

ONLINE VERSUS TRADITIONAL CLASSROOM SAFETY TRAINING

ONLINE VERSUS TRADITIONAL CLASSROOM SAFETY TRAINING:
A PILOT STUDY OF PARTICIPANT PREFERENCES OF INSTRUCTIONAL METHOD

by

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Abstract

CSJ, in an effort to improve workplace safety and lessen the number of workplace injuries, is searching for a means of providing safety training to employees. Problems associated with the lack of safety training include increased injuries, the costs associated with workplace injuries and the lack of safety training for employees. The past practice of providing safety training in a traditional classroom has been complicated by reduction in staff. While CSJ has access to an online safety training portal, it is unknown if employees will accept the use of online training as their sole source of safety training.

The purpose of this pilot study was to learn how to best meet employees' safety training needs. In order to address the need for safety training, a pilot study was completed to answer the following questions: 1) Are safety training needs currently met? 2) What are employees' perceptions of online training versus traditional classroom training methods? 3) Are employees receptive to online training? To learn more about the method for uncovering the answers to these questions, this study looked at employee attitude and perception toward the amount of safety training they believe they are receiving. In addition, the study examined the respondents' attitude for using a computer and the Internet, access to a computer and the Internet, employee attitude and perception of traditional classroom training, and employee attitude and perception of online training. Finally, the study was designed to learn more about the effects of participating in an online class on their attitude and perceptions of both training methods to determine if online training is an acceptable method of training for this employee group.

Introduction

Background and Significance

A municipal government entity, referenced in this paper as CSJ, has limited staffing for its safety and risk management function. As a result, CSJ does not have a strong safety training program. A challenge for risk management is obtaining buy-in from supervisors and upper management to promote safe work practices and follow through with materials obtained in training. A secondary challenge is the employees' attitudes toward training and safety practices. To further complicate the safety training effort, in 2010, due to budget cutbacks, CSJ lost their employee trainer position. When the position was eliminated, the few safety training courses provided to employees were discontinued.

CSJ loss report indicates that for 2011, the total payout for workplace injury and illness claims was \$221,332. Comparing this payout amount to the first six months of 2012 indicates there was a significant increase in payout amounts. Total Payout for injury and illness claims for the first six months of 2012 was over \$250,000, more than the total payout for the entire twelve month period of 2011. CSJ would like to determine what efforts can be made to decrease the overall cost of injuries and illness in the workplace. One step CSJ can take to prove to their third party insurance provider that they are attempting to limit liability and lower the total payout is to provide safety training.

Providing training to employees can be expensive, not only in the cost to bring the training to the employees, but also the cost for taking employees away from their regular duties, delaying projects and sometimes deadlines. Hiring outside vendors to provide safety training is expensive. It is also undetermined if the outside vendor would provide a training product that would specifically cover the specialized needs for CSJ.

While CSJ has no one currently employed to provide the safety training, in 2010, the third party insurance provider supplied CSJ with an online training portal. The portal includes a large number of courses and the ability to assign courses based upon individual employees' job functions. Even though CSJ obtained access to the online portal two years ago, it has not been tested to determine if it will be an accepted means of obtaining safety training. Many employees are used to the traditional classroom, some are not computer literate, and a small number cannot read. Traditional classroom courses were developed specifically for the needs of the learner. Many of the employees are not experienced with participating in online training. CSJ needs to educate employees; therefore, it is important that CSJ determine if using the online portal will be cost effective and if employees and supervisors will be open to this means of obtaining training.

Conceptual /Theoretical Underpinnings

“Each year thousands of U.S. workers die from injuries on the job” (Smith, 2012, p. 1). “The complexity of organizations makes it practically impossible to anticipate when and where a hazardous situation will emerge” (Ragain, Ragain, Allen & Allen, 2012, p. 48). “In order not to cause the loss of human resources and maintain the economic development, labor safety education training and learning effectiveness become important issues” (Ho & Dzung, 2010, P. 858). With the elimination of CSJ's training division, the employees are not receiving the necessary training to provide them with key information to assist them in recognizing hazards in the workplace, or the tools necessary to avoid injuries on the job. An exploration of employee attitudes and perceptions of traditional classroom training and online training may provide CSJ with an alternative to meeting training needs.

Statement of the problem

The problem, currently identified is that CSJ has no safety training program in place and a lack of funding makes it difficult to provide the needed training. Use of the online training portal may provide an option that CSJ can afford. Analyzing the areas where workplace injuries are occurring, studying the courses provided on the online portal to determine if the material covered is appropriate for the employees, gauging employee attitude toward obtaining training through online learning, and identifying supervisory support and follow-up for the training will help determine if online training would be a successful alternative for traditional classroom instruction.

Purpose of the study

The purpose of this study is to determine if online training is a viable method of providing safety training to employees. Not only does CSJ need to determine a means of providing safety training at a low cost, but it also must take into consideration supervisors and employees motivation to learn using this method of training. These characteristics will be studied during the course of the research.

Research Questions

RQ1: Are safety training needs currently met?

RQ2: What are employees' perceptions of online training versus traditional classroom training methods?

RQ2: Are employees receptive to online training?

