



Real-Time Health and Safety Training

Implementing a learning management system for health and safety training programs can cut administrative costs and make your workplace safety goals more readily achievable.

The moral, legal and economic health of businesses in the automotive and other manufacturing industries greatly depends on occupational health and safety issues. When workers know how to recognize, evaluate and control hazards, the workplace becomes safer. Corporate health and safety programs train personnel hoping that they will follow safe procedures, whether mandated by Occupational Health and Safety Administration (OSHA) regulations or by the company. Unfortunately, these programs do not always achieve the desired results due to challenges unique to the company and its workforce.

A learning management system (LMS), an Internet-based system for accessing online training programs and sharing information, can help optimize safety certification and compliance by creating an environment where knowledge is proactively pushed to the worker through automation and real-time delivery and assessment of educational content.

Assessing the Problem

While tangible costs of workplace accidents are fairly straightforward, the company also incurs less tangible costs in lost productivity that are even more difficult to measure. When an employ-

ee is lost, that employee's institutional knowledge and experience is also lost. Experienced personnel are readily available as resources for other workers; when injured, their knowledge may not be as easily accessible. Furthermore, an accident in the workplace can adversely affect the behavior of uninjured workers. They may approach a piece of machinery more tentatively or otherwise work with extreme care to avoid an accident themselves.

Safety in the workplace is clearly a prominent issue. Not only does the manufacturer risk economic damage, but also a single serious injury or death is socially and ethically unacceptable. As a result, the government promulgates regulations that private firms must follow. Most companies want a safe workplace, working hard to comply with OSHA regulations and even establishing their own health and safety policies and procedures.

Categorizing Accident Prevention

Accidents can be organized into three primary categories.

- 1) Accidents that are avoidable by the individual, resulting from inadequate training in relevant safety topics.** These accidents are the most preventable type, requiring employers to educate their work force in risks and the appropriate procedures to safely perform job duties.
- 2) Accidents that are avoidable, but the individual knowingly engages in dangerous practices.** These accidents are prevented by tracking the success of safety training, monitoring conformance and reinforcing safe practices.
- 3) Accidents that are unavoidable by the individual because they were caused by systemic factors inherent in a suboptimal operational process or equipment.** These accidents are prevented by modifying the process and/or changing equipment.

Many companies use training pro-
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grams to target the first two categories of accidents. However, training individuals also can positively impact the third category of accidents by targeting industrial engineers and other personnel that impact workflow on the plant floor. Some training is mandated by OSHA, while other training is implemented voluntarily. Typically, companies address safety issues in elements of their ISO 9000/QS-9000 programs, implement OHSAS 18001 (a voluntary occupational health and safety program), or create/outsource an internal program.

Yet, efficiently implementing training and compliance programs to make the workplace safer has proven difficult. Not only does implementing and managing these programs represent significant cost, each company presents its own unique training challenges that create additional administrative effort, time and cost. An LMS can help overcome these challenges and reduce the administrative overhead associated with delivering training and evaluating its effectiveness.

Defining How LMS Works

A basic LMS offers a way to cost-effectively track employee skills sets and provide a big blanket system that centralizes and tracks all modalities of training, such as on-site training or online education courses. Only authorized individuals have access to the LMS. For companies in industries that are heavily regulated and/or where quality certification programs provide a competitive advantage, features that manage certifications are also important.

LMS administrators can build course catalogs, schedule course offerings, assign courses and manage many aspects of training delivery, including instructors, documents, facilities, equipment and what online courses are available. In addition, the administrators can create or approve training paths and certification programs that determine what courses are required to fulfill a certification or what training

different employees must have completed so that the business complies with a particular regulation. LMS users can view the course catalog, enroll and cancel course offerings, view their current schedules and transcripts, and launch e-learning modules.

In building the course catalog, the administrator can define prerequisites for courses and certifications. An LMS with strong certification functionality will provide both employee and employer with the means to easily track requirements for different certifications, when they must be renewed, as well as progress to attaining new or renewed certification. An LMS may include other features, such as batch enrollment and roster processing that further automate administrative tasks.

In addition to automating and simplifying administrative tasks, another key function of an LMS is the ability to launch e-learning courses. An e-learning course can range from a simple online slide presentation to a complex multimedia simulation, incorporating video, audio, testing and other online interactivity. An e-learning course can be developed independent of a specific LMS platform. By following an e-learning standard such as Sharable Content Object Reference Model (SCORM), a compliant LMS can launch any course that is also SCORM-compliant.

E-learning modules are available in a wide range of topics; some vendors even specialize in health and safety training courses. Courses are offered on specific issues such as forklift operation, confined space entry, fall protection and handling hazardous materials. In addition, courses can be developed for job-specific procedures to meet OSHA requirements or promote safe procedures and behavior.

