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Valuing the adult learner in e-learning: part one – a conceptual model for corporate settings

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Abstract

Purpose – To illustrate how the interdependence among four championing factors, five antecedents, and four moderators affect companies' efforts in valuing the adult learner in e-learning.

Design/methodology/approach – A literature review was conducted to identify the championing factors, antecedents, and moderators that can assist teams in designing e-learning that values the adult learner. A conceptual model was designed based on the identified factors. The paper provides a description of each factor and provides insight on how the championing factors, antecedents, and moderators are interdependent in valuing the adult learner.

Findings – Engagement, learning, and transfer are major outcomes that can be achieved via e-learning if desirable championing factors, antecedents, and moderators are adhered. Championing factors include leadership, learning culture, technology infrastructure, and finance. Influencing antecedents include needs assessment, learning analysis, work setting analysis, work analysis, content analysis, and task analysis. Moderators include return on investment, learning theory application, technology, and creativity.

Practical implications – The antecedents, moderators, and outcomes discussed reflect a conceptual model that can be used to guide e-learning teams in their attempts to value adult learners in their e-learning designs.

Originality/value – While educational theorists and practitioners have provided a body of literature related to valuing adults in school settings, little investigation has been done in corporate contexts. This conceptual model is important to e-learning teams within corporate settings as it provides an opportunity for critical reflection on how the adult learner can be valued in their e-learning efforts.

Keywords Learning, Adult education, Computer based learning

Paper type Conceptual paper

Introduction

E-learning has become a significant component of training and development within the corporate environment. Learning anywhere, anytime and having the flexibility of occurring just-in-time at a lesser cost than face-to-face training has been and continues to be attractive to companies. Ensuring, however, that e-learning facilitates the acquisition of knowledge and skills can be challenging if the e-learning teams cannot assert competency in creative applications of instructional design, learning theories and technology. While how to value the adult learner in online courses in the academic environment has received some attention (Johnson and Aragon, 2003; Chu, 2002; Lee *et al.* 2002), very little is known about how the adult learner in e-learning is valued within corporate settings.

The following conceptual model (Figure 1) frames the adult learner and e-learning within a corporate setting where learning is tied to performance and productivity. Thus, the researchers see the value for the adult learner in e-learning starting with

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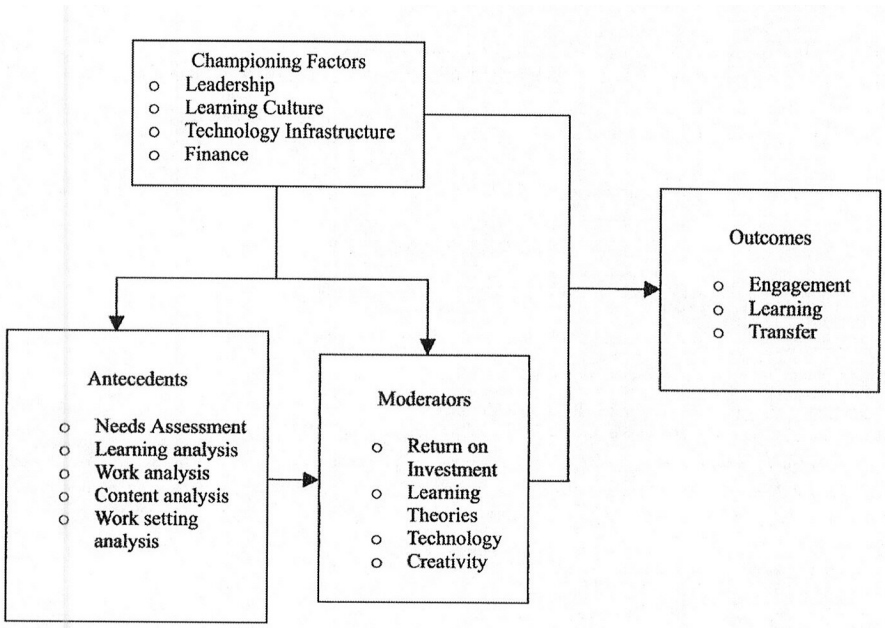

Figure 1.
Valuing the adult learner in e-learning within corporate settings

the integration of four championing factors, they are: leadership, learning culture, technology infrastructure, and finance. The adult learner becomes a visible player in the learning process when front-end analyses, learning theories and technology are employed effectively and timely. The following discussion provides an overview of some major factors that play a crucial role in valuing the adult learner in e-learning within corporate learning settings.

