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By

Margaret E Redling

December 2013

IMPACT OF EMPLOYEE INTRINSIC MOTIVATION ON PERFORMANCE IN
E-LEARNING COURSES IN THE WORKPLACE

A Dissertation Presented to the
Faculty of the College of Education
University of Houston

In Partial Fulfillment
of the Requirements for the Degree

Doctor of Education

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Abstract

Many organizations use formal training to improve employee performance and it is common for organizations to deliver this training using e-learning technologies (Aguinis & Kraiger, 2009; Buxton & DeMuth, 2012). Whether the instruction is through e-learning technologies or traditional methods, employees that are not intrinsically motivated are less likely to perform to their potential. When learning activities are interesting and allow for employee choice, intrinsic motivation is enhanced, which results in more engaged, and higher performing employees (Cordova & Lepper, 1996; Coutts, Gilleard & Baglin, 2011). This study evaluated the relationship between dimensions of intrinsic motivation and the impact on employee performance in self-directed, e-learning courses using a web-based survey, adapted from the Intrinsic Motivation Inventory (IMI), and archival performance data. Sixty-nine employees of Futurestep were asked to complete this 21-question web-based survey that asked questions about their experience as they completed activities in the e-learning courses. This study found that there was no significant relationship between intrinsic motivation and performance; however, there were significant relationships found between the dimensions of intrinsic motivation. The more pressure an employee felt to perform, the lower interest s/he had in that activity and the less perceived choice s/he felt. The results of this study benefit organizations that use e-learning training programs. Having a better understanding of how different dimensions of intrinsic motivation can influence employee motivation to participate and perform on workplace training activities can result in higher performing employees.

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CHAPTER 1

INTRODUCTION

An organization's success is dependent upon the performance of its employees. Regardless of the business strategies and decisions that leaders make to increase profit or notoriety, an organization ultimately cannot be successful without successful employees (Aguinis & Kraiger, 2009). Thus, employees are the driving force of an organization. Ongoing employee development and training is critical to sustained business success and a competitive edge for an organization in the marketplace (Aguinis & Kraiger, 2009; Eddy, D-Abate, Tannenbaum, Givens-Skeaton & Robinson, 2006). In order to have successful and high-performing employees, organizations must be diligent in providing opportunities for professional development (Jacob & Park, 2009). These opportunities can be referred to as *workplace learning*, which is defined as the "means, processes, and activities in the workplace by which employees learn from basic skills to high technology and management practice that are immediately applicable to their jobs, duties, and roles" (Cheng, Wang, Moormann, Olaniran, & Chen, 2012 pg. 885). The workplace is a learning environment that offers a unique combination of experience and domain knowledge and has the potential to provide an employee with a rich range of learning opportunities (Ellinger, 2005). Therefore, organizations have the choice to capitalize on this knowledge, and in order to be efficacious, organizations must think of learning in the workplace as more than an ancillary resource (Short, 2007). Recently, organizations throughout the world have made an effort to do this. According to the American Society of Training & Development's (ASTD) annual review of workplace learning and development, organizations in the study spend over \$150 billion on employee learning and development in 2011 (ASTD, 2012). Companies today are committing more of their resources to the continued

development of their employees (Bersin, 2013). Based on their research, Bersin (2013) also found that training spending increased by twelve percent in 2012, which was prompted by the globalization of many organizations and the fast pace of technology innovation throughout the global economy. Training delivered through technology is essential for organizational success (Lin & Overbaugh, 2013).

Unfortunately, many organizations, despite the increased investment in training, continue to provide limited opportunities for employees (Griffin, 2011). More so, even when learning opportunities are present, such as using a learning management system, they are not necessarily effective or conducive to learning. Organizations need to evaluate the workplace learning activities and opportunities they provide to employees as well as the way in which employees participate in those activities (Armson & Whiteley, 2010). It is common for organizations to focus on a training curriculum that is *outcomes-based*. Outcomes-based training results in routine-oriented learning in which employees go through the motions of learning but do not necessarily learn (Armson & Whiteley, 2010). This act of going through the motions of learning is called amotivation (Houde, 2006). During amotivation, the employee is only concerned with completing the training, “checking the box,” and not concerned with learning the material. The learner focuses on the completion outcome and not mastery outcome. Reliance on this type of learning approach leaves employees wanting more when it comes to professional development. This type of outcomes-based training results in no learning or training that is not engaging and leaves employees without developing new skills or learning new knowledge. Training is more than giving information to employees; it is providing the information while promoting motivation and providing cognitive support (Huang, Han, Park & Seo, 2010). Companies have

the chance to help employees grow and develop within the organization and training provides this opportunity.

However, it is important to recognize that employees must choose to engage in training and actively participate in workplace learning opportunities. This choice, especially in adults, is driven by an employee's intrinsic motivation. According to Self-Determination Theory (SDT), humans have a basic need to be autonomous, feel competent, and feel connected to the material (Becker, 1997; Deci, Eghrari, Patrick & Leone, 1994; Harnett, St. George & Dron, 2011; Hwang, 2010; Vansteenkiste, Simons, Lens, Sheldon & Deci, 2004). Whereas intrinsic motivation plays a major role in all learning, the basic needs central to SDT are directly related to andragogy, the study of adult learning (Knowles, 1998; Houde, 2006). Research has found that learners who are more intrinsically motivated are increasingly likely to engage more intensely with new information (Coutts, Gilleard & Baglin, 2011). Without the drive to perform intrinsically, an employee is less likely to meet his or her potential. For example, in their study, Armson and Whiteley (2010) found that intrinsic motivation and initiative played a major role in how an employee approached a learning activity and their perception of their ability to complete it. This suggests that it is important for organizations to understand dimensions of intrinsic motivation and how they can influence a learner's performance in a self-directed, e-learning course.

Traditionally, classrooms bring to mind face-to-face environments with instructor-led discussions. Today, many organizations have started to utilize technology-mediated learning, which is defined as an environment in which a learner interacts with instructional material using technology, such as computers or mobile devices (Eddy et al., 2006; Hwang, 2010; Rossett & Marshall, 2010). Over 85% of Fortune 500 companies utilize e-learning for employee development (Yoo, Han & Huang, 2012). Technology has changed the way learning happens

today (Hwang, 2010; Lehtinen, 2008; McLoughlin & Lee, 2010). Technology-mediated training has many designations throughout educational research, but this study will refer to this delivery method as 'e-learning.' E-learning has gained recognition and use in the workplace because of its wide range of benefits, such as accessibility, cost-effectiveness, ability to be on-demand and self-directed, etc. (Cheng et al., 2012; Chen & Kao, 2012; Clark, Yates, Early & Moulton, 2010). According to their annual review, ASTD (2012) found that between 2011 and 2012, there was a seven percent increase in the use of computer-based learning in the workplace and a four percent decrease in cost-per-employee.

Today's society continues to develop new technology and tools that have the ability to aid learning, but little time has been spent on how to actually use e-learning to gain employee engagement in workplace learning (Cheng et al., 2012; Hwang, 2010). Many organizations choose to use technology for the wrong reasons, such as novelty, which results in ineffective training. For instance, training can neglect learning objectives and focus on a game or interaction that uses a new technology (Wang, Ran, Liao, & Yang, 2010). The tool does not learn, the employee does, and it is important to understand how learners engage in e-learning courses that are available in the workplace. The employee's personal preference and motivation affect the level of engagement in the instructional material and ultimate performance (Hwang, 2010). It is common for workplace learning tools to present learners with information using video or tutorial. Learners must complete the material on their own without the necessary support or resources to make strong connections between the material and prior knowledge. Thus, it is important for researchers to study the ways in which technology can influence employee engagement in workplace e-learning. Because the training contexts in the workplace

have changed, it is important to reexamine the way that employees view learning and participate in learning (Yoo et al., 2012).

Statement of the Problem

It is common in educational research to find studies that evaluate the K-12 and higher education learning environments and the motivational issues that affect the learners within that environment. However, it is less common to find research that focuses on evaluating the workplace as a learning environment (Cordova & Lepper, 1996; Griffin, 2011). It is a fundamental fact that adults are different from children (Houde, 2006). Moreover, although the study of andragogy, the study of adult learning, is not a new subject in educational research, looking at adult learning specifically in the workplace is (Buxton & DeMuth, 2012; Knowles, 1998). Historically, only human resources and organizational development professionals studied employee learning and development (Buxton & DeMuth, 2012). Because of this, there is a gap in knowledge on how employees learn while on the job and how an organization can affect employee development through the training opportunities they provide. Research conducted in this area shows that organizations do not realize how employee development can be affected by culture and resources available, and how this can ultimately influence the overall business (Kitching, 2007). This lack of understanding results in an overwhelming amount of ineffective employee training provided in today's businesses. Motivated learning is unfortunately a rare occurrence in many organizations (Siadaty et al., 2012). There is a lack of employee engagement in workplace learning, especially training delivered using technology. Although the use of e-learning has increased, there is still a steady rate of abandonment (Sawang & Newton, 2012). It is important to understand the reasons for low engagement levels in e-learning in order to create more effective professional development opportunities for employees.

There are three main gaps in research that his study recognizes: the lack of organizational understanding of how employees learn; the lack of insight into employee motivation and how it influences engagement; and, the impact that delivery method has on motivation and engagement. The sections below will discuss these gaps in more detail.

Employee Learning

Through their research, Brockman and Driks (2006) found that the majority of companies are not capitalizing on the amount of learning and development that an employee could receive in a given year. Company leadership does not recognize that company culture, management styles, and learning resources can influence their employees' development and performance (Brockman & Driks, 2006; Kitching, 2007). There are many opportunities for employees to learn while on the job and the development of skills happens through a combination of informal interactions and formal training (Eddy et al., 2006; Jacobs & Park, 1999; Smith, 2003). The learning opportunities that organizations do provide need an evaluation of effectiveness (Armson & Whiteley, 2010). More research needs to be done that examines how training provided to employees can affect their performance (Kitching, 2007). For example, for training where employees are asked to complete the learning activities independently without the support of an instructor, additional resources and guidance must be provided throughout the training to help the employee make the connection between content and work responsibilities (Wang et al., 2010). Understanding how and why employees engage in training opportunities in the workplace will help organizations design, develop and implement more effective training, which will likely result in a more successful business (Aguinis & Kraiger, 2009; Matthews, 1999). Successful employees drive a successful organization. Allocating time and resources

towards research on understanding how effectively to build an employee's skill level will lead to more organizational success.

Impact of Delivery Methods

Intrinsic motivation impacts the way in which employees engage with instructional material, but more research needs to be done that focuses solely on instruction that is delivered using web-based technology. Research studies have only recently begun to focus on intrinsic motivation factors in e-learning environments (Schroff & Vogel, 2009). Traditionally, organizations rely on face-to-face, instructor-led training to provide employees with the information they need to develop their skills (ASTD, 2012). However, technology has proven to be a major benefit for organizations in recent years, prompting an increased investment in e-learning. Organizations are using online learning platforms to deliver more workplace learning than ever before (Eddy et al., 2006). However, little research focuses on how the use of e-learning can affect employee engagement in workplace learning (Cheng et al., 2012; Xie & Ke, 2011). In some cases, the technology itself has become the focus of many training programs instead of the instructional objectives for the employee (Wang et al., 2010). For example, an organization purchases a new video conferencing technology and because of the novelty and excitement around the technology, the training team is instructed to use the technology in every upcoming training session, regardless of the training objective. In other cases, the self-directed nature of e-learning programs led to low levels of motivation and engagement, which was evident because of the high levels of dropout (Kim & Frick, 2011; Park & Choi, 2009). Because self-directed training requires more self-regulation, motivation, and effort from the employees, unless motivation is high, engagement will be impacted. Understanding how technology and

delivery of workplace learning impact employee engagement will help organizations create training that is more effective.

Employee Motivation

Research on motivation has found that there are external factors, such as financial rewards, as well as internal factors, such as interest, that drive an individual to choose to learn (Ryan & Deci, 2000). Employee motivation is critical to engaged learning. Extrinsic motivators in the workplace, such as money, have been the focus of many studies, but few have sufficiently studied intrinsic motivators (Martens, Gulikers & Bastiaens, 2004). This is an important gap in research to close because no matter how many learning opportunities provided to an employee or the level of effectiveness of that training, the final decision to take advantage of that opportunity belongs to the individual employee. An employee must make the active choice to participate in learning activities and put forth the effort to learn (Kitching, 2007).

Research conducted by Patall, Cooper and Robinson (2008) found that there are significant relationships between intrinsic motivation and achievement. Understanding why employees choose to participate in learning activities, helps characterize intrinsic motivators. Intrinsic motivation is a multidimensional construct, which includes dimensions such as self-efficacy, perceived competence, and control (Cordova & Lepper, 1996; Martens et al., 2004). Understanding each of these dimensions in more detail is basic to designing and developing effective training (Hwang, 2010). Researchers have found that learners who are more intrinsically motivated are more likely to engage more intensely with new information and persist in the learning activity (Coutts et al., 2011; Martens et al, 2004). Additional research will help managers and human resource professionals create training that promotes employee intrinsic motivation.

Purpose of the Study / Research Questions

The purpose of this study was to evaluate the relationship between three intrinsic motivation dimensions and the impact each has on levels of employee performance during online, self-directed training courses. The intrinsic motivation dimensions analyzed in this study were interest/enjoyment, perceived choice, and pressure/tension. Three research questions guided this study:

1. Do employees feel that interest/enjoyment, perceived choice, or pressure/tension motivate them to participate in course activities?
2. Do interest/enjoyment, perceived choice, and/or pressure/tension predict employee performance in self-directed, e-learning training courses in the workplace?
3. Do interest/enjoyment, perceived choice, and/or pressure/tension relate to each other?

Significance of the Study

Organizational development trends today have pushed organizations to look inward and evaluate the strategies and tools that are in place to support employees in their career (ASTD, 2012). It can be argued that the insights this study brings to understanding employee intrinsic motivations during workplace learning activities can benefit three groups: leaders of organizations; professionals who design, develop and implement e-learning training; and employees who participate in e-learning trainings.

First, organizations that actively implement e-learning training programs or plan to do so in the future will see a benefit from the results of this study. When training is effective, organizations are likely to see higher performing employees, as well as more satisfied employees (Schmidt, 2007). Both performance and satisfaction are important to having a successful and competitive business. Since e-learning, specifically self-directed e-learning courses, are

prevalent in many organizations, understanding more about why employees choose to engage or not in courses will be important for positioning learning within the company culture (Gavin, 2002).

Second, professionals responsible for human resources, learning development, and instructional design within an organization will benefit from the results of this study. These professionals will not only understand whether or not intrinsic motivation is multidimensional, but also gain a better understanding of how different dimensions of intrinsic motivation relate to their employees' performance. As technology continues to advance, organizations will rely more heavily on technology-based instruction due to the benefits of increased accessibility and decrease in requisite resources. Understanding how intrinsic motivation affects employee engagement and participation in training programs will change how professionals design, develop, and deliver workplace e-learning activities (Shroff & Vogel, 2007). Understanding intrinsic motivation helps instructors and instructional designers create instructional material that aids learners in higher-order thinking and use of self-regulated strategies (Schroff & Vogel, 2009). Training professionals can use this study as a resource when designing and developing new training courses to enhance employee intrinsic motivation.

Lastly, the results of this study will also benefit employees on an individual level. As delivery of training relies more on technology and employees complete training courses with decreasing instruction, the results of this study will help provide insight into what motivates these individuals intrinsically during e-learning activities. Employees will also learn how their personal motivation reasons for engaging in e-learning courses influences their performance. This information will prompt employees to reflect on their own motivations and recognize that their level of motivation will influence their performance.

A more in depth discussion of the results of this study and their significance will be presented in Chapters Four and Five.

Methodology

All employees employed by the recruiting firm and active in one of the e-learning courses provided by the firm were invited to participate in this study. An employee completing at least five activities within the April 2013 to August 2013 timeframe defines *active in the course*. The research team collected two types of data to explore the relationship between three intrinsic motivation dimensions and employee performance. First, participants completed an online survey distributed via email and hosted on an online survey website. The survey took approximately fifteen minutes to complete and included Likert-scale, multiple-choice, and open-ended questions. This survey format was the most effective way to reach all participants who are in several geographic locations around the globe. All participants had access to a computer with Internet access. Additionally, the survey approach was appropriate to provide data for evaluation of correlational relationships. Secondly, the research team gathered performance data from the e-learning management system that consisted of the participant's overall course grade. The researchers analyzed data using correlational tests found in the statistical package SPSS. Chapter Three will provide a detailed description of the methodology for this study and instrumentation used. Chapter Four will describe the results.

Definition of Terms

Below is a list of terms and associated definitions in use throughout this study.

E-Learning

'E-learning' is the process of learning or delivery of instruction using electronic media, including web-based technologies (Keller & Suzuki, 2004; Wang et al., 2010; Wang, 2011).

This type of learning is commonly referred to as online learning or computer-based learning; however, there is a difference (Wang, 2011). E-learning is more flexible and utilizes any form of electronic media (e.g. tablets, smart phones, etc.). It also provides more possibilities for how learners to interact with content (Lin & Overbaugh, 2013). In research, there are different spellings of the concept of e-learning; in this study, we will include the hyphen.

Interest/Enjoyment

‘Interest/enjoyment’ is a dimension of intrinsic motivation that can affect the level of motivation a learner has while completing an instructional activity (Sansone, Fruughton, Zachary, Butner & Heiner, 2011; Schiefele, 1991). Interest/enjoyment is defined as when an individual finds something entertaining or arousing (Ryan, Connell & Plan, 1990). Interest and enjoyment have been shown to affect the level of engagement of a learner and is related to positive affects (Hidi, 1990; Noe, Tews & Dachner, 2010; Ryan et al., 1990).

