5th World Conference on Learning, Teaching and Educational Leadership, WCLTA 2014

The Importance and Optimization of The Educational Process of Environmental Management and Environmental Engineering for Security Managers

Jozefina Drotarova a*, Monika Blistanova a*

a University of Security Management in Kosice, Kostova 1, 04001 Kosice, Slovakia

Abstract

The aim of this paper is highlight the importance, relevance and need for the learning process Environmental Management and Environmental Engineering for security managers. It also deals with possibilities of innovation, improving this field through changes in content, the use of modern teaching methods and technical and information systems.

Keywords: Safety education, environment, environmental safety, Environmental Management Environmental engineering, innovation, methods

1. Introduction

Security managers in higher study acquire knowledge in the field of management sciences, law, economics, science, security services, forensics, humanities, languages. In the context of the safety education is necessary to focus attention on the risks of human impacts on the environment as well as incidents related to nature. Nowadays, global challenges like global warming, climate change, population growth, resource constraints, water shortage, and poverty seriously threaten the human future and survival. The possibility of education in this area is the implementation of a separate subject of environmental management and environmental engineering. The subject may be improved and make it more attractive by using innovative teaching methods together with modern technology.

* Jozefina Drotarova.Tel:+7-987-678-231.
E-mail address: jozefina.drotarova@vsbm.sk
2. Importance of teaching environmental management and environmental engineering and its contribution to practice

Currently, the increased frequency risks and challenges of non-military. In many countries, environmental degradation represents a more serious threat than war or terrorism (Blišťan, Blišťanová & Kováčová, 2012). Environmental security is part of a comprehensive security company. For security managers is therefore necessary to educate in this field.

The student should obtain knowledge of ecology and environmental science, namely to know the Basic terms and definitions, understand relationships, knowledge of current environmental problems, sources and effects of pollution and degradation various components of the environment. Equally important is to focus attention on current legislation and strategic documents, the possibility of preventive measures. In the field of environmental management student should to know the various environmental management systems, procedures and documents that will be needed on the practice.

An important contribution of this subject is for the student also obtaining and developing skills to work with information from online information and monitoring systems in the field of Environment. The student learns to find and process data from different information sources, which is an essential part of critical thinking and relation thinking. In the conditions of the Slovakia republic are those:

- IS of monitoring
- IS of territory
- Environmental Infrastructure of spatial information
- IS about condition of Environment
- IS of water
- Geological IS
- Metainformation Enviroportal
- Enviroportal (Blišťan, Blišťanová & Kováčová, 2012)

All appointed information systems are an important source of information and offer comprehensive information about condition of the environment in Slovakia.

The second needful areas in environmental education for security managers is the environmental management systems. An Environmental Management System (EMS) is considered a beneficial tool for organizations that wish to integrate environmental management in the overall corporate management system, not only to comply with existing regulations but also to take into account and eventually respond to changing knowledge and technology. The most frequent actions within environmental planning regarding the improvement of production processes, and energy efficiency or energy production, are considered as the safest ways to achieve cost reductions. Normative documents for establishment of the Environment Management System are the set of ISO standards of 14000 series, within which the decisive is the standard STN EN ISO 14001: 2004 Environmental Management System. Specification with instructions for use (Rusko, Sablík, Marková, Lach & Friedrich, 2013). Students have the opportunity to work with the standards and learn methodological procedures in accordance with best practice.

3. Opportunities of optimal, quality and modern subject of Environmental Management and Environmental Engineering

Fundamental precondition for the use of various management systems is to understand their importance. The basis is knowledge of the issue environmental risks, Basic terms and context, the current state of the environment, that are necessary to minimize the threats. The proposed thematic content of the course environmental management and environmental engineering

- Legislation and the current state of the environment
- Basic terms (Ecology, Environment, Environment, environmental security, damage, the eco-crime)
  atmosphere, air pollution
- hydrosphere, water pollution, waste water treatment plants
The goal is to explain the concept of environmental safety, clarify forms, types of threats to the environment and also describe means, the possibility of achieving environmental security. The fact that every problem, crisis or disaster environment poses some environmental risk prevention measures are a key point.

4. Use of modern didactic methods

Didactic method is one of the basic components of education because it organizes educational process. Didactic method plays not just the role of settling of educational process, but offers a large array of possibilities to motivate students; to originally present information; to relate to up to time subjects.

Suggested didactic methods are following:

4.1 Verbal methods

- monologic (interpretation) - explanation, lecture, explanation, description
- dialogical - conversation, discussion
- work with text - with textbooks or other literature or study materials eg. Read the environmental policy of the EU

4.2 Descriptive-demonstration methods

- observation of objects and phenomena
- demonstration of static images
- static and dynamic projection

4.3 Practical methods

Practical exercises using laboratory instruments for measuring pH, heavy metals and others.

Reproductive methods - mainly used in the seminars - repeat verbally - question-answer form, further test form to acquiring knowledge

Productive methods - knowledge gained from their own individual creative activity of students - seminar paper, presentation

Motivation methods - methods to increase interest in learning, and clarify the meaning and benefits

Exposure methods - initial acquainting with curriculum
Fixation methods - methods of repetition and consolidation of the curriculum - tests, exams, verbal repetition using open, closed and guiding questions, repeating the conversation

Diagnostic and classification methods - methods of evaluation, inspection and classification: oral examinations, examinations, didactic tests (Kundrátová & Vašková, 2004; Mintz & Tal, 2014).

4.4 Utilization of innovative technical and information aids

Innovation of object is realized by supplementing the classic teaching materials (textbooks, lecture notes) with modern teaching aids and especially visual and audiovisual equipment such as multimedia projector and projection screen (Petláč, 2004). To improve and make learning more effective it can be used interactive methods of education as well. Classical lectures and exercises it is appropriate to enrich innovative e-learning training course prepared in the Learning Management System.

E Learning is the modern way learning using information technology. Is an effective way between students and teachers, and the handing of study materials at a distance. The course is processed to an unlimited number of chapters in the form of presentations. E learning supports self-study and for this