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An Evaluation of the Inclusion of Multiple Intelligences in Safety Training Systems

By

Melissa Diers-Sarasin

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The Imperativeness of the Inclusion of Multiple Intelligences in Safety Training

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December, 2016

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DEDICATION

This thesis is dedicated to my father

Norman Diers

for his infinite love and belief in me.

ACKNOWLEDGMENTS

My sincerest gratitude to my thesis chair, Dr. Scotty Dunlap, for his guidance, assistance, and compassion. Dr. Dunlap graciously provided me the opportunity to process the completion of my thesis and masters program was not an end to a plan, it was a celebration of life. His continuous support aided me in identifying the significance of my education and future.

I would also like to thank the staff members of Eastern Kentucky University's School of Safety, Security and Emergency Management. In particular, I would like to thank the following personnel: Jackie Levine, Dr. Schumann, Dr. Schneid, Dr. Blair, Dr. Spurlock and Dr. Morris.

A special thanks to my friend Mary Albrecht. I am very appreciative for the many wonderful conversations that have guided me.

Last but not least, my deepest gratitude to my husband, Dale, and children, Caleb and Cambrea, for their love, support, and patience during this educational journey. The experience would not have been the same without them.

ABSTRACT

Many organizations are increasingly becoming aware that effective safety training is a key element in their success. Employers are now forced to face the challenges of holistically evaluating safety programs to ensure their multigenerational workforce comprehends, utilizes, and values the safety training provided to them. These expectations are brought about by regulations and the need to control expenditures directly related to safety training and performance. Now more than ever, it is imperative that multiple intelligences are incorporated into safety education and training programs. This article examines key elements of multiple intelligences, the significance of their incorporation in safety education and training, and the many safety program benefits that result from their utilization.

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LIST OF ABBREVIATIONS

Multiple Intelligences	MIs
Cardiopulmonary resuscitation	CPR

CHAPTER I

INTRODUCTION

Multiple Intelligences

The theory of multiple intelligences was first introduced by Harvard psychologist Howard Gardner in 1983. In his book *Frames of Mind* he stated, “I believe that human cognitive competence is better described in terms of a set of abilities, talents or mental skills, which I call intelligences." (p. 6). He suggested that because humans are different from one another that it would only make sense that they also learn differently.

Gardner proposed that all people possess varying degrees of multiple intelligences but differ by how they process information using them. Meaning, each individual has a unique intellectual profile. It was for that reason Gardner suggested that in order for all people to learn, information had to be projected in multiple ways to ensure the subject matter presented was understood.

Criterions for Multiple Intelligences

Gardner created a list of standards to determine intelligence classifications. His criterion was developed through years of interviews and neuroscience research of autistic individuals, prodigies, and stroke victims. Gardner’s findings resulted in the eight standards listed below:

- A Separate Brain Function

  Specific location exists in the human brain where the function can be identified for each intelligence classification.

- Prodigies, Savants, and Exceptional Individuals

  True intelligence can be identified in each intelligence classification.

- Distinguishable Set of Core Operations

  There is an identifiable set of procedures and practices specific to each intelligence classification.

- Developmental Stages with an Expert End State

  Mastery level of intelligence can be identified for each intelligence classification.

- Evolutionary History and Plausibility

  Development of intelligence for each intelligence classification can be traced through evolution.

- Supported Psychological Tasks

  Intelligence can be performed, observed, and measured for each intelligence classification.

- Encoded into a Symbol System

  Unique images that are important in completing identified set of tasks are known for each intelligence classification. (McKenzie, n.d.)

After Gardner's assessment of the eight criterions that were established, he was able to identify separate intelligences that could be grouped together and classified as multiple intelligences. This became known as Gardner's Multiple Intelligences Theory that is often referred to as MIs. The theory reshaped how intelligence is thought of and how instruction is prepared and presented.

Types of Multiple Intelligences

Initially, Gardner identified seven separate intelligences using the list of standards he created. Years later he added another two. Currently there are nine recognized

multiple intelligences. However, there is speculation more will be identified in the future. Gardner's nine separate intelligences are listed in more detail below:

- Bodily/Kinesthetic – Body Smart

Bodily/Kinesthetic intelligence refers to individuals that utilize their bodies and the sensations they feel to process information. They like to move around and touch things. These individuals often enjoy physical activities, athletic sports, and dancing.

