Discussion According to the results, blended learning combined with modern teaching techniques and project work seems to be a successful approach for training in OSH. The participants get empowered to jointly organise own research and learning courses even after finishing the studies. This train the trainer concept might contribute to face OSH challenges in Latin America.

1721c ONLINE COURSE 'WORK AND TECHNOLOGY ON HUMAN TERMS' FOR DEVELOPMENT OF SAFER AND HEALTHIER WORKPLACES

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Introduction In collaboration with five Swedish universities of technology, Prevent has produced an online course in English, based on the textbook 'Work and technology on human terms' to be used as a modern, highly accessible study material. The purpose is to contribute to safer and healthier workplaces and to improve organisational performance.

The online course targets students at universities who are pursuing degrees in engineering, economics or human relations as well as professionals holding equivalent university degrees.

Methods The production of the online course was organised in a project managed by Prevent and a producer in collaboration with lecturers and researchers at the five universities.

Results The online course was available in August 2017 at www.onhumanterms.org. It's free of charge, held in English and covers subjects as; Human-Technology-System, Psycho-social and organisational environment, Physical environment, Information and interaction in technical systems, Methods and design processes, and Economic and legal conditions (in Sweden). It also contains workplace cases for practical application of the theory.

Theory and theoretical models are presented using animations supported by interviews with experts and researchers active in the various disciplines. The content is closely linked to different types of businesses, as reflected by company reports and interviews with product developers, managers and safety representatives.

The user is free to start and finish the online course independently of others. The course comprises totally approximately 20 hours of study and the user will get a certificate after finishing the complete course including knowledge tests.

Conclusion A comprehensive and scientifically based work environment online course has been developed and made available on internet free of charge. Prerequisites have been a co-operative project management and broad participation from Swedish universities, an online course producer and Prevent, owned by the parties of the Swedish labour market and providing knowledge for improved work environment.

1721d OUTCOME OF THE POSITIVE TRAINING PROGRAMME FOR IMPROVING WORKING CONDITIONS IN INDIA

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Introduction In accordance with the International Labour Organisation's Global Strategy on Occupational Safety and Health, it is essential to develop practical training programmes for improving local working conditions in low- and middle-income countries. The Participation-Oriented Safety Improvements by Trade Union Initiative (POSITIVE) programme has involved many workers in developing countries in action-oriented workshops on multifaceted workplace improvements. The programme was introduced in India in collaboration with the Indian National Trade Union Congress (INTUC) and the Japan International Labour Foundation (JILAF). This study aimed to evaluate the effectiveness of the programme.

Methods The POSITIVE workshops were serially held for training trainers selected from trade union members in 13 engineering companies. Subsequently a training-of-trainers (TOT) workshop was conducted in November 2013, and after a re-training workshop of these trainers, the participants conducted a one-day workshop for their co-workers in their workplaces. An evaluation workshop was held in September, 2014. The results of these workshops and the implemented improvements were evaluated.

Results The POSITIVE workshops proved successful in India. In the TOT workshop, 25 participants from 13 factories learned practical ways to plan multifaceted improvements having real impact. The participants conducted a one-day workshop at 15 workplaces training 476 workers. Almost all of the participants answered that the technical sessions of the programme were useful for increasing knowledge and improving their working conditions. After this one-year programme, the participants reported 188 improvements implemented at their own workplaces.

Discussion The POSITIVE training programme was effective for workers in engineering industries to improve their working conditions by using their own ideas in reducing work-related risks. Practical training tools such as the action checklist, group discussion and local good-practice photos were useful for gaining these results. It is suggested that the POSITIVE programme for factory workers can play important roles in improving their workplace conditions.

1721e OCCUPATIONAL LUNG DISEASES ARE PUZZLING

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Introduction Occupational lung diseases are a broad group of diagnoses caused by a wide range of hazards in the workplace

such dusts, chemicals or proteins. The International Labour Organisation estimates that 700.000 people in the world die yearly from occupational lung diseases. Teaching the subject at the undergraduate levels in medical schools is important, so that the students consider these diagnoses later on in their careers. However, earlier surveys have shown that the interest in occupational medicine is low in medical students. Teaching occupational lung diseases can be especially challenging since the terminology is confusing.