Intrinsic Motivation

‘Intrinsic motivation’ refers to completing a task for no other reason than the interest and enjoyment one gets (Ryan & Deci, 2000; Schroff & Vogul, 2007; Schroff, Vogel, Coombes & Lee, 2007). Based on learning theory, intrinsically motivated tasks are those that provide satisfaction or the following basic psychological needs: competence, autonomy, and relatedness (Rigby, Deci, Patrick & Ryan, 1992; Ryan & Deci, 2000). Research shows that students who have higher levels of intrinsic motivation are more likely to put forth the effort and persistence needed in an activity, as well as are more engaged and more able to cope with mistakes (Martens et al., 2004; Xie & Ke, 2011).

Motivation

‘Motivation’ is a multidimensional construct that changes depending on context and personal perception (Ryan & Deci, 2000). There are many theories related to motivation; however, it is generally agreed that motivation is choice that a learner makes to acquire a new skill (Doornbos, Simons & Denessen, 2008). This includes use of mental effort and the persistence of a learner to complete a task (Clark, 2003). There are three indicators of motivation: choice, effort, and persistence (Schunk, 2008).

Perceived choice.

‘Perceived choice’ is a dimension of intrinsic motivation that can affect the level of motivation a learner can have while completing a learning activity. A person must feel that success is within his or her own control. Providing a learner choice in their own learning increases their intrinsic motivation (Ryan & Deci, 2000; Ryan, Koestner & Deci, 1991).

Pressure.

‘Pressure’ is a dimension of intrinsic motivation that can influence the level of motivation a learner can have while completing a learning activity. It is the feeling that one must complete a task and can come from either external or internal causes (Ryan et al., 1991). Pressure can enhance or diminish motivation (Noe et al., 2010).

Self-Directed Learning

‘Self-directed learning’ is the process of learning that the learner controls (Yoo et al., 2012). Self-directed learning means that learners are responsible for managing their own learning process with only the support given by the instructor. Learners work through instructional material of an Internet-based course with little to no interaction from an instructor (Jacobs & Park, 1999; Kitching, 2007). The main interaction includes grading and feedback on

activities submitted. Additionally, self-directed learning experiences allow individual learners to walk through the information in their own sequence and at their own pace; no deadline or sequence is specified (Jacobs & Park, 1999).

Organization of the Study

Thus far, the researchers have presented an introduction to the study including the statement of the problem, significance of the study and overview of the research questions.

A review of relevant literature will be presented in Chapter 2. It will address the following topics: workplace learning, e-learning, and three dimensions of intrinsic motivation: interest, perceived choice, and pressure/tension.

In Chapter 3, the researchers will present the methodology used in the study, including the research design; population and sampling procedure; the instruments and their selection and development, together with information on validity and reliability. The researchers will also describe the procedures that used for data collection and the plan for data analysis in Chapter 3.

The results of the study will be presented in Chapter 4, and a discussion of those results will be presented in Chapter 5 discusses. In Chapter 5, the researchers will also present study implications, limitations, and recommendations for further research.

CHAPTER 2

REVIEW OF THE LITERATURE

Learning plays a role in every aspect of people's life. From birth, humans are actively observing the world around them and trying to make sense of their experiences. Students begin formal education in kindergarten and through the twelfth grade, they learn in a very structured setting intended to prepare them for the 'real world.' Some students will continue to higher education where they have the chance to choose the subject of their studies, while still learning in a structured learning environment. Other students choose to use what they have learned and enter into the workforce. Regardless of which path a student chooses, once they leave the realm of formal education and move into the 'real world', they begin to apply the knowledge they have acquired through previous learning experiences. Irrespective of one's role, company, or industry, learning in the workplace is different from previous learning environments experience. Learning while at work is typically less structured, embedded in experience and very content-specific (Chen & Kao, 2012). Just as in any other learning environment, various factors influence employee learning. Studies have focused on understanding the issues that affect learning in the k-12 and higher education environments; however, fewer studies have focused on issues that can influence employees as they learn in the workplace (Cordova & Lepper, 1996). Children learn in an environment where learning is the primary focus, which makes it easy for researchers to find the need to examine various factors of the learning process. In contrast, employee learning is an ancillary responsibility and can easily be neglected by researchers.

Andragogy and pedagogy theories distinguish between adult learners and child learners (Houde, 2006). The instructional strategies and learner motivations needed to teach adults and

those needed to teach children are different (Payne et al., 2009). Understanding this distinction requires examining workplace-learning patterns to observe the impacts of engagement and performance in learning activities. Ryan and Deci (2000) have found that motivation to learn, and specifically intrinsic motivation, drives employee choice to learn while at work. This motivation influences employee performance in those activities (Ryan & Deci, 2000). Other researchers have found that using technology to deliver learning in the workplace will influence employee engagement and performance (Guzley, Avanzino & Bor, 2006; Keller & Suzuki, 2004; Kim & Frick, 2011). With formal training still the primary approach to learning, it is imperative to gain a better understanding of how formal workplace learning, delivered by technology, impacts motivation. The objective is to create more learning opportunities that lead to better skill development (Aguinis & Kraiger, 2009).

According to ASTD's annual review, in 2011 organizations spent over \$150 billion on employee learning and development (ASTD, 2012). Despite this financial investment, an overwhelming lack of employee engagement and motivated learning in the workplace still exists (Siadaty et al., 2012). Unless learning is presented in a mandatory manner, most employees are not motivated to seek out training opportunities proactively (Siadaty et al., 2012). This is one reason why many organizations have turned to e-learning to provide employees with training opportunities for employee development. Over 85% of Fortune 500 companies utilize e-learning for employee development (Yoo et al., 2012). E-learning allows for structured, goal-oriented training with more flexibility for the employee. Although the training may still be mandatory, the employee can now choose when, where and how they complete it. E-learning has the capability of making learning more authentic and engaging, which has been shown to increase participation and motivation in those e-learning activities (Lin & Overbaugh, 2013). The

training environments in organizations have changed, in part, due to advancements in technology. Not only has technology offered new ways for employees to learn, it has also influenced the way organizations look at learning and development. As organizations use more technology-based instruction, a company's leadership team will begin to understand the influence of employee motivation during learning activities that use technology in order to maximize the investment in learning and development. Training delivered through technology is essential for organizational success because the context and environment in which employees work in the workplace have changed (Lin & Overbaugh, 2013; Yoo et al., 2012). Many organizations are now global and require technology for collaboration and accessibility.

Despite the changes in context, workplace learning hinges on employee engagement and motivation (Chen & Kao, 2012). Motivation originates from intrinsic needs or extrinsic rewards; however, several studies have found that an employee's intrinsic motivation plays the primary role in how an employee approaches and ultimately performs on a learning activity in the workplace (Armson & Whitely, 2010; Coutts et al., 2011; Ryan & Deci, 2000). Of the many theories of motivation that could be used to discuss employee learning, Self-determination theory (SDT) is appropriate when looking at adults in the work environment. SDT recognizes motivation as a multidimensional construct and categorizes it into three basic needs for autonomy, competency, and the need to feel connected to the content (Harnett, St. George & Dron, 2011). This view of motivation relates directly to andragogy and research that supports the notion that intrinsic motivation drives adults to act more than any extrinsic rewards (Houde, 2006). Intrinsic motivation is doing something because it is enjoyable (Ryan & Deci, 2000). Many studies have examined the three dimensions of motivation proposed by SDT in relation to employees and adults and found significant relationships (Becker, 1997; Brockman & Dirx,

2006; Harnett et al., 2011; Ryan et al., 1990). An increase in intrinsic motivation and drive to learn leads to a more effective learning experience (Coutts et al., 2011). Understanding what drives intrinsic motivation can help organizations and those professionals that design and develop instructional material to create training that produces effective skill development (Schroff & Vogel, 2009).

Chapter Three will offer a review of literature that provides support for the study proposed in this dissertation. This chapter will begin with a discussion of the concept of workplace learning and the employee engagement. Next, the concept of e-learning and its impact on how employees learn in many organizations today will be discussed. Then, the definition intrinsic motivation using the framework of SDT, specifically investigation three intrinsic motivation factors, will be presented. Finally, a look at the intersection of these three concepts will be presented along with a discussion on how using e-learning technologies can influence the reasons why employees participate in learning activities, and how that influences performance.

Defining Workplace Learning

Learning is not the primary responsibility of any employee. Training is typically used to fill a visible gap in knowledge to reach a business goal. As a result, training is often neglected regardless of the research that has shown how providing opportunities to learn in the workplace can improve employee performance (Griffin, 2011). Many companies do not have dedicated functions for learning and development, which has led to difficulty in developing a common definition for workplace learning across companies and industries (Griffin, 2011). Employee development is an essential part of any workplace, but the term itself can mean anything from developing as an individual for personal gain to striving to increase performance for

organizationally-focused goals (Jacobs & Park, 1999). More so, the content of training is extremely varied and is typically complex and contextual, which makes it difficult for professionals in different industries to agree on a common definition (Wang et al., 2010). Although the concept of adult learning has received focus by researchers, examining learning specifically in the work environment is a more recent area of research (Griffin, 2011). Research needs to form a common definition of workplace learning in order to begin evaluating effectiveness and impact. A review of workplace learning as it is currently discussed in literature is also presented in this section. Throughout research, the concept of learning in the workplace has received several designations including professional development, training, or on-the-job learning; this study will use the term ‘workplace learning.’

First and foremost, workplace learning falls within the field of andragogy, or the study of adult learners (Houde, 2006; Wang, 2011). There is agreement among researchers that when discussing workplace learning, learners are employees over the age of eighteen and considered adults. This is an important fact because there is a fundamental difference between adult learners and child learners (Houde, 2006). The theories of andragogy and pedagogy focus on learners that differ in learning environments, type of content and instructional strategies used (Payne et al., 2009). From this point forward, the terms “learners” and “employees” are referenced under the assumption of being adults.

There are many definitions of workplace learning; however, many of these variations include similar basic concepts (Jacobs & Park, 1999). Learning at work is a process connected to the specific industry or domain, and the main purpose is to increase an employee’s skill level or domain knowledge (Cheng et al., 2012; Jacobs & Park, 1999; Kitching, 2007; Matthews, 1999; Schmidt, 2007). After completing a workplace learning activity, employees should be able

to apply what they learned to their job and enhance their ability to perform in their role (Cheng et al., 2012). Workplace learning can occur through different formats, methods, and activities; employees can learn through formal training programs and development courses, or through experiential learning (Jacobs & Park, 1999). Using these basic concepts, organizations are able to identify and develop training needs.

Learning should be a natural aspect of the day-to-day responsibilities of each employee, but there are different formats and settings in which workplace learning can occur (Ellinger, 2005). Jacobs and Park (1999) differentiate between learning *at* work and learning *in* work. Learning *at* work refers to a more formal learning setting in which employees are presented with material that has specific learning objectives that were previously set up; learning *in* work, alternatively, is associated with more the informal or spontaneous process of learning such as talking with colleagues or doing independent research (Wang, 2011). Organizations often rely most heavily on learning *at* work and provide employees with formal training experiences (Eddy et al., 2006). To provide more context, formal workplace learning means that a training session was planned with a set of agreed-upon objectives to meet; often times there is a facilitator or instructor to guide employees through the instructional material (Jacobs & Park, 1999).

Each organization has a unique set of offerings for employees and the way in which training is delivered will depend on the organization. However, the purpose of workplace learning is always to improve individual job performance in order to meet an organization-related goal (Aguinis & Kraiger, 2009). Unlike in a school setting, the typical workplace learning activity is developed to fill a specific need within the organization. An organization will only sponsor a learning offering that will ultimately have a positive impact on the overall organization's success. Workplace learning can also be used as an intervention for performance

improvement (Chiaburu & Lindsay, 2008). When management identifies that an employee is failing to reach performance goals, workplace learning is often used as a remedy. Still, the learning content is specific to a gap and will have positive impact on both the individual employee and the overall business.

Even within the formal workplace-learning context, there are many delivery methods. Delivery methods include resource manuals that are read independently, with live instructors, as well as with technology, such as e-learning and online courses. The latter delivery method has been gaining popularity over the past twenty years and has become one of the most commonly used delivery methods for workplace learning (ASTD, 2012). Regardless of delivery method or reason for training, there is an additional factor that must be explored – the employee’s level of engagement. Without engagement in an activity, no learning can occur.

Employee Engagement and Workplace Learning

As we discuss the definition of workplace learning, it is also important to discuss the fact that organizations can influence employee engagement using learning activities. Employee engagement during learning in the workplace is an area of research that previously received attention primarily from human resource development professionals. Research shows that active engagement in workplace learning positively correlates with employee performance outcomes (Noe et al., 2010). The more attention and mental effort employees use as they complete a workplace learning activity, the more likely they are to learn and incorporate the material into daily responsibilities. Researchers find that actively engaged learners have better comprehension and added positive affective reactions to the learning activities (Noe et al., 2010). Understanding why an employee chooses to engage in workplace learning activities will change the

organization's instructional design, development, and implementation methods, and environment.

Workplace learning differs from k-12 or higher education environments because the employee must drive the act of learning. Employees have work responsibilities that take priority on a daily basis, but must maintain their skill level and actively choose to take the time to engage in any learning opportunity that is available. There are activities that an organization can do that will affect an employee's opportunity to learn and the level of engagement they put forth (Matthews, 1999). Griffin (2011) notes that there are certain organizational characteristics that need to be taken into account before being able to understand intrinsic motivators. Later in chapter two, we will discuss factors that influence engagement from an individual perspective, but the subsection below will present a brief discussion of the organizational factors that impact employee engagement.

Organizational factors that impact employee engagement. In order for workplace learning to be effective, it must occur through an alignment of individual and organizational goals and needs (Wang et al., 2010). There are two ways in which an organization can influence employee engagement in learning activities: culture and structure (Ellinger, 2005). Culture "permeate[s] every phase of the learning process" (p. 392) and is created by the organization through the use of mission statements, values and goals (Ellinger, 2005). Organizational culture can enhance or diminish employee motivation to learn (Becker, 1997). If the employees believe learning on the job is discouraged or is strictly controlled, they will likely choose to abstain from learning activities. Conversely, if an employee feels that leadership encourages continued development and growth, they will more likely seek out and fully engage in learning activities.

In addition to culture, the structure of an organization will influence the type and amount of information available to the employees (Ashton, 2004; Ellinger, 2005). The organization controls the distribution of knowledge through a variety of measures including the use of briefings, library access and formal training (Ashton, 2004; Kitching, 2007). A more controlling organization with strict hierarchies is more apt to diminish employee engagement in learning activities whereas a more open structure will lead to higher engagement. The relationship between superiors and employees also influences employees' motivation to learn and perform (Cheng et al., 2012). Organizations have an inherent need to recognize culture and structure (Ashton, 2004). A better understanding of employees and their needs will help an organization create a culture and structure designed to enhance motivation. Organizations have begun to use technology to deliver workplace learning to employees, which has changed the context in which employees learn today.

Understanding the definition of workplace learning is the first step to be able to evaluate the effectiveness of the learning opportunities. Workplace learning means something different in every organization, but no matter the industry or organization type, the term refers to the process by which employees develop new skills needed to perform successfully in their roles. Employees have a unique balancing act in the workplace; they must put their daily responsibilities first, but also find ways to continue to develop as a means to become more successful in their careers. Choosing to participate and be actively engaged in workplace learning is essential for effective learning to happen (Ryan & Deci, 2000). By opting to exert the mental effort needed to understand the material, employees are simply "checking the box" before even gaining new knowledge. Even more important, the organization must ensure a culture and

structure that encourages the transmission of knowledge by providing employees with opportunities to learn.

E-learning: Delivering Training Using Technology

Technology has changed the way learning happens today and it is being used more than ever within organizations to train employees (Hwang, 2010). According to a global study of learning and development conducted by ASTD (2012), there was a seven percent increase in the use of computer-based learning from 2010 to 2011. With this increased use of technology, the boundaries that once hindered organizations from providing employees with ways to learn are disappearing (Lehtinen, 2008). One such boundary that has been overcome is that of corporate trainers who are no longer restricted by their physical location. This allows employees access to information and training that was previously restricted by the location of the instructor (McCombs & Vakili, 2005; Park & Choi, 2009). Over the past few decades, technology used for instruction has evolved (Winn, 2002). In years past, the goal of e-learning was to simply use a piece of technology during live instruction; however, in today's world, the goal of e-learning is to provide instruction that is mediated by technology and provides learners the ability to have control and interaction with material without the need of a live instructor (Sawang & Newton, 2012; Winn, 2002). Technology has provided instructors with new strategies and environments in which students can interact with content (Winn, 2002). The sections below will provide a brief definition of e-learning as well as present the possible benefits and risks of using e-learning to deliver instruction in the workplace.

Definition of E-learning

E-learning is the process of learning in which instructional materials are designed, developed and delivered using technology (Hwang, 2010; Sawang & Newton, 2012; Wang et al.,

2010; Yoo et al., 2012). The term *e-learning* often brings to mind a learning activity that uses only a computer, but it actually encompasses instruction that utilizes any type of electronic media as part of the instructional delivery system (Keller & Suzuki, 2004; Wang, 2011). This includes things such as, but not limited to, computers, tablets, smart boards, and mobile phones. E-learning is very flexible and dynamic (Lin & Overbaugh, 2013; McCombs & Vakili, 2005). It allows learners the ability to make choices in their own learning and engage with content in a new way (Schroff & Vogul, 2007). No longer are learners and instructors restricted to the paper-and-pencil resources to learn a new skill. Technology and e-learning presents instructors with new ways of delivering information such as videos, self-paced tutorials and podcasts (Lin & Overbaugh, 2013). E-learning has been called many things within educational and human resources literature (e.g. online learning or distance learning), but in this study learning that happens with the use of technology will be referred to as e-learning.