Instructional methods that can be used to promote growth with bodily/kinesthetic learners include feeling or touching objects, body movement, doing hands-on activities, such as crafts or using tools, and improvisation. Individuals who process information with their bodies are good at small and large muscle skills. Physically doing activities is a great way to teach bodily/kinesthetic learners. (McKenzie, n.d.)

- Existential – Life Smart

Existential intelligence refers to individuals that contemplate the nature of one's existence. They like to ask questions and then think about the responses and their relationship to life, death, and the afterlife. These individuals like to focus on the "big picture" and seek to understand the real world through analyzation of life's meaning.

Instructional methods that can be used to enhance development of existential learners include providing an overview to create a desire to understand the material's significance, presenting multiple points of view of the topic, and connecting the material presented in the classroom to the outside world. Individuals who learn through existential intelligence have strong cogitation skills. Utilization of intuition and social values in instructional activities aid in the comprehension of course material and is a good way to teach existential learners. (Kelly, 2014)

- Interpersonal – People Smart

Interpersonal intelligence refers to individuals who learn from their interpretation, interaction, and response to others. They often have good communication and perception skills. These individuals like team projects that involve collaboration and cooperation.

Instructional methods that can be used to promote growth of interpersonal learners include debates, speeches, group discussions, and committees. They learn best when they are provided opportunities to use their people skills. Any activity that requires interaction would be a desired method of instruction for an interpersonal learner. (Logsdon, 2014)

- Intrapersonal – Self Smart

Intrapersonal intelligence refers to learning from oneself. These individuals learn by analyzing their emotions, attitudes, and values. They rely heavily on their awareness of their strengths and weaknesses.

Instructional methods that have been found to be beneficial for intrapersonal learners include journal writing, thinking maps or graphic organizers, and quiet time for meditation. They learn best through personal reflection. Intrapersonal learners prefer instructional activities that allow them to work alone at their own pace. (Giles, Pitre, & Womack, 2003)

- Mathematical/Logical – Number Smart

Mathematical/Logistical intelligence refers to individuals that learn by use of numbers, logic, and patterns. They enjoy learning through problem solving and equations. Individuals who learn primarily through mathematical/logical intelligence often have advanced scientific abilities.

Instructional methods that work well for mathematical/logistical learners include categorizing, pattern identifications, classifying, sequence activities, and experiments. These individuals learn by exploration and manipulation of subject matter. Activities that allow mathematical/logistical learners to use their critical thinking skills to analyze, organize, and interpret data to reach a prediction or conclusion is a great way to provide instruction to them. (Giles, et al., 2003)

- Musical/Rhythmic – Music Smart

Musical/Rhythmic intelligence refers to individuals that learn from sounds, rhythms, and melodies. Information is often processed and learned through the incorporation of some element of music. These individuals have a strong understanding and appreciation for the structure of music.

Instructional methods that can be used to enhance the learning experience of a musical/rhythmic learner include rhyming activities, creating songs and melodies, playing music, and sing-alongs. These individuals learn from patterns and auditory that appeal to their senses. Successful learning activities involve music interwoven into the content being taught. (Giles, et al., 2003)

- Naturalist - Nature Smart

Naturalist intelligence refers to individuals that learn from the natural world around them. They enjoy being a part of nature, making deductions about it, and classifying elements of it. These individuals have an acute awareness of the natural world around them.

Instructional methods that work well for a naturalistic learner include holding class outside, observation, recording of details, classification, categorization, and growing

things. These individuals enjoy comparing and contrasting objects to reach conclusions. Activities that make a connection from the subject matter to nature are a good way to enhance an educational experience for a naturalist learner. (Giles, et al., 2003)

- Verbal/Linguistic – Word Smart

Verbal/Linguistic intelligence refers to individuals that learn through verbal and written communication. They have the ability to understand languages and manipulate words to convey meaning. These individuals easily can express their thoughts through excellent communication skills.

