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Research Article

MPE© - Mental Protective Equipment - For a Shared Perception of Occupational Disease Prevention

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Abstract

In order to change the behavior you need to create a need. Hard task when the danger is not perceived and when the event [i.e. the work accident] has not yet occurred. Hard task when safety training takes place in a classroom and not at the work site.

PPE is not sufficient: it protects the workers from certain [material] risks but not from those related to diversity, alcohol/substance abuse, stress. Perhaps for these risks it is the individual's experience, shared with the co-workers, which can make the difference and ultimately protect us.

As a consequence, the concept of MPE© - Mental Protective Equipment was created by our group with the aim to identify that sort of sharing that could be implemented among co-workers through their work experiences. Sharing such knowledge represents the key to protect the workers from all the pathologies they incur in spite of using PPE, attending classroom training and having a complete prevention system in place.

Keywords: MPE© - Mental Protective Equipment; Occupational Disease Prevention

Premises

Our company has been involved in workers' health care for the past 27 years.

We are the trusted provider of 1600 small/mid-size enterprises mostly located in the Northern part of Italy.

Our group is composed of physicians, work-safety advisors, ergonomists and specialized trainers who operate within a coordinated system and shared protocols.

Our experience and growing reputation in the territory motivated us to develop some extra working tool for the enterprises to which we provide our services.

Italian laws on work safety are well grounded in our area and are widely applied by the companies. Nonetheless, work accidents and occupational illnesses keep occurring; furthermore there is an alarming rise of "less typical" pathologies, for which PPE perhaps is not beneficial enough.

Over time, the response of our lawmakers to this occurrence focused on the execution of an additional regulation aimed to intensify specific safety training.

Our observations on the field, however, showed that classroom training was already rather intense (especially in our area, where companies strictly apply health and safety regulations); hence something else was missing.

PPE and classroom training have contributed to real prevention.

MPE© Mental Protective Equipment, together with "participative [active] training" could complete its effectiveness.

We have established an intra-company training school with the aim to bridge the gap between classroom and job site through a validated "downstream training system" within the company organization.

As a consequence, we reached a training level which is not simply "sufficient and adequate" as it comes from a qualified source, but it also grants a shared growth among all workers who can receive their training from a senior co-worker and can donate it to a junior co-worker.

We quickly gained the support of the Regional Health Authority, the Prevention Department of our Region, the Board of Certified Physicians - Trieste Chapter and the approval and validation of the Region Friuli Venezia Giulia. We started off by pre-senting our idea in the form of a theatrical play (180 companies participate), which was followed by the establishment of a MPE© training school: 15 companies, since now, were involved in an experimental course aimed at training "trainers" able to establish as many training schools within their own companies. 3470 workers. The objective is to create a downstream system of delegated trainers, certified by our school: the training will be therefore entrusted to those who can effectively promote work safety: the experienced workers, the supervisors, the H&S Managers, who actually face the risks every day.

The H&S Managers will hold 4 hour training sessions, which will be followed by 4 hours taught by the supervisors. The supervisors will devote 30 minutes to theoretical issues [e.g. main physical risks related to the work activity] and the remaining time to testing the worker's actual risk perception while performing his/her work activity. "Keep working while I teach you how to look after yourself and your safe/unsafe way of working".

Additional 4 hours could be taught by a senior co-worker; thus the training program tutor will confirm through verbal/written tests that all this so called "participative training" was effective.

Materials and Methods

Work safety means absence of accidents and/or occupational illness.

Work wellness, on the other hand, is given by a perception of work safety as a collective value.

How do you create this collective value? How do you promote such an important change in perspective? How do you achieve this perception of safety?

Our answer was clear: through "empathic training", shared and "participative". Empathy is the ability to understand and share the feelings of another; it is, in this context, the ability to understand and feel the experiences of our colleague. Through his/her experiences we perceive reality and therefore, work related risks.

In order to facilitate the understanding of such firm belief, we decided to set up a theatrical play involving our own employees, because while acting we can share our experiences without actual pain.

This innovative teaching tool was first used during a training session at Nestlè Purina Petcare Italia SPA,Udine a company that has always been at the forefront of health and safety management.

In 2011 we suggested to their workers to capture potential risk situations through pictures taken by them directly during working hours (Figure 1) - back then, after attending classroom training sessions describing potential risk situations, they would return to the next session having taken pictures of such situations so to trigger a shared evaluation of the appropriate PPE to be adopted for the specific risk.

Later we analyzed the, so called, "cross risks", like alcohol, stress, age, gender, race, as something concerned with the spirit and the mind.

