tangible extrinsic outcomes. When there is desire on the part of an individual to learn they take "education initiative"-comprises participation in continuing education and refers to the degree to the participation is self-started (Warr & Fay 2001). They also involve in activities that aim at keeping knowledge and skills up-to-date, referred to as "updating behavior" (Fossum, Arvey, Paradise, & Robbins, 1986). Research has demonstrated that motivation to learn is positively related to learning outcomes (Colquitt et al., 2000).

Today younger individuals entering labor market may be more motivated for this self-initiated learning and development because they are faced with multiple careers, fast changing technology and globalization.
Shared vision (Senge 1990) also provides direction and motivation for individual learning (Sessa & London, 2006).

Expertise: Novices learn better from beginners than from experts (Hinds, Patterson, & Pfeffer, 2001). Hinds et al. (2001) found that experts and beginners differ in how they communicate information. Experts' use of more abstract concepts and advanced sentences may interfere with learning in novices. Thus matching skill levels of the trainer and the trainee can leverage transfer of knowledge.

Mental Models: According to Argyris and Schon (1978) people unknowingly think and act according to their established mental models. Learning happens when people consciously reflect and modify their actions according to the difference between expected and obtained outcomes as a result of their response to a certain situation. Argyris & Schon name this single-loop learning. When individuals are able to question and analyze the very basis of their response to a certain situation in the first place, double-loop learning occurs. Argyris and Schon (1978) distinguish between two mental models: Model 1 and Model 2 referring to individual behavior. Individuals engaging in Model I behavior inhibit their potential for growth and learning due to their defensive routines. Model II behavior, on the other hand, welcomes and encourages feedback and change. For more information on Argyris' approach see Argyris and Schon, 1974; Argyris, 1970, 1980, 1994.

Continuous Learning Culture

In order to encourage and keep employees motivated to engage in continuous learning openness to new ideas, taking a chance must exist in the work environment. (Gundry et al, 1994; McGill et al, 1992). Then there should be a culture of support and forgiveness (Colquitt et al, 2000). Tharenou (1997) found empirical evidence that encouragement from supervisor and peers is the most important factor for seeking opportunities for development. Further, a study of Maurer, Weiss & Barbeite (2003) showed that social support for development at work and outside work has a positive influence on people's participation in development activities.

Experience of older employees should be valued. Training has to be more personalized for them that focus upon the utilization of existing knowledge and skills. Working groups should be formed were younger counterparts benefit from their older counterparts (Canning, 2011). In order to induce in individuals greater responsibility for their own learning and development, voluntary employee development programs must be included which are financially supported and outside of working hours. These learning activities can increase self-confidence and instill enthusiasm for additional learning (Corney, 1995).

To mitigate the limitation on learning due to power dynamics, Bunderson and Reagans (2011) present review of studies to support the notion that individuals with greater power or status can use their advantaged position to create an environment characterized by psychological safety, thereby encouraging behaviors and processes that promote learning.

Mohamed and John (2000), Johnston and Hawke (2002) feature case studies of four companies that focus on created a culture of continuous improvement across the organization. Marsick and Watkins (1992) also give examples of what continuous learning means in companies and support implementation of reflective practice and suggest ways to learn continuously.

Conclusion

Sessa and London hold the perspective that all humans have the potential to be continuous learners. However, learning cannot be forced; it can only be triggered and supported. Learning depends on an individual's capacity and readiness to learn. Maurer, Weiss and Barbeite's (2003) research model results "depict a person who will be involved in development as someone who has been involved in such activities before, believes in the need for development and in his or her ability to develop skills, to receive intrinsic benefits from participating, and who perceives him- or herself as possessing learning qualities, as having social support at work and outside of work for development, as being job involved, and as having career insight." (p. 722). They suggest that all of these variables should receive attention when attempting to understand or to enhance involvement in employee development. However, going deep there are many other individual and organizational factors that work differently with different organization and diversity of the workplace. Xerox Corp. insists on making the organization grow and develop through a process of continuous learning at all levels (Mohamed & John, 2000). And the key to continuous learning at all levels is to provide the support by giving directions and providing resources followed by assessment.

Limitation

The limitation of this literature review is that it is very broad in focus. Although, all variables addressed are important, further in-depth literature reviews on individual topics is possible.

Implications of Future Research

In Sessa and London's (date) participant discussion several respondents felt that their motivation for continuous learning came from their parents and that they in turn inculcate this in their family members and students. Other than this, the author did not find any real studies that touched on the effect of family on individual's continuous learning. This can be interesting in this age, as children being digital natives, can trigger motivation for continuous learning in adults. Though the topic of continuous learning is much rage yet limited empirical research exist that is in agreement with describing continuous learning and the way individuals' learn in organizational context. Existing literature on continuous learning does not recognize the relevance of individual differences sufficiently. There are also unanswered questions in relation to continuous learning and enhanced work related competencies, career advancements and in turn return-on-investment. Above all, there needs to be a certain way to measure continuous learning because otherwise how one employee's additional effort to learn can be justified against another employee who gets the same wage, amenities without continuous learning efforts.

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