Championing factors

While Chute *et al.* (1999) identified the learning process, people and technology as critical areas for the success of distance learning, e-learning in the corporate setting requires four major championing factors, they are leadership, the learning culture, technology infrastructure, and financial support. A successful e-learning venture depends on leadership that visibly values learning. Given that e-learning is a technology-based intervention, and that technology is continuously advancing, continuous improvement and innovation of e-learning solutions are imperative. Consequently, successful e-learning is dependent on leaders that understand and visibly support the e-learning team in their efforts to continually provide the best e-learning solution and experience. Waight *et al.* (2004) related that leaders play a key role in creating opportunities for innovation and renewal of an e-learning solution. In specific, leaders must empower a learning culture, support deutero-learning, provide financial support, and most importantly encourage learning internally and externally. In reviewing leaders' support for e-learning, parallels were drawn with leadership support of a learning organization. Lussier and Achua (2004) indicated that leaders advocating for a learning organization encourage creative thinking, provide incentives for learning and innovation, create cultures for learning, and communicate a shared vision for learning. Additionally, leaders encourage systems thinking, broaden employees' frame of reference, and create

an environment where mistakes are allowable and are perceived as learning opportunities. For e-learning to continuously be successful, leadership's support of not only e-learning but of a learning organization is imperative.

Like leadership, learning culture underscores successful e-learning. A learning culture that communicates learning via all senses at all levels and in many different forms is critical to performance and productivity in a knowledge economy. E-learning is one form of learning, and with a strong learning culture can emancipate individual and group learning anytime, and anywhere. In addition, a strong learning culture can encourage self-initiated activity, serendipity, and intra-company communications (Lussier and Achua, 2004). An organization with a strong learning culture creates opportunities for multiple learning lenses, which consider the adult learner's engagement, and motivation for learning.

Like leadership and a strong learning culture, e-learning also depends on a technology infrastructure that is scalable, interoperable and standards cognizant. Level and speed of connectivity, learning management systems, and authoring tools are major issues that can break or make opportunities for creative design, development, delivery, and evaluation of e-learning courses. Having a technology infrastructure that is continually upgraded gives e-learning teams timely and viable tools to improve the adult learner's e-learning experience.

Finally, championing the value for the adult learner cannot occur without finance. Financial resources help to make learning cultures and technology infrastructures realities. Thus, financial resources are primary in creating learning experiences that provide meaningful, relevant, and authentic learning. Conducting a needs assessment, learner analysis, or usability testing can have direct and indirect financial implications. Waight *et al.* (2004) in their study on innovation and renewal of an e-learning solution found that financial support allowed the e-learning team to seek a research partnership to help them learn and improve their e-learning solution. Overall, financial support closely aligns with leadership support and vision for e-learning. In summary, leadership, learning culture, technology infrastructure and finance are major cornerstones towards valuing the adult learner in e-learning designs.

Antecedents

Processes that influence valuing the adult learner in the e-learning environment can include needs assessment, learner, task, content, and work setting analyses. Needs assessment, in particular, is about understanding the nature of the performance problem and its links to training and development and organization development. The needs assessment process can guide e-learning designers to ensure that their efforts are meaningful and that they will engage adult learners in relevant experiences (Morrison *et al.*, 2004).

Learner analysis can reveal information such as education levels, learning styles, aptitudes, background to a specific topic (Rothwell and Kazanas, 1998) and most importantly, technology skills, which for the e-learning environment can be a major deterrent for learning success if not dealt with appropriately. Developing the technology-related knowledge, skills, and attitudes can be a major prerequisite for performance and self-efficacy among adult learners.