Instructional methods that can be beneficial to verbal/linguistic learners include reading, writing, narrating, participating in debates, giving speeches or presentations, and word games and activities. Words are a fascination to these individuals. Use of verbal and written words in any way can enrich the instruction of verbal/linguistic learners. (Meetu, 2015)

- Visual/Spatial – Picture Smart

Visual/Spatial intelligence refers to individuals that can visualize and remember images and details. This allows them to modify their environment based on their insight. They are often good at recalling objects, people, and details associated with them.

Instructional methods that can be used to aid in the instruction of visual/spatial learners include PowerPoint presentations, charts, graphs, videos, visualization time, and drawing. They often learn best when they can see and visualize the entire concept or picture. Visual learners will learn from activities that allow them to use their imagination to think in pictures. (Giles, et al., 2003)

Key Components of Multiple Intelligences

The fundamental components of Gardner's Multiple Intelligences Theory are critical in understanding the significance of the classifications. Once the intelligences are understood they can then be valued. Key points of the Multiple Intelligences Theory are:

- All nine intelligences in varying degrees are possessed by every human being
- Each intelligence can be used with or independently from one another
- There is a different area of the brain used for each intelligence
- Every human possesses a unique intellectual profile
- The intelligences may explain and give meaning to the human genus
- Education can be enhanced by the incorporation of multiple intelligences into curriculum (Kallenback, 1999)

Significance of Multiple Intelligences

Gardner's Multiple Intelligences Theory is of great significance. Prior to Gardner's theory, educators struggled to reach all of their learners with thorough, effective, and valuable instruction. Now with the knowledge of varying learning styles, curriculum can be adjusted to aid in the comprehension of the material being presented.

Multiple intelligences are known to have changed how intelligence is defined and education is approached. Gardner's support for individuality has changed how students identify their strengths and learn. "Students' regular reflection on their learning shifted and broadened the paradigms of effective and acceptable teaching and learning practices". (Kallenback, 1999, p. 5) Many professionals consider Gardner's work to be revolutionary and instrumental in how employers utilize their personnel's strengths to change the dynamics of their workforce.

CHAPTER II

SAFETY TRAINING

What is Safety Training?

The question of "What is safety training?" is pertinent in understanding the significance of Gardner's Multiple Intelligences Theory. Safety training is commonly thought of as an educational experience that provides information on safety and health topics. As simple as that may seem, often there is a great difference between how safety training is performed and the way it should be conducted.

As industries begin to analyze the importance of health and safety training, the question of "What is safety training?" must be addressed before viable programs can be created and implemented. According to the Health and Safety Executive (n.d.), safety training is defined as:

> "Training means helping people to learn how to do something, telling people what they should or (often as important) should not do, or simply giving them information. Training isn't just about formal 'classroom' courses and obtaining 'tickets' (certificates) to work.

It is understood by many that safety training should not be presented in only one format." Safety training needs to be provided in a manner that will impart the information to all of the participants. As Warren (2010, p. 1) stated, "Learning programs for the workplace should look like a smorgasbord, not a single entrée. Events using multimedia and multiple learning strategies will have a better chance of reaching the diverse workforce that we training professionals serve." Because individuals learn in different ways, it only

makes sense that multiple intelligences need to be incorporated in safety training to ensure people truly do learn the content of the material being presented.

Effective Training

Successful safety programs are the result of the incorporation of effective safety training. Gill (2016, p. 1) stated, "An effective teaching style engages students in the learning process and helps them develop critical thinking skills." OSHA (OSHA, 2010, "Best Practices," p. 2) affirms, "Effective training develops workers who are educated and empowered to improve the working conditions in their places of employment." Smithers (2010, p. 9) stated, "The goal of training is to improve comprehension and performance. The effectiveness of a training program is especially important when safety is involved. Deficient safety training can lead to injuries." It is evident that safety programs that are successful allow personnel to utilize safety education as a tool to protect themselves from workplace illness and injuries.