Definition of terms

Workers' compensation: A system designed to assist workers when they are injured that helps cover medical costs and the costs associated with being unable to work.

OSHA: An acronym that is defined as the Occupational Safety and Health Administration (OSHA) is a government body designed to establish and enforce workplace safety practices, procedures, and required training.

Regulatory compliance: Occurs when organizations comply or follow Federal, State, or local laws and guidelines.

Formal learning: Learning that is structured in nature and includes a lesson plan, learning objectives, is scheduled, and provides documentation of attendance.

Asynchronous learning: Learning that occurs at any time.

Synchronous learning: Learning that occurs at scheduled times.

Summary

CSJ, in an effort to improve workplace safety and lessen the number of workplace injuries is searching for a means of providing safety training to employees. Problems associated with the lack of safety training include increased injuries and the costs associated with workplace injuries. Another problem is the delivery of safety training. The past practice of providing safety training in a traditional classroom has been complicated by reduction in staff. While CSJ has access to an online safety training portal, it is unknown if employees will accept the use of online training as their sole source of safety training. In order to address the need for safety training, this research will look at

employee attitude and perception toward the amount of safety training they believe they are receiving, their aptitude for using a computer and the Internet, access to a computer and the Internet, employee attitude and perception of traditional classroom training, employee attitude and perception toward online training, and the effects of participating in an online class on their attitude and perceptions to determine if online training is an acceptable method of training for this employee group.

Literature Review

Introduction

Worker safety has not always been a priority for employees. In fact, it wasn't until the industrial revolution that employers began paying more attention to worker safety. The first known workers' compensation laws that withstood tests of constitutionality were passed in ten different states in 1911 (Paul, 1976). Early data indicates that the rate of unintentional deaths was incredibly high during that time. In 1912, the statistics for the unintentional death rate in the United States was reported by the National Safety Council at a rate of 82.5 per 100,000 population (2012). Legislation to improve worker safety continued to evolve through the 1900's, however, these laws were geared more toward the employer than the employee. It wasn't until the 1970's that regulations for standards for worker safety were put in place. At this time, regulatory agencies, including OSHA, were created and over time have taken on more influence in developing and enforcing, standards and practices for improving safety in the workplace (Austin, 2008).

Even with all of the legislation, every year workers in the thousands die or are injured in workplace accidents (Smith, 2012). Currently injuries, illnesses, and accidents are significant problems in many workplaces (Ford & Tetrick, 2011). According to the

Bureau of Labor Statistics (2012), the “National public sector estimates covering approximately 18.5 million state and local government workers” (p.2). Of these, “approximately 820,900 injury and illness cases were reported among state and local government workers in 2011, resulting in a rate of 5.7 cases per 100 full-time workers – significantly higher than the rate among private industry workers (3.5 cases per 100 workers)” (Bureau of Labor Statistics, 2012, p.2-3).

Even though a person may return to work after healing from a work-related injury, much productivity can still be lost if the worker is re-injured, or if their injury has resulted in a permanent impairment. When workers are absent intermittently after an initial injury, they experience greater losses than employees who are able to return to normal duty (Butler, Baldwin & Johnson, 2006).

Potential Contributors to Workplace Injury

There are innumerable contributors to employees sustaining workplace injuries. For the purpose of this research, seven categories will be discussed: workplace safety policies and procedures, work environment, supervisory support, employee perception of hazards, unsafe work practices, level of safety training, and regulatory compliance.

Workplace safety policies and procedures.

“Industries heavily rely on a useful set of tools to reduce the likelihood of incidents and injuries in the workplace. These include rules, policies, procedures and various mechanical safeguards, such as personal protective equipment and machine guards” (Ragain, Ragain, Allen & Allen, 2012, p. 45). One reason that workplace injuries occur is because employees do not always follow safety procedures and policies (Rodriguez, 2012). When new employees begin a position at a business and do not know the

workplace safety procedures, situations that could be hazardous, specific precautions to be taken, and workplace policy they are at a greater risk to be injured (Jacobi & O'Hara, 2012). In addition, businesses may have written safety policies, however, these may have resulted from reasons other than a commitment to safety (Huang et al. 2012).

Work environment.

It is difficult to determine when a situation may become hazardous in the workplace (Ragain et al. 2012). Examples of situations that may contribute to hazards in the workplace and create situations in which employees are more apt to sustain an injury include exposure to hazardous substances or radiation, and areas with high levels of noise. Other examples include employees work environment requiring them to position their body in awkward positions and performing tasks that are strenuous and physically taxing, or that demand repeated similar movement (Ford & Tetrick, 2011). Workers perception of the safety climate along with environmental factors, influence workplace accidents and employees perception of their overall health (Bjerkan, 2010).

Supervisory support.

One of the key elements in a determining a safe work environment is the level of commitment by management for safety (Huang et al., 2012). In work environments where supervisors do not prioritize and communicate the importance of safety and instead focus more attention on other performance related goals, employees may perform in ways that meet the performance related goals and participate in unsafe behavior (Ford & Tetrick, 2011).

Employee perception of hazards.