Use of E-learning in the Workplace

Technology has shaped the way training occurs in the workplace. E-learning been chosen to deliver training in the workplace because of the benefits it offers such as accessibility, cost-effectiveness, and ability for learner-controlled activities (Cheng et al., 2012). One of the main reasons organizations use e-learning for training solutions today is the cost-effectiveness of not having to rely on face-to-face instruction (Chen & Kao, 2012). With the globalization of many organizations, the cost to reach employees for live, face-to-face instruction has become almost impossible (Buxton & DeMuth, 2012). E-learning is used to reach employees who are scattered across several locations (Buxton & DeMuth, 2012). For example, sending a trainer on an international business trip to train a single employee on a new system for three days is not cost effective, despite any benefits there may be for the actual instruction. Another reason that

technology is used readily by organizations are the possibilities it provides for training (Hwang, 2010). In addition to accessibility, e-learning can give employees new ways to interact with instructional material that does not require a live instructor. As technology becomes more prominent in learning, learners will have to play an increasingly active role in their learning (Noe et al., 2010). Without the need for live instruction, many opportunities that employees have to learn at the workplace will rely on the employee's dedication and motivation.

E-learning that is web-based has replaced many in-person training sessions within organizations (Buxton & DeMuth, 2012; Eddy et al., 2006). In 2008, e-learning accounted for one-third of all training delivery in the workplace (Rossett & Marshall, 2010). From 2010 to 2011, organizations increased e-learning by an additional seven percent (ASTD, 2012). It is obvious that technology has changed the face of workplace learning; in many cases, organizational success is dependent on the use of technology to train employees (Lin & Overbaugh, 2013). Later in this chapter, there will be an additional discussion about how technology can influence employee learning.

Benefits of Using E-learning in the Workplace

There have been tremendous advancements in technology over the past two decades. Today, technology provides learners with new ways to interact with material, and can also support and encourage learning in different ways (Clark et al., 2010; McLoughlin & Lee, 2010). Understanding why organizations may choose to use e-learning to deliver training is an important first step to understanding how employees interact and engage with the material.

In some cases, e-learning has been used to extend learning beyond instruction (Lin & Overbaugh, 2013). Many e-learning programs provide support for learning in nonlinear ways (McCombs & Vakili, 2005). This means that as an employee completed e-learning activities,

he/she is receiving more support than a direct line of feedback. Take for example an employee who completes a tutorial. The employee could answer questions and instead of getting a simple correct or incorrect feedback, the tutorial could provide the employee with links that could be used to learn more or jump to another screen that provides additional, follow-up information. It is this type of nonlinear support that goes beyond simple feedback.

Relatedly, e-learning encourages learners to play an increasingly active role in learning activities and asks employees to apply their learning in authentic practice (McCombs & Vakili, 2005; Winn, 2002). Technology can be used to make learning more authentic and engaging (Lin & Overbaugh, 2013). With the innovations of e-learning technologies, employees may now have the chance to interact with an environment they never would have been able to in the real world (Winn, 2002). E-learning allows learners to participate in interactive learning that would have been otherwise difficult or impossible to implement previously (Yoo, et al., 2012). For example, in lifesciences corporations, scientists can practice using a new laboratory machine within a controlled e-learning environment without actually having to use the machine. This gives employees a chance to make mistakes and not worry about hurting the actual machine. This active participation with full support is a benefit of using e-learning in the workplace.

Additionally, e-learning has been shown to impact motivation and has the potential to enhance motivation (Guzley et al., 2006; Kim & Frick, 2011). Traditionally, the process of generating motivation was in the hands of the instructor; however, as previously mentioned, with e-learning, the learners play a more important role in motivation (Guzley et al., 2006).

Employees now have the opportunity for more interaction with material and there is an increased feeling of choice with many e-learning programs. With the use of e-learning, learning is now in the hands of the learner (Lin & Overbaugh, 2013). For example, self-paced tutorials allow

employees to navigate through instructional material at their own speed and have the choice to review a section or skip past a section. The choice that e-learning provides employees has shown to increase engagement (Kim & Frick, 2011). A benefit of e-learning is the ability to allow learners to access the material on their own time and choose when and where they want to participate (Chen & Kao, 2012). Researchers have found that the e-learning environment prompts learners to dig deeper in the available resources and explore the content more deeply, which can create a more motivated learner (Guzley et al., 2006). The more motivated an employee is to learn, the more effective the training will be, which will lead to employees who are more knowledgeable and able to perform better in their roles. This is a major benefit for using e-learning to deliver training in the workplace.

Risks of Using E-learning in the Workplace

Just as there are benefits for using e-learning, there are also well-documented issues with e-learning that are important to discuss. Three major risks will be discussed in this section.

First, organizations often see an issue with adoption and use, which may be seen as issues beyond the technology (Venkatesh, 2000). Employees may have anxiety about using a type of technology that is unfamiliar (Venkatesh, 2000). If employees do not use the e-learning, they will never learn the new skill or gain the knowledge. Gaining adoption by employees can be difficult and require a full change management process that can be time intensive and costly.

Second, there are limitations to what e-learning can provide. Technology should be used to only support learning, not to be used to replace instruction (Clark et al. 2010). Organizations should be sure to evaluate the learning goals and use technology when appropriate; not every situation is suited to e-learning (Winn, 2002). Many e-learning environments are dependent on the use of an elaborate metaphor and are best suited for concepts that are more complex (Winn,

2002). If e-learning is developed for content that does not need the support of technology, such as something that could easily be transmitted using a white paper or resource manual, the engagement in that e-learning will be diminished because it will seem overly complicated and not perceived to be effective.

Third, many of the e-learning programs in use today are used ineffectively and do not motivate the learner (Wang et al., 2010). Although not backed by research, many users of e-learning believe the technology has the ability to meet every training need (Rossett & Marshall, 2010). Using technology does not automatically create effective instructional design or interesting material. Just as with any other form of workplace learning, e-learning content should be designed and developed in a way that promotes understanding as well as motivation. Without this, learning that an employee completes is ineffective and will unlikely be transferred into day-to-day responsibilities.

Technology has revolutionized the way instructional material is delivered in the workplace. With the help of e-learning, corporate trainers are able to provide employees with learning opportunities across geographic boundaries. E-learning has some distinct benefits such as increasing learner choice and engagement. However, it is also important to understand there are some risks also involved with relying on e-learning technologies to delivery training in the workplace. Regardless of the benefits or risks, it is obvious that e-learning is a form of workplace learning delivery that has and will continue to change the way employees learn at work.

Intrinsic Motivation

Thus far, Chapter Two has provided a discussion of the workplace learning and how training that is delivered as e-learning can influence employee engagement. It is now time to focus on the individual employee and use the construct of motivation to evaluate the reasons an employee may choose to participate in workplace learning.

Motivation, or the reason an employee chooses to act, is a critical pre-requisite to learning in the workplace (Chen & Kao, 2012; Saeed & Zyngier, 2012). It determines the quality of learning an employee will have (Chiaburu & Lindsay, 2008; Guzley et al., 2006). For example, employees who are motivated to learn tend to be more engaged in the activity, which results in a higher level of competence and understanding (Saeed & Zyngier, 2012). There are two kinds of motivation: intrinsic and extrinsic (Mahal, 2009). Intrinsic motivation refers to completing a task because of the interest and enjoyment one gets for doing so; extrinsic motivation refers to completing a task because of the reward or outcome that will result (Roca & Gagne, 2008; Ryan & Deci, 2000). In order for learning to be successful, employees have to be motivated (Huang et al., 2010). Organizations often rely on extrinsic motivators, such as financial incentive, to push employees into training. However, no amount of financial incentive or forced participation will make an employee participate in a workplace learning opportunity and actually attend to the information (Clark, 2003). The final decision to engage in the learning activity is that of the employee (Kitching, 2007). Performance relies on an employee's intrinsic motivation.

Intrinsic motivation leads to higher levels of performance than extrinsic motivation (Roca & Gagne, 2008). Specifically, intrinsic motivation makes employees feel more satisfied with the learning activity, feel more enjoyment, and they leave the activity feeling more competent

(Coutts, et al, 2011). Research has shown that intrinsic-oriented goals relate positively to employees performing better in training activities and more easily using their new skills in their day-to-day performance (Vansteenkiste et al., 2004; Schroff & Vogel, 2009). Employees are not only able to learn more but are more likely to transfer the knowledge they have learned to their daily responsibilities. Students who are actively engaged in learning are making an investment in their own learning (Saeed & Zyngier, 2012). Understanding intrinsic motivation can help instructors and instructional designers create instructional material that helps learners in higher order thinking and use of self-regulated strategies (Schroff & Vogel, 2009).

SDT provides a framework for understanding the individual-level factors that impact employees' intrinsic motivation (Hwang, 2010; Rigby et al., 1992; Schroff & Vogul, 2007). It is more than just interest or curiosity that can influence an employee's intrinsic motivation for an activity. STD states that all humans have basic needs to be autonomous, feel connected and feel competent (Harnett et al., 2011; Schroff & Vogul, 2007). Self-determination theory proposes that learners will have higher levels of performance when basic needs of autonomy, relatedness, and competence are met (Roca & Gagne, 2008). Everything a person does in life is impacted by whether or not they feel connected to the activity, in control in some manner and are able to complete the activity. When a learning activity meets these three basic needs, the learner will be more likely to participate and actively engage with the instructional material. Employees will engage in material more when they feel they have a choice, when pressure is minimized and when learners are encouraged to work on materials on their own (Becker, 1997; Schroff & Vogel, 2009). Engaged students tend to take more pride in their work and gain happiness in their successes (Saeed & Zyngier, 2012). According to SDT, employees are innately proactive in the search for information, but this drive will be diminished if they do not feel in control and

competent (Deci et al., 1994). This feeling is not something that can be created from extrinsic motivators; it is entirely inherent (Eccles & Wigfield, 2002). For this reason, it is important to understand the intrinsically-motivated reasons that lead employees to engage in a workplace learning activities. The section below will discuss three dimensions that have the ability to enhance or diminish intrinsic motivation.

Dimensions that Enhance or Diminish Intrinsic Motivation

Motivation is a multidimensional construct. Many factors can influence motivation such as self-efficacy, expectations, values, and emotions (Pekrun, 2011; Randler, Wust-Ackermann, Vollmer & Hummel, 2012; Roca & Gagne, 2008; Ryan & Deci, 2000). Intrinsically motivated learners are more likely to engage deeply with instructional material, persist longer, and have more self-regulation (Eccles & Wigfield, 2002; Martens et al., 2004). Retention in training programs is higher when individuals are intrinsically motivated (Rigby et al., 1992). For this reason understanding more about the intrinsic reasons why an employee chooses to learn in the workplace is important for supporting employees continued development. In order to learn more about the specific factors that can affect intrinsic motivation, several researchers have utilized SDT to identify and evaluate dimensions of intrinsic motivation. Ryan and Deci (2000) have found that three dimensions directly correlate to intrinsic motivation: 1) interest/enjoyment; 2) perceived choice have positive correlations to an individual's intrinsic motivation; 3) pressure/tension are negatively correlated. The following subsections will discuss how these three dimensions of intrinsic motivation can enhance or diminish intrinsic motivation.

Interest/enjoyment. Interest/enjoyment is a dimension of intrinsic motivation, which typically enhances motivation. It is an emotion that an individual feels when he finds something entertaining, curious, or arousing (Buxton & DeMuth, 2012; Keller & Suzuki, 2004; Noe et al.,

2010; Roca & Gagne, 2008). It is preferable for learning that motivation be intrinsic rather than extrinsic, high levels of interest/enjoyment in a activity are desirable since this factor is directly related to intrinsic motivation. Interesting activities are those that evoke pleasure, allow for investigation and analysis, and encourage the individual to continue whatever they are doing (Schroff et al., 2007). Interest is a critical element of adult learning. While there may be a general misconception that adults are able to turn on and off their interest, the truth is the opposite. Adults, more than children, need to feel that an activity is interesting and engaging in order to learn a new skill (Ryan et al., 1990). Unlike a k-12 classroom where instructors play a major role in interest, many workplace-learning environments rely on the employee to create or find the interest to work. For example, most lessons begin with some sort of attention-grabbing activity, such as reading a story or playing a game that peaks the interest and curiosity of the students. Unfortunately, this is not common practice in the workplace. When employees find the material interesting, they will be more likely to effectively encode the information into long-term memory (Ryan et al., 1990).

Interest dictates employee engagement in learning. An employee's level of interest will influence their choice to participate and engage in learning (Flowerday & Schraw, 2003). Employees are more likely to engage in activities that are inherently interesting than those activities that are not interesting (Buxton & DeMuth, 2012; Keller & Suzuki, 2004; Noe et al., 2010; Roca & Gagne, 2008; Schiefle, 1991). Employees will not willingly choose to work on a learning activity if they find the content boring and uninteresting (McKay & Vilela, 2011). Knowing this, it is obvious that activities that enhance employee interest also enhance intrinsic motivation (Cordova & Lepper, 1996; Hidi, 1990).

When learning activities pique an employee's interest there are cognitive benefits such as increased comprehension, perceived competence, and overall performance (Hidi, 1990; Sansone et al., 2011; Schiefele, 1991). Interest affects many types of cognitive activities and can ultimately influence performance (Hidi, 1990; Roca & Gagne, 2008). For example, Hidi (1990) found that interesting activities increase comprehension and enhance creativity. When interested, learners took the time to read deeper into the material and use various strategies to decode the information; this led to a better understanding of the material and more effective recall (Schiefele, 1991). Because of this, learners were able to engage deeper in the learning and utilize more complex strategies to learn and organization information (Cordova & Lepper, 1996). The more interesting and engaging an activity is, the more likely the employee will be motivated to continue working on it and complete it. Interest predicted motivation and led to higher completion rates in online learning courses (Renninger, Cai, Lewis, Adams, & Ernst, 2011). Sansone and colleagues (2011) described similar findings. When they studied undergraduate students, they discovered that learners were more likely to engage throughout the entire time they worked on a learning activity if they found the information interesting. This clearly shows how interest impacts the way employees interact with instructional material. More so, learners who are more interested in the material feel higher levels of perceived competence (Cordova & Lepper, 1996). Because they are interested, they take the time to read the information and use metacognitive strategies to understand it.

Across the span of two decades, researchers have found that learning activities that are interesting and enjoyable to employees will enhance intrinsic motivation to participate and engage in those activities. Knowing this, organizations can use this information to better design and develop workplace learning for their employees.

Perceived choice. Personal beliefs is one of the primary components of intrinsic motivation (Becker, 1997; Flowerday & Schraw, 2003; Shell & Husman, 2008). Of all the types of personal beliefs, beliefs about control are arguably the most influential to motivation (Shell & Husman, 2008). In educational research, control is interchangeable with autonomy and choice. Perceived choice is a dimension of intrinsic motivation that can influence the level of intrinsic motivation an employee can have while competing workplace learning activities. There are different types of choice and each type can have a positive impact on intrinsic motivation (Cordova & Lepper, 1996; Patall et al., 2008). Choices can include elements such as format, setting, and timeframe. Employees can have the freedom to choose when and where they learn. The significance of the choice does not necessarily have an impact on motivation. Simply having the feeling of control will increase an employee's level of intrinsic motivation.

The desire for self-sufficiency is a key reason that employees choose to learn in the workplace (Brockman & Dirkx, 2006; Rigby et al., 1992). By learning a new skill, employees believe they will have more choice in their responsibilities or even their roles. Providing employees with choice in the workplace learning activities they complete has been shown to enhance their intrinsic motivation (Patall et al., 2008; Ryan & Deci, 2000). Employees must feel that success is within not only their control, but that they are able to choose the path to completion. Feeling in control leads to increased effort (Shell & Husman, 2008). Restrictive and choice-less environments diminish employee intrinsic motivation and performance (Flowerday & Schraw, 2003; Iyengar & Lepper, 1999). Alternatively, environments that are autonomous and supportive enhance intrinsic motivation (Rigby et al., 1992). These supportive environments allow employees freedom to choose things such as learning activities to complete, how to complete those activities and when to complete them. The perceived control the

organization has over an employees' participation in workplace learning will affect the level of participation (Langan-Fox, Code, Gray & Langfield-Smith, 2002). Environments that provide more choice and autonomy lead to higher levels of intrinsic motivation and better performance (Roca & Gagne, 2008). Knowing that choice is significantly related to the learning outcome, it is important for organizations to create a culture that provides employees choice and some form of control when it comes to what and how employees learn.

There are distinct benefits to providing employees with some form of autonomy and choice. When choice is allowed and encouraged, employees feel more in control, which results in more time and effort spent on learning activities (Flowerday & Schraw, 2003). Employees also tend to engage more deeply in the material, which leads to better comprehension and encoding into long-term memory (Cordova & Lepper, 1996; Patall, et al., 2008; Vansteenkiste et al., 2004). Beyond the increased comprehension, employees who were offered choice showed more enjoyment in completing the learning activity (Cordova & Lepper, 1996). As previously mentioned, when employees are interested in a learning activity and find it enjoyable, they will be likely to engage more deeply in that activity and learn more. These are very clear benefits for providing employees with choice in workplace learning activities.

However, it is important to note that it is possible to give too much autonomy and choice to employees (Martens et al., 2004). Without any guidance or structure, some employees could feel overwhelmed, which can diminish intrinsic motivation. To hedge this risk, organizations should provide employees with the perception of choice. Even the perception of choice will have an impact on employee intrinsic motivation.

Perceived choice has a large impact on a learner's intrinsic motivation (Patall, et al., 2008; Schroff & Vogul, 2007). Learners who feel autonomous in their completion of learning

activities are more interested in the material and recount higher levels of enjoyment (Patall et al., 2008). Because employees believe that they have chosen to work on the activity, they do not feel pressured to complete it. When learners are able to take control of some part of their learning and are motivated, learning is more effective (Lin & Overbaugh, 2013). Autonomy means that an individual is able to choose what activities to pursue (Roca & Gagne, 2008). Perceived choice also has been shown to lead to a deeper learning experience in which learners engage more in the activities (Rigby et al., 1992). This leads a better performance outcome. Feelings of achievement are triggered when a learner feels in control of an outcome (Pekrun, 2011).