Work analysis can help to understand the work context, design, and tasks. In addition, work analysis can identify minimum expectations for how well job

incumbents should perform each task appearing in their job descriptions (Rothwell and Kazanas, 1998). Exploring work design can help in identifying relevant and authentic case studies, and scenarios for the learner. Alignment of learning tasks to related work can engage learners in the learning process and assist learners in transferring their knowledge and skills to the workplace.

Content analysis can help to identify relevant content, content type and its appropriate chunking and sequence (Rothwell and Kazanas, 1998). Content analysis depends on knowledge of learning theories and on the results of learner analysis, for example, to identify content that will assist with the knowledge, skills, and attitudes of the specific job and the learner's previous knowledge. Content analysis communicates what will be taught and in what sequence it will be presented to the adult learner.

Work setting analysis, on the other hand, can occur at the individual and organizational levels. Thorough analysis of technologies available for design, development, and delivery must be conducted to ensure the operability and usability of the e-learning product. Analysis of technologies relating to communication, performance support, assessment, distribution, and delivery tools are critical (Lee *et al.*, 2002). While these antecedents are not exclusive, they represent the first phase of the instructional design process, which, if implemented well and creatively by e-learning teams, can create meaningful and engaging learning experiences for adult learners.

Overall, needs assessment, learner, work, content, and work setting analyses all converge as front-end analyses that help to set the stage for valuing the adult learner in an e-learning environment. These front-end analyses, however, would not be possible without the concerted efforts of leadership, learning culture, technology infrastructure, and finance.

Moderators

In addition to the antecedents mentioned above, the e-learning team must have related competencies in return on investment (ROI), learning theories, technology, and creativity in order to approach e-learning as a business solution that values the adult learner and can influence performance at the individual, group, and organizational levels.

Knowledge about the ROI of e-learning helps e-learning teams think about the cost of their inputs, and operations and the merit of their outputs. E-learning teams that conduct needs assessments to better understand the performance problem, for example, focus on performance needs that are relevant to the business unit or department, the target audience and ultimately to maybe a lesser but nonetheless important degree, the functioning of the overall organization.

Knowledge about ROI also forces e-learning teams to financially account for their development and design time, which sometimes can drive the creative urge to develop quicker, cheaper yet learner centred approaches for designing and developing courses. Morrison *et al.* (2004) identified design and development time, materials and supplies, equipment, staff benefits, administrative and trainer salaries as possible factors when calculating program cost. Program cost is one of the variables used to calculate ROI. Wentling and Park (2002) surmised that three major factors are usually the focus of e-learning program evaluation: cost efficiency, learner satisfaction, and learning resources. Philips and Philips (2002) stated that economical, theoretically sound, use of

correct ROI formula and credibility, for example, would be descriptors for an effective ROI. Knowledge, skills, and value for ROI can create a culture, among e-learning teams, which supports the transfer of knowledge, skills, and attitudes on the job and focuses on the impact of e-learning on performance and productivity.

Recognizing, however, that ROI is time and money dependent (Phillips and Phillips, 2002), it is important that ROI resides not only with the e-learning team but also with business units or departments and the organization as a whole. In essence, a value for ROI communicates a front-end urgency for relevance, effectiveness, and efficiency; all of which are necessary to value the adult learner within the corporate e-learning environment.

Like ROI, a strong foundation in learning theories is highly desirable of an e-learning team. The depth and breath of learning theories are critical for design and implementation of instructional strategies. Andragogy, self-directed learning, critical reflective, cognitive, and social learning are theories that help to inform the design of an e-learning course.

Andragogy is the art and science of helping adults learn (Knowles, 1980). Andragogy posits that adult learners are autonomous, self-directed, motivated, goal oriented, practical and have rich experiences. E-learning teams with andragogy cognizance can value learners in creative ways through e-learning. Autonomous, for example, starts with allowing the learner autonomy on time, place, and pace of e-learning. Likewise, practical and rich experiences are characteristics that can be embodied in learning activities, assessments, and interaction. Overall, the transfer of andragogy to e-learning is the act of understanding the theory and creatively applying its meaning in practical ways.