The actions or behavior that a person chooses is a result of the amount of information that an individual receives and that persons' perception of the consequences of using or not using the information (Rodriguez, 2012). If the individual believes that an action on their part will result in pain or devastation, they perceive that information to be important and will use the information to choose a different behavior. Typically, an individual's risk perception most often includes some form of assessment to determine if the action will result in a potential for injury or harm (Burke et al. 2011). "Employees' perception of safety training is part of a safety management system evaluation, and may be different from the safety climate perception" (Huang et al. 2012, p. 95).

Unsafe work practices.

For new employees, lack of information can result in the employee developing habits or methods that are not safe. These new employees, in an effort to fit in, may not follow safe work practices and because they lack experience, they may unknowingly take on or accept more risk. These employees do not want to appear to be incapable so they may not ask questions when they are performing tasks they aren't completely prepared to perform (Jacobi & O'Hara, 2012). These authors continue by stating that, when employees are familiar with their job, the tasks involved, and are comfortable in the environment, they may not pay close attention to what they are doing which places them at greater risk for injury.

In comparison, more experienced workers may perform the same task over and over again and create bad habits. These same employees may become complacent over time because they have performed the task many times without a negative result. This

complacency results in inattention and increases the potential for a workplace accident (Jacobi & O'Hara, 2012).

Level of safety training.

Safety training is an important ingredient for lowering workplace injuries. According to Torres (Tuning workers into safety training, 2006), efficient safety training not only impacts an organization financially, it also impacts the safety and health of the employees who work there. Effective safety training can decrease Injury risk and regular refresher training can reduce, significantly, the rate of injury among workers at an organization (Ho & Dzung, 2010). Safety training grooms workers how to react when unsafe situations occur which decreases stress on the job. When comparing employees who receive safety training to those that do not, participants receiving training showed improved attitudes and decreased stress levels (Kiani, Smartyan, Poorabdiyan & Jafari, 2012).

On the other hand, safety training programs that are mandated by employers may create the illusion that the employer and the employees are compliant, when that may not be the case (Bahn & Barrat-Pugh, 2012). In order for a company to demonstrate that employees received the appropriate level of training they must not only provide effective, quality training programs, but they must also document the training and follow through with what was learned in training when employees return to work (Prince, 2002). These steps can assist the employer in court by indicating that the employer took the steps necessary to train employees in safe work practices.

Regulatory compliance.

According to an article in the July 2007 publication of Occupational Hazards, "when the occupational Safety and Health (OSH) Act was passed in 1970, it excluded state and

local government workers. Thirty five years later, 26 states have exercised their option to operate their own state OSHA programs” (p. 10). It is important to note that CSJ and the state it operates in do not have OSHA programs.

Safety in the Workplace: The Role of Management

Supervisors play an important role in whether or not employees use what they learn in training, follow safety procedures, and consistently use approved safety equipment. Management is responsible for communicating and enforcing safety policies and are key players in determining the success of safety programs (Dublin, 2011). “The most critical factor influencing successful safety results is that of management’s demonstrated support of safety” (O’Toole & Nalbone, 2011, p. 58). Management can promote safe work practices through good leadership practices, monitoring and following through with lessons learned in safety training courses.

Leadership practices.

People make choices regarding how they perform and behave based upon known consequences (Rodriguez, 2012). Some of these choices and actions may have an adverse impact on the employees’ well-being and employment status. If the consequences of employees’ actions are not provided to them, they may make poor choices. These choices sometimes lead to workplace illnesses and injuries. Safety related issues are in reality a symptom of a larger management issue, for example, lack of support for health and safety issues. Employees will create their own rules and make decisions for safety related incidents if they lack supervision or leadership (O’Toole and Nalbone, 2011).

Management has the opportunity to foster a safe work environment through their leadership practices. Leadership personnel should demonstrate that employees safety and health is valued by developing a system that encourages employees to promote safety amongst each other, educate employees about consequences resulting from unsafe behavior and non-compliance with workplace safety procedure and policies, and direction for equipment usage (Rodriguez, 2012)

Application of learning.

There are a number of things that management can do to promote the application of the employee learning from the training room to the workplace (DeSmet, McGurk & Schwartz, 2010). According to these authors, the application of learning begins before the employee attends training with employees being aware that management supports the training. Management can unintentionally stall application of learning when they do not apply the safety training practices to their own duties and silently communicates to employees that employees do not need to change their behavior (DeSmet, McGurk & Schwartz, 2010).

In a study performed by Mattox (2011), only 21 percent of managers indicated that prior to training, they performed a pre-assessment with their learners, 44 percent of managers did not support training, 53 percent supported training, 42 percent encouraged employees to apply the training, and only 11 percent of employees were held accountable to apply what was learned in training. Managers can assist employees in retaining what they learn and applying the learning to their duties by communicating with the employee about the training before and after training occurs (Mattox, 2011). This author continues by saying that managers need to speak with employees prior to the training to discuss

expectations and prepare the learner for the training. After the training the manager should discuss the training with the employee, encourage them to apply what they learned while they are on the job, provide feedback to the employee to correct mistakes and praise successes, and provide employees with the opportunity to apply what they learned on the job.