Choice, or the perception of choice, can impact the way in which an employee interacts with workplace learning. When an employee feels they have a say in what or how they complete a learning activity, they will likely engage more fully in the material and learn more.

Pressure/tension. Pressure/tension is a dimension of intrinsic motivation and can be defined as feeling constrained, pressure to perform and anxiety in relation to completing an activity. Most often, pressure/tension is associated with diminished motivation to perform and is distinctly different from behaviors that support autonomy (Saeed & Zyngier, 2012). A feeling of constraint or pressure will influence the way an employee views their level of control and in turn, diminish intrinsic motivation (Ryan, 1982). Anxiety occurs when one feels out of control and uncertain (Pekrun, 2011). There is an unspoken expectation that adults know how to learn and regulate their own learning (Chen & Kao, 2012). The expectations put on a user to perform also impacted intention (Lee & Song, 2013).

Feelings of pressure/tension can come from internal or external pressures (Ryan et al., 1991). External pressures diminish intrinsic motivation and can hinder feelings of self-

determination (Ryan, et al., 1991). External pressures are the most common within an organization and come in the form of high levels of competition or completion. These are the pressures put on an individual by an external force, such as a manager or colleague. This social pressure affects an employee's intention and engagement in e-learning activities (Lee & Song, 2013). The pressure put on an employee by a manager, for instance, will influence whether that employee chooses to participate in the learning activity. Control can also come from internal beliefs an individual puts on himself or herself to perform (Ryan, et al., 1991). Both of these pressures can result in high levels of tension and anxiety and a decrease in intrinsic motivation (Devi, Eghrari, Patrick & Leone, 1994).

In order for employees to acquire new knowledge and skills successfully, they must feel as if they are in a non-threatening and positive environment (Clark, 2003; Yeo, 2006). If the company culture supports and guides employees in workplace learning, the employees are more motivated to learn; however, an environment that seems controlling can diminish employees' desire to learn (Rigby et al, 1992). A controlling environment can be described as one that adds pressure to the learner to perform in a certain way (Ryan, 1982). When social contexts appear to be controlling, the learner will likely feel pressured to complete the activity because of the threat of punishment or shame (Randler et al., 2012; Vansteenkiste et al., 2004). This can also be thought of as compliance (Hwang, 2010). When an employee feels as if they must complete an activity, it may influence their engagement and they may not actually value the work they complete or learn the information (Hwang, 2010). This can lead to employees feeling anxiety over completing the learning activity, which research has found to negatively impact intrinsic motivation (Plant & Ryan, 1985; Vansteenkiste et al., 2000).

Summary

Motivation to learn is imperative in the workplace. Although organizations attempt to use extrinsic motivators, such as financial incentive, to promote motivation to learn, the intrinsic motivators ultimately decide how an employee engages in workplace learning. Many factors can influence intrinsic motivation for employees. For example, an employee's perception of control or interest in the topic will influence their engagement. The more interest and the more control employees feel will enhance intrinsic motivation and, ultimately, their engagement in the learning material. Alternatively, a feeling of pressure can diminish intrinsic motivation and halt learning. By understanding these factors, organizations are able to better design, develop, and implement training to support intrinsic motivation in their employees.

Intrinsic Motivation and Workplace E-learning

While it is widely known in educational research circles that motivation and, specifically intrinsic motivation, is a major influence in engagement and performance, most of the studies conducted have been in a classroom environment (Schroff & Vogel, 2009). There is less known about how motivation impacts and is impacted by e-learning (Schroff & Vogel, 2009). This is an important intersection to discuss because as recently as 2008, e-learning accounted for one-third of all training delivery in the workplace (Rossett & Marshall, 2010). Issues of motivation will affect whether or not an employee completes e-learning, just as with any traditional instruction. Learning and learning transfer will not happen if the employee lacks motivation to actively participate in the activities (Chen & Kao, 2012). When studying technology acceptance, Roca and Gagne (2008) found that intrinsic motivation influences a user's choice to use e-learning to learn a new skill (Roca & Gagne, 2008). Yoo and colleagues (2012) found similar results in that intrinsic motivation influences how someone intends to use technology. There are three areas to

be examine when discussing motivation and e-learning: the ways that e-learning can enhance motivation, the ways that e-learning can diminish motivation, and ways that the organizational culture can influence performance in e-learning.

First, there are features of e-learning that enhance employee intrinsic motivation, such as increased interest, competence, and choice (McCombs & Vakili, 2005). Kim and Frick (2011) found if employees felt that e-learning goals were relevant to their work and they would be intrinsically motivated. When the material seems relevant to the employee's life, they were less likely to drop out (Park & Choi, 2009). Learners are more likely to be motivated if they perceive that the content is relevant, they are fluent in technology being used and they think the e-learning experience is a good match level-wise (Kim & Frick, 2011). Material that seems uninteresting to the learner will demotivate him or her (McKay & Vilela, 2011). In addition to interest, when learners feel a sense of ownership and control over their own learning, motivation and performance are enhanced. E-learning also provides increased opportunities for control and choice (McCombs & Vakili, 2005; Schroff & Vogul, 2007). Learners are more likely to use technology when they feel they have a choice and feel competent (Roca & Gagne, 2008). E-learning allows employees a unique way to take control of their own learning and development without having to rely on a live instructor. Thus, e-learning that is created effectively will not only enhance motivation, but will also lead to deeper understanding and higher performance.

Second, the use of e-learning has increased as it has become more common in organizations; however, there is still often a high rate of abandonment and often low rates of adoption (Sawang & Newton, 2012). This is attributed to employee personal motivation. The way in which content is delivered in e-learning can demotivate the employee (McKay & Vilela, 2011). For example, if an e-learning tutorial is extremely text-heavy with distracting graphics,

the employees will get easily distracted and demotivated. Some common reasons why employees would discontinue or choose not to work on e-learning include: doubts in their ability to complete a course online, the feeling of being overwhelmed and lack of motivation (Keller & Suzuki, 2004; Vansteenkiste, 2000). For some employees, technology is still new and difficult to interact with and this can influence the way they complete e-learning activities. There are well-documented issues with web-based learning that relate to employees feeling connected to the material (Keller & Suzuki, 2004). Especially in the workplace, employees can feel isolated as they complete activities, which diminished intrinsic motivation (McCombs & Vakili, 2005). As technology becomes more prominent teaching tool, employees will have to play an increasingly active role in their learning (Noe, Tews & Dachner, 2010). Technology has changed the way employees complete workplace learning. The level of perceived usefulness an employee feels will affect the way in which he or she will use the technology (Vansteenkiste, 2000). Understanding that e-learning can diminish motivation and ultimate performance in learning activities can help organizations design and develop e-learning more effectively.

Finally, successful e-learning implementation is rooted in organizational support, not just technical support (Sawang & Newton, 2012). When an organization is looking to create an e-learning session for employees, they need to be cognizant of organizational needs but also the needs of the learner in order to design something that is not only motivating for the employee but meets the overall organization goal. The perceived support an employee felt from their management and organization predicted learner's intention to use e-learning (Sawang & Newton, 2012). A more supportive organization led to more motivated employees and more engaged learning. The relationship between superiors and employees will affect the motivation an

employee (Cheng, et al., 2012). To increase motivation, Clark (2003) suggests that there be a positive emotional environment.

In today's organizations, e-learning has become a primary delivery method for professional development. As with any other learning environment, issues of motivation will influence how an employee engages and performs in e-learning.

Conclusion

Learning plays a major role in every employee's life. In order to stay relevant and continue to grow within an organization, employees need to develop their skills and increase their knowledge. In addition, organizations need to support this continued development because, ultimately, success will depend on the success of their employees. Training in the workplace is an approach that organizations use to improve individual and team effectiveness and in order to make this improvement possible, organizations need to understand how to build and implement effective training for their employees (Aguinis & Kraiger, 2009). As organizations globalize and travel expenses increase, technology-based delivery is becoming more common. It is imperative that a company's leadership team understand how technology influences employee motivation during workplace learning. Research has found that an employee's intrinsic motivation plays a major role in how an employee approaches and ultimately completes a workplace learning activity (Armson & Whitely, 2010). Moreover, this study will provide additional insight into the research needs to understand how different dimensions can influence intrinsic motivation in an employee.

CHAPTER 3

METHODS

Organizations routinely rely on formal training as the sole method of professional development for their employees (Aguinis & Kraiger, 2009; Chiaburu & Lindsay, 2008). Traditionally, instructors in a face-to-face setting have delivered workplace learning. Although this is still true today, methods for delivery have started to shift away from instructor-led training to web- and computer-based training. Innovations and developments in technology over the past decade have started to affect the way in which organizations look at learning and development; they have started to recognize the benefits of using web-based learning to provide employees with opportunities to grow and develop (Eddy et al., 2006). According to their annual study, ASTD found that in 2012 there was a seven percent increase in the use of web-based learning in organizations around the world. Using technology to deliver training provides organizations with a cost- and resource-effective alternative to traditional face-to-face training. With the help of e-learning technologies, training can now reach employees regardless of time and location at a quarter of the cost (Buxton & DeMuth, 2012; Chen & Kao, 2012). E-learning also offers added benefits such as flexibility and accessibility. However, despite the clear benefits of using technology from an organizational perspective, it is still a challenge with getting employees motivated and keeping them engaged in training. Without an instructor present to deliver the training, employees are held more accountable for finding motivation to engage in the training; technology can support learning, but does not create learning (Clark, et al., 2010). This is a common and potentially detrimental issue called ‘outcomes-based training’ in which employees go through the motions of completing the e-learning without actually learning (Armson & Whiteley, 2010). Organizations attempt to increase engagement by providing employees with

reasons to participate including business needs, career development requirements, and financial incentives. Nevertheless, if employees are not motivated to learn, they will not fully engage in e-learning.

The purpose of this study is to evaluate the relationship between three dimensions of intrinsic motivation and the impact on employee performance in self-directed, e-learning workplace training. Using a web-based survey and a review of archival performance data, this study explored the predictive relationship between three intrinsic motivation dimensions and employee performance. This study surveyed employees of an international executive search firm who were enrolled in an e-learning course. The intrinsic motivation dimensions evaluated were interest/enjoyment, perceived choice, and pressure/tension. The employee performance scores were obtained as archival data from the e-learning management system.

The methodology used in this study as well as a description of the research design, the population, and sampling procedures is presented in this chapter. It also includes details of instrument selection and procedures that were used for data collection and analysis.

Research Questions

1. Do employees feel that interest/enjoyment, perceived choice, or pressure/tension motivate them to participate in course activities?
2. Do interest/enjoyment, perceived choice, and/or pressure/tension predict employee performance in self-directed, e-learning training courses in the workplace?
3. Do interest/enjoyment, perceived choice, and/or pressure/tension relate to each other?

Research Design

This study was a non-experimental, mixed-method research design, which utilized two approaches to gather data: an online survey and archival data. These approaches were used in order to explore the relationships between variables. Employees who worked for the firm and completed at least five activities in an e-learning course in the April 2013 to August 2013 timeframe were eligible to participate. The employees were invited through an email to complete an online survey and, if they agreed to participate, were asked to complete an online survey. In the email invitation, the participants were provided with an explanation of the research goals, study expectations and the names of the researchers. This email also explained that, by agreeing to participate, the employee would be granting the research team access to performance data from the courses in the e-learning management system. It was made clear in this email that the employee's participation in this study was in no way linked to their employment with the firm. The survey took about fifteen minutes to complete and included multiple-choice, Likert-scale and open-ended questions. At the end of the survey, the participants had an opportunity to click on a separate link that granted them access to enter in a lottery to win a financial incentive. The lottery information was not linked with their survey responses. This was a non-experimental design and used correlations and multiple regression tests to examine the survey question results. Open-ended questions were coded and categorized based on common themes. Archival performance data was also collected from the e-learning management system. These data consist of overall course scores from the e-learning management system that holds the three e-learning courses.

Population and Sample

The population of this study includes users who were enrolled in one of the three e-learning courses that are offered by the firm. The participants were all employed by the same department within the firm, but were located in several offices around the globe: Buenos Aires, Sydney, Houston, Bangalore, Shanghai, and Warsaw. All employees who completed at least five graded activities between April and August 2013 were considered active users. The number of graded activities, five, was selected specifically because it means that the employee has completed at least one module within any course. Completing a module would give participants enough experience in the course in order to answer the survey questions. Company leadership and legal team agreed that this number was sufficient. In order to obtain the list of current users, the researchers coordinated with the e-learning course administrator who provided the researchers with a list of email address. Full names of participants were kept confidential. The only identifying information the researchers had access to was the email contact list for the participants

There were sixty-eight employees eligible to participate in the survey and all were sent an invitation to complete the survey. Only forty-six employees responded to the survey, which resulted in a response rate of 67%. Based on survey responses, participants were majority female (71.7%). When looking at geographic location, the majority of participants were located in either Europe (15 participants) or North America (15 participants). Eight participants reported living in Latin America and six in Asia. One respondent declined to answer. Participants were mainly between the ages of 25 and 34 (27 participants) or between 18 and 24 (11 participants). Only six people fell between the 35 to 44-age range and only one participant was older than 45 years old. No participants were older than 54 years of age. The majority of participants had

three or less years of experience: 26 participants reported between one and three years; ten reported less than one year. Looking at years of experience, only one participant reporting having more than 10 years of experience, six people reported having three to five years of experience in recruiting and only two had between 5 and 10 years' experience.

Three self-directed e-learning courses were selected for this study. These three courses are part of a three-level internal certification program that was developed in 2011 to supplement on-the-job experience. The goal of the certification program is to improve employee knowledge of the markets and functions in which the firm recruits as well as strengthen the sourcing skills needed to perform the role effectively. Each course focuses on a single subject, but even though each course covers a different topic, the topics are directly related to the participants' roles and responsibilities and are considered to be at the same skill level and difficulty. Despite three separate topics, the experience the learners have in each is parallel and can reasonably be compared. While participation in the e-learning is not voluntary, the employees are able to choose how and when to complete the activities and is completely self-directed. The e-learning courses are hosted on MoodleRooms, a third-party learning management system. Learning happens primarily through asynchronous activities such as presentations, videos, and podcasts. However, employees are able to interact with the platform by participating in discussions and taking quizzes. Each course is structured into modules. Within each module, learners were asked to work through the instructional material at their own pace and in the order of his or her choosing (e.g. videos, quizzes, discussions). Each of the activities was graded; some were graded based on completion and others based on percentage of correct responses. Every activity could be attempted twice. Every module ended with a final assessment, which was either a

written test or a practical application activity. Both types of assessments were graded based on a rubric and the total points possible were 100.

Instrumentation

The survey for this study was adapted from the Intrinsic Motivation Inventory (IMI) created by Ryan in 1982. As described by McAuley, Dungan and Tammen (1989), the IMI is an assessment tool that determines a participant's level of intrinsic motivation in one of the following dimensions: interest/enjoyment, perceived competence, effort and pressure/tension. See Appendix A for a copy of the survey. The researchers obtained permission from the survey creators to adapt the IMI for development of the survey used in this study.

The IMI has been used in over ten quantitative research studies and has demonstrated high reliability and validity (e. g. Coutts et al., 2011; Geir & Gogner, 2010; Hanich, 2009; McAuley et al., 1989; Plant & Ryan, 1985; Ryan, 1982; Ryan et al., 1990; Spittle & Byrne, 2009; Sturm & Bogner, 2008). After reverse coding the appropriate items, the Cronbach alpha coefficients for the intrinsic motivation scales in the current study showed acceptable internal consistency: interest/enjoyment scale alpha was .952; perceived choice scale alpha was .866, and the pressure/tension scale alpha was .733. Included in these studies was a factor analysis finding that the individual dimension scales were valid (McAuley, et al., 1989). The survey includes Likert-scaled items for six dimensions of intrinsic motivation. According to Ryan, Connell, and Plant (1990), the interest/enjoyment scale is a direct measure of intrinsic motivation; alternatively, pressure/tension has shown to be a negative predictor of intrinsic motivation. Perceived choice has also been shown to be a positive predictor of behaviors related to intrinsic motivation (Ryan, et al., 1990). For these reasons, this study will focus on three dimensions of motivation: interest/enjoyment, perceived choice, and pressure/tension. There were seven items

in the interest/enjoyment scale; five items in the perceived choice scale; and five items in the pressure/tension scale totaling 23 questions, including demographic and open-ended questions. The sections below discuss those questions in more detail. The Likert scale ranged from not at all (0) to very true (7). This range was chosen because it was used in the original survey as well as in the majority of all studies that have used the IMI.

Demographics

The survey included four questions to collect demographic data including gender, geographic location, years of experience in recruiting, and age. Demographic questions were included because although the participants are all employees of the same search firm and department, their experiences and prior knowledge differ. Because the courses are at a basic skill level, it will be interesting to see how years of experience in recruiting impact intrinsic motivation; participants may already have more knowledge in the course content areas which may impact the way the learners are motivated to complete the courses. Intrinsic motivation is a matter of personal choices and preferences; thus, understanding these demographic characteristics may enhance understanding of how intrinsic motivation differs among distinct demographic groups. These questions were not adapted from a past study and no reliability test will be performed.

Open-ended questions

The survey also included two open-ended questions to collect qualitative data. These questions were included to supplement the Likert-scaled questions and to provide additional insight. They were not adapted from a past study and no reliability test will be performed.

Data Collection

Data were collected in two ways. Intrinsic motivation data was collected using the IMI given as an online survey. The archival performance data were gathered from the e-learning management system by the course administrator and provided to the research team. Because the survey data and performance data need to be analyzed together, the data collection process was confidential. The only identifying information the research team had access to be the email contact information for the participants, which was given to researchers by the course administrator. Survey data and performance data were gathered separately and merged into one data sheet by the course administrator, who also acted as the research coordinator on behalf of the organization. The survey data were downloaded by the research team and forwarded to the research coordinator without viewing the data. The research coordinator downloaded performance data from the e-learning management system. Specifically, the performance data gathered included the total course score for each participant that completed at least five graded activities between April and August 2013. The research coordinator used the name of the participant to merge the data so that survey data and performance data are aligned for each participant. He/she then removed identifiers and forwarded to the research team. The sections below will briefly describe the specific data collection procedures for the IMI survey data and archival performance data.