Self-directed learning is a process of learning in which people take primary initiative for planning, carrying out, and evaluating their learning experiences (Merriam and Caffarella, 1999). Critical reflection theory is based on a learning process that engages the learner in reflection of self-images, norms, assumptions, and behaviours (Brookfield, 1986). Self-directed and critical reflection theories are tied to instructional strategies and the opportunities learners receive to learn how to learn. Thus, e-learning teams that understand both self-directed and critical reflection are able to engage adult learners in a learner-content reflection process that draws upon their experiences from different levels and lenses.

Cognitive learning theory relates that the perceptual features of the problems given to learners are important conditions of learning, and that how knowledge is organized should be taken seriously by the designer (Hilgard and Bower, 1966). In addition, cognitive learning theory proposes that learning is culturally relative and that importance to meaningfulness of the learner's environment should be adhered. Cognitive theory also underlines the importance of the type of feedback that is given to learners and that goal setting can motivate learning. A good understanding of cognitive theory gives e-learning teams opportunities to slip into the minds of adult learners to see how their e-learning designs influence short- and long-term memory storage. Cognitive theory also helps e-learning teams better focus learning activities that help learners learn how to learn.

Social learning emphasizes that learning occurs by observing other persons (models) whom are perceived to be credible and knowledgeable (Bandura, 1977, 1986). Social learning theory also proposes that behaviours that are reinforced and rewarded

tend to get repeated and that learning is influenced by a person's self-efficacy. Self-efficacy relates to a person's judgment about whether they can successfully learn knowledge and skills. Social learning also shares the belief that new skills and behaviours come from directly experiencing the consequences of using behaviour or skills or the process of observing others and seeing the consequences of their behaviour (Noe, 2002). Context of interface, interaction, and learning activities that guide the learner to connect with their workplaces are examples that can enable social learning in an e-learning course.

All these adult learning theories emphasize the learner as a focal point of the learning process and provide fundamental principles that can be used to design online courses that will influence learning and performance. Johnson and Aragon (2003) shared that quality online programs should be made up of elements of behavioural learning theory (for example, using positive reinforcement and repetition); cognitive learning theory (for example, addressing multiple senses, presenting information in motivating ways, limiting the amount of information presented, and connecting new information to prior knowledge); and social learning theory (for example, encouraging group interaction, peer assessment, and personal feedback). In summary, a sound understanding of learning theories can assist in creating the e-learning experiences that transport the learner away from just a technology experience to a powerful learning experience.

A thorough understanding of the organization's and e-learning team's technological readiness is primary for e-learning design, development, and delivery. The organization's technological readiness may include asking information about web access, bandwidth limitations, relationship between the departments of information technology and training and development, e-learning portal, e-learning strategy, learning management system, and availability of the right e-learning talent. When reviewing the learning management system (LMS), e-learning teams will need to ensure that the LMS allows learners to plan, access, launch, and manage their learning. Rosenberg (2001) identified common online course catalogue, common online registration system, competency assessment tool, ability to launch and track e-learning, learning assessments, and management of learning materials, among others, as important features of a LMS. In addition, e-learning teams need to consider the type of technologies available for synchronous and asynchronous communication, collaboration, and assessment.

The technology-related competencies of the e-learning team will play a major role in e-learning course design and development. Knowledge and skills in computer hardware, technology operation, graphics, media selection and publishing, project management, instructional design, writing, programming, audio and video producing are important talent requirements of e-learning teams (Kruise and Keil, 2000). The American society for training and development highlighted three major competencies for e-learning teams. First, assessment of interface standards that address the relationship between the learner and the courseware is essential. Second, assessment of compatibility standards that address the relationship between the courseware, the operating system, and related applications also need to be tackled by e-learning teams. Third, review of production quality standards that examine the quality of the courseware text, graphics, grammar, and visual presentation is needed. While these technical areas are critical for e-learning teams, interpersonal skills such as negotiation, communication and conflict management are necessary to develop and maintain a close relationship with information technology (IT) specialists in

organizations. Realizing that technology infrastructure and its continuous upgrade are heavily dependent on IT specialists, communicating e-learning's strategic position within this infrastructure will be essential by e-learning teams. In short, both technical and interpersonal skills are desirable of e-learning teams in their attempt to create e-learning products and services that value the adult learner.