Effective safety training is the result of several educational factors. As listed in *Best Practices for the Susan Harwood Training Grant* (2010, p.2) participants should learn in effective training:

- How to identify the safety and health problems at their workplace;
- How to analyze the causes of these safety and health problems;
- How to bring about safe, healthier workplaces; and
- How to involve their co-workers in accomplishing all of the above.

In addition, it is important to note a competent training facilitator is a critical component in effective safety and health programs.

Quality Training

Quality training programs have four characteristics that are shared. These programs are practical, accurate, clear and credible. OSHA (2010, p.2) further describes the traits as follows:

- **Accurate**. Training materials should be prepared by qualified individuals, updated as needed, and facilitated by appropriately qualified and experienced individuals employing appropriate training techniques and methods.
- **Credible**. Training facilitators should have a general safety and health background or be a subject matter expert in a health or safety-related field. They should also have experience training adults or experience working with the target population. Practical experience in the field of safety and health as well as experience in training facilitation contribute to a higher degree of facilitator credibility.
- **Clear**. Training programs must not only be accurate and believable, but they must also be clear and understandable to the participant. If the material is only understandable to someone with a college education or someone who understands the jargon, then the program falls short of meeting workers' needs.

  Training materials should be written in the language and grammar of the everyday speech of the participants. Training developers should ensure that readability and language choices match the intended audience.
- **Practical**. Training programs should present information, ideas, and skills that participants see as directly useful in their working lives. Successful transfer of

learning occurs when the participant can see how information presented in a training session can be applied in the workplace.

"Best practices" evaluations by safety training professionals have shown the significance of understanding the training's intended audience, knowing training techniques, methods and modes of teaching, and needs assessment and evaluation. These traits are known to impact the quality of safety education. Safety training consisting of excellent quality and effectiveness is the result of a well planned, executed, and managed safety program.

Styles of Teaching

There are many ways to project information to learners. Teaching methods continually evolve as new information and theories become known. However, training professionals are not always willing to modify how they present information. Often the teaching style used is what works best for the facilitator or the company, not the employee.

In Gills' (2016) research, five strategies are identified as the most common teaching styles. The following provides further detail on them:

- Authority or Lecture Style

  Authority or lecture style of instruction often involves long lectures or presentations provided by the trainer. Learners often take notes to aid them in retaining the information.

- Delegator or Group Style

  Delegator or group style of instruction allows students to work independently and consult the trainer for guidance. Learners are guided to discover the material presented on their own.

- Demonstrator or Coach Style

  Demonstrator or coach style of instruction includes demonstrations and presentations. Learners tend to learn only what they specifically see.

- Facilitator or Activity Style

  Facilitator or activity style of instruction encourages learners to think about the material presented to perform learning activities. Learners often inquire and develop knowledge by research.

- Hybrid or Blended Style

  Hybrid or blended style of instruction utilizes more than one teaching method. Learners are presented information a broad manner to ensure the material is understood.

The five teaching strategies are significant because they aid the instructor in engaging the learner in the educational process. If an instructor is successful at using multiple teaching strategies, learners are more apt to have information presented to them in a manner they prefer, understand, and can apply. Teaching styles are similar to multiple intelligences; what works best is determined by the individual benefiting from the presentation.

The Learning Cone

Regardless of the style of learning, it is important to understand each training method statistically has only a certain level of success. Edgar Dale (1969) established what is now known as the Learning Cone. His research disclosed how a person is presented information determines much information they will retain. Dale's learning cone shows that after two weeks people tend to remember:

- 10% of what is read
- 20% of what is heard
- 30% of what is seen
- 50% of what is seen and heard
- 70% of what is said
- 90% of what is said and done

It is important to note that there are two styles of learning that takes place for all the instructional methods listed in Dale's Learning Cone. Material can either be presented in a passive or active manner. Passive learning is a style of education where the learner is not engaged with their instructor nor are they given any feedback. Active learning requires the learner to participate and actually do activities relating to the material and/or its content. Feedback is often given from the instructor in an active learning environment. The Learning Cone clearly shows that teaching methods can greatly influence the learner's comprehension of subject matter presented.