IMI Survey Data

In order to gather data about participant intrinsic motivation, the employees were asked to complete an online survey. Participants were contacted via email, which provided an explanation of the study, directions for how to participate and a link to the online survey. This email included information about the purpose of the study, biography and contact details for the

research team and a description of any risks involved. The participants were asked to accept to a digital consent form that was shown as the first page of the survey. By entering their names and clicking “I accept” the participant granted consent to participate in the study. The researchers also received permission to conduct the study from the University of Houston Institutional Review Board (IRB) as well as the human resources and legal department of the search firm. The survey was confidential and no contact information will be linked to responses. The data from this survey will be stored in the survey website and downloaded into a password protected computer to which only the researchers have access. The online survey website enabled the researchers to compile the data into Microsoft Excel and SPSS databases. The survey was initially open for two weeks, but due to low response rate, remained open for an additional week. In total, the participants were contacted three times: the initial invitation, a reminder email sent at the end of the first week and a final reminder email at the end of the second week. The reminder emails were sent in an effort to increase response rate.

Performance Data

The research team collected activity scores from the e-learning management system by coordinating with the e-learning course administrator to retrieve performance data. The course administrator downloaded performance data from the e-learning management system. The performance data gathered included the total course score for each participant that has completed at least five graded activities between April and August 2013. The course administrator used the name of the participant to merge the survey and performance data so that data are aligned for each participant. He/she then removed identifiers and forwarded to the research team.

Data Analysis

The data was analyzed using Pearson product-moment correlation and Spearman rank-order correlation found in the statistical package SPSS. These are appropriate tests for the data because they allow the research team to look at relationships between variables (Pallant, 2007). Correlations were run against each variable as well as with demographic characteristics.

CHAPTER 4

RESULTS

Introduction

The purpose of this study was to explore the relationship between three dimensions of intrinsic motivation and their impact on engagement and performance in e-learning courses that were offered as part of workplace training for company employees. It also examined the relationship between these dimensions of intrinsic motivation. To do this, the researcher used a mixed-method research design to answer the research questions. First, an anonymous online survey (see Appendix A), adapted from the Intrinsic Motivation Inventory (IMI) developed by Ryan (1982), was distributed to participants. They were asked to complete three parts of the survey: 1) seventeen Likert-scaled questions about their motivation during the e-learning courses, 2) three open-ended questions developed by the researcher about factors that encouraged or discouraged participation, and 3) four demographic questions. The Likert-scaled and demographic survey questions were analyzed using Pearson product-moment correlation and Spearman rank-order correlation found in the statistical package SPSS. The open-ended questions were reviewed and coded based on prevalent themes, which were then analyzed to see if they aligned with the three dimensions of intrinsic motivation. Second, archival performance scores were collected from the e-learning management system including overall course grades.

Three questions guided this study:

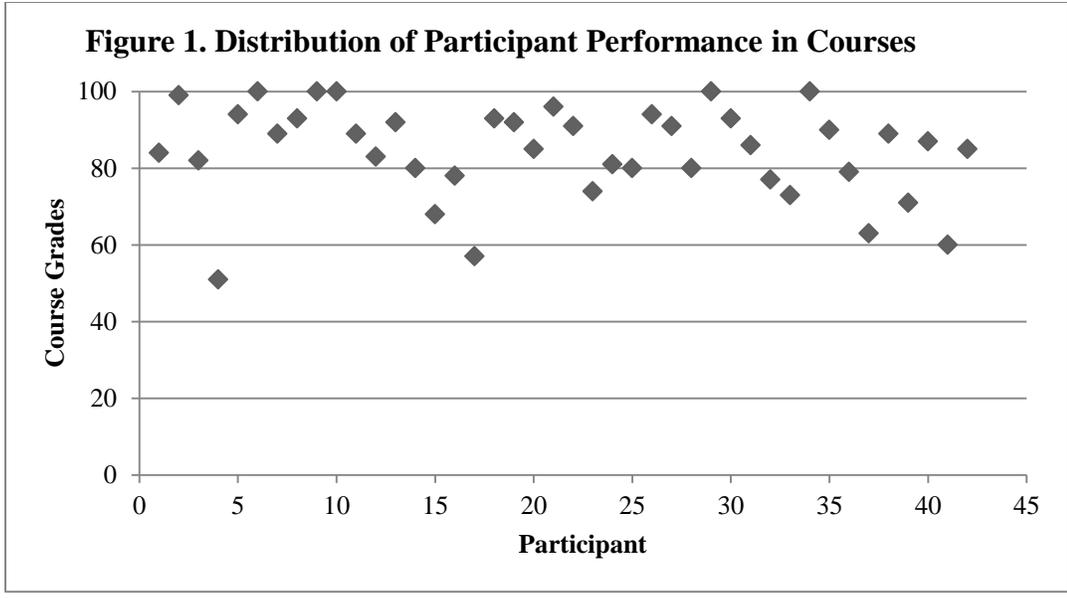
1. Do employees feel that interest/enjoyment, perceived choice, or pressure/tension motivate them to participate in course activities?
2. Do interest/enjoyment, perceived choice, and/or pressure/tension predict employee performance in self-directed, e-learning training courses in the workplace?
3. Do interest/enjoyment, perceived choice, and/or pressure/tension relate to each other?

The results of this study will be presented in this chapter. The data presented are based on the information provided by forty-five respondents who agreed to participate in the study and completed the survey. The response rate was 67%. The descriptive statistics summary, including demographic data of participants and scale details, is presented first followed by a separate section to present quantitative and qualitative results for each research question investigated.

Descriptive Statistics Summary

Demographics

Participants in this study were employees of a research department at an international executive search firm that actively participated in one of the three e-learning courses offered between April and August 2013. The survey was distributed in September 2013 to all participants who had completed at least five graded activities. Graded activities included worksheets, quizzes, lessons, and online assignments. The average course grade for all participants (N=41) was 84.5% with a standard deviation of 12.33. This standard deviation is slightly skewed because of an outlier. One participant scored 51%. When the outlier is removed, the course average changes to 85.3% with standard deviation of 11.1. See Figure 1 for a distribution of participant grades.



Sixty-eight employees were eligible to participate and received the survey invitation; forty-six responded which resulted in a 67% response rate. However, it is important to note that one respondent only completed eleven survey questions, thus was excluded from much of the analysis. Four demographic characteristics were recorded as part of the survey: gender, age, years of experience and geographic location. The majority of the participants were female between the ages of 25 and 34 with three years or less experience. The majority of participants were located in either North America or Europe. Table 4.1 offers a full record of demographic data.

Table 4.1
Demographic Characteristics of Participants (N=45)

Characteristic	Participants	
	Number	Percentage
Age		
18-24	11	24.4%
25-34	27	60.0%
35-44	6	13.3%
45-54	1	2.2%
55-64	0	0.0%
65-74	0	0.0%
75+	0	0.0%
Gender		
Female	33	73.3%
Male	12	26.7%
Years of experience		
Less than 1 year	10	22.2%
1-3 years	26	57.8%
3-5 years	6	13.3%
5-10 years	2	4.4%
More than 10 years	1	2.2%
Location		
Asia	6	13.3%
Europe	15	33.3%
Latin America	8	17.8%
North America	15	33.3%
No Answer	1	2.2%

Intrinsic Motivation Scales

The manipulation of data to develop the intrinsic motivation scales and the mean responses reported on each scale is presented in this section. The participants were asked to read a statement and mark how true it was based on their experience with course material on a seven-point Likert-scale where one indicated, “not true at all” and seven indicated, “very true.” A mean interest/enjoyment score was computed by averaging participants’ responses on the seven-item interest/enjoyment scale after reverse-coding one item. High scores on the interest/enjoyment scale indicate a high level of interest/enjoyment while completing course activities, while low scores indicate low levels of interest/enjoyment. The total interest/enjoyment scale had a mean

response of 4.38 (N=45) on the seven-point scale. This number suggests that the participants are slightly more interested than not while completing course activities.

A mean perceived choice score was computed by averaging participants' responses on the five-item perceived choice scale after reverse-coding the appropriate two items. High scores on the perceived choice scale indicate a high level of perceived choice while completing course activities, while low scores indicate little perceived choice. Mean response for the perceived choice scale was 4.28 (N=45) on a seven-point Likert scale, which suggests that participants felt as if they had slightly more choice than not while completing activities.

A mean pressure/tension score was computed by averaging participants' responses on the five-item pressure/tension scale after reverse-coding the appropriate two items. High scores on the pressure/tension scale indicated an intense feeling of pressure or tension while completing course activities, while low scores indicated feeling low levels of pressure or tension. The total pressure/tension scale had a mean of 2.58 (N=45) on a seven-point scale, which suggests that participants felt little pressure/tension during course activities.

Findings

The results of this study will be presented in order, beginning with Question One and concluding with Question Three. Each section will discuss results based on both the qualitative and quantitative analysis.

Results for Research Question One

The following section focuses on results obtained for the first research question: *Do employees feel that interest/enjoyment, perceived choice, or pressure/tension motivate them to participate in course activities?*

To answer Research Question One, the researcher asked participants to respond to three open-ended questions on the survey. Two questions asked the employees to report what motivated and encouraged them to participate in the e-learning course activities. The third question asked employees to report what discouraged or prevented them from participating in course activities. Responses from the open-ended questions were grouped and coded based on emergent themes. Those themes were then evaluated against the three dimensions of intrinsic motivation the researcher hoped to examine: interest/enjoyment, perceived choice, and pressure/tension. In addition to the open-ended questions, items within each intrinsic motivation scale were analyzed. The sections below discuss results for each independent variable individually. In addition, a separate section presents results that did not align to any of the intrinsic motivation dimensions but were prevalent throughout participant responses and are important to highlight.

Interest/enjoyment. In response to the inquiry, “Please describe what motivates you to participate in the e-learning course,” only three of the participants (6%) reported being motivated by having interest in the material or enjoying completing the activities. One participant stated, “It is an interesting tool,” while another noted, “I am interested in what the program has to offer.” In a follow-up question that asked about what encouraged employees to work on course activities, 24% (11) noted that they participated because some of the activities were interesting and being interested in the material encouraged them to work on activities. Participant comments included “Some parts of the program were very interesting for me,” and “some interesting presentations.”

Based on the responses to the interest/enjoyment scale questions, results showed that on average, participants felt somewhat interested. One scale item in particular supported this.

Participants were asked to use a seven-point Likert scale to respond to the statement *I thought the activities were very boring*. On this reverse-coded scale, a score of seven indicated participants did not feel the material was boring at all and a score of one indicated they felt the materials were very boring. Responses showed that participants did not feel very bored as represented by a mean of 5.22 on the seven-point scale. Table 4.2 shows the mean participant response for the survey questions that made up the interest/enjoyment scale.

Table 4.2
Descriptive Statistics for Interest/Enjoyment individual scale items

Question	Mean	SD	N
While I was working, I was thinking about how much I enjoyed it.	4.00	1.60	46
I found the activities very interesting.	4.80	1.51	46
Doing the activities was fun.	4.09	1.53	46
I enjoyed doing the activities very much.	3.91	1.73	46
I thought the activities were very boring (R)	5.22	1.65	46
I thought the activities were very interesting	4.62	1.51	45
I would describe the activities as very enjoyable	4.04	1.62	45

Note: (R) indicates the item was reverse-coded

In another open-ended question, participants were asked, “What factors prevented or discouraged you from working on course material.” In response, three participants (7%) reported that boring and uninteresting material was what primarily discouraged them from working on course activities. One of these participants stated, “The exercises weren’t always very interesting” while another participant responded, “The material was somewhat boring.” The other responses provided by participants were not related to interest or enjoyment.

Perceived choice. Eight percent (4) of participants noted that they felt as if they had no choice in completing course material, and a feeling of obligation motivated them to complete course activities. One participant stated, “I felt this training program must be part of our work.” In a separate question, participants were asked to, “Describe what encouraged you to work on course activities?” Four percent (2) of participants noted that they were required to complete the

activities as part of their responsibilities and it was this fact that encouraged them to participate in course activities. Participant comments included “I had to dedicate at least one hour a day to the material,” and “the ‘obligation’ factor.” No mention of obligation or work-based requirement was mentioned in the question that asked participants to explain what discouraged them from participating in the courses.

Table 4.3 shows the mean participant responses for each perceived choice question that made up the overall perceived choice scale. Results showed that, on average, participants felt that they somewhat had choice in participating in course activities.

Table 4.3

Descriptive Statistics for Perceived Choice individual scale items

Question	Mean	SD	N
I felt that it was my choice to do the activities	4.37	2.04	46
I didn't really have a choice about doing the activities (R)	4.46	2.03	46
I felt like I was doing what I wanted to do	4.24	1.67	45
I felt like I had to do the activities	3.89	1.85	45
I did the activity because I had no choice (R)	4.51	2.04	45

Note: (R) indicates the item was reverse coded

Pressure/tension. When asked to “describe what motivates you to participate in course activities,” 13% (6) of participants reported that pressure from management was the primary motivator. Several times, participants mentioned specifically that their “manager,” “team leader” or “management” were the only thing that motivated them to work on course activities. In a follow-up question that asked participants to “describe what encourages them to complete course activities,” eight percent (4) of participants reported that the pressure they received from management encouraged them. This eight percent includes two participants that also mentioned pressure as a motivator in the previous question discussed. One participant mentioned that “employer prodding” was what encouraged them, whereas another participant reported “manager reminders” as their encouragement. When asked, “What factors prevented or

discouraged you from working on course activities,” no participants mentioned feelings of pressure or tension as a preventative or discouraging factor.

Table 4.4 reports quantitative data obtained from responses on the seven-point Likert-scale survey questions. It shows the mean participant responses for the survey questions that made up the pressure/tension scale. Results suggest that, on average, participants felt relatively low levels of pressure when completing activities. Notably on the question that asked about anxiety during course activities, results suggest that participants did not feel anxious while completing the material as demonstrated by a mean score of 2.37.

Table 4.4

Descriptive Statistics for Pressure/Tension individual scale items

Question	Mean	SD	N
I did not feel at all nervous about completing the activities (R)	2.98	2.07	46
I felt tense while doing the activities	3.02	1.68	46
I felt relaxed while doing the activities (R)	3.35	1.55	46
I was anxious while doing the activities	2.37	1.38	46
I felt pressured while doing the activities	2.64	1.52	45

Note: R indicates the item was reverse coded

Additional themes. Because analysis for this question included three free-responses questions, additional themes were found in the responses during analysis. While none of these themes aligned with the independent variables, they are important to highlight as they do describe what motivated, encouraged, and discouraged employees to participate in course activities. These themes are discussed in two categories: those that described what motivated an employee to complete course activities and those that described what discouraged an employee.

Motivating and encouraging themes. The researcher developed three themes from participant responses to the questions about what encouraged them to work on course activities. The most prevalent motivating theme was related to personal development and professional growth. When asked what motivated them, 71% (32) of participants stated that skill

development and personal growth was the primary motivator. Relatedly, in a follow-up question, 49% (22) of participants stated that skill development and learning more were encouraging factors. The second motivating theme found was related to professional or career growth. Eighteen percent (8) recorded professional or career growth as the motivator for participating in the e-learning courses. The final motivating theme was related to feeling a sense of validation and obtaining proof of their skill level. When asked what motivated them, 11% (5) of participants noted that obtaining a measurement of their skill level was a primary motivator. Similar results were found when asked about what encouraged participants; sixteen percent (7) of participants stated that obtaining high scores and seeing their results were encouraging. Table 4.5 lists participant quotes describing these three motivating themes.

Table 4.5

Participant quotes describing motivating themes

(N=45)	Quotes
Skill development and personal growth	<i>To improve my skills in regards to acquire a deeper knowledge of the business environment surrounding the recruiting industry I was hoping to learn something that would be beneficial for myself</i>
Professional growth	<i>The possibility of it helping my career at 'review' time ...but more importantly preparing me for the next level in my career</i>
Validation	<i>I'd like to check whether I know as much as I think I know The fact that I could see result of my work and this compared to what I thought my results were</i>

Discouraging themes. Participants indicated there were three factors that discouraged them from working on course activities: time commitment, content difficulty level, and having to complete assessments. When asked about what discouraged or prevented them from completing course activities, the majority of participants (73%) stated that the time commitment and amount

of effort required to complete the activities was discouraging and prevented them from participating in course activities. Because this is such a large percentage of the sample, it is important to note that this means some participants mentioned being encouraged and discouraged at the same time by different factors. Additionally, six participants (13%) reported that the low difficulty level of the material was discouraging. Finally, 9% (4) of employees felt that being measured and having to take assessments were discouraging. Table 4.6 lists participant quotes describing these demotivating themes.

Table 4.6

Participant quotes describing motivating and demotivating themes

(N=45)	Quotes
Time commitment	<i>The fact that it take a lot of time to make some real progress</i> <i>Well sometimes it is not that easy to find time for [the training course] because of our workload</i>
Difficulty level	<i>Most of the tasks involve everyday tasks I perform</i> <i>Endless tasks that are very well known to me</i>
Assessments	<i>The test at the end</i>

Results for Research Question Two

The following section focuses on results obtained for the second research question: *Do interest/enjoyment, perceived choice, and/or pressure/tension predict employee performance in self-directed, e-learning training courses in the workplace?*

Research Question Two examined the relationship between performance in the e-learning course and an individual's interest/enjoyment, perceived choice or pressure/tension while completing activities within the course. Seventeen questions asked the participants to rate the extent to which they agree with statements about interest, perceived choice, and pressure while completing e-learning activities. Seven questions made up the interest/enjoyment scale; five questions made up the perceived choice scale; and five questions made up the pressure/tension

scale. Course grades were used to measure employee performance. See Appendix B for a list of questions for each scale.