With a ROI mind frame, a strong learning theory foundation, and a technology infrastructure, the creativity of e-learning designers will be instrumental to integrating learning, technology, and adult learner. Creativity is defined as the development of ideas, outcomes, products, or solutions that are judged as:

(1) original and novel; and

(2) appropriate and potentially useful for the situation (Amabile, 1996; Oldham, 2002; Zhou and Shalley, 2003).

For e-learning teams creativity can come in the form of multimedia, course design, and assessment tools. While these outputs are not exhaustive, e-learning teams which have all four championing factors have an advantage for continuous renewal and innovation of their e-learning solution. Creativity needs diverse teams (Payne, 1990), supportive leaderships, ample resources (Tierney *et al.*, 1999), environments that promote autonomy, risk taking and external competition (Shalley *et al.*, 2000), a social network (Perry-Smith and Shalley, 2003), and external stimuli such as conference presentations, and research-practice partnerships. Overall, creativity can help e-learning teams produce services and products that immerse the learner in a meaningful learning experience.

Outcomes

Engagement, learning, and transfer are the three major outcomes that can be achieved via e-learning if the described championing factors, antecedents, and moderators are adhered. Engagement of the learner with the e-learning medium and with the courses is important to motivate learners. Learners that can quickly access and navigate courses and see the relevance of what they are learning with their jobs will be more likely to become engaged with e-learning. The types of analyses that are conducted at the beginning of the e-learning solution can help to create learning experiences that will make the learner feel comfortable, and motivated to learn. If learners' lack of basic skills (computer skills, reading skills, for example) and their belief that they cannot be successful (low self-efficacy) has not been uncovered via analyses, the likelihood that learning and transfer of learning on the job may occur could be minimal. Ensuring, then, that adult learners and performance problems are explored within their contexts is critical to providing the best e-learning solution.

Learning is another outcome that could occur with the creative integration of learning theories and technology. Johnson and Aragon (2003) shared that powerful online learning environments need to contain a combination of these principles:

(1) address individual differences;

(2) motivate the student;

(3) avoid information overload;

(4) create a real-life context;

(5) encourage social interaction;

(6) provide hands-on-activities; and

(7) encourage student reflection.

An e-learning solution that displays these seven principles has the potential to fuel learning.

Transfer of learning on the job can also be a result of e-learning solutions that capitalize on analyses, ROI, and the creative application of learning theories and technology. Transfer of learning on the job has likelihood of occurring when e-learning courses have identical elements to the work environment. Transfer can also happen when principles and their applicability to various problem situations are explained, reinforced, and assessed. Content that is meaningful and is presented without causing information overload can also assist with transfer. Additionally, transfer can occur when e-learning teams are seen as strategic business partners who support managers in employee development.

Conclusion

The antecedents, moderators, and outcomes discussed in this paper reflect a conceptual model that can be used to guide the e-learning teams in their attempts to value adult learners in their e-learning designs. Underlying the framework, however, are championing factors (leadership, learning culture, technology infrastructure, finance) that need to be in synch with each other in order to support the realization of the antecedents, moderators and outcomes. The antecedents reflect front-end analyses that are crucial to creating relevant, meaningful, and authentic learning experiences. The moderators reflect expertise on ROI, learning theories, technology, and creativity which all combine to further establish authentic and meaningful learning. The moderators can also provide opportunities for supporting transfer on the job. This model posits that if adherence is given to the antecedents, moderators, and that if both are supported by the championing factors, results can reflect engagement, learning, and transfer. This conceptual model is important to e-learning teams within corporate settings because it provides an opportunity for critical reflection on how the adult learner is being valued in their e-learning efforts.

The researchers conducted a critical reflection of the conceptual model with four companies who have viable e-learning solutions. The researchers explored how the companies were valuing the adult learner in their e-learning designs. Part two of this study presents four case studies and a summary of how this conceptual model applies to all four companies.

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