



## ACTIVE LEARNING TECHNIQUES IN HEALTH AND SAFETY TRAINING

Dariusz PLINTA - Ewa GOLIŃSKA - Kinga BYRSKA-BIENIAS

### TECHNIKI AKTYWNEGO NAUCZANIA W ZAKRESIE BEZPIECZEŃSTWA I HIGIENY PRACY



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#### ABSTRACT

*Article is to present possible active learning techniques which can be used during the training of personnel in enterprises. Exemplary techniques are discussed, they presented their advantages and rules for their application practice. Teaching in such method requires the use of different treatments tools. The concept of active learning based on acquiring skills in the practical performing different tasks and not just taking the knowledge within tradition techniques. According to the authors of the paper application of these techniques in the course of training the different people involved in the improvement of the safety management system and occupational health in the enterprise will bring the highest possible results and should be used as a priority.*

**KEYWORDS:** training methods, career paths, active learning

#### STRESZCZENIE

*Artykuł przedstawia techniki aktywnego uczenia się, możliwe do zastosowania w szkoleniach personelu w przedsiębiorstwach. Opisano tu przykładowe techniki, zaprezentowano ich zalety oraz zasady stosowania w praktyce. Nauczanie takim sposobem wymaga zastosowania różnych narzędzi. Koncepcja aktywnego uczenia się bazuje głównie na zdobywaniu umiejętności praktycznych poprzez wykonywanie różnych zadań, a nie tylko przez pozyskiwanie wiedzy tradycyjnymi technikami. Według autorów różnych publikacji opisujących zastosowania tej techniki w szkoleniach różnych osób zaangażowanych w doskonalenie systemu zarządzania bezpieczeństwem i higieną pracy w przedsiębiorstwie, przynosi ona największe efekty i powinna być stosowana jako priorytetowa technika.*

**SŁOWA KLUCZOWE:** techniki szkoleniowe, ścieżki kariery, techniki aktywizujące

#### 1. Active learning concept introduction

Basic frames the active training this statement Confucius. These stating that everything what student hears it certainly forget. Next step is to see - what that they see – they will speak about but students remember just what they will do. Another assumption is the effectiveness of the various forms of education. It is assumed that the classical lecture, students memorize about 5% of the content. Slightly better is the case of individual reading – approximately 10%, with audio-visual presentation - 20%, demonstrations 30%, discussion 50%, self-task 75%. Aim is to achieve 90% content saved. The



most important aspect of the active learning method is activation is the emphasis on learning and not on instruction as it did in previous years the most popular.

This method of education takes into account the possibility of self-development by providing the appropriate environment: integrity, quality, subjectivity, personalism, and individual career path of development. The modern model of education is called generative due to the stimulation of students, as opposed to the traditional model, called encyclopaedic education.

Difficulties in training using only the form of the lecture were described by Karl Smith and David and Roger Johnson in 1991, researchers have specified the following issues: listeners focus decreased with duration of the course, long cyclic lectures were less effective, formula lecture favored assimilation of content from the elementary level, a form of lecture implies that the needs of the knowledge content for all audiences are the same which is untrue, the students pointed lecture as a form of least liked.

Pike Research from 1994., Indicated that enrichment lecture with visual elements resulted in an increase in the effectiveness of training by 14-38%. Learning is a waving process. In order to understand the issues usually is need multiple rethink the subject, to attempt to practical use of learned knowledge or knowledge transfer to another person.

Various are also learning styles and training should be tailored as far as possible to the specific group needs. Using the pointer-type personality Myers-Briggs Type Indicator, MBTI indicated that about 60% of the students has a practical approach to learning, only 40% have a theoretical approach. This percentage is increasing every year and the rate began to be used in 1993. The effectiveness of the training should take a place for discussion, group projects, presentations related to the exchange of views, tasks in the field simulations.

## **2. The rules for creating active learning lessons**

Mel Siberman in his book "Activating methods in training" shows the eight basic principles of creating training programs. The training must include a moderate amount of material, the most common mistake is to create training overloaded, teachers try to give for training people as much of the material as it is possible. It should distinguish between what knowledge is required and what additional knowledge. During the training must be to balance the elements of affective, behavioral and cognitive. Participants should look at the material and think, what is the relationship learned knowledge of the activities that usually carry out and how they will be able to use the acquired knowledge in practice.