Employee Safety Attitude and Perceptions in Hazard Prevention

A number of workplace issues are internalized by employees who create perceptions which may result in unsafe behavior. Employees may experience fatigue when performing tasks that are repetitive or boring. This fatigue can limit their ability to make safe decisions. Other issues include priorities that compete with one another or are unbalanced which may cause employees to inappropriately prioritize. These priorities can be influenced by home, work or a combination of the two and may contribute to poor decision making and actions that are unsafe which result in the employee feeling under stress and not making safe judgments (Hodgson 2010). Low safety perceptions lead to employees engaging in risky behavior and taking shortcuts to perform duties which may result in an injury (O'Toole & Nalbone, 2011).

Employees' attitudes toward safety training also affects their application of training. Employees' attitudes regarding safe work practices can be affected by receiving quality safety training (Kiani, Samartyan, Poorabdiyan & Jafari, 2010). To help employees see the potential dangers of their actions, it is important to tell them. When they know what the consequences of their actions are, it in turn helps them participate in safer behaviors because they will know what dangers are present during certain situations. The threat of the hazard and the possibility of harm or injury can motivate employees to perform tasks

using safer behaviors and motivates them to apply what they learn in training (Burke et al. 2011). This in turn may change employees' attitudes of safety and lower stress (Kiani, Samartyan, Poorabdiyan & Jafari, 2012).

Different jobs require employees to perform different tasks. This variability in job duties results in some employees being exposed to more risk than others, even though they work for the same organization (Ford & Tetrick, 2011). Rate of injury can be associated to employees' perception of managements' commitment to safe work practices and safety training (Huang et al. 2010). Possible outcomes of safety training programs include support for safety in the workplace from management and co-workers and building perceptions of a safety climate by promoting safe behavior, communicating and enforcing policies, resolving conflicts in the workplace, and involving everyone in sustaining a safe work environment. This type of environment helps employees feel more in control, makes them more conscious of their decisions, and changes their perception of the job (Kiani, Samartyan, Poorabdiyan & Jafari, 2012). "Unless personal safety is made a top priority and is confirmed as a value, other priorities such as time, money, comfort, etc. will always be more important (because they are more immediately gratifying) and prevent an individual from making the best choices" (Hodgson, 2010, p. 49).

Safety Training: Applications for the Workplace

"Companies around the world spend up to \$100 billion a year to train employees in the skills they need to improve corporate performance" (DeSmet & Schwartz, 2010, para. 1). With the recession, some organizations are cutting back on what they spend on training and attempting to find cheaper, alternative means for delivering the required training to employees. CSJ falls into this category. It is important to determine a training

method that will be cost effective and provide quality instruction. To address these needs it is important to address the type of learner, assess the training methods available, and examine any outside factors and considerations.

The adult learner.

While there are a multitude of training methods to choose from, this pilot study focuses on the traditional classroom training and use of an online training portal. CSJ is composed of an adult learner group. These employees typically attend training because it is required. When adults learn, they have their own objectives. Adults will not preserve what is taught or apply the learning to their life or work unless they can see that they are getting something out of it, that it applies to what they do, and they must enjoy themselves while they are learning (Phillips, 2011). Adults do not learn the same way children do, therefore, instruction must be tailored to them (Merli, 2011). Employees' perceptions of training are based around four factors: the value they place on the learning received, their feelings of the teacher, how they responded to the conditions of the training, and their willingness to learn (Jin-Ton, Ching-Hsiang & Hung-Wen, 2008).

Online versus traditional classroom training methods.

The majority of safety training is presented as formal learning which takes place in a classroom. The courses are presented by an instructor using a structured lesson plan and may result in the participant receiving a certificate or an increase in pay (Levenberg and Capsi, 2010). In the workplace, most safety training is provided using classroom instruction and on-the-job training (Ho & Dzung, 2010). In addition, in the workplace there are a number of generational factors that influence how employees are accustomed to learning. The older generation learned through more traditional methods, such as

classroom instructor led training. In comparison, the younger generations have differing levels of experience using discovery methods and technology (Cekada, 2012).

Technological advancement has expanded the use of technology in employee training (Stamatikos & Ratnapradipa, 2011). Employees can interact with the course material by answering multiple choice or true/false questions when taking a computer based learning course. The employees can obtain feedback as they make their choices (Press, 2001). The benefits of e-learning is that it consistently delivers the content, provides a reliable means of recording training, and a readily available way to provide employees with refresher training (Busquets, Bernal & Requena, 2009). Online training can be either synchronous or asynchronous. Asynchronous learning is available for use at any time it is needed (Press, 2001), while synchronous learning involves every participant learning at the same place and the same time (Press, 2001). The reason that on-line instruction is popular is because it is convenient and cost effective (Schmidt & Brown, 2004).

“Learning is usually experienced or perceived as a complex event, which may rely on more than the cognitive experience” (Levenberg & Caspi, 2010, p. 324). One negative to safety training through electronic means is that the content is generic and may not be relevant to the learners position. Computer based training does not allow for modeling of certain behaviors and is not as effective for classes that instruct interpersonal skills. In comparison, face-to-face instructor led training provides employees contact with other employees and provides access to an instructor who can model appropriate behavior, answer questions, provide feedback, and evaluate the employee as they learn. In

addition, some safety experts believe that hands-on training, which is often found in the traditional classroom setting is missing in on-line safety training (Torres, 2006).