Methods In order to improve students' learning, a puzzle game on occupational lung diseases was developed. On a game-board, five columns and ten rows made a grid of fifty squares. The headings of the five columns were different disease groups: Pneumoconiosis, Inhalation Fevers, Allergic Alveolitis, Occupational Asthma, and Toxic Pneumonitis. The rows headings were: Subtypes, Prevalence, Exposure, Symptoms, Clinical Findings, Lab Tests, Chest X-ray, Pulmonary Function Tests, Prognosis, and Treatment. Fifty cards with text descriptions should be placed on the correct square on the board. For example, one card described that more than 350 substances (Exposure) have been associated with occupational asthma. After finding the correct place for all the cards, they are turned upside down showing a poster from a movie related to occupational medicine for example Norma Ray. The students are asked to describe that relation.

Results The game has been tested by 160 medical students who were very interested and worked intensely. The students gave high ratings in the course evaluation and enjoyed the puzzle.

Conclusion This educational game on occupational lung disease probably improved medical students' learning outcomes compared to passively listening to lectures. The game is also suitable for other groups such as physicians and staff in Occupational Health Services.

1721f STRONGER TOGETHER – WORKING TOGETHER TO TACKLE THE OCCUPATIONAL HYGIENE VOID

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Introduction The Occupational Hygiene Training Association (OHTA) is a non-profit voluntary organisation, aiming to mind the gap of capacity of occupational hygiene competencies by providing a global training and qualifications scheme in occupational hygiene ranging from a foundation level to specialised courses at master level.

Methods The OHTA modular scheme provides a platform to build occupational hygiene capabilities at both national and company level. Courses can be taken in isolation and there are no prior learning requirements. Students can start with a foundation level course and progress to courses at two other levels building up progressively higher levels of practice, including academic study to master level and eligibility for professional qualification.

Results Through our training system and qualifications, we provide a means of developing practical skills to recognise and manage exposures to health and safety risks caused by exposure to hazards such as chemicals, dusts, fumes, noise, ergonomics, and heat and cold. Our courses and qualifications

have been developed with the support of the International Occupational Hygiene Association (IOHA) and its 34 member organisations.

More than 100 000 have used our material, 780 courses have been delivered and more than 6500 candidates have taken exam. Our course materials are being downloaded more than currently undergoing translation into a variety of languages.

Discussion Partnerships with key stakeholders are important to further growth the training scheme. Our website, www.OHLearning.com provides free access to information on all our training materials and qualifications, which can be accessed and downloaded free of charge. Our qualifications and awards are overseen by a Qualifications Group that includes representatives of the major occupational hygiene examining boards across the world. Individuals successfully completing defined courses of study and practice can apply for recognition and membership of these and other national associations.

1680 TRENDS IN MEDICAL EDUCATION – QUALITY IMPROVEMENT, SIMULATION AND OUTCOME BASED EDUCATION – RESEARCH & ASSESSING TRAINING AND COMPETENCE

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Aim of special session Bringing together simulation, outcome-based education and quality improvement to highlight the future direction of medical education and allow participants to consider these aspects when designing training and educational interventions for Occupation Medicine learners and trainees.

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1680a TRAINING DOCTORS FOR THE FUTURE

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Although significant advances have occurred in medical and related sciences, the quality improvement and patient safety movements have been slow to gain traction. There are many 'pockets' of progress around the globe; however, the scale and spread has been slow. Stimulating culture and system change in healthcare requires a definitive change in leadership style and approach. Health leaders of today must commit to the critical success factors and demonstrate the attributes necessary to create change and raise the bar for quality improvement and safety. We discuss here, key competencies required for the development of future leaders in quality improvement and how to those competencies can be achieved within a cultural context.