The relationship between performance and each of the intrinsic motivation scales was investigated initially using the Pearson product-moment correlation coefficient. A separate correlation was run for each independent variable. Results show that there were no significant relationships between performance and any intrinsic motivation dimension. Table 4.7 shows the correlation matrix for this analysis.

Table 4.7

Correlations Between Intrinsic Motivation Scales and Performance

	1	2	3	4
1. Grade	-			
2. Interest/enjoyment scale	.059	-		
3. Perceived choice scale	-.012	.498**	-	
4. Pressure/tension scale	-.204	-.465**	-.526**	-

Note: ** significant at $p < 0.01$ level

Because there was no significant relationship between performance and any of the dimensions of intrinsic motivation, further statistical tests were not performed to evaluate any predictive relationship between variables.

As an exploratory analysis, however, the relationship between performance and the individual items within each of the intrinsic motivation scales was investigated using Pearson product-moment correlation coefficient. There was a moderately significant negative relationship found between performance and feeling tense while completing course activities, $r(39) = -.379$, $p = .01$, with high levels of tension relating to lower course grades. This analysis suggests that the more tense an employee felt while completing course activities, the lower they scored on graded activities in the course. No other significant relationships were found.

Results for Research Question Three

The following section focuses on results obtained for the third research question: *Do interest/enjoyment, perceived choice, and/or pressure/tension relate to each other?*

Research Question Three examined the relationship between the three intrinsic motivation dimensions: interest/enjoyment, perceived choice or pressure/tension. The relationship between the three intrinsic motivation dimensions was investigated using Pearson product-moment correlation coefficient at two levels. First, inter-correlations were run for the intrinsic motivation scales. Second, correlations were run for individual items that made up each scale.

Several significant relationships were found as a result of correlational analysis between intrinsic motivation scales. There was a moderate, positive correlation between the interest/enjoyment scale and the perceived choice scale, $r(43) = .498, p=.001$, with high levels of interest and enjoyment associated with high levels of perceived choice. There was also a strong, negative correlation between the pressure/tension scale and the perceived choice scale, $r(43) = -.526, p=.001$, with high levels of pressure associated with low levels of perceived choice. There was also a moderate, negative correlation between the pressure/tension scale and the interest/enjoyment scale, $r(43) = -.465, p=.001$, with high levels of pressure/tension associated with low levels of interest and enjoyment. Table 4.8 shows the results of this analysis.

Table 4.8
Correlation between Scales of Intrinsic Motivation (n=45)

	1	2	3
1. Interest/enjoyment scale	-		
2. Perceived Choice scale	.498**	-	
3. Pressure/tension scale	-.465**	-.526**	-

Note: ** significant at $p < 0.001$ level

In the second analysis, correlations were run to compare individual items within each scale. This was done to explore the relationships in more depth. There were several significant relationships found when interest/enjoyment individual items were examined against perceived choice. All significant relationships found were positive and at least moderate in strength. See Table 4.9 for a detailed breakdown of the correlations for the individual interest/enjoyment scale items and perceived choice scale items. One perceived choice item, *I felt like I was doing what I wanted to do*, had a strong positive significant relationship with four of the interest/enjoyment scale items. Additionally, several items within the perceived choice scale showed a moderate, positive significant relationship with several interest/enjoyment items.

Table 4.9
Summary of Intercorrelation for Interest/Enjoyment Items and Perceived Choice Items

	1	2	3	4	5	6	7	8	9	10	11	12
1. While I was working, I was thinking about how much I enjoyed it.	-											
2. I found the activities very interesting.	.695**	-										
3. Doing the activities was fun.	.742**	.818**	-									
4. I enjoyed doing the activities very much.	.766**	.799**	.868**	-								
5. I thought the activities were very boring	.655**	.626**	.710**	.692**	-							
6. I thought the activities were very interesting	.622**	.656**	.720**	.691**	.469**	-						
7. I would describe the activities as very enjoyable	.825**	.809**	.856**	.892**	.728**	.739**	-					
8. I felt that it was my choice to do the activities	.480**	.488**	.575**	.580**	.318*	.536**	.508**	-				
9. I didn't really have a choice about doing the activities	.253	.148	.315*	.348*	.410**	.256	.263	.608**	-			
10. I felt like I was doing what I wanted to do	.547**	.486**	.693**	.662**	.363*	.715**	.651*	.833**	.588**	-		
11. I felt like I had to do the activities	-.077	.040	.076	.117	.083	.168	.017	.372*	.512**	.334*	-	
12. I did the activity because I had no choice	.328*	.303*	.399**	.412**	.327*	.388**	.357*	.647**	.672**	.644*	.457**	-

Note: ** significant at $p < 0.01$ level, * is significant at the $p < .05$ level

Results also showed several significant relationships when the interest/enjoyment individual items were examined against the pressure/tension individual scale items. All pressure/tension items had significant negative relationships with interest/enjoyment items, except for the item that asked *I felt tense while doing the activities*. The pressure/tension item *I felt relaxed while completing the materials* had a strong negative significant relationship with two interest/enjoyment items. There was a strong relationship between *I felt relaxed* and *I thought the activities were very interesting*, $r(43)=-.618$, $p=.01$, with high levels of relaxation relating to low levels of interest. There was also a strong relationship between *I felt relaxed* and *I would describe the activities as very enjoyable*, $r(43)=-.430$, $p=.01$, with high levels of relaxation relating to low levels of enjoyment. Table 4.10 shows the results of the correlation between individual interest/enjoyment items and pressure/tension items.

Table 4.10
Summary of Intercorrelation for Interest/Enjoyment Items and Pressure/Tension Items

	1	2	3	4	5	6	7	8	9	10	11	12
1. While I was working, I was thinking about how much I enjoyed it.	-											
2. I found the activities very interesting.	.695**	-										
3. Doing the activities was fun.	.742**	.818**	-									
4. I enjoyed doing the activities very much.	.766**	.799**	.868**	-								
5. I thought the activities were very boring	.665**	.626**	.710**	.692**	-							
6. I thought the activities were very interesting	.622**	.656**	.720**	.691**	.469**	-						
7. I would describe the activities as very enjoyable	.825**	.809**	.856**	.892**	.728**	.622**	-					
8. I did not feel at all nervous about completing the activities	-.429**	-.416**	-.346*	-.383**	-.130	-.540**	-.342*	-				
9. I felt tense while doing the activities	-.042	.090	-.053	-.053	.096	-.111	-.033	.109	-			
10. I felt relaxed while doing the activities	-.381**	-.495**	-.485**	-.507**	-.259	-.618**	-.430**	.631**	.167	-		
11. I was anxious while doing the activities	-.365*	-.445**	-.343*	-.351*	-.193	-.471**	-.291	.544**	.120	.671**	-	
12. I felt pressured while doing the activities	-.271	-.274	-.200	-.245	-.143	-.306*	-.287	.357*	.077	.423**	.608**	-

Note: ** significant at $p < 0.01$ level, * is significant at the $p < 0.05$ level

There were also several significant relationships found when pressure/tension individual items were examined against perceived choice individual items. All perceived choice items had a moderate negative relationship with at least one pressure/tension item. There were also several strong relationships. There was a strong relationship between *I felt like I was doing what I wanted to do* and *I felt relaxed*, $r(43)=-.558$, $p=.01$, with high levels of relaxation relating to low levels of interest. There was also a strong relationship between *I felt anxious* and *I felt that it was my choice*, $r(43)=-.524$, $p=.01$, with high levels of anxiety relating to low levels of perceived choice. Table 4.11 shows the results of the correlation between individual pressure/tension items and perceived choice items.

Table 4.11
Perceived Choice Items and relationship to pressure/tension items

	1	2	3	4	5	6	7	8	9	10
1. I felt that it was my choice to do the activities	-									
2. I didn't really have a choice about doing the activities	.608**	-								
3. I felt like I was doing what I wanted to do	.833**	.558**	-							
4. I felt like I had to do the activities	.372*	.512**	.334*	-						
5. I did the activity because I had no choice	.647**	.674**	.664**	.457**	-					
6. I did not feel at all nervous about completing the activities	-.438**	-.155	-.470**	-.053	-.171	-				
7. I felt tense while doing the activities	-.022	.102	-.031	-.030	-.010	.109	-			
8. I felt relaxed while doing the activities	.489**	-.294**	-.558**	-.143	-.432**	.631**	.167	-		
9. I was anxious while doing the activities	-.524**	-.389**	-.490**	-.302*	-.533**	.544**	.120	.671**	-	
10. I felt pressured while doing the activities	-.497*	-.499**	-.439**	-.355*	-.576**	.357**	.077	.423**	.608**	-

Note: ** significant at $p < 0.01$ level, * is significant at the $p < 0.05$ level

Intercorrelations

The researcher also investigated the relationship between dimensions of intrinsic motivation and demographic characteristics using Spearman rank-order correlation coefficient. Correlations were run for each independent variable (intrinsic motivation scales) and the demographic characteristics. Results showed that there was a significant relationship between participant location and their level of interest/enjoyment in completing course activities, $r(43)=.378, p=.01$, with participants located in Latin America and North America indicating higher levels of interest/enjoyment. Results also showed a significant negative relationship between location and the level of pressure/tension felt during completion of course activities, $r(43)= -.380, p=.05$, with participants in Asia and Europe describing higher levels of pressure/tension felt. Results also showed that there was a significant relationship between participant age and their level of interest/enjoyment in completing course activities, $r=.324(43), p=.01$, with participants who were older indicating higher levels of interest/enjoyment. See Table 4.12 for the results of the correlations between each of the demographic characteristics and performance in the e-learning courses.

Table 4.12

Correlations between intrinsic motivation scales and demographic characteristics

	1	2	3	4	5	6	7
1. Interest/enjoyment scale	-						
2. Perceived Choice scale	.498**	-					
3. Pressure/Tension scale	-.465**	-.526**	-				
4. Age	.324*	.075	.28	-			
5. Gender	-.133	-.092	.012	.015	-		
6. Years of Experience	-.070	-.140	.050	.352*	.047	-	
7. Location	.378*	.261	-.380**	.584**	.144	.372*	-

Note: ** significant at $p<0.01$ level, * is significant at the $p<.05$ level

Summary

Quantitative research findings indicate that there were no significant relationships between any of the dimensions of intrinsic motivation and performance in e-learning courses. There were significant relationships, however, between the dimensions of intrinsic motivation, suggesting that the more interested a participant was, the less pressured they felt and the more choice they perceived. Additionally, the more choice a participant perceived they had, the less pressured they felt. There were also significant relationships between individual items that make up the intrinsic motivation scales. Qualitative research findings provided insights into what motivated and demotivated employees to participate in the e-learning courses. Results showed that interest/enjoyment encouraged and motivated a small percentage of participants to work on course material. Participants also indicated that they felt pressure from management to participate in the e-learning courses, and the lack of perceived choice discouraged them from doing so.

Chapter Five will discuss and analyze the study findings, offer some conclusions based on the data and provide implications of the results. It will also discuss study limitations and areas for future research.

CHAPTER 5

DISCUSSION

A Note from the Researcher

Before discussing the findings of this study and the implications for organizations that use e-learning for employee training, it is important to provide a disclaimer. As the researcher of this study, I am also an employee of the search firm used in this study. Every possible measure was taken to minimize feelings of coercion, and all appropriate approvals were received from the University of Houston Institutional Review Board and the search firm's legal department. However, because of my employment with the search firm, I have unique insight into the sample of this study and the overall context with which the participants interacted with the e-learning courses that go beyond the survey results. Throughout the discussion of findings, there may be points where I provide additional insight into or possible explanations for the findings based on my experience within the organization. These points will be clearly defined as personal experiences. However, these insights will only play a secondary role in analyzing and understanding the findings.

Introduction

E-learning is being used in organizations more than ever before. With the advances made in learning technology, e-learning offers many benefits such as cost effectiveness, opportunities for new forms of interaction, and worldwide accessibility (Buxton & DeMuth, 2012; Chen & Kao, 2012; Cheng et al., 2012; Hwang, 2010). However, few organizations have actually examined how the use of e-learning can influence an employee's level of motivation and performance on activities in workplace training (Cheng, et al., 2012). Additionally, few

organizations have explored dimensions of intrinsic motivation within the e-learning context. This study found that there was no significant relationship between indicators of intrinsic motivation and performance in e-learning courses; however, analyses did find significant relationships among three dimensions of intrinsic motivation: interest/enjoyment, perceived choice, and pressure/tension. Furthermore, results from qualitative analyses suggested that interest in an activity influenced an employee's level of motivation. In addition, results indicated that the pressure employees felt from their management and low levels of perceived choice negatively influenced their level of engagement in course activities. An interpretation of study findings and a discussion of implications these findings may have will be presented in this chapter. This chapter will also include a discussion of study limitations as well as recommendations for future research.

Summary of Study

This study sought to explore the intrinsic motivations of participants and the relationship between motivation and performance in e-learning courses through the following three questions:

1. Do employees feel that interest/enjoyment, perceived choice, or pressure/tension motivate them to participate in course activities?
2. Do interest/enjoyment, perceived choice, and/or pressure/tension predict employee performance in self-directed, e-learning training courses in the workplace?
3. Do interest/enjoyment, perceived choice, and/or pressure/tension relate to each other?

Employees who worked for an international executive search firm within a specific department were the focus of this study. In order to be eligible, an employee must have been active in at least one of three web-based courses during a five-month timeframe from April to August in 2013. Eligible employees were invited to complete a confidential online survey about their

motivations and experiences while completing course activities. This survey was adapted, with permission, from Ryan's (1982) Intrinsic Motivation Inventory (IMI). Information collected by the survey included motivation data and demographic characteristics. Forty-five employees responded to the survey, which resulted in a 67% response rate. Once agreeing to participate, the employees also gave permission for the company to release their overall course grades to the researcher so that the relationship between motivation and performance could be analyzed. These data were downloaded from the e-learning management system and consisted of overall course scores from the e-learning management system that holds the three e-learning courses.

Summary of Findings

The following sections present discussion of the findings of this study, starting with those related to demographic characteristics. Following that discussion, the findings for each research question will be discussed in order. Examination of additional findings unrelated to the three research questions will also be presented in an additional section.

Demographic Findings

Analysis of demographic characteristics provided several interesting findings. The age of participants and their years of experience in the recruiting industry were positively skewed. Most participants were younger than 35 and had three years or less of experience in the recruiting industry. It makes sense that these two characteristics would show the same kind of skewed distribution; younger employees will predictably have less experience. Some could argue that this distribution is surprising if accounting for the overall search firm population, which includes employees who have been in the recruiting industry for decades and have many years of tenure with the organization; however, this is expected for this study and its sample. All participants are from one department within the search firm. This department has only been operational for three years and acts in a support role for internal projects. Because of this,

employees are likely to be young and entry-level, coming straight from graduation at a college or university, or are new to the recruiting industry. Additionally, the e-learning courses evaluated in this study were for basic skill development, and older participants would likely not need the training in order to succeed; they would likely already have that level of knowledge. It is possible that the distribution may have looked more normally distributed if this study asked participants about their years of experience in the general workforce instead of specifically in the recruiting industry. However, due to the structure of the organization and the supporting role in which this department holds, this skewed distribution is considered normal and will remain so as long as the department's responsibilities remain the same within the organization.

There was also an interesting finding between the levels of pressure felt by employees, their level of interest reported and their workplace location. Employees who lived in Latin America and North America reported higher levels of interest in course material. Those same thirty employees also reported lower levels of pressure in comparison to employees in Europe and Asia.

Looking at the relationship between interest and perceived choice, it is understandable that employees who feel as if they are pressured to complete course activities and feel tense while completing those activities would be less likely to find the material interesting. Instead of focusing on the content or the activity itself, employees would be more focused on simply completing the activity in order to remove the pressure they feel. Research has shown that support for learning increases a learner's motivation and interest in learning (Buxton & DeMuth, 2012; Keller & Suzuki, 2004; Rigby, et al., 1992). The culture of the department will also influence learning. Ellinger (2005) noted that "culture permeates every phase of the learning process" (p. 392), and the culture that is created by management within each location will

influence how those employees approach and complete learning. In this study, the location of the workplace influenced interest and choice; employees in Latin America and North America perceived that they had more interest and felt less pressure. From my professional experience with these employees outside of this study, these findings make sense. The management teams in Europe and Asia is much more hands-on than those in Latin America and North America, and training goals are routinely discussed with their employees. In my experience, employees who are located in Europe and Asia definitely feel more pressure from their management team.

A final noteworthy demographic finding relates to results that indicated employees who were younger reported less interest in the e-learning material. Previous research has found similar results. According to Kim and Frick (2011), older learners were more likely to be motivated and interested in self-directed e-learning. It makes sense that older employees would prefer to learn at their own pace since self-regulation skills are difficult to develop (Kim & Frick, 2011). Self-regulation is the ability to use strategies such as self-monitoring, self-evaluation and goal setting that allow a learner to manage their own learning (Zimmerman, 2000). These skills are more likely to be more fully developed in older employees who have likely had experience learning in the workplace and working more independently than younger employees have (Kim & Frick, 2011). Another reason for this may stem from generational differences between employees younger than 25 and those older. Because younger employees have grown up in a technology-rich environment, it may take a different kind of activity to keep their interest, whereas older employees may have a higher level of interest simply because they are using technology to learn. Guzley, Avancino and Bor (2006) found that for some learners, technology itself is a motivational tool.