We then realized that the initially suggested tool, the picture, was no longer enough: we had developed another tool, the theatrical play [2012]. The effect was exponential: the workers not only returned photos, but also videos, posters, presentations, brochures, stories (Figure 2).

We analyzed the "cross risks"; and the workers, from their daily experiences, brought them back magnified. Because the MPE© is deriving from everybody's experience and therefore, sharing it, makes it grow and become stronger.

The acknowledgment we received was so broad and encouraging that we felt that sharing the work experience could be the main tool to modify and improve the perception of safety in the work place.

This is when we decided to share our method: training others to train in this very effective way, in order to reach the results we had achieved at Nestlè Purina Petcare Italia SPA.

We have selected few companies (Table 1) and people within their H&S management team that we felt could be involved in such innovative idea. We knew the people, we knew their companies very well, having worked with them for years, be it during a medical examination, a training session, or noise assessment activities.

Company	Workers
A.W.M. Spa	63
Chiurlo SRL	116
Coats Thread Italy S.R.L.	150
Dipharma Francis srl	176
Euroteh SPA	100
Friulana gas SPA	56
Gortani SRL	106
Luvata Italy srl	900
Mangiarotti spa	350
Moroso spa	126
Prosciuttificio Wolf Sauris S.P.A.	52
R.D.M. Ovaro SPA	151
Regione Autonoma Friuli Venezia Giulia	200
Snaidero Rino SPA	470
Solari di Udine spa	184

Table 1: Characteristics of the companies taking part the intra company training school project.

Since then, we have been growing together with them. We knew they would be able to understand how important it is to work safely and teach others how to do the same.

Results and Discussion

The project aims to create an intra-company training school, led by the MPE©/H&S Manager (on site) and validated/supervised by the Training Program Manager (from our company), the latter being a trainer of trainers certified according to UNI CEI EN ISO/IEC 17024:2004 (European standard for safety regulations).

The MPE©/H&S Manager's duty would be to periodically verify the effectiveness of the training received by the workers.

He would also ensure that the training school follows the common leads shared and established with the other intra company training schools during their own training sessions.

Training material and methods would be shared by the MPE©/H&S Managers and would be validated through, not only common practice during workers' training, but also through the training they receive from the trainer of trainers.

Let's picture a mid size company training its employees according to the H&S regulations. This "traditional" training will surely be sufficient, being in compliance with the regulations above and having delivered all the proper contents; nevertheless, will it be adequate?

It would be hard to make an assessment if the only reference is the individual company. It would be likely, however, if it becomes common practice for a group of workers belonging to a number of companies, like those taking part in the MPE© intra-company training school; which, as of today, has reached almost 4000 individuals.

Intra-company training schools would gradually acquire new trainers within the company: each worker, in fact, would be involved in training his junior colleagues, while receiving more training from his/her seniors.

Therefore each worker would become active in building and maintaining a shared company perception of safety, giving and receiving training, shaping his/her behavior through continuous comparison.

The participate training, i.e. downstream training, implies several advantages, the main ones being the following:

- Some training subjects can be delegated; this means saving time to the H&S manager and getting other workers involved in this activity. Thus, training becomes a learning opportunity during working hours and moves out of the classroom; the above method applies in fact to working procedures, risk assessment, accident/illness prevention.

- The workers are encouraged to continue their working activities while being trained and evaluated: the message conveyed is that safety training is entailed in the work, it is part of it;

- By sharing our knowledge with other colleagues, we also improve our own; if two people exchange their idea, each of them will gain one extra from the other. If this idea, this intuition, is related to safety and the thoughts are shared by all workers, then you would achieve something similar to a collective perception of prevention.

- The theoretic idea of training - given and received - would be documented in the so called worker's H&S badge. This card would be carried by the worker at all times; at the end of the year there would be an assessment of what was given and what was received by the worker, in terms of training, which would be followed by a reward system. All paperwork would be soon become obsolete and all info related to the worker's H&S training would be recorded on this card.

- For instance, companies providing installation services, in the future could offer to their clients not only the traditional services strictly related to their business, but also the H&S training of its workers on the specific risks: thus offering not only training related to the proper use of the machine but also training on how to use it in a safe manner. This would represent a competitive advantage toward other companies, given the more complete nature of the service offered; incidentally, it would also allow the spreading the of MPE©.

- An intra-company training school, whose methods are shared with other companies, could even lead to the creation of a new business unit for the company where it is developed - further opportunity to be kept in mind.

Some examples

Following are two practical examples of the participate training.

In the first company we focused on the risks involving alcohol abuse, drugs and work related stress. The trainers were given two weeks to share with the workers whatever they learned during classroom activities; subsequently they received the workers' feedback in form of pictures, boards, videos - below some examples.