Outside factors and considerations.

Some of the key challenges for safety trainers is meeting the needs of adults who have different learning styles, are from different generations, and have language barriers. Other considerations include the amount and quality of training, the amount of absenteeism and turnover, issues of regulatory compliance, and the amount of responsibility employees have in their work environment (Austin, 2008). In addition, an employees' choices and judgments can be influenced by their mental state and include complacency, stress, fatigue, and unbalanced priorities (Hodgson, 2010). In order to provide quality safety training, the training must be customized to the needs of the employees and developed to accommodate generations, cultural backgrounds, the demographic of the employer and employees, and the employees preference for learning methods. In addition, the employer must be supporting of safety and safety training and be prepared to help employees transition from a new employee with very little experience to an employee who is very competent and skilled (Jacobi & O'Hara, 2012).

Research Design

CSJ is concerned with providing employees more safety training. To research alternatives for providing the training CSJ needs to determine employees comfort level and preference for the online course and the traditional instructor led classroom instructional methods. This study is a pilot action research study that incorporates the descriptive research method.

The research for this study employs the descriptive research method using perception data. Survey results will be used to describe the experience level of CSJ employees with computers and the internet, access to computers and the Internet, and their preferences for learning activities and for either traditional classroom or online training instructional methods. This pilot is the first step in a continuing research project which will assist in developing an action plan for providing safety training.

The participants participated in a three part study. The study is composed of two survey instruments and an online course to answer the research questions, “Are safety training needs currently met?”, “What are employees’ perceptions of online training versus traditional classroom training methods?”, and “Are employees receptive to online training?”

Prior to the study, an e-mail message was sent to department directors providing them with the name of the participants chosen from their department and complete instructions for completing the study. The participants’ were provided the instructions by the department director and were tasked with completing the study. Once the participant read through the instructions, they entered a pre-study survey that was created using GoogleDocs. This survey was designed so that the participants’ answers were anonymous in nature. Once the participant completed and submitted the survey, they logged into a pre-selected online safety course. The online safety course was comprised of three modules. To ensure mastery, participants were required to score a 100% on each module before advancing to the next module. When the online class was completed, participants navigated to and completed a post-study survey that was created using GoogleDocs. Survey responses were exported to an Excel Spreadsheet where they were analyzed and stored.

Working in conjunction with the CSJ's Safety Risk Coordinator, a pilot study was designed to determine receptivity for online training and a population group was chosen. To obtain the population group for the study, the CSJ loss report data from July 2003 through June 2012 was examined. To avoid bias on the part of the sampling, prior to the examination of the data, each employee was assigned a number and names were hidden from the spreadsheet. From this spreadsheet, a list of employees who reported four or more injuries during that time period were compiled. The sample was then split into groups by department and two to four employees were chosen from five of the departments who have a majority of the employees reporting injuries. This resulting population sample included twenty employees who reported more than four injuries in the last seven years. The pilot study population consisted of 16 males and 4 females of various ages from five different CSJ departments. All employees involved in the study group have been employees of CSJ for at least 10 years. The study consisted of completion of a pre-study survey, an online safety training course, and a post-study survey. Of the five departments selected to participate in the pilot study, only one requested that their employees be excluded from the study. All other department directors were on-board with participating in the study. Of the twenty employees selected, fifteen participated in the pre-study survey from four different CSJ departments. These same fifteen employees completed the online safety course; however, only ten of the fifteen completed the post-study survey.

Surveys were created in GoogleDocs to maintain the employees' anonymity in the hope that employees would be more honest in the answers and information they provided. The pre-study survey was developed to determine employees perception of whether or not CSJ currently has a safety program and provides safety training, to determine employee

access and experience with computers and the Internet, to determine employees experience levels with online and traditional classroom training methods, and to determine employees perceptions of traditional classroom training methods. The post-study survey was developed to obtain employees perceptions of the on-line training method, to determine employees preference for online or traditional classroom instruction method, to learn if the instructions that were provided to employees in order for them to complete the surveys and the on-line class were understandable, and to provide an opportunity for employees to provide additional input regarding their experience with the on-line training class.

A basic workplace safety course was chosen for participants to complete for their on-line safety training course. The course consisted of three modules. Employees were required to log into the on-line portal, select the basic workplace safety course, and complete each section. The on-line course was structured so that employees were required to reach 100% accuracy on a quiz at the end of each module before they could advance to the next module. Once employees reached the end of the third module, they were required to complete a comprehensive examination of the content in each module of the on-line class. Employees were required to complete this exam with 100% accuracy before they were given credit for class completion.

Data from the surveys was imported from GoogleDocs into an Excel spreadsheet in order to be analyzed. Results of the pilot study will help determine answers to the research questions and provide information to improve the study so that it can be provided to a larger sample population.

Executive Report

Findings

Pre-Study survey findings indicate that 66% of respondents believe that CSJ has a safety program and 53% believe that CSJ offers safety training for employees. The same 53% of respondents indicated that CSJ facilitates safety meetings and that they attend these meetings. 33% of the respondents stated that they receive minutes from the safety meetings.