Incorporation of Multiple Intelligences in Safety Training

Companies that approach safety training with all workers in mind find safe work cultures are the result of their commitment to their employees' individuality and wellbeing. OSHA's website (OSHA, n.d., "Creating a Safety Culture," p. 1) states,

> A company with a strong safety culture typically experiences few at-risk behaviors, consequently they also experience low incident rates, low turn-over, low absenteeism, and high productivity. They are usually companies who are extremely successful by excelling in all aspects of business and excellence.

This commitment is often demonstrated by the availability of varied instructional methods for employees. OSHA states in their Best Practices for the Development, Delivery, and Evaluation of Susan Harwood Training Grants (2010, p. 2) "Training providers and instructional facilitators who recognize and embrace characteristics of sound training and principles of adult education will maximize the benefits of the training for their participants." The incorporation of multiple intelligences in safety training materials can greatly improve employee health and safety programs.

Safety training curriculum and programs can easily be conducted utilizing Gardner's Multiple Intelligences Theory. Employers can ensure each employee is receiving effective safety training when the safety training material is presented in a teaching style that is understood. The incorporation of Multiple Intelligences in safety programs is a great way to achieve safety comprehension and compliance. Following are examples of safety training activities for each of Gardner's identified Multiple Intelligences.

Bodily Kinesthetics

- Practice or review lockout/tagout procedures.
- Perform First Responder simulations.
- Demonstrate work functions utilizing proper ergonomics.
- Review proper equipment set up and/or tool usage.

Existential Learners

- Perform a safety presentation providing multiple views of the subject matter.
- Connect safety issues/topics with real world situations.
- Create a list of safety related questions and then have learners find answers to them.

Interpersonal

- Conduct a debate using safety topics.
- Create a safety committee.
- Guide group discussions on specific safety topics.
- Hold group presentations focusing on safety topics.

Intrapersonal

- Design questionnaires to aid the learner in recognizing how they feel and think about safety topics.
- Journal a few sentences daily about a specific safety topic.
- Fill out a graphic organizer on a safety topic.
- Reflect on safety topics by spending time in a safety focus area.

Mathematical/Logical

- Categorize safety issues with choices.

- Present safety patterns and have employees deduct potential outcomes.
- Classify injury types using OSHA's recordkeeping requirements.
- Present action sequences to teach safe work practices.
- Set up experiments to show how injuries can occur.

Musical/Rhythmic

- Provide safety instruction using songs, such as teaching the cardiopulmonary resuscitation (CPR) pace to "Staying Alive".
- Write safety songs using well known melodies.
- Create a safety rap with a safety slogan for the chorus.
- Play sounds/noise that would indicate a type of safety incident and have learners guess what made the sound and what type of injury occurred.

Naturalist

- Provide instruction where safety issue(s) naturally occur.
- Hold class outside and make connection to safety issues with nature.
- Allow learners to observe a reconstructed safety incident, take notes, classify elements of incident, and categorize elements of potential results of the incident.
- Draw an accident tree where poor decisions grow safety issues.

Verbal Linguistic

- Provide safety crossword puzzles.
- Give word searches that require a safety question to be answered to determine the word to be found.
- Create safety slogans.
- Write safety themed poems.

- Create a safety mad libs or phrasal template word game/activity.

Visual Learner

- Draw the worst part of a safety incident.
- Create Power Points, charts, or graphics to show details of the safety topic.
- Provide learners details of a safety incident and have them draw what is described or provide learners pictures of an incident and have them determine the root cause(s) of the incident.
- Illustrate a safety related cartoon.

Significance of Multiple Intelligences in Safety Training

Multiple Intelligences in safety training is important for many reasons beyond instructional methodologies. Authors Wall, Carney, McNamee, Madden, Hurst, Vrasida, Chanquoy, Baccino, Acar, Onwy-Yazici, and Jordan (2007, p. 9) stated, "There is a compelling moral and business case for improved health and safety performance". Authors Eng and Mustapha (2010, p. 2) stated, "Training programmes should provide links between training and the real world. Training programmes should also actively encourage individuals to manifest their differences in strategies and styles." It is often understated that effective safety training is an employer's business and moral obligation to ensure employees receive training that applies to them and who they truly are as individuals.