Findings for Research Question One

Research Question One examined each of the dimensions of intrinsic motivation to see if they motivated or demotivated employees while they work on activities in e-learning courses. This question was primarily answered using participants' responses to open-ended questions in the survey, and the results suggest that interest was a motivator for only a small percentage of employees to participate in the e-learning courses. Instead of interest, most participants mentioned that pressure to participate or the chance to grow in their career as their main source of motivation. From my professional experience with these employees, few are interested in participating in workplace training. The survey itself had to be extended an additional week because of low response rate, which could be explained by low interest overall in the training courses. Not taking time to provide feedback can be one way to show a lack of interest. However, there are a number of possible factors such as pressure from management, or availability to participate that could have impacted the employees' ability to fill out survey.

When asked about their motivations to participate in course activities, some employees noted that they felt as if they had no choice in completing activities because the training was a requirement. Taking into consideration that this study examined employees in a work context, this is an expected response. The perceived control an employee feels about participating in workplace learning will influence the how that employee chooses to engage in learning activities (Langan-Fox et al., 2002). As an employee of the organization, I know that these training courses were launched as part of a global training program that each employee was required to complete. This provides some explanation to why employees felt little choice. Additionally, research has found repeatedly that perceived choice has a large impact on a learner's intrinsic motivation (Patall, et al., 2008; Roca & Gagne, 2008; Ryan, 1982; Schroff & Vogul, 2007;

Schroff et al., 2007). It is important to note that in the Likert-scaled survey questions, the majority of employees reported that they felt as if they did have some level of choice in completing course activities. While this conflicts with other study findings, it could be explained by looking at it in from what the questions asked as well as from the employees' perspective. The Likert-scale survey questions asked pointedly about activities within the course, whereas the open-ended questions asked about the overall course as well as material within the course. Because of this, when answering the survey questions employees may have been answering with a different perspective depending on the question they were reading. In all three courses, material is structured in such a way that learners can choose what they want to complete and when they want to complete it. Schroff and Vogul stated (2007) that technology allows learners an increased opportunity to make choices in their own learning and engage in learning in a new way (Clark, 2010). Possibly, if the organization utilized more technology and expanded the training catalog for these employees, they may feel as if they have more choice in skill development and consequently have more motivation to learn.

In alignment with results about low levels of perceived choice, many of the employees reported feeling pressured to complete course material. Specifically, employees felt as if their management was pressuring them to participate. For example, several employees mentioned that their managers sent routine reminders to prompt them to participate in the course. One employee even described these reminders as "prodding" which gives the impression that management had to urge employees strongly. While this type of influence may work in the end for some employees, it does not promote motivation. Cheng and his colleagues (2011) called this 'social influence,' and it may affect the way learning happens. When a learner feels as if they must complete an activity, it will likely influence their engagement and performance (Hwang, 2010).

While this question did not look at whether this level of pressure influenced performance, research suggests that these feelings of pressure could affect performance. Keller and Suzuki (2004) found that the pressure a learner feels could lead to lack of motivation and even a higher rate of drop out, especially in e-learning courses. The pressure employees' felt also relates to its origination; pressure can be internally or externally driven (Rigby et al., 1992). All participants who mentioned pressure in their open-ended responses indicated it mainly derived from external pressure. No employees mentioned any form of pressure that was self-imposed; rather, pressure came only from their management. This type of pressure may be related to a level of compliance the employees feel in which they complete course activities only because of some external reward or punishment (Hwang, 2010). This is an interesting finding because so many employees noted they completed the courses in order to better their careers. It would be reasonable to think employees may also put some form of intrinsic pressure on themselves to participate in course activities; however, no survey responses mentioned internal pressure.

Findings for Research Question Two

Research Question Two examined the relationship between the independent variables and performance in the e-learning courses. Specifically, this question looked for any predictive relationships amongst the variables. Analysis showed that there were no predictive relationships between any dimension of intrinsic motivation and performance. While these findings do not align with past research, they can be explained by the small sample size. Having fewer than 50 participants made it difficult to find any type of statistically significant relationships, especially predictive ones. Another explanation could be that the distribution of grades was skewed. Most employees scored 84% or higher in the courses; thus, there was not a normal bell curve and

distribution. Because some statistical tests require a normal distribution to run appropriate, it was more challenging for this study to explore the data (Field, 2009).

However, because no relationship was found between the intrinsic motivation scales and performance, this study performed exploratory analysis to see if there were relationships between individual items that made up each of the intrinsic motivation scales and performance in the e-learning course. One significant relationship was found between performance and feeling tense. Findings suggest that the more tension an employee felt while completing course activities, the lower they scored on graded activities. This is an expected result and is in agreement with past research. Vansteenkiste and colleagues (2004) found that when employees feel pressure and tension while completing learning activities, they are less engaged. Less engagement typically results in worse performance. When an employee is feeling as if they are pressured into performing and feel tense, his or her working memory is taxed. Instead of focusing completely on the learning activities, that employee's memory is focused on their emotions and thoughts about how tense they feel. Several research studies have found that emotions influence performance, motivation and learning, thus supporting these conclusions (Pekrun, 2011; Randler et al., 2012). The organization should take notice of this importing finding. Changing the way learning is supported could increase the actual learning that happens.

Findings for Research Question Three

Research Question Three examined the relationship between the three intrinsic motivation dimensions. Analysis showed that there were several significant relationships. The most significant results will be discussed in this section.

Results showed there was a significant negative relationship between the amounts of pressure an employee felt and the level of perceived choice reported. This suggests that the more

choice an employee believed he or she had, the less pressure, and tension was felt to complete course activities. This finding is expected and in line with past research. Schroff and Vogel (2009) found in their study of motivation that a learner who feels as if they have choice in what or how they learn would also feel less pressure to participate in the learning activity. A controlling environment in which employees have little choice leads to higher levels of pressure felt by employees (Ryan, 1982). The more choice and freedom an employee feels while learning would mean that they do not feel pressured.

Results also showed there was a positive relationship between the levels of interest and enjoyment an employee felt while completing course activity and the choice they believed they had. The more interested an employee felt the more choice they also felt they had. This finding suggests that if organizations provide employees with more freedom to choose what they learn, how they learn, or when they learn, employees may feel more interested in the material. This increased interest may lead to higher levels of engagement and performance. This is also an expected finding. Flowerday and Schraw (2003) as well as Patall and colleagues (2008) found that when learners feel as if they have choice, motivation to learn will then come from their personal interest in the material or activity. When the training activity removes the opportunity for learners to choose and feel as if they have some form of control, it lowers an individual's level of interest and intrinsic motivation (Iyengar & Lepper, 1999).

Findings also suggest that the more interest an employee felt toward the activities, the less pressure and tension they felt. This suggests that if employees do not receive pressure to learn, they will have higher levels of interest in the material. This is similar to the findings related with perceived choice and is expected. Creating an environment that encourages learning instead of pressuring employees to learn will result in more skill development. If the culture

supports and guides learning, the more likely it is that an individual will want to learn (Ellinger, 2005; Mahal, 2009; Rigby et al., 1992).

Additional Findings

Because participants responded to three open-ended questions as part of the survey, several important findings need to be discussed even though they do not align to one of the study's research questions. These qualitative responses provide additional insight into what motivates and demotivates employees to participate in course activities.

When asked about what motivates and encourages them to participate in course activities, the majority of participants reported the biggest motivator was personal or professional growth. Based on participant responses, personal growth can be defined as developing skills needed to perform better in their role; professional growth can be defined as gaining promotion to the next level within the organization. This type of response is expected for training delivered to adults in the workplace. Hidi (1990) as well as Sansone and colleagues (2011) found that the value an adult sees in learning has a major impact on motivation. The more value seen in completing a learning activity, the more likely that individual will be motivated to engage and complete the activity (Chiaburu & Lindsay, 2008; Sansone, 2011). Especially for the department in this study where many of the employees are in the early years of their careers, it is understandable that many of the participants want to move beyond their entry-level role and take on more responsibility. If the organization wanted to meet the motivational needs of these employees, it would be strategic to integrate these e-learning training courses into an overall performance and career management program. By doing this, it may be clearer to employees that successful completion of these e-learning courses could help them get to the next level in their career.

Creating a clear connection between organizational value and personal value will increase engagement in workplace learning activities (Houde, 2006).

Several employees also stated that they were motivated to participate in course activities because they wanted to gain some sort of validation or recognition of their skill level. This finding relates to the research completed by Rossett and Marshall (2010) who proposed that adult learning today is results-based, in which employees are focused more on the outcome and less on actual learning. More than reaching the goal of finishing the course with a passing score, the employees in this study wanted others to recognize their completion. This can be categorized as extrinsic motivation. These findings suggest that employees are looking for praise or some sort of reward for their accomplishment, which could come from either management or fellow colleagues. This is an expected feeling for employees. Short (2007) found that employees want to be recognized, on some level, by management for accomplishments. One employee commented specifically that s/he wanted to be the best in his/her team; another mentioned that friendly competition was the motivating factor. Whereas some past research showed that competition could cause lower levels of motivation and performance (Ashton, 2004; Ellinger, 2005; Schroff & Vogel, 2009), this study found that employees who are competing have higher levels of motivation. Creating a formal recognition program could leverage this motivation and increase performance in training. However, it is important to remember that while this was a significant finding, this study had a small sample size and cannot easily be generalizable to the larger employee population.

Time commitment was also a major theme found in the open-ended responses. Employees reported that the time required to complete the materials was a major motivational discouragement. The responses suggested employees felt as if they were unable to juggle their

day-to-day responsibilities and participate in the e-learning courses within a given 40-hour business week. This is supported by past research. Ellinger (2005) found that lack of time and too many responsibilities inhibits learning. From my experience with these employees, this finding is not unexpected. These employees are typically supporting several projects at one time and have high key performance indicators to meet. Because of this, they do not typically have a lot of time to spend on training or skill development. While this finding does not answer one of this study's research questions, it has practical importance for the organization. The management team should look at these findings and see that they need to better support learning initiatives so that employees feel as if they can take advantage of what is available. In addition, instructional designers and trainers should consider the time commitment a typical employee can devote to training on a routine basis and update the course material accordingly. It would be interesting to see what would happen if time commitment was not such a large discouraging factor for these employees.

Implications

Results of this study provided some valuable insights into what motivates employees intrinsically to participate in e-learning courses. There are implications for the broader workplace learning community as well as for the specific organization in this study. Both levels of implication will be discussed in this section. While there are some major limitations to this study because of small sample size, it is important to understand that the results and implications of this study will actually be used within the organization to better e-learning programs.

Specifically for the search firm in this study, there are two main implications. First, several people within the organization should review the findings from this study in order to enhance workplace training to meet the motivational needs of their employees. These

individuals include the instructional designers who create training, and those that deliver the training, as well as the management team that supports employees during these learning opportunities. This study found that feelings of pressure do in fact influence employee motivation to perform and reduce an employee's level of interest in training material. Creating a culture that supports learning and provides employees some choice in what or how they learn could lead to more effective and more enjoyable learning experiences for employees. This could in turn lead to higher levels of transfer in which employees use what they have learned in their day-to-day work. Second, the study found that time commitment was a major discouraging factor for employees. Because of this, the instructional designer, along with management within the department, should reevaluate the training courses and the expectations put on employees to complete course material. This evaluation may result in allowing employees more time to complete course activities during the work week or could result in a reduction in the number of activities that have to be completed as part of course requirements. Making these types of changes could improve employees' experiences with the course and may increase motivation.

For the broader audience, there are some implications for organizations that use e-learning to provide workplace training for their employees. Leadership and management teams within these organizations should review the findings of this study to help them create a supportive, low-pressure environment that supports learning. The findings of this study suggest that feeling pressured or without a choice lowers an employee's interest and motivation to learn. By creating a culture that promotes learning in a low-pressure environment, organizations are likely to see an increase in engagement in learning activities and a visible transfer of skills in employee performance.

Limitations

It should be acknowledged that there are some limitations to this study. The limitations of this study will be discussed in terms of sample size, inclusion criteria, and research design and analysis.

First, the results of this study are not generalizable because of the targeted population and small sample size. On the broader scale, this study only examined one department and one role within the organization. Additionally, it only looked at self-directed e-learning courses. It is hard to generalize to the broader e-learning community because the activities in these courses rely on asynchronous learning, and many e-learning courses include some synchronous learning activities. The results of this study are limited to this specific type of learning environment. Furthermore, this study included only adult learners in a work environment. The results cannot be generalized to younger learners or adult learners in a school environment (e.g. community college). The context in which participants of this study learned is much different from others who may be in a more structured environment, such as in a school. Additionally, this study is limited by other characteristics of the sample including age, years of experience, geographic location, and role within the organization. Each of these characteristics makes it difficult to generalize to the larger audience. On the narrower scale, the small sample size influenced not only the statistical analyses that could be completed, but also the ability to generalize to a larger population. Because of the number of participants, analyses had to utilize qualitative data and exploratory statistical analysis to answer the research questions.

A second limitation of this study is the inclusion criteria used to identify eligible employees. A decision was made by the researcher to use a minimum of five graded activities as the cut off for eligibility for employees to participate in the study. The number five was selected

because it represented progression within the course. In addition, because of the criterion selected, the number of employees eligible to participate decreased substantially from overall population numbers. If the researcher had reduced the number of activities required to participate, e.g. three graded activities, the study's N would have increased and the chance to find a significant relationship between variables would have increased as well. However, it is important to note that this decision would have come with some negative consequences. Completing fewer activities would mean that employees had less interaction with the course materials and would be answering questions based on limited experiences with e-learning.

A third limitation to this study relates to the research design. Because the study was conducted using a self-report survey, there is a limitation of relying on the truthfulness of the participants. Relatedly, there is a possibility that some of the respondents answered survey questions with bias. Despite all precautions taken from a study design perspective to reduce feelings of coercion, some participants may fear that their responses would be read by their management and could affect their job. These feelings could have skewed the results.

A fourth limitation is related to research analysis. It is important to acknowledge that despite the small sample size, a lot of statistical tests were run. This increases the chance of Type 1 error and could have been the reason we were able to find some of our significant findings. Consideration was given to increase the p-value in order to reduce Type 1 error. However, because of the practicality of the results and knowing that the organization would use the results to enhance their e-learning programs, a decision was made to leave the p-value untouched.

While these limitations are important to note, they should not take away from implications this study has for future research and organizations that utilize e-learning to train employees.

Recommendations for Future Research

The limitations of this study allow for several opportunities for future research regarding intrinsic motivation during e-learning and its impact on performance.

In order to increase the generalization of these findings, future studies should include a broader group of participants and a larger sample. This study only examined one department within one organization. It would be beneficial for future research to ask these same research questions of a larger population who participate in e-learning in the workplace. Including employees in different roles and at different levels within the organization could provide new insights into employees' motivation for learning. Studies with a larger sample size will also allow researchers to explore the relationships between dimensions of intrinsic motivation and their influence on performance further. In addition, future research should investigate different kinds of e-learning courses. This study used courses that were completely asynchronous and self-directed; however, there are many kinds of e-learning. It would be interesting to see if performance was impacted in courses that were blended. Future research could examine how these motivational dimensions impact performance and engagement in other types of online learning environments.

Another area that researchers could explore relates to the research design. This study used a fixed mixed-method design in which participants were asked three open-ended questions. While these questions provided insights into motivations for employees, extending the research

design to include interviews or focus groups could provide even more understanding into what motivates employees to participate in e-learning.

There is also an opportunity for future researchers to replicate this study exploring other dimensions of intrinsic motivation. This study examined three dimensions, but the IMI recognizes five additional dimensions. Past research showed there are many things that can influence motivation from physiological reactions to external influences. For example, this study found that participants reported usefulness and utility as motivators to complete course work, and it would be interesting to explore the relationship between usefulness and performance. Furthermore, future researchers could expand the scope and look at how performance is influenced by extrinsic motivation factors compared to intrinsic factors.

Finally, future researchers could also examine the differences in motivation based on demographic characteristics, specifically geographic location, in more depth. Cultural and social traditions can influence the way employees perform in the workplace in general and can also impact learning. This study found that different locations were characterized by different levels of pressure and choice, which were associated with different levels of interest in learning and motivation to learn. Future research should examine how culture can do this and if any other factors influence performance in workplace training. Additionally, age and years of experience can influence the way employees interact and engage with learning activities. Different generations can have different perspectives on learning in the workplace in general and may have different perceptions of learning using technology. It would be interesting to see how employees' age influenced motivation and performance on these types of training opportunities.

Summary

This study provided evidence that there are significant relationships between three dimensions of intrinsic motivation and that working on material that is perceived as interesting in a low-pressure environment influences motivation. While no significant relationship was found between the three dimensions of intrinsic motivation and performance in e-learning courses, qualitative data obtained from participants imply that interest, pressure, and choice do play a role in employee motivation to participate in e-learning courses. If given the support and choice, employees will feel more motivated to participate in learning activities that can help them build the necessary skills to be successful. Findings also suggest that e-learning activities need to be designed in such a way that the interest of employees is peaked in order to motivate an employee to learn a new skill.

REFERENCES

- ASTD Research. State of the industry, 2012 ASTD's Annual Review of workplace learning and development data. December 2012.
- Aguinis, H. & Kraiger, K. (2009). Benefits of training and development for individuals and teams, organizations, and society. *The Annual review of Psychology*. 60, 451-474.
- Armson, G. & Whiteley, A. (2010). Employees' and managers' accounts of interactive workplace learning: A grounded theory of "complex integrative learning." *The Journal of Workplace Learning*. 22(7), 409-427.
- Ashton, D.N. (2004). The impact of organizational structure and practices on learning in the workplace. *International Journal of Training and Development*. 8(1), 43-53.
- Becker, D.A. (1997). The effects of choice on auditors' intrinsic motivation and performance. *Behavioral Research in Accounting*. 9, 1-19.
- Bersin by Deloitte (January 22, 2013) The corporate learning Factbook© 2013: Benchmarks, trends, and analysis of the U.S. Training Market. Deloitte Development
- Brockman, J.L. & Dirx, J.M. (2006). Learning to become a machine operator: The ideological relationship between context, self, and content. *Human Resource Development Quarterly*. 17 (2), 199-221.
- Buxton, E. & DeMuth, J. (2012). Adult learner's perceptions of a professional development program comparing live distance learning versus live local learning. *The Journal of Continuing Higher Education*. 60(1), 12-19.
- Chen, H-J. & Kao, C-H. (2012). Empirical validation of the importance of employees' learning motivation for workplace e-learning in Taiwanese organizations. *Australasian Journal of Educational Technology*. 28(4), 580-598.