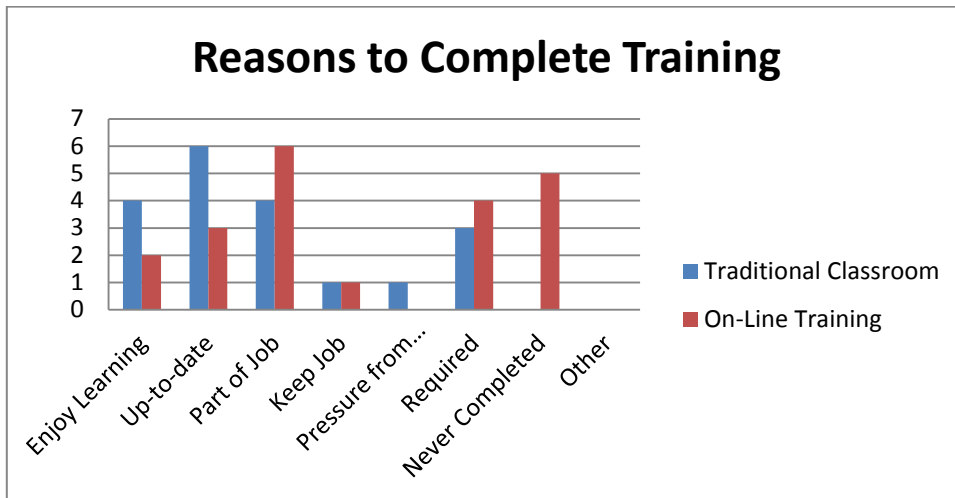
When asked if CSJ promotes safety practices for all employees, twelve of the fifteen respondents reported that CSJ does promote safety practices for all employees. The same twelve respondents indicated that their department head(s) promote(s) safety practices. Thirteen of the fifteen respondents perceive that their direct supervisor promotes safety practices, and all but one indicated that they promote safety practices among their co-workers. These same thirteen respondents stated that it was their opinion that training would lessen the number of workplace accidents/incidents.

Participants were provided a list of options to choose from in order to determine, in their opinion, which one safety related incident they thought occurred the most often in the workplace. This list consisted of the following options: inattention, lack of training, improper equipment, not using equipment, poor attitude, lack of supervision, in a hurry, stress, and horseplay. The following chart indicates employees' opinion of why most safety incidents occur in the workplace. It is important to note that options addressed in this paragraph and not appearing in the chart had zero responses in the survey.

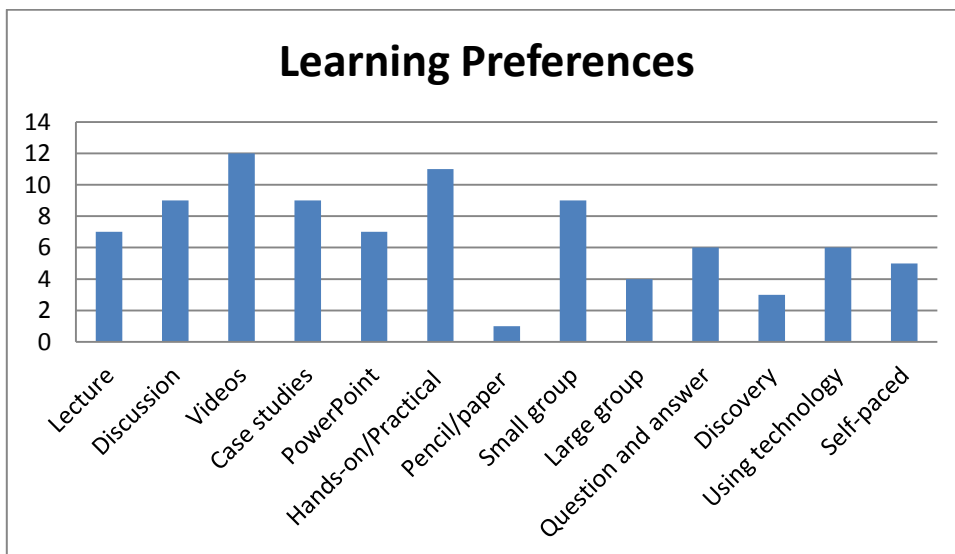


During the pre-study survey, respondents were asked to indicate their level of experience with computers and the Internet and their access to computers and the Internet at home and at work. Only one respondent indicated they have no experience with computers and two indicated they have no experience navigating the World Wide Web. All but one of the respondents has access to a computer at work and at home.

Nine of the fifteen respondents indicated they completed an online training course and thirteen respondents indicated they completed a traditional instructor led course. Results of these survey questions are shown in the following chart and indicate that for those attending on-line training courses, a majority completed courses because it was part of the job, required, or have never completed an on-line training course while a majority of those completing the traditional instructor led courses attended to stay up-to-date on job related information, because they enjoy learning, and it is part of the job. The following chart shows participant responses for reasons to complete training.



Respondents were asked to indicate from a list which type of instruction and activities they preferred. The list included the following items: lecture, discussion, videos, case studies, PowerPoint's, hands-on activities and practical exercises, pencil paper activities, small group activities, large group activities, question and answer sessions, discovery activities, training that involves the use of technology, and training that is self-paced. Employees were requested to mark all that apply. The following chart indicates employee learning preferences.



