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Examining the benefits of technology in training

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The purpose of this literature review is to provide an overview of significant literature published on the topic of the benefits of increased technology use for training as an integral component of business strategy. After satisfying initial research requirements set forth by the researcher, 34 peer-reviewed articles published after 2001 were purposefully selected based upon relevancy to the research topic and critically analyzed to identify consistencies, similarities, and differences, in an attempt to explain the motives behind increased investments in technology for training. Three major trends are identified: Globalization Challenges and Benefits for Training Programs Organizational Training and Performance Assessment. A significant finding indicates that technology is being used by organizational training programs to support their global vision. Additional research is needed to investigate ways that e-Learning can be linked to measurable performance and to provide evidence as to how training programs affect employees.

EXAMINING THE BENEFITS OF TECHNOLOGY IN TRAINING

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Abstract

The purpose of this literature review is to provide an overview of significant literature published on the topic of the benefits of increased technology use for training as an integral component of business strategy. After satisfying initial research requirements set forth by the researcher, 34 peer-reviewed articles published after 2001 were purposefully selected based upon relevancy to the research topic and critically analyzed to identify consistencies, similarities, and differences, in an attempt to explain the motives behind increased investments in technology for training. Three major trends are identified: Globalization Challenges and Benefits for Training Programs Organizational Training and Performance Assessment. A significant finding indicates that technology is being used by organizational training programs to support their global vision. Additional research is needed to investigate ways that e-Learning can be linked to measurable performance and to provide evidence as to how training programs affect employees.

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Introduction

The power of knowledge has proven itself to be a valuable commodity for organizations, despite tough economic conditions; executives do not hesitate to open their wallets in support of organizational training and development initiatives. For example, according to The American Society for Training and Development (ASTD) 2010 State of the Industry Report, U.S. organizations spent nearly $126 billion on employee learning and development in 2009 (Patel, 2010). The continued financial commitment through investments for workplace training and learning is evidence reflecting that it is a key investment among organizations (Patel, 2010). Although the instructional methods used for organizational training varied across industries, e-learning – consisting of all forms of electronically supported learning and teaching – saw an overall increase in use: 36.5 percent of all formal training and learning hours were conducted by organizations using an online instructional platform (Patel, 2010). A survey of 500 training directors (Online Learning News, 2001) clearly shows the new priorities: 1) Sixty percent had an e-learning initiative; 2) Eight-six percent had a priority of converting current instructor-led sessions to e-learning; 3) Eighty percent will set up or expand knowledge-management program; and 4) Seventy-eight percent were developing or enhancing electronic performance support. Ernst and Young, a global financial accounting firm, replaced 80 percent of their traditional classroom instruction with an e-learning training program, and reduced their costs by 35 percent (Newton & Doonga, 2007). While e-learning has proven to broaden accessibility and opportunity for organizational training to a wider constituency, a reliable method for

evaluating training outcomes has yet to be determined (Felstead, Gallie, Green, & Zhou, 2010).

Following a meticulous investigative search of nearly 400 peer-reviewed academic journals, particularly apposite to the training and development field and published after 2001, thirty journal articles were selected to be analyzed and are included as the references used for this literature review. This literature review attempts to examine the rationale behind increased organizational training investments by identifying common organizational training initiatives and whether training efforts are concerned with producing financial or nonfinancial outcomes. Additionally, it will analyze training from a historical perspective, investigate the transition from traditional training towards technology-based training, discuss issues surrounding organizational identity and involvement, and explore innovative techniques for assessing performance and measuring training outcomes.

This literature review attempts to answer the following questions:

1. What opportunities does technology-based training offer, as a result of globalization?
2. How does technology-based training meet the needs of all learners?
3. What are the challenges for evaluating technology-based training?

The summarized finding of the literature reviewed has implications for the future of training programs as a part of an organization's overall business strategy. It will serve as valuable information for identifying common organizational training challenges, provide insight to those wishing to develop performance and training technology programs, and also serves as a foundation for future research.