Delivering Training and Meeting Logistical Requirements

Inflexible training delivery becomes challenging for organizations with mobile or geographically dispersed workforces. In general, training increases downtime and requires addi-

tional resources to cover the duties of those undergoing training. This problem is compounded when an employee (such as a field service technician operating at a client's site) must travel back and forth between headquarters and the customer location. Downtime increases and travel expenses become an additional cost.

Similarly, when the workforce is geographically dispersed (for example, dealership service centers), training becomes logistically problematic. Either training personnel must travel to multiple locations to deliver training, or field personnel must travel to training locations. Having a distributed system of training centers addresses this issue to some extent, but such a system also creates other inefficiencies. Either administration of the training is also distributed, which impacts visibility into the training program (since information is not centralized), or the corporate administrators must expend more time and effort to manage and schedule training resources.

Another solution is to deliver training by videotape or CD. Unfortunately, it is quite difficult to track when or even if training has been completed. On the other hand, the real-time capability of an LMS to deliver e-learning online allows training schedules to be customized on an individual basis instead of batches. An individual can access a course through a Web browser at any time and from any location with Internet access. With individualized training schedules, excessive downtime is significantly reduced, because it is not necessary to pull large numbers of workers off task to populate a classroom course. Some courses, however, may require classroom instruction. E-learning is not an either/or proposition. The LMS can handle the delivery of both types of instruction in a consolidated and integrated way.

Creating Individualized Training and Certification Paths

In a diverse workforce, safety issues and the corresponding learning re-

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quirements vary according to job roles—one size does not fit all. A sales person does not need the same training that a plant floor operator requires. Furthermore, an operator at one plant who handles hazardous materials may require training that is different than one at another plant who does not. When the training path is too generic, workers may find that some of the information covered does not apply to their job. As their attention waivers, they will also tune out or miss relevant training or topics. Workers are more likely to be completely engaged in training when it applies to their job role and does not include ancillary information unrelated to their duties.

A well-designed LMS can handle this challenge by providing flexibility in defining the structure of your organization, the roles of people within it and the training they must complete to meet safety requirements. This type of more sophisticated LMS also can use interest lists, job function, location, data feeds from other systems and other factors to determine when and what types of training are needed and automatically enroll the employee in relevant courses.

Depending on the LMS, employees and/or managers can add course offerings to an interest list, which then sets unique learning objectives for each employee according to his/her needs. This type of arrangement saves time for both the training program administrators and the employees. If desired, administrators can set interest lists once on a routine basis (quarterly, annually, etc.) and let the LMS take over through auto-enrollment.

The employees' burden is also reduced, since they are automatically alerted by e-mail when they are enrolled in a class with an option to

drop the class due to a scheduling conflict. Employees no longer need to waste time determining their learning needs, locating the appropriate courses offerings and then enrolling in the class.

By pushing a wide range of health and safety courses to all staff (according to their job roles and learning needs) and consolidating the management of that training, the LMS can break through "safety silos" where safety training programs are compartmentalized in different company departments. This push model is ideal to encourage voluntary continuing education, and it cuts down on duplicating administrative effort and yielding inconsistent results. Individualized training also can be used to prevent the systemic type of accident because it allows a business to expand its safety training program to include learning targeted to industrial engineers, teaching them how to design processes with safety in mind.

Measuring Success

Delivering training is only half the battle. The company also must be able to evaluate the success of its programs, and an audit trail is required for compliance purposes. By integrating with data feeds from other systems, an LMS can provide course completion data that can be correlated with incident reports to evaluate training efficacy. Audit trail functionality can generate reports on what training individuals have completed.

Many learning management systems also have testing and assessment functionality. Online assessments can be completed prior to and after a course to determine whether the individual's knowledge of that particular safety topic has been approved. They also can be given on a routine basis to

determine if an individual requires a refresher course to reinforce knowledge. These assessments can test a wide range of safety- and compliance-related competencies. By including scenarios in which an employee must respond to targeted questions, knowledge of workplace procedures and work instructions, proper completion of compliance records and other competencies can be evaluated.

If employees are monitored through direct observation, an LMS could be used to flag individuals that have engaged in risky behavior and enroll them in the corresponding training course, regardless of their assessment scoring. This use of behavioral and training data reduces the type of accidents where trained individuals knowingly engage in risky behavior.

Making the Case

By centralizing training program information and making it accessible to all stakeholders, an LMS can increase efficiency through streamlined information exchange and workflow. It is the LMS's online and automated management, as well as its robust delivery of training, that provides the flexibility to adapt to different learning requirements and efficiently administer health and safety programs. An organization that implements an LMS can effectively and efficiently ensure better economic health for the company and better quality of life for its employees through health and safety programs that are supported by a reasonable level of administrative effort. ➤

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