



Success Factors for Occupational Health and Safety Training: A Review of the Literature

Occupational Health and Safety (OH&S) training is used to improve on-the-job safety of workers. The training can consist of committee training, job or task specific training, or general ergonomics training.

Some studies have evaluated the effectiveness of training specifically among healthcare workers. Although one study found that an intensive (40-hour) training program in patient handling skills was effective in reducing back injury¹, others suggest that education alone, in the absence of work modifications, is not effective in reducing back injuries among healthcare workers^{2,3}.

Another study found that the education program was qualitatively a success.

That is, the staff and managers felt that the program was highly effective although objective measures did not indicate a decline in injury rates⁴.

What makes OH&S Training Successful?

Factors that make OH&S training successful can be divided into two components: administrative components such as mandatory participation, and delivery components such as the training content.

Administrative Components

Participation

Among the studies that found that an education program reduced the rate of worker injuries, some reported that there was a low rate of participation.² Participation rates were as low as 59% even when

classes were offered during paid work time and extra workers were brought in to cover for workers who were in the class.²

One way to ensure a higher level of participation is to make the training mandatory. A potential drawback of mandatory participation is that employees may feel a decreased sense of personal control and display resistant behaviours.⁵ Studies have shown that when workers feel that management standards are unreasonable, it may lead to “false-reporting”.^{6,7}

Supervisor Training

Some studies suggest that training only the workers who are exposed to risk of injury is not enough and

that all personnel must be involved in the effort to reduce injury rates.^{8,9} It has been suggested that training supervisors leads to increased implementation of ergonomic controls and returning of employees to the workplace after injury.⁹

Studies indicate that practises learned in occupational health and safety training were more likely to be used if accompanied by regular reinforcement from supervisory staff.

Support of Safety Practises

Another administrative issue that affects the effectiveness of OH&S training is supervisor/manager support. A number of studies indicate that practises learned in OH&S training were more likely to be used if accompanied by regular reinforcement from supervisory staff.¹⁰⁻¹⁴ Evidence showed that training alone will not significantly increase compliance with safety practises^{11,12}. It was the supervisor’s involvement in the form of feedback and reinforcement that increased the likelihood

that workers would adhere to safety practises.

Re-training

A system of continual re-training of employees in current safety and health issues appears to be vital.^{13,15,16} The frequency at which this re-training should occur has not yet been investigated. The Workers' Compensation Board (WCB) of BC Occupational Health and Safety Regulation does not state how frequently training must occur, but they recommend that training occur annually.

In summary, the following administrative factors have been shown to have a positive impact on OH&S training effectiveness:

- A high level of employee participation
- Training of workers, supervisory and support staff
- Reinforcement of safety practises by supervisory staff
- Re-training of workers on a regular basis

Delivery Components

There are several components of OH&S training that seem to be common among successful training programs. Among these are the development of the training material, relevance of training to the job, relevance of training to the level of work experience of the workers, training content, and training implementation.

Training Development

Most OH&S training programs are developed and presented by health and safety professionals such as physiotherapists, occupational therapists, ergonomists, physical therapists, health educators, and kinesiologists.^{4,10,13,17} Studies show varying results with respect to the effectiveness of training in terms of injury rates and workers compensation costs. Two studies that investigated the effectiveness of safety training used front-line workers to help develop the training program.^{2,8} One study held focus groups with nurses to develop methods to maximize participation rates². The other study used a team made up of three orderlies and a supervisor to identify occupational injury risk factors and develop a training program. The program emphasized lifting

procedures based on identified risk factors.⁸ Both programs involving workers in the training development stage had positive outcomes, suggesting that worker involvement increases the likelihood of training success.

Relevance of Training

One of the most emphasized components of successful training is the relevance of training. Too often training programs are designed without considering the realities of work.¹⁶ Specifically in healthcare, generic rules of handling materials tend not to be feasible. A classroom setting often cannot account for the complex interactions between residents and staff members.⁴ The demonstration and actual practise of proper techniques is essential for successful instruction.¹³ It is also helpful to address the actual requirements of each job or task by consulting the job descriptions (or performing a job task analysis) before teaching.¹³

Training involving front-line workers in the development of the program increases the likelihood of training success.

The training must also be relevant to the work experience of the audience. Evidence indicates that inexperienced nurses are injured more often than experienced nurses. However, when experienced nurses are injured, they considered the injury more debilitating.^{2,4} This suggests that different OH&S training programs should be developed for new staff and for experienced staff.

Another worker group that may benefit from tailored training content is workers who have already reported a work-related injury and may therefore be at a higher risk for re-injury.¹³

Training Content

The WCB of BC OH&S Regulation outlines specific requirements for the training content for each workplace hazard. For example, Section 4.51 states the information required for Ergonomics (MSI) training while Section 5.7 states the information required for Workplace Hazardous Materials Information System (WHMIS) training. Regardless of the workplace hazard, training components

should be targeted to the specific group of workers.¹³ The depth of the information should be adapted to the educational level of the participants.¹³

Joyce lists four characteristics of good training:¹⁸

- Training should be based on principles of adult learning theory
- Training should be highly interactive with hands-on activities, slides, and videos of the particular work environment
- Integrated training materials need to be presented as a manual or a package, not just a collection of random articles or papers
- Training should have specific objectives

Training Implementation

Mager¹⁹ identified two formats of training implementation: instructor-controlled and performance-controlled. In an

Training should be relevant to the tasks the workers perform and sensitive to the work experience of the workers.

instructor-controlled course, the instructor is the primary source of information and content. In performance-

controlled training, the instructor acts as a coach to support the trainee in his or her learning. Trainees can learn at their own pace based on individual capabilities.

The characteristics of the trainer are also critical to the success of training. In general, the instructor should speak clearly and succinctly, and provide a positive learning environment.¹⁹ Expertise in work-related injuries and their risk factors as well as familiarity with the job tasks are critical for a successful training program.²⁰

In summary, the following training program delivery factors have been shown to have a positive impact on OH&S training effectiveness:

- Development of the training program should involve front-line workers and occupational health and safety specialists
- Training should be relevant to the tasks the workers perform
- Training should be relevant to the work experience of the workers
- The depth of the training content should be tailored to the needs of each group of workers
- Instructors delivering the training program should be familiar with both the occupational risk factors for injury as well as the specific tasks required by the job

Summary

While OH&S training appears to be most effective when combined with work modifications, there are a number of administrative and delivery components that may increase the likelihood of success of a training program.

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ABOUT THIS DOCUMENT

The Occupational Health and Safety Agency for Healthcare (OHSAH), which operated from 1998-2010, was a precursor to SWITCH BC. Conceived through the Public Sector Accord on Occupational Health and Safety as a response to high rates of workplace injury, illness, and time loss in the health sector, OHSAH was built on the values of bipartite collaboration, evidence-based decision making, and integrated approaches.

This archival research material was created by OHSAH, shared here as archival reference materials, to support ongoing research and development of best practices, and as a thanks to the organization's members who completed the work.

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