Getting employees to think about their safety training is why Multiple Intelligences should be a key component in safety training. Nagappan (2010, p. 1) stated, "Employers and educators are generally in agreement that students need to increase their problem solving and critical thinking skills." He goes on to state, "Now we need to make a more

concerted effort to integrate thinking habits with factual content." Today's diverse workforce makes it imperative for employers to understand and embrace how employees think to deliver the factual contents found in safety training.

Understanding what is truly at stake is critical in evaluating the significance safety training has in involving Multiple Intelligences. It is clear employers must train their personnel. What may not be fully understood is why. Reyes (2014, p. 1) stated the following concern regarding workplace training:

> "With an increasing skills gap and an aging workforce, a number of employers are reconsidering their reluctance to train new and existing employees beyond the essentials. Progressive employers understand that continuous learning and capability development will be essential going forward."

As the workforce continually evolves and changes, so too must the education provided to them. Continual modification is the new norm in workplace settings. Employers must focus on developing staff that have varying degrees of understanding, capabilities, and willingness to participate in on-the-job training.

A "one and done" teaching method will no longer work in today's multigenerational work force. Cekada (2012, p. 1) stated, "Each generation has unique characteristics, influences, work ethics, core values, and respect and tolerance for others that affect how its members interact, communicate and learn in the workplace. SH&E trainers must understand what learning activities are most engaging for learners today." Employers need to be mindful of the many differences between multiple generations and figure out how to effectively utilize the skill sets and knowledge their workers' possess. Training designed with multiple learning styles and multiple methods to present material often is

the best way to reach multigenerational workplace cultures. It is for this reason that Gardner's Theory is of great significance in safety training.

CHAPTER III

BENEFITS

There are many benefits to the incorporation of multiple intelligences in safety training. By acknowledging that each employee is unique in the way they prefer to learn and develop competencies, employers can maximize their workforce potential and profitability. Many opportunities and achievements can result from the utilization of Multiple Intelligences in the workplace.

Profitability

A well known motivation and desired benefit for all companies is profitability. Multiple Intelligences help employees develop knowledge and competence which in turn drives financial gains. Dozier (2014, p. 1) lists the following as benefits of effective safety training:

- A measurable reduction in the direct costs associated with illness, injuries and fatalities, such as medical expenses, workers' compensation payments and increased premiums, additional insurance claims and lost time on the job.
- Lower indirect costs, including training and compensation for replacement workers, repair of damaged property, accident investigation and implementation of corrective action, schedule delays, and additional administrative time.
- Compliance with OSHA regulations and reduced risk of worker complaints, failed inspections, and potential fines associated with noncompliance.
- A more positive workplace culture and improved employee morale due to the enhancement of workplace safety and health, resulting in higher productivity and quality, reduced turnover and greater worker satisfaction.

- Improved perceptions and reputation among customers, business partners and investors as a result of a proactive approach to the safety and health of employees.

Multiple intelligences can be considered an integral element to the success of any institution that incorporates them into their safety training programs.

Improved Communication

Another aspect of safety training programs that can benefit from the incorporation of Multiple Intelligences is communication. Banville (2014) provided staggering numbers to illustrate the cost of poor communication and how multiple intelligences can be used to mitigate and improve employee interaction. The following are examples of the costs associated with poor communication.

- Poor communication regarding employees' job responsibilities and expectations resulted in an annual expenditure of 37 billion dollars being spent.
- Small businesses spent $528,443 for the year to clarify communication to their workers.
- Loss of productivity from communication barriers costs employers $26,041 annually for each of their workers.
- Disengaged employees cost their companies $2,246 each year.

It is clear that if multiple intelligences were incorporated into training, companies would benefit from improved communications and profitability.

Job Satisfaction

Communications is not the only way safety can impact a company's profitability. Banville (2014, p. 1) also provided an astonishing number when he stated states:

> "When team members aren't satisfied with their jobs, they begin to shut down due to lack of engagement! As calculated in the 2009 book "How Extraordinary Leaders Double Profits' lack of engagement in today's workforce is costing companies $300 Billion in lost productivity."

Employee intentness on their position is a major component of their employers' financial success.