Active learning involves the development of attitudes and shaping motivation, increase awareness of emotions and how to respond to situations or new ideas. Learning is the development of behavioral competence in the field of work, implementation of procedures, operations, traditional techniques. Cognitive learning includes the assimilation of information, concepts, and theoretical knowledge related to the subject of training. Diversity of ways of learning - should be used with a variety of training methods. When the method are mix is possible to have a long period of study and still keep students' attention.

Various methods also allow to adapt to different learning styles. It should create an opportunity for teamwork. This allows to switch from passive formula to active learning. Application methods include stimulating, role-playing, simulation exercises, case study. The use of the knowledge and experience of the participants, in most cases, give the result that the knowledge is absorbed during the training. In active learning a lot knowledge is get from the other participants.

Active training arranges situations where individual participants learn each other apart. Is good to repeatedly refer to previously learned knowledge, this process should resemble a spiral. Through a series of repetitions, participants verify the knowledge learned earlier and are based on the new one. The material known in the earlier stages do not lie fallow and enters a more advanced phase or solving real problems. There must be emphasis on the link between knowledge and practice. As a result, the course content is transposed to the real needs of training people. Students learn most



effectively when they work on a material known for their own environments, which gives the value of knowledge. Part of ending the course must be planning further action and determine the obstacles that can participants in the implementation of new ideas and apply new skills.

After the training the teacher should include in the curriculum of different types of mold summarize the knowledge and skills acquired during the meeting. You can do this by using different techniques reminder - games, exercises, tests, can also be a form known game shows. Another technique is interviewed a group of what she learned in class and how it changes their personal and professional life. Another approach is to practice - giving the possibility of training participants to demonstrate all the skills mastered in one end has played the role of simulation, a specific written or performed by their project. It is also possible to analyze the attitudes, because it is possible that in the course participants at the end have a different opinion than before the training.

Learning method MASTER is a tip on how to perform self-study: M - the thought of success, A - absorb information, S - search for meaning, T - train memory, E - Incorporate what you are able, R - meditate about how the you learn. Finishing phase mut triggering questions ingenuity: what can be replaced, and what? What new combinations and variants can I create? How can you convert and what to use? What can enlarge? How else can it be used? What can be eliminated or reduced? What can be reversed? What can you move?

### **3. Active learning scenario project preparation**

The designer who make the training should also gather information about the training group - how it represents the profile of what the group has the knowledge, skills, who are the persons participating in the training. The most commonly used technique to obtain information about the training group are: observation, survey, consultation with key people in restricting or her surroundings, periodicals, information industry, individual interview, group interview, test, internal documents, reporting company, work samples.

The teacher / trainer should make clear the purpose of teaching. For the purpose and nature of the training group you have to assign training methods that will apply. Choose relevant methods will guarantee the achievement of the desired objectives. The next step is to plan individual training activities, selection time, the number of people in the group, possible scenarios of events. Should be choose the order of the training methods that will enhance the better entire sequence of transmitted knowledge. After a detailed study of these materials should make it clear local conditions necessary to obtain the expected effects of exercise and build the punch line summarizing the entire training. After completion of the project should look at training scheme and try to imagine the cognitive experience, which during his lifetime this would bring the participants. It can make changes to these passages that after thinking seem impractical or may disrupt the class.

Before step exercises is good to carried out a series of introductory exercises. The purpose of these exercises is to improve the integration of the group, creating a friendly atmosphere, facilitating the execution of tasks. A series of such exercises can offer a profile of a person by colleagues, exercise in guesswork about the partners in the group or the other. Only at the moment when the teacher sees the involvement of the participants in the group can go to the correct phase of learning. It summed up phase of introducing an interesting view, a sentence that will be repeated during the training. It should take into account the attitudes of conservative and visible in a group of any sense of danger, adopted the style of behavior and moral standards of the group and the adequacy of the training exercise to the topic. Stimulating active participation in the group is accomplished through the use of techniques such as: free discussion, anonymous questionnaire, group interview or questionnaire, discussion subgroups, tasks to be performed in pairs, round the group and hearing short speeches, games and simulations. "Relay race" in which one person speaks identifies a specific person who will continue the contents of the task, a panel discussion / problem, the method of combining all of the above.