Figure 1: Simulated consequences of working under the influence of alcohol.

Figure 2: Poster showing how working during a period of company crisis is perceived by workers and their families as a huge boulder to face; only sharing [turning on some lights here and there] can lead to a positive solution of the stress.

In the second company, through the method of participate training, we defined the procedure for the proper use of a band saw. We first gathered the risk perception from the H&S Manager and from the workers while still in the classroom. Then, we did the same exercise while on the work site. Note how perceptions differ and how the final one shows the improvement derived by sharing individual experiences.

Objective: Provide precise procedures for installation and start up of the equipment in the milling department with the aim to prevent accidents/occupational illnesses (e.g. during machine set up and before starting it up, the worker forgets a spanner on the conveyor).

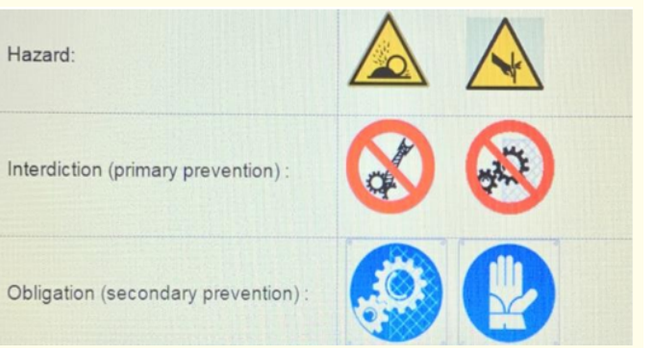

Figure 3: H&S manager's perception: the band saw risk is ejection of materials, injuries, amputation.

We meet all workers in the classroom and gather their point of view on what are the risks involved in their activity.

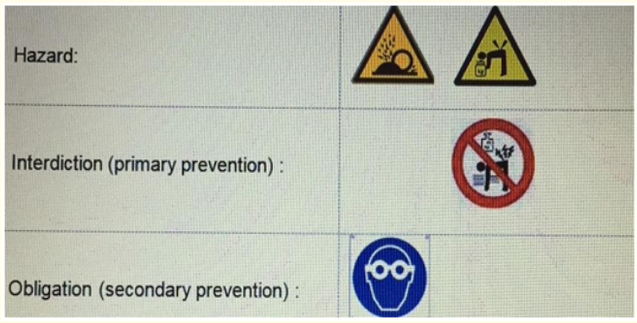

Figure 4: Workers' perception [in the classroom]: the band saw risk is ejecting of materials, handling of materials.

Shared perception: Moving from the classroom to the job site, the workers are prompted to actively participate in writing the procedure: one of them shows how the working activity is carried out, another one takes pictures of what is perceived as more dangerous. All co-workers highlight the potential risks of the activity.

Figure 5: Inside the factory, workplace

Thoughts arise that were not perceived in the classroom or were not perceived realistically: e.g. manual handling of materials becomes less relevant (in the classroom it was considered relevant) since machine set up is carried out with mechanical handling tools when involving weights heavier than 25 kg. Eventually the shared analysis brings up a thorough vision of the specific risk [1-11].

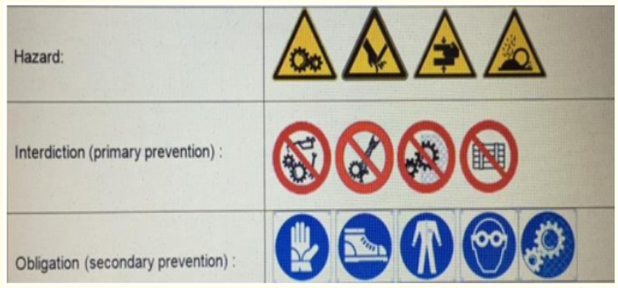

Figure 6: Shared perception of the risk assessment.

Conclusion

This system could be integrated within a reward program where the worker gains "points" on his/her H&S badge based on all the training he/she has received and /or donated. This is continuous training.

Finally, on the intra-company training school: the training provided by it would be "sufficient" whereas the subject matters and the hours required are in compliance with the relevant regulations; however, how could we prove that such training is "adequate"? If within a certain company we have a ratio of 1 accident/illness in 10 workers, adequacy is uncertain. Nonetheless, if the system is implemented in 15 companies, involving 4000 workers, then the ratio 1 accident/illness in 3470 workers does not necessarily imply that the training was inadequate.

Note: "sufficient " and "adeguate" are the two terms around which our law decide if the training was successful to prevent from risk injuries.

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