Employee Engagement

It is because employees must invest themselves and take ownership of safety training that employee engagement is vital to any safety program. To combat the lack of engagement Banville (2014, p. 3) suggests bringing Multiple Intelligence into the workplace to reengage employees in their work:

> "So how can you get your employees and yourself into a state of flow more often? By bringing multiple intelligences into the workplace. This allow for us to reengage our employees and ourselves in the work we do by feeding our intelligences through our work tasks and increasing the amount of time we are in a state of flow!"

If employers want to impact their bottom line they need to engage their employees using multiple intelligences to help them identify and appreciate their learning styles and strengths.

CHAPTER VI

RECOMMENDATIONS

Organizations

Organizations need to invest in their employees by incorporating multiple intelligences into their training programs. This investment would send the message to each and every employee that they are unique, important and valued. By improving employee morale with a positive safety related message, the organization's safety culture would also benefit. Once employees believe and feel supported to work safely, they will continue to assist and drive safety initiatives and other activities that are sanctioned by the organization and its affiliates. Organizations need to be consistent and continuous with their support of multiple intelligences.

Trainers

Trainers need to utilize the incorporation of multiple intelligences as often as possible. By creating opportunities for employees to engage in multiple intelligence learning activities, there is a much greater potential for safety training to be better understood, retained and utilized. This increased knowledge could provide enhanced communication from the employees that should be reflected upon by the trainer to improve safety training programs. Safety trainers need to be prepared to present their materials in various ways at all times.

Future Research

More research is needed to better communicate the benefits of the inclusion of multiple intelligences in safety training. Statistical analysis conducted in various industrial settings with different employee demographics would provide data on best

practices and commonly identified learning styles. Findings could be used to aid in the creation of much needed resources. Additional research could support benefit findings and, as a result improve safety training.

CHAPTER V

DISCUSSION

Multiple intelligences have always been an element of safety cultures. What has not been always present is the cognizance of its role and potential contribution to organizations success. It is time to acknowledge the significance of the implementation of Multiple Intelligences into safety programs, the cultures that result from its integration, and the many individuals and lives that it has the potential to change.

Doing What's Right

Jacobi (2015, p. 4) affirms why safety training is imperative. He writes:

> Training done poorly wastes an enormous investment. The investment in training includes wages and the opportunity cost of other work not performed while training. As for less tangible costs, training that insults the intelligence of trainees tends to create resentments, demotivate, and may even serve to lower self-confidence. Few organizations can afford to simply meet compliance obligations; there must be other benefits to onset training investments. Do what's right (not just what's required) and train to learn to reap the full benefits training can offer.

All too often training is conducted to meet a requirement, a requirement put in place to protect employees, yet is never designed nor intended to truly educate and serve the employee. The "getting it over with" philosophy of doing something, rather than the right thing, is counterproductive and can be truly deadly. Conducting training the right way means employers must invest in each and every one of their employees. It is easy to deduce the incorporation of Multiple Intelligences is the right thing to do.

A Nation Built on the Dignity of Work

Secretary of Labor Thomas E. Perez's quote on the Occupational Safety and Health homepage states, "No one should have to sacrifice their life for their livelihood, because a nation built on the dignity of work must provide safe working conditions for its people." Yet each day in the United States many workers do risk their lives, and worse, thousands die annually. When Americans sing *The Star Spangled Banner* lyrics, "Home of the free and the land of the brave." they are not talking about being free to work for employers that don't care about their safety; nor are they talking about being brave enough to work dangerous jobs. America is a county that takes great pride in pledging "With liberty and justice for all." It is reprehensible that not all workers are given the liberty of a safe workplace or justice when their employer decides to wait and see if OSHA or some other regulatory agency will catch them. Effective safety training is one way to ensure workers are given their right to a safe workplace.

Number One

Recognizing the significance of employee safety training and workplace safety cultures is crucial to all organizations. In a world where business is driven by profit and loss statements, there is only one real number that can influence how a decision is made; that number is one. Every single employee is important! Now more than ever, it is imperative that multiple intelligences are incorporated into safety education and training programs.

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VITA

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