Interest in the audience during the lecture can be stimulated by the previously mentioned exercises introductory but also anecdotes or presentation of visual, short case studies, mini assay, trailer - what awaits participants in the lecture phase. In order to facilitate storing data and a better



understanding of the content of the lecture should be used bullets most important issues, the use of password-key, give examples, the use of analogies and visual aids. Another method is to allocate before the lecture audience of tasks related to the need for careful listening, the teacher can prompt how to perform the notes from the lecture. Technique which increasing attention is also to take breaks in the framework of which it conducts a brief reminder or test known information. It can also pass different groups with different elements of lectures and require the group to exchange information and synergistic learning. The traditional end of the lecture summarizes the main theses, better and more activating methods are a form resembling a press conference, the questions are collected and presented, they are teachers. Another technique is a stand-alone review of the material, or in addition to complete a refresher test, translating theory into practice, case study - the task of closing lecture, exercises allowing operation through practice. The methods which can replace the teacher lecture is: a demonstration of the procedure, the concept in practice, case study allows to translate abstract to the concrete. Another technique is the method of guidance, a set of questions guides participants on formulating hypotheses and to formulate proposals, the most effective is then saving them on the board or another way to visualize the information received from the students. The lecture can be replaced by stimulating series of questions from a group of participants. The last proposed method is to conduct such activities, to urge the participants to independently seek information in selected areas of knowledge. This search can be done alone or in research teams. Method puzzle to transfer any group other tasks and then create new groups, in which the selected participants of the previous first have to pass on their knowledge gained in the previous group. It is also possible to organize the tournament, which enriches the class of the element of competition. In the active training attaches considerable importance to the learning by doing.

Six main methods of learning by doing this: role play, games and simulations, observation exercises to develop the imagination, written assignments and implementation of projects using methods of learning by doing. As part of the staging of the division of roles can include the type of scenario, scenarios methods of improvisation or reconstruction of the known situation, scenes can be developed by the participants, or receive earlier dialogues and read them during training. As part of the staging can also talk about improvisation, role-scenes before the group staged similar events can be performed differently by different actors. The discussion concerns the exercise of these skills, which was the goal of shaping the role-play. The group can be introduced observers, who are instructed on what to look for. Another technique is the self-esteem of group members. Role-plays can be recorded camera and discussed by the group.

Well prepared games and simulations allow to treat learning as fun. It should be noted that they related to issues of importance to the course participants. Observations can be free but also encouraged the prepared sheet checklist. A good method is the introduction of written tasks, the implementation of specific projects, tasks like "current affairs", research work in the field, projects such as teaching, or communication of between the participants or teams of certain acquired during the course skills, it can also use a special assignment - whose main objective it is to increase self-confidence and manufacturing conviction that they will be able to after returning from training to use the knowledge in their work.

The publication M. Siberman mentioned exercise of "old order - a new order" which compares the situation and identifies defects and returns from them. The last proposed method are exercises to develop imagination - visual, sensory, olfactory, motor, flavored or auditory. The coach needs to pay attention and appropriately determine the sequence of exercises so as to be able to move seamlessly between exercises, to be able to experiment with unusual solutions, better start and stop training.

#### **4. Summary**

The paper presents a list of techniques to improve the health and safety training process. These techniques should be popularized. The authors through the use of the techniques listed in the paper increased degree absorbed knowledge. Trainers emphasized the positive reception of these techniques.





General initial training in the field of occupational safety and health should be organized and designed with the use of active learning techniques.

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## AUTHOR ADDRESS

**dr hab inż Dariusz PLINTA, prof. ATH**

University of Bielsko-Biala, Department of Industrial Engineering, Willowa 2, 43-309 Bielsko-Biala, Poland

e-mail: [dplinta@ath.bielsko.pl](mailto:dplinta@ath.bielsko.pl)

**mgr inż. Ewa GOLIŃSKA**

University of Bielsko-Biala, Department of Industrial Engineering, Willowa 2, 43-309 Bielsko-Biala, Poland

e-mail: [egolinska@ath.bielsko.pl](mailto:egolinska@ath.bielsko.pl)

**mgr inż. Kinga BYRSKA-BIENIAS**

University of Bielsko-Biala, Department of Industrial Engineering, Willowa 2, 43-309 Bielsko-Biala, Poland

e-mail: [kbyrska@ad.ath.bielsko.pl](mailto:kbyrska@ad.ath.bielsko.pl)

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