Only ten of the respondents completed the post-study survey. All ten of the respondents indicated that the instruction and information provided to them to complete the on-line training course was sufficient. However, when asked what suggestions they had to improve the instructions and information for logging into the on-line course, the answers were not relevant to the question.

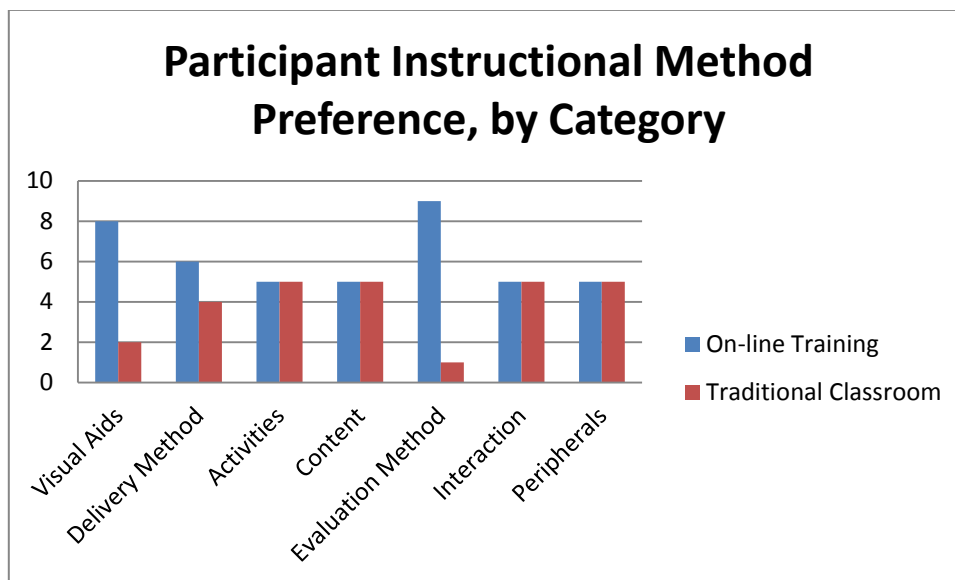
Respondents were asked their opinion about whether their opinion of on-line training improved, stayed the same, or worsened after completing the on-line course. Two respondents indicated that it stayed the same (it was a positive experience and I would take another on-line class). Six indicated that their opinion stayed the same (I like on-line training). Two indicated that it stayed the same (I don't care for on-line training).

Two questions in the post-survey were designed to split responses by method of instruction to help determine reasons that respondents chose their preferred delivery method. One respondent did not answer questions in either section of the survey and one respondent did not choose a preferred method and answered the preference sections in both of the questions. Respondents who preferred the on-line delivery method selected from a list the reasons they prefer the on-line delivery method. Five of the respondents chose the item, it is self-paced. I can work through the material as quickly or slowly as I need in order to understand it, and I can take the class when it is convenient. Four respondents indicated the material was easy to understand. Three indicated that it is relevant to their job duties, and two indicated that the quizzes and tests are easy.

Three of the respondents who prefer the traditional instructor led classroom method indicated that the reason they prefer traditional instructor led methods include, courses are

customized to my department needs, courses are customized to my job duties, I can participate in activities with my peers, I enjoy the social interaction, and the instructor is available to answer questions. Two of the respondents indicated that they learn by doing, and they learn from others in the class.

To determine respondents' preference for specific portions of the two instructional methods, respondents were asked to indicate their preference for on-line or traditional instructor led training for seven different categories. The categories included visual aids, for example graphs, photographs, and maps; delivery method, meaning how the information was provided either by computer or in person; activities, for example group activities, discussion and hands-on activities; content; evaluation method; interaction, for example interacting with peers and an instructor versus clicking to navigate; and peripherals, for example handouts, printouts, and take home materials. The chart below indicates participant responses indicating preference for on-line or traditional classroom instructional methods for each category provided to participants.



The findings of the pilot study indicate that most employees from the study group have computer experience and access to computers. Of the employees participating in the study, employees' preference for delivery method was split down the middle with 50% of respondents indicating they preferred on-line training and 50% preferring learning in a traditional classroom setting.

Respondents were provided the opportunity in the post-study survey to provide input. Of particular interest to the study were answers for the questions, what did you like about on-line training, what did you dislike about on-line training, and any additional comments they wanted to include regarding the study and the on-line training they completed.

Respondents stated that they liked on-line training courses because they are convenient and easily tracked, are self-paced providing the ability to review, and if you didn't understand something you could replay the section instead of asking someone to repeat the information. Responses provided for what respondents dislike about on-line training included that an on-line class does not offer technical information needed for job skill, lack of interaction makes it easier to misunderstand information, the class was canned and not customized to their department or job duties, the class was too basic, and there was no way to pause the course without reloading and taking the entire course over.

Additional comments provided by the respondents include suggestions to offer this study to more people, that the content needs to be customized to the position or department, and there needs to be a pause button. Specific mention was made by three of the ten respondents that technical material would be difficult to cover in an on-line course and courses that required employees to actually learn to operate equipment safely

would be more beneficial in an instructor led classroom that incorporated hands-on activities.