Methodology

Using various combinations of key words including "organization", "training", "technology-based training", "e-training" "curriculum", and "workplace learning", an extensive search of the Business Source Elite, Communication & Mass Media Complete, Corporate ResourceNet, ProQuest, and PsychINFO electronic databases was conducted. The search, which was limited to include only peer- reviewed academic journals that were published from 2002 to 2012, aimed to provide the most current perspective towards technology-based training within the past ten years and yielded 384 citations. The researcher limited potential resources, to be selected for further analysis, based upon their relevancy to the research topic. After reviewing the titles and abstract of the journal articles, for the first cut 334 records were not included because they did not adequately address the research topic. A selection of 50 articles existed as a pool of possible references for the literature review.

The researcher next considered how the information from the articles could be used and several potential resources were eliminated because they did not contain information that could be used to answer the research questions. Furthermore, the research articles were examined for similarities, consistencies, inconsistencies, or differences; contributions from well-respected or well-known authors were more likely considered to be included as a part of this review. Finally, the researcher used Anne Harzing's Journal Quality List (Harzing, 2012) to determine the ranking of the journal publication and to confirm the quality of each journal article. As a result of the purposeful analysis and critical evaluation, 32 journal articles were selected for this review.

Analysis and Discussion

Training is defined as "a planned effort by an organization to facilitate the learning of job-related behavior" (as cited in Wexley, 1984). In the first section of this review, the researcher investigates some common challenges that exist for organizational training programs as a result of globalization and the impact that globalization is having on organizational training systems - including the emergence of corporate universities and increased involvement from administration. Then it investigates how technology is being used to turn these challenges into possibilities. Finally, this review will examine how training outcomes are evaluated and how technology exists to improve upon previously existing evaluation processes.

Globalization

With a move towards globalization, there are many uncertainties and challenges that exist for organizational training programs in today's continuously changing business environment (Lee, Faff, & Langfield-Smith, 2009). Amidst the confusion and uncertainty, however, there is one thing for certain: organizations have consistently invested more in technology-based training programs - an investment trend that appeared consistently from 2002 through 2009 (Patel, 2010). The first section of this review attempts to answer the first question: What opportunities does technology-based training offer, as a result of globalization? While analyzing the effect of globalization on the training, it highlights the opportunities of technology-based training.

Corporate Universities

Traditional training programs were offered primarily for employees, through special training organizations or charged by the human resource department, and delivered face-to-

face via formal lecture (Derouin, Fritzsche, & Salas, 2005). Traditional training efforts focused on addressing individuals or specific performance problems and evaluated the trainees' ability to acquire knowledge or skill. The corporate university is an emerging concept, and consists of a training program that is focused on improving both individual and organizational performance, that is being used more frequently among organizations all over the world.

The first corporate university in the United States was created by General Motors in the 1920's. The users or learners at corporate universities often consist of employees, suppliers, and customers. The instructional goals are not job-specific, at a corporate university, because learning activities are integrated to support a central, global learning strategy. Corporate universities are most valuable when they exist to help organizations achieve goals or to support the organization's vision or mission (Allen, 2010).

One study investigating the difference between corporate universities and traditional training programs (Morin & Renaud, 2004), the authors found that when it comes to adapting an entire organization, many CU come equipped with a global structured training plan that is specifically designed to handle changes and survive in the new business environment. According to the authors, over the course of the last decade, corporate university training programs have seen significant growth among North American and European organizations. The goal of corporate university training is to develop competencies that support organizational transformation and growth, define organizational culture, recruit or retain employees, and has even been viewed as method for engaging employees at work (Morin & Renaud, 2004).

Margherita and Secundo (2009) introduced the new idea of stakeholder university, using case studies from General Motors' GM University, Cisco's Networking Academy, and Motorola University. In their paper, they used the definition of Allen (2010) which was defined as: "a new learning archetype which promotes and develops innovative learning and capability-building processes among globally distributed and integrated networks of employees, customers, suppliers, partners, as well as of academics, professionals, independent learners, and other institutions" (Allen, 2010). The stakeholder university concept led to many corporate universities to embrace the ideas of learning networks, which has provided a competitive advantage for new kinds of learning to take place (Allen, 2010).

With the transition of the workforce towards globalization, due to its flexibility, e-learning has become a popular choice among corporate universities as a delivery method for training. A growing body of studies has investigated the effects of corporate universities.

A research article published by Macpherson, Homan, and Wilkinson (2005) investigated the and use of e-learning in the corporate universities of three large UK organizations. The qualitative research was collected through interviews with senior corporate university e-learning development staff members and analyzed the use and adoption of corporate university e-learning programs among the three organizations and the contributions that it offered for achieving organizational objectives. The reasons for implementing e-learning programs varied across the three companies: the first company felt that e-learning would reduce cost of delivery and reduce costs associated with hiring training staff; the second company felt that e-learning served as a medium for sharing best practices and promoting a organizational culture that placed a high value on learning. According to the researchers, "a virtual university was seen as an integral part of this vision" (Macpherson et.

al, 2005 p.39) for developing a culture of life-long learning; and the third company considered e-learning programs could establish a more consistent standard for delivering training content and assessing employee development and performance.

In addition to learning networks, according to the 2010 ASTD State of the Industry Report, an additional benefit technology affords organizations is that the training content can be centralized and easily accessed by learners at any time, regardless of geographic location (Patel, 2010). In a recent article, introducing suggested tools for web 2.0 training, Wang (2009) proposed that technology-based training can be used to reinforce consistent delivery of the training content to a much wider audience. A training curriculum can enhance learning through the integration of technology, by engaging employees with authentic and meaningful learning activities, and creating a learning environment that fosters both professional and personal growth (Wang, 2009). Technology-based training has contributed to the transformation of a controlled educational training system, into an interactive training curriculum of conversational learning networks; members of these networks are allowed to create, produce, publish, exchange, and share content, information, and knowledge in a new way through a demonstration of communication and collaboration (Wang, 2009).

In a recent study, Lui Abel and Li (2012) surveyed 210 North American corporate universities (CU) to advance the understanding of corporate universities. The results of the survey found that 50 percent of CUs were less than five years old and 52.9 percent of respondents had a chief learning officer or similar position. Additional survey results identified that organizations have invested in learning management systems that support and administer training on a global scale. Among the 210 CUs involved in the survey, however, the use of technology to support learning was the most common response; the authors

suggest that, because technology is constantly evolving and improving, the ability to support employee learning and development also continues to improve corporate social responsibility.

Corporate Social Responsibility

Recent economic conditions have resulted in increased expectations for organizational contributions to society; however many organizations think that investing in societal issues will generate favorable outcomes in the future. As a method for recruiting or engaging employees, many organizations are becoming heavily committed to corporate social responsibility (CSR) reporting. There is an important distinction to be made between business ethics and CSR. Ethics generally refers to corporations who adhere to legal and moral responsibilities, whereas CSR calls on organizations to go beyond the requirements of local law and take on voluntary projects to improve environmental or social conditions (Bos, Shami & Naab, 2006). CSR is attractive and engaging to many employees because it allows them to feel like their work is positively impacting society (Mirvis, 2012).

Mirvis (2012) explains this concept in more detail in a recent article about the results of a survey by Sirota Survey Intelligence, of 1.6 million employees in seventy companies. Mirvis found that "employees who approved of their company's commitments to social responsibility, compared to those who did not approve, were far more engaged on their jobs and more apt to believe that their employers were interested in their well-being" (Mirvis, 2012, p.94).

In a 2012 study, conducted by Pless, Maak, and Stahl, the researchers conducted qualitative interviews with 70 participants of the Ulysses program – a program designed to develop participant qualities such as self-management, responsible leadership, sustainability,

and global leadership - the entire participant population of the programs of 2003–2006 program cohorts. According to the researchers: "Global virtual teams are created to address important strategic challenges and to become globally competitive" (Pless et al., 2012 p.874). Through a series of interviews, participants made sense of their experiences in the Ulysses program, by critically reflecting upon their interactions with facilitators, researchers, and other participants. The researchers found that participants had developed a global mind-set, described as "a highly complex cognitive structure characterized by an openness to and articulation of multiple cultural and strategic realities on both global and local levels" (Levy et al., 2007, p.244f). Leaders who have a global mindset are able to acquire and assess information from multiple sources across sectors and cultures, and engage in sense making and critical reflection, and integrate this information in complex ways. In addition to developing a global mind-set, the researchers found evidence that learning programs like Ulysses can improve cultural intelligence, and as a result of improved understanding of a culture, leaders will be motivated to engage others in new or unfamiliar settings. Furthermore, the research suggests that by forcing participants out of their comfort zones, it provoked feelings that may play an important role in the learning process, as they can foster empathy and compassion, trigger deeper reflection, and encourage social interactions with other members of a local or global community. Service learning programs such as Ulysses affect knowledge creation and skill development through a variety of factors and processes and would present a valuable perspective for developing learning strategies for corporate social responsibility and global sustainability initiatives (Pless et al., 2012).

In 2006, Brammer, Millington, and Rayton conducted an employee attitude survey at a large retail banking service with 16,000 employees in the United Kingdom. There were

4,712 usable responses to the survey, which aimed to investigate the impact of corporate social responsibility (CSR), on organizational commitment. The survey results revealed that CSR has a major impact on organizational commitment. The authors said, "This emphasizes the importance that firms should attach to the communication of CSR policies and in particular external CSR policies such as corporate community policies to employees" (Brammer, Millington, & Rayton, 2007, p.1715). The authors go on to point out that to be most effective in engaging their employees, organizations with large female labor forces should demonstrate a particular interest in external CSR while a workforce that is predominately male should focus on providing training.

Another study focusing on the executives also suggested the similar finding. According to Bonini and Miller, authors of a 2009 McKinsey survey (Bonini and Miller, 2009) involving more than 1000 global executives, a 2009 McKinsey survey of more than 1000 global corporate executives 85 percent revealed that addressing such issues relating to the environment, healthcare, safety, and workplace conditions issues creates value for their organization (Madden, Roth, & Dillon, 2012).

Considering the fact that globalization and CSR are relatively new movements among organizations, organizational executives are inexperienced conducting business on a global scale. In an attempt to prepare future managers of multinational companies, a globalization simulation game was created. In a study about using games to engage learners in learning CSR, the authors found that the game (Bos, Shami & Naab 2006) engages learners in an authentic experience, one that does not "push" them towards choosing the "right" answer, requiring them to make decisions between CSR and business related issues. At the end of the game, users were required to write a short justification (paragraph) for each multiple-choice

decision they had made; users were motivated to carefully submit well-written justification because other players in the game would read and evaluate the justification submitted with their bid. The results from this survey included 339 short paragraph justifications - these were evaluated to determine if previously set learning objectives had been achieved. A central goal of the activity was to provoke users to consider the impact of their decisions from different viewpoints. The results showed that the game did seem to provoke this from users, as each justification contained an average of 2.4 different viewpoints (Bos et al., 2006). The impact that CSR can have on an organizations, stakeholders, or individuals, is part of an effort to support the organization's global sustainability (Pless, Maak, Stahl, 2012), but it is also viewed as a means for generating value and as an investment that brings financial returns (Madden, Roth, & Dillon, 2012). Therefore, CSR is concerned with producing both financial and non-financial outcomes. In order to compete in the global market, organizations must identify innovative solutions, where training activities can influence both financial and non-financial outcomes. The simulation provides an integrated technology experience where users in the United States could be paired with students from Europe, developing countries, or elsewhere. Experienced professionals could be paired with students or people from other professions. The simulation could be used by organizations as an anywhere-anytime e-learning activity for corporate values clarification and as a way to share or reinforce organizational perspectives on globalization issues (Bos, Shami & Naab, 2006).

Administrative Involvement

There is a close connection between corporate universities (CU) and administrators who have the authority to influence or determine organizational investment budgets; unlike

traditional training departments, CU has brought employee development to the highest recognition in the boardroom, with job titles like chief learning officer (CLO). CLOs responsibilities include delivering consistent learning initiatives across global offices, maximizing learning efforts while reducing costs, and ensuring employees possess the appropriate knowledge, skills, and attitudes for their jobs.

A similar study involving 1,961 members of a professional Midwest business organization participated in a survey in an attempt to determine whether human resource inputs and human resource processes contributed to job performance and firm performance. The results had significant implications for human resource managers as the findings suggest they can have meaningful impacts on important organizational outcomes. Training administration can influences the development of employee skills, which is linked to greater job and firm performance (Ferguson & Reio, 2010).

In an attempt to identify relationships between human resource inputs - specifically, administrative involvement - and organizational outputs, such as individual employee or overall firm performance. The researchers analyzed the survey results - obtained through a Midwestern organization in the US - from 350 business professionals. According to the research results, human resource managers can have a positive influence on firm performance by providing training and development activities that provide opportunities for employees to practice contextual tasks associated with their jobs. Human resource managers can also positively influence work outcomes by implementing and reinforcing organizational policies and procedures because it can serve as a means to motivate employees and prepare them for unexpected and unpredictable events in the future.

A study conducted by Cheese in 2003, involving 1,000 executives from operations in North America, Asia, and Europe, reported that executives considered technology-based training, or e-learning, could effectively support: retention, employee attitudes and culture, improved workforce performance, and customer service (Brown Murphy & Wade, 2006). These results were based primarily on the fact that employees had access to the training materials when they needed it, which allowed them to perform their job more effectively.

Employee Engagement

The next section of this review attempts to answer the second question: How does technology-based training meet the needs of all learners?

In the past, training and development efforts were specifically focused on short term learning needs related to job performance; many of the contemporary training goals discussed in this review features training as an opportunity that fosters personal and career development (Sadler-Smith & Smith, 2006). Contemporary organizational training functions or systems are believed to incorporate both financial and non-financial measures, covering a range of perspectives (Lee et al., 2009). A few benefits resulting from non-financially motivated organizational training include providing employees with skills and knowledge to do their job, helping organizations meet operational goals or and performance objectives, and improving interpersonal communication skills to strengthen relationships and boost employee morale (Cakada, 2012). An example of a nonfinancial measure is the quality of training that is provided to workers. For example, the quality of training would constitute improvements in: raising skill levels; improving work processes; and increasing well-being at work (Felstead et al., 2010).

Traditionally corporate training included classroom instruction that was supplemented with CD-based training or reference information. With this in mind, training designers must carefully choose the delivery medium used for training, considering how it will meet the needs of different learners. The social learning theory suggests that learning occurs in a social context, which is evidence to support the argument that organizational processes, including learning must situate in their human context (Getha-Taylor, 2010).

In a qualitative survey conducted in 2006 by Falstead, Gallie, Green, and Zhou, 6,286 European employees aged 20-65 participated in hour long interview sessions. The participants were asked if they had received any sort of training within the past year and then to identify whether or not it had improved their skills. The results from this study indicated that 91.2 percent of the respondents reported that training had enhanced their skills in their current job, 86.3 percent agreed that training improved their ability to actually perform the current job, and 59.8 percent admitted to enjoying their jobs more as a result of the training. When compared to employees working in environments with low levels of employee involvement, employees indicated significantly higher results: 73 percent higher for raising employee skills, 70 percent higher for improving working practices, and 61 percent higher for enhancing job enjoyment (Felstead et al., 2010). The results from this study showed that learning was strongly rooted in situations involving high-levels of employee involvement and suggested that training received by those in 'low involvement' workplace environments may be of different quality.

Work environments with high-levels of employee involvement are more geared toward raising skills levels, improving working practices, offering greater financial rewards, and enhancing enjoyment at work. Work environments' that acknowledges worker

knowledge, and encourages them to get involved, provokes more instances of on-the-job learning and teaching others (Felstead et al., 2010). In a study involving 90,000 employees from eighteen different countries, Towers Perrin found that only 21 percent of the survey respondents reported that they consider themselves to be fully engaged at their jobs.

Another similar survey was distributed by the Gallup Employee Engagement Index report from 2010, 49 percent of the respondents reported that they were not engaged at work and eighteen percent admitted to being actively disengaged by their current employer (Mirvis, 2012).

In 2010, a qualitative study conducted by Gunawardena, Liner-VanBerschot, LaPointe, and Rao interviewed a series of participants on how transfer of learning occurred. Questionnaires were sent to seventy-nine participants and received a 54 percent return rate; thirty-seven learners responded to the questionnaires. The participants were workers distributed across twelve corporate sites and held a variety of different positions. The education levels ranged from associate to doctoral degree and prior experiences with online education ranged from no prior experience to having completed five or more online courses. Results indicated that more than 45 percent of the time, failure to transfer what was learned could be explained by lack of collegial support - collegial support refers to the support and value given to the learner by his or her co-workers to transfer new learning . This demonstrates the necessity for an organizational culture to promote collegiality when new learning is transferred. For example, one learner mentioned how an online discussion provided insight as to how others solved similar problems at work; the learner said, "It was very interesting and enlightening to see how other teams successfully applied the skills and principles covered in this course" (Gunawardena, Linder-VanBerschot, LaPointe, & Rao,

2010 p.219). So, in addition to ensuring that employees are engaged at work, effective training also requires social interactions with others.

Creating a learning environment that foster effective training is important, regardless of whether the training is conducted in a face-to-face environment or if it exists virtually online. Findings indicate that high-levels of employee engagement and involvement at work can improve the ability to learn, the development of skills, and has shown to contribute toward business growth. In an article titled, Developing Global Leaders from Mckinsey Quarterly, Ghemawat (2012) suggests that businesses are finding it increasingly difficult to recruit and retain top talentto compete in the global workforce. Therefore, employee engagement is becoming an increasingly important issue. Companies that recognize the importance of relationship between employees, high-levels of engagement, and business success will seek ways to foster and facilitate workers' emotional well-being (Haynes, 2012).

The literature reviewed suggests that there is a universal move towards e-learning programs among organizations because of the possibilities it has for meeting nearly any training need (Newtona & Doongab, 2007). As a result of new and emerging digital technologies, there are many new opportunities that exist for contemporary organizational training programs. This section of the review will investigate ways that organizations are engaging their employees and delivering the organizational training curricula.

In a recent article about the analysis of the benefit of technology-based training, Wang (2011) suggested that technology-based training allows users to engage in self-paced learning and is emerging as a popular approach toward education in the workplace because of its flexibility to access, instantaneous delivery, and cost-effectiveness (Wang, 2011). The research evidence support Wang's assertion. For example, in a 2006 qualitative study

conducted by Brown, Murphy and Wade, sixteen individuals, responsible for training in eleven different organizations, participated in an in-depth e-learning interview survey. The survey attempted to find out the organization's current involvement using technology-based training, how long they had been using eLearning for, and future plans for e-learning investments. Results indicated that 67 per cent of organizations have been using eLearning for some time (greater than five years). When asked about future investment plans for e-learning over the course of the next two years, over 90 percent of respondents indicated that the organization planned to invest. The primary benefits that were identified by the respondents include: flexibility (24/7 access), consistent delivery of information, up to date information, and reduced financial cost. There was a 100 percent consensus among participants and organizations in support of e-learning (Brown, Murphy, & Wade, 2006). In summary, while e-Learning does provide many a flexible alternative for delivering training content, it can also be used to deliver consistent instruction to audiences on a global scale.

Challenges of Evaluating Technology-based Training

This section of the review attempts to answer the third question: What are the challenges for evaluating technology-based training?

Training is often viewed as being a costly expense, and the benefits from training can easily get overlooked, because training outcomes aren't always directly tied to the organization's bottom line (Cakada, 2012). While the intentions or purpose for implementing training programs has shifted for some organizations, approaches towards training have also experienced significant change. Financial outcomes are often easily identifiable; however, nonfinancial outcomes can be difficult to measure (Felstead et. al, 2010). In order to survive

as a global business competitor, it is important for organizations to analyze and evaluate the value and importance of various academic and organizational curricula – and incorporate these findings into the development of their training curriculum – to provide guidance and direction for the future (Singh & Schick, 2007). A training evaluation model that originated in 1959, known as Kirkpatrick's Four-Level Evaluation, was a commonly used method for evaluating traditional training programs. Kirkpatrick's model was a four step evaluation process for judging the learning process, and would evaluate the learners reaction to the training, the extent of their learning, change in behavior, and the results - tangible outcomes such as increased revenue, faster production, or business growth (Kirkpatrick, 1979).

A study of a group of salespeople, conducted by Erez and Judge (2001), found that those with higher levels of core self-evaluation were both more persistent at work and also exherted greater efforts toward achieving success (Judge & Kammeyer- Mueller, 2011). Self-evaluations have shown to be a promising technique for trainees to demonstrate what they have learned as a result of organizational training efforts. If self-evaluations provoke employees to frequently demonstrate what they've learned from training activities, it could have potentially rewarding consequences for an organization. Some emerging approaches towards organizational training and learning, view learning as a process that does not involve any kind of identifiable outcome; trainees learn to improve their work performance by monitoring and assessing their own daily work activities (Felstead et al., 2010). There is a need to assess how individuals with high self-evaluations would fare in an environment of uncertainty, especially as globalization continues to increase among organizations; the author says, "There is a need for research examining how individuals who are high in core self-

evaluations regulate their own performance in a complex, ambiguous environment" (Judge & Kammeyer- Mueller, 2011, p.334).

Organizations that use self-evaluations as a way to assess training outcomes could have a difficult time, because self-perceptions are frequently biased, based on the confidence levels of the trainees. Learners that are confident in their abilities tend to learn more when they receive feedback that contradicts their own personal self-evaluation, whereas individuals with low self-confidence in their abilities tend to prefer feedback that is consistent with their opinions. A qualitative study by Muniute-Cobb and Alfred in 2010 explores how employees learn from peer evaluations and how they use the feedback to increase their ability to perform a job. This modern approach to the traditional annual performance review, involves equal level employees who discuss each other's performance in a face-to-face team setting. There is a need to determine how peer feedback affects the learning process, or how perception can be linked to having a positive and negative influence over job performance (Muniute-Cobb & Alfred, 2010).

A study conducted in 2007 by Robert Newtona and Nitin Doongab aimed to provide justification for implementing e-learning training programs, as well as some of the anticipated beneficial consequences, using two questionnaire surveys designed for specific audiences, supplemented with interviews among training managers and training providers. The researchers aimed to determine the rationale behind e-learning use for organizational training, including ways that e-learning training efforts were being evaluated, and attempted to identify the following: the extent to which e-training is currently meeting the needs of corporate training managers; the justification of training managers and training suppliers concerning advantages in using e-training; and the manner in which the potential benefits of

investment in e-training are being evaluated. The study involved a total of 101 participants - 63 responses were received from training managers and 38 responses were received from training suppliers - all of whom were involved in some for of e-training delivery. The most significant issue from the results is that there is a clear difference between the responses provide by training managers and by training providers.

Significant findings from the first survey, involving responses from 63 training managers, indicated that 46 percent of training managers confirmed that e-learning was currently being used as a method for delivering training. The results showed that most of the e-learning (84 percent) was delivered using the internet, the organization's intranet - or internal network of computers; however technology-based training materials, such as CD-ROMs or videos, were used 42 percent of the time for e-learning training delivery. In the questionnaire targeted at training managers an open response box was provided to indicate how benefits were being evaluated. Training managers' responses demonstrated a primary concern with cost of delivery. The extend of this was seen to be derived in large part from being able to limit expenditure on off site training courses and staff being able to engage in training and still be accessible in the office. Training managers are particularly concerned with the flexibility which e-training provides. Subsequent interviews confirmed that this is closely associated with potential cost savings – generally because of significant reductions in staff time and expenditure on attendance at external training events. In an open question, training managers were asked to comment on how these benefits were measured and evaluated. This elicited some comment but a significant number of respondents chose not to answer this question. Only 19 managers gave any response (38 percent) though many suggested more than one evaluation measure. Of the 19 responses 11 explicitly mentioned

reporting on cost savings, although of these 6 commented that they were not confident of the accuracy of the measures which were used within their company to measure financial gain. Subsequent interviews with training managers confirmed that measuring benefits was a significant issue but not one which was confined to e-training.

A significant finding from the second survey, revealed that all 38 training suppliers who responded to the survey confirmed that they used e-training. Again delivery options showed a marked bias towards delivery using the web. Only 2 providers (5.2%) did not offer any form of web-based training materials. Both training managers and suppliers were asked to comment on methods of sup- porting delivery. Responses from training providers clearly shows more concern for the quality of learning both in terms of quality of materials and the impact the delivery method has on staff engagement with learning. In telephone interviews conducted with training providers, it is apparent that there is a clear sense of commitment and enthusiasm for e-learning as a delivery mode. Training suppliers were more concerned to emphasize the quality of delivery in terms of improved staff performance and staff satisfaction. (This is consistent with the types of justification which they provided for implementation of e-training). In retrospect the researchers felt they would like to have included an additional question to find out how suppliers felt these benefits should be measured.

In a 2007 study conducted by Chien-Hung Liu, Tzu-Chiang Chiang, and Yueh-Min Huang, involving an assessment questionnaire with 288 participants, the researchers analyzed the responses to examine the impact of WBT (Web-Based Training) on learning performance, learner satisfaction, accumulation of learning experience, document navigation, and problem solving. According to the results of the surveys, the learners reported that WBT

was more effective than traditional classroom training when the instruction involved software program use because WBT demanded self-directed learning, and learners were made aware of the need to continuously develop and update their skills in order to stay current with changing technology. In other words, WBT was capable of fostering a learning environment that incorporate meaningful learning experiences, continuous problem solving, and rewarded employees to adopt a self-directed approach towards continuously using and sharing resources to improve performance. The researchers identified that there is a need to further investigate how WBT can be used to help shape and develop an organizational culture that promotes the acquisition of skills such as these.

Conclusions and Recommendations

The purpose for writing this review began as an attempt to explain the increased organizational investments for training; however, the research indicates that organizations are now becoming increasingly concerned with having an affective - rather than the effective - training program. The research analysis of the literature reviewed provides an overview about the effects of technology-based training that address the challenges of globalization in the last decades.

In answering the first question: "What opportunities does technology-based training offer, as a result of globalization?" the review highlights that technology-based training has the advantage of delivering relevant and quality training programs through corporate universities that support a central, global learning strategy. In addition to using technology-based training and learning as an alternative medium for delivering training content, the research identifies technology-based training and learning to be cost-effective and convenient. The virtual corporate universities can develop a culture of life-long learning; establish a more consistent standard for delivering training content and assess employee development and performance (Macpherson, Homan & Wilkinson). Additionally, simulation games focusing on corporation social responsibility have been implemented to provide an integrated technology experience where users in the United States could be paired with students from Europe, developing countries, or elsewhere. The simulation could be used by organizations as an anywhere-anytime e-learning activity for corporate values clarification and as a way to share or reinforce organizational perspectives on globalization issues (Bos, Shami & Naab, 2006). As a result, there is more administrative involvement in training in general. There is an indication of willingness of administrative involvement in technology-

based training that could effectively support: retention, employee attitudes and culture, improved workforce performance, and customer service (Brown, Murphy & Wade, 2006). There is, however, little research evident about the effects of the administrative involvement in technology-based training.

In answering the second question about the effects of technology-based training on meeting the needs of employees, the literature reviewed suggests that there is a universal move towards e-learning programs among organizations because of the possibilities it has for meeting nearly any training need (Newtona & Doongab, 2007).

In answering the third question about the challenges of evaluation of technology-based training, it is found while e-learning has proven to broaden accessibility and opportunity for organizational training to a wider constituency, the research did not present a reliable system for assessing the effectiveness of technology-based organizational training programs (Felstead, Gallie, Green, & Zhou, 2010; Macpherson et al., 2005). Organizations must understand the value of using a systemic approach, in order to create effective training e-Learning activities, when developing their e-Learning instructional design plans. This will help to ensure that the needs of the learners and the goals of an organization are clearly identified and aligned; a clearly defined and well-designed instructional plan could be a successful strategy for changing perceptions towards e-Learning experiences (Wang, 2009).

Training assessment creates many challenges for organizations, and a reliable assessment technique still has yet to be determined. Although evaluation techniques have a very long history, training evaluation in the workplace is still an emergent field (Griffen, 2011). Griffen proposes using a systematic approach towards developing evaluation, a productivity framework that is grounded in learning theory. While most organizations place

high expectations on their training programs, when it comes to assessing effectiveness, it is often just a matter of opinion (Griffen, 2011). It is obvious that all organizations wish to increase revenues and obtain a higher return on investment from their training programs; however, the recent trends in training that were identified in this literature review suggest that organizations are becoming increasingly concerned with developing training programs that address employee emotions. The research identified instances of organizational training being used as a method for attracting or retaining employees, as a way to prepare workers to deal with the uncertainties and challenges associated with entering the global workforce, and to support organizational sustainability. There is a need for additional research to investigate how technology-based training impacts the social and emotional needs of the learners.

There is a bright future ahead for the organizational training industry as a result of corporate universities and the flexibility afforded through e-Learning. The need for additional research suggests that there is not just one specific or exclusive reason to explain the trend of increased investments for training. While the cause of organizational training investments is uncertain, there is one thing that is certain: while the cost of continuous investments might be high, the cost of not investing in training is obviously much more costly (Cakada, 2012).

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