- Cheng, B., Wang, M., Moormann, J., Olaniran, B.A. & Chen, N. (2012). The effects of organizational learning environment factors on e-learning acceptance. *Computers & Education*. 58, 885-899.
- Chiaburu, D.S. & Lindsay, D.R. (2008). Can do or will do? The importance of self-efficacy and instrumentality for training transfer. *Human Resource Development International*. 11(2), 199-206.
- Clark, R. E. (2003) Fostering the work motivation of individuals and teams. *Performance Improvement* 42(3), 21-29.
- Clark, R. E., Yates, K., Early, S. and Moulton, K. (2010) An Analysis of the Failure of Electronic Media and Discovery-Based Learning, in Handbook of Improving Performance in the Workplace, Volume One: Instructional Design and Training Delivery (eds K. H. Silber and W. R. Foshay), John Wiley & Sons, Inc., Hoboken, NJ, USA.
doi: 10.1002/9780470587089.ch8
- Cordova, D.I. & Lepper, M.R. (1996). Intrinsic motivation and the process of learning: Beneficial effects of contextualization, personalization and choice. *Journal of Educational Psychology*. 88(4), 715-730.
- Coutts, Gilleard & Baglin. (2011) Evidence for the impact of assessment on mood and motivation in first-year student. *Studies in Higher Education*. 36(3), 291-300
- Deci, E.L., Eghrari, H., Patrick, B.C., & Leone, D.R. (1994). Felicitating internalization: The self-determination theory perspective. *Journal of Personality*. 62(1), 120-142.
- Eccles, J.S. and Wigfield, A. (2002). Motivational beliefs, values and goals. *Annual Reviews Psychology*. 53, 109-132.

- Eddy, E.R., D'Abate, C.P., Tannenbaum, S.I., Givens-Skeaton, S., & Robinson, G. (2006). Key characteristics of effective and ineffective developmental interactions. *Human Resource Development Quarterly*. 17(1), 59-84.
- Ellinger, A.D. (2005). Contextual factors influencing informal learning in a workplace setting: The case of "reinventing itself company." *Human Resource Development Quarterly*. 16(3), 389-415.
- Field, A. (2009). *Discovering statistics using SPSS* (ed. 3) Los Angeles, CA: SAGE Publications Ltd.
- Flowerday, T. & Schraw, G. (2003). Effect of choice on cognitive and affective engagement. *The Journal of Educational Research*. 96(4), 207-215.
- Geier, C.S. & Bogner, F.X. (2010). Student-centered anti-smoking education: Comparing a classroom-based and an out-of-school setting. *Learning Environment Research*. 13, 147-157.
- Griffin, R. (2011). Seeing the wood for the trees: Workplace learning evaluation. *Journal of European Industrial Training*. 35(8), 841-850.
- Guzley, R., Avanzino, S. & Bor, A. (2006). Simulated computer-mediated/video-interactive distance learning: A test of motivation, interaction satisfaction, delivery, learning & perceived effectiveness. *Journal of Computer-Mediated Communication*, 6(3), doi: 10.1111/j.1083-6101.2001.tb00122.x
- Hanich, L.B. (2009). Using student interviews of understand theories of motivation. *Teaching Educational Psychology*. 3(3), 1-5

- Harnett, M., St. George, A. & Dron, J. (2011). Examining motivation in online distance learning environments: Complex, multifaceted, and situation-dependent. *The International Review of Research in Open and Distance Learning*. 12(6), 20-37.
- Hidi, S. (1990). Interest and its contribution as a mental resource for learning. *Review of Educational Research*. 60(4), 549-571.
- Houde, J. (2006). Andragogy and motivation: An examination of the principles of andragogy through two motivation theories. Retrieved from ERIC. (ED492652)
- Huang, W.D, Han, S., Park, U., and Seo, J.J. (2010). Managing employees' motivation, cognition, and performance in virtual workplaces: The blueprint of a game-based adaptive performance platform (GAPP). *Advances in Developing Human Resources*. 12(6), 700-714.
- Hwang, Y. (2010). Investigating the role of identity and gender in technology mediated learning. *Behaviour & Information Technology*. 29(3), 305-319.
- Iyengar, S.S. & Lepper, M.R. (1999). Rethinking the value of choice: A cultural perspective on intrinsic motivation. *Journal of Personality and Social Psychology*. 76(3), 349-366.
- Jacobs, R.L. and Park, Y. (2009). A proposed conceptual framework of workplace learning: Implications for theory development and research in human resource development. *Human Resource Development Review*. 8(2), 133-150.
- Keller, J. & Suzuki, K. (2004). Learning motivation and e-learning design: A multinationally validated process. *Journal of Educational Media*. 29(3), 229-239.
- Kim, K-J. & Frick, T.W. (2011). Changes in student motivation during online learning. *Journal of Educational Computing Research*. 44(1), 1-23.

- Kitching, J. (2007). Regulating employment relations through workplace learning: A study of small employers. *Human Resource Management Journal*. 17(1), 42-57.
- Knowles, M. (1998). *The adult learner*. Woburn, MA: Butterworth-Heinemann Publications.
- Langan-Fox, J., Code, S., Gray, R., & Langfield-Smith, K. (2002). Supporting employee participation: Attitudes and perceptions in trainees, employees and teams. *Group Processes & Intergroup Relations*. 5, 53-82.
- Lee, J-H. & Song, C-H. (2013). Effects of trust and perceived risk on user acceptance of a new technology service. *Social Behavior and Personality*. 41(4): 587-598.
- Lehtinen, R. (2008). Discussion: Bridging the individual and social in workplace learning and motivation. *International Journal of Educational Research*. 47, 261-263.
- Lin, S. & Overbaugh, R.C. (2013). Autonomy of participation and ICT literacy in a self-directed learning environment (SDLE). 47:97-109.
- Mahal, P.K. (2009). Organizational culture and organizational climate as a determinant of motivation. *The IUP Journal of Management Research*. 8(10), 38—51.
- Martens, R.L., Gulikers, J. & Bastiaens, T. (2004). The impact of intrinsic motivation on e-learning in authentic computer tasks. *Journal of Computer Assisted Learning*. 20, 368-376.
- Matthews, P. (1999). Workplace learning: Developing an holistic model. *The Learning Organization*. 6(1), 18-29.
- McAuley, E., Dungan, T., & Tammen, V.V. (1989) Psychometric properties of the intrinsic motivation inventory in a competitive sport setting: A confirmatory factor analysis. *Research Quarterly*. 60(1), 48-58.

- McCombs, B.L. & Vakili, D. (2005). A learner-centered framework for e-learning. *Teachers College Record*. 107(8), 1582-1600.
- McKay, E. & Vilela, C. (2011). Corporate sector practice informs online workforce training for Australian government agencies: Towards effective educational-learning systems design. *Australian Journal of Adult Learning*. 51(2), 302-328.
- McLoughlin, C. & Lee, M.J.W. (2010) Personalised and self-regulated learning in the Web 2.0 era: international exemplars of innovative pedagogy using social software. *Australasian Journal of Educational Technology*. 26(1), 28-43.
- Noe, R.A., Tews, M.J. and Dachner, A.M. (2010). Learner engagement: A new perspective for enhancing our understanding of learner motivation and workplace learning. *The Academy of Management Annals*. 4(1), 279-315.
- Pallant, J. (2007) *SPSS Survival Manual: third edition*. McGraw Hill: New York, NY.
- Park, J.H & Choi, H.J. (2009) Factors including adult learners' decision to drop out or persist in online learning. *Education Technology & Society*. 12(4), 207-217.
- Patall, E.A., Cooper, H., & Robinson, J.C. (2008). The effects of choice on intrinsic motivation and related outcomes: A meta-analysis of research findings. *Psychological Bulletin*. 132(2), 270-300.
- Payne, A.M., Stephenson, J.E., Morris, W.B., Tempest, H.G., Mileham, A. and Griffin, D. K. (2009). The use of an e-learning constructivist solution in workplace learning. *International Journal of Industrial Ergonomics*. 39, 548-553.
- Pekrun, R., Goetz, T., Frenzel, A.C., Barchfeld, P. & Perry, R.P. (2011). Measuring emotions in students' learning and performance: The Achievement Emotions Questionnaire (AEQ). *Contemporary Educational Psychology*. 36, 36-48.

- Plant, R.W. & Ryan, R.M. (1985). Intrinsic motivation and the effects of self-consciousness, self-awareness, and ego-involvement: An investigation of internally controlling styles. *Journal of Personality*. 53(3), 435-449.
- Randler, C., Wust-Ackermann, P., Vollmer, C. & Hummel, E. (2012). The relationship between disgust, state-anxiety and motivation during a dissection task. *Learning and Individual Differences*. 22, 419-424.
- Renninger, K.A., Cai, M., Lewis, M.C., Adams, M.M., Ernst, K.L. (2011). Motivation and learning in an online, unmoderated, mathematics workshop for teachers. *Education Technology Research Development*. 59, 229-247.
- Rigby, C.S., Deci, E.L., Patrick, B.C., & Ryan, R.M. (1992). Beyond the intrinsic-extrinsic dichotomy: Self-determination in motivation and learning. *Motivation and Emotion*. 16(3), 165-185.
- Roca, J.C. & Gagne, M. (2008). Understanding e-learning continuance intention in the workplace: A self-determination theory perspective. *Computers in Human Behavior*. 24:1585-1604.
- Rossett, A. & Marshall, J. (2010). What corporate training professionals think about e-learning practitioners' views on the potential of e-learning in the workplace. *Journal of Asynchronous Learning Networks*. 14(2), 19-27.
- Ryan, R.M. (1982). Control and information in the interpersonal sphere: An extension of cognitive evaluation theory. *Journal of Personality and Social Psychology*. 43(3), 450-461.
- Ryan, R.M., Connell, J.P., & Plant, R.W. (1990). Emotions in nondirected text learning. *Learning and Individual Differences*. 2(1), 1-17.

- Ryan, R.M., Koestner, R., & Deci, E.I. (1991). Ego-involved persistence: When free-choice behavior is not intrinsically motivated. *Motivation and Emotions*. 13(3), 185-205.
- Saeed, S. & Zyngier, D. (2012). How motivation influences student engagement: A qualitative case study. *Journal of Education and Learning*. 1(2), 252-267.
- Sansone, C., Fruaghton, T., Zachary, J.L., Butner, J. & Heiner, C. (2011). Self-regulation of motivation when learning online: the importance of who, why and how. *Education Technology Research Development*. 59: 199-212.
- Sawang, S. & Newton, C. (2012). Increasing learners' satisfaction/intention to adopt more e-learning. *Education & Training*. 55(1): 83-105.
- Schiefle, U. (1991). Interest, learning and motivation. *Educational Psychologist*. 26(3&4). 299-323.
- Schmidt, S.W. (2007). The relationship between satisfaction with workplace training and overall job satisfaction. *Human Resource Development Quarterly*. 18(4), 481-498.
- Schroff, R.H. & Vogel, D.R. (2007). Assessing individual-level factors supporting student intrinsic motivation in online discussions: A qualitative study. *Journal of Information Systems Education*. 19(1), 111-125.
- Schroff, R.H., Vogel, D., Coombes, J. & Lee, F. (2007). Student e-learning intrinsic motivation: A qualitative analysis. *Communications of the Association for Information Systems*. 19, 241-260.
- Schroff, R.H. & Vogel, D.R. (2009). Assessing the factors deemed to support individual student intrinsic motivation in technology supported online and face-to-face discussions. *Journal of Information Technology Education*. 8, 59-85.

- Schunk, D.H. (2008) *Learning Theories: An Educational Perspective*. 5th Ed. Pearson Merrill Prentice Hill. Upper Saddle River, NJ
- Shell, D. F. & Husman, J. (2008). Control, motivation, affect, and strategic self-regulation in the college classroom: A multidimensional phenomenon. *Journal of Educational Psychology*. 100(2), 443-459.
- Short, T. (2006). What is the moral imperative of workplace learning: Unlocking the DaVinci code of human resource development? *Australian Journal of Adult Learning*. 46, 2. 287-289.
- Siadaty, M. Gasevie, D., Jovanovic, J., Pata, K., Milikic, N., Holocher-Ertl, T., Jeremie, Z., Ali, L., Giljanovic, A. & Hatala, M. (2012). Self-regulated workplace learning: A pedagogical framework and semantic web-based environment. *Educational Technology & Society*. 15(4):75-88.
- Smith, P.J. (2003). Workplace learning and flexible delivery. *Review of Educational Research*. 73(1), 53-88.
- Spittle, M. & Byrne, K. (2009). The influence of sport education on student motivation in physical education. *Physical Education and Sport Pedagogy*. 14(3), 253-266.
- Sturm, H., & Bogner, F.X. (2008). Student-oriented versus teacher-centered: The effect of learning at workstations about birds and bird flight on cognitive achievement and motivation. *International Journal of Science Education*. 30(7), 941-959
- Vansteenkiste, M., Simons, J., Lens, W., Sheldon, K.M. & Deci, E.L. (2004). Motivating learning, performance, and persistence: The synergistic effects of intrinsic goal contents and autonomy-supportive contexts. *Journal of Personality and Social Psychology*. 87(2), 246-260.

- Venkatesh, V. (2000). Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the technology acceptance model. *Information Systems Research*. 11(4), 342-365.
- Wang, M. (2011) Integrating organizational, social and individual perspectives in Web 2.0-based workplace e-learning. *Information Systems Frontier*. 13:191-205.
- Wang, M., Ran, W., Liao, J. & Yang, S.J.H. (2010). A performance-oriented approach to e-learning in the workplace. *Educational Technology & Society*. 13(4), 137-179.
- Winn, W. (2002). Current trends in educational technology research: The study of learning environments. *Educational Psychology Review*. 14(3), 331-351.
- Xie, K. and Ke, F. (2011). The role of students' motivation in peer-moderated asynchronous online discussions. *British Journal of Educational Technology*. 42(6), 916-930.
- Yeo, R. K. (2006). Implementing organizational learning initiatives: Integrating three levels of learning. *Development and Learning in Organizations*. 20(3), 10-12.
- Yoo, S.J., Han, S-H. & Huang, W. (2012). The roles of intrinsic motivators and extrinsic motivators in promoting e-learning in the workplace: A case from South Korea. *Computers in Human Behavior*. 28: 942-950.
- Zimmerman, Barry J. (2000). Self-efficacy: an essential motive to learn. *Contemporary Education Psychology*. 25, 82-91.

APPENDIX A: INTRINSIC MOTIVATION INVENTORY (IMI)

For each of the following statements, please indicate how true it is for you as it relates to your experience in the ELEVATE certification program, using the following scale:

1	2	3	4	5	6	7
Not at All True			Somewhat True			Very True

1. While I was working on the activities within ELEVATE I was thinking about how much I enjoyed it.
2. I did not feel at all nervous about doing the activities within ELEVATE.
3. I felt that it was my choice to do the activities within ELEVATE.
4. I found the activities within ELEVATE very interesting.
5. I felt tense while doing the activities within ELEVATE.
6. Doing the activities within ELEVATE was fun.
7. I felt relaxed while doing the activities within ELEVATE.
8. I enjoyed doing the activities within ELEVATE very much.
9. I didn't really have a choice about doing the activities within ELEVATE.
10. I was anxious while doing the activities within ELEVATE.
11. I thought the activities within ELEVATE were very boring.
12. I felt like I was doing what I wanted to do while I was working on the activities within ELEVATE.
13. I thought the activities within ELEVATE was very interesting.
14. I felt pressured while doing the activities within ELEVATE.
15. I felt like I had to do the activities within ELEVATE.
16. I would describe the activities within ELEVATE as very enjoyable.
17. I did the activities within ELEVATE because I had no choice.
18. In your own words, please describe what motivates you to participate in the ELEVATE program.
19. As you think about the time you've spent working in ELEVATE, what factors encouraged you to work on material?
20. As you think about the time you've spent working in ELEVATE, what factors prevented or discouraged you to work on material?
21. What is your age? _____

22. What is your gender?

- a. Male
- b. Female
- c. Prefer not to answer

23. What is your geographic location?

- a. North America
- b. Latin America
- c. Europe
- d. Asia
- e. Australia/New Zealand
- f. Other
- g. Prefer not to answer

24. How many years of experience do you have in recruiting and sourcing?

- a. Less than 1 year
- b. 1 year – 3 years
- c. 3 years – 5 years
- d. 5 years – 10 years
- e. More than 10 years

APPENDIX B: INDIVIDUAL SCALE ITEMS IDENTIFIED

Interest/Enjoyment Scale

- While I was working on the activities within ELEVATE I was thinking about how much I enjoyed it.
- I found the activities within ELEVATE very interesting.
- Doing the activities within ELEVATE was fun.
- I enjoyed doing the activities within ELEVATE very much.
- I thought the activities within ELEVATE were very boring.
- I thought the activities within ELEVATE was very interesting.
- I would describe the activities within ELEVATE as very enjoyable.

Perceived Choice Scale

- I felt that it was my choice to do the activities within ELEVATE.
- I didn't really have a choice about doing the activities within ELEVATE.
- I felt like I was doing what I wanted to do while I was working on the activities within ELEVATE
- I felt like I had to do the activities within ELEVATE.
- I did the activities within ELEVATE because I had no choice.

Pressure/Tension Scale

- I did not feel at all nervous about doing the activities within ELEVATE.
- I felt tense while doing the activities within ELEVATE.
- I felt relaxed while doing the activities within ELEVATE.
- I was anxious while doing the activities within ELEVATE.
- I felt pressured while doing the activities within ELEVATE.