Discussion/Conclusions

The population size of this pilot study was too small to make any definitive determinations for the research questions. From the small sample group, it appears that a majority perceive they are receiving safety training. It is known that safety training is not being provided by the Risk Management division, therefore, it is of particular interest to determine if any departments are providing safety training and if so, which courses they are providing and what content is covered.

For question number two, "what are employees perceptions of on-line training versus traditional classroom training methods?" it appears that the while on-line training seemed to be a more preferred method, participant responses indicating preference for particular elements of the training were not easy to determine. When respondents indicated their preference for items such as visual aids, and content, 50% of the respondents chose on-line training and 50% chose traditional instructor led training as their preferred training method. This indicates that future study will need to be done on larger population samples to determine an accurate answer to this question.

It appears that from the small sample population of this pilot study that a majority of the employees were receptive to the on-line training. Further study and analysis will be done to confirm this initial assessment.

This pilot study was beneficial as an initial step in the development of a larger study that will address a larger employee group to determine if the on-line training method will meet the safety training needs for CSJ. The pilot study helped determine areas that

worked and areas that need more work. Incorporating the two surveys in the pilot study and the results obtained from this approach assisted in determining that while the contents of the surveys provided useful information, there was little in the form of quantitative data that could be gleaned from the results. This indicates that more attention will need to be made with correcting the portions of the surveys that could help obtain the quantitative data. In addition, the small sample size of the group, and because five of the respondents did not complete the post-study survey, any planned comparisons from the pre- and post-study surveys was hindered.

The survey instrument chosen for the pre- and post-study surveys was GoogleDocs. This instrument was chosen because it is free to use, easy to set up on the administrative side, easy to navigate to on the respondent side, and provides a means for respondents to answer survey questions anonymously. While GoogleDocs is easy to use for both the administrator of the study and the participants completing the survey, the way that some of the results were listed on the administrators side of the program made it difficult to tabulate any results. Of particular concern were questions where multiple responses could be submitted by the respondent. The administrators' side of GoogleDocs was similar to a Microsoft Access table. Questions in which respondents could select more than one answer listed all answers in a single cell per respondent, making it difficult to interpret the findings. As a result, some questions had to be tabulated by hand. For future studies, more time should be spent analyzing different survey instruments to determine if results are organized in ways that will assist with tabulating results. In addition, survey questions should be reviewed to determine which need to be changed and how to change them so that the results are easier to compile.

Another issue that occurred was tracking. When employees completed the pre-study survey, they were assigned a date and time stamp, however, this date and time stamp did not match the date and time stamp they were given when they completed the post-study survey. This made it difficult to determine which employees from the population group completed the survey instruments. Because respondents did not log in, there was no way to know which employee took the surveys. In addition, there was also no way to perform any comparative data by individual from pre- to post-study survey.

For facilitating the study, department directors were provided with the names of the employees selected for the study and made responsible for ensuring these employees completed the components of the study. These directors were provided with the written instructions that the selected employees would use to complete the study but no instructions were given to directors beyond that so there was no consistency with the method in which employees participated and no way to know how employees were given the instructions or if they were monitored. Another question to consider is, if the employees were monitored, did it keep them from being completely honest? In addition, five of the respondents did not complete the post-study survey indicating that either the instructions were not sufficient or someone needs to be present as employees are participating in the study to ensure all components of the study are completed.

The on-line portal is set up with two different types of access. The students access the system only to take the course; however, there are many other options that appear to be available, making it confusing to the student. The instructor side allows for some customization, however all courses are pre-developed, and there is no way to access a lesson plan or the content of any course without completing the course. Because no

lesson plans or actual course content is available to the administrator, it makes this a time consuming process for the administrator when they are determining which courses to assign employees. Further study groups should complete on-line sessions that are more closely tied to their job duties to provide a more accurate determination of employee perception of on-line training.

Action Plan

Future study will continue with smaller groups until the process is perfected and issues of concern are covered in the survey questions. Once this process is perfected, it will be administered to all CSJ employees to determine if on-line training will be an effective method for CSJ to administer safety training. The overall goal of this study's impact for CSJ is providing CSJ with information that will help them determine the best method for providing safety training to employees.

Recommendations for future study include using a survey instrument that provides a more detailed system for recording participant responses and working on the survey questions so that the results can be used for not only descriptive statistics, but also provide quantitative statistics. In addition, using a more random sampling of CSJ population and a different means of administering the components of the study may help ensure that all respond to all parts of the study. The current study relied on respondents remembering traditional instructor led training events and completing an on-line course. It may be necessary to provide an instructor led course to obtain more descriptive answers for the traditional instructor led questions on the surveys, and an on-line training course so that respondents can provide more informed response when choosing preferred instructional method types.

The pilot study helped determine the next step to take toward answering our research questions two and three, what are employees' perceptions of on-line training versus traditional classroom training methods and are employees receptive to on-line training? Further development and pilot studies will need to be completed in order to ensure that a system be developed that will provide CSJ with accurate useful information to help determine if on-line training will meet their safety training needs and be accepted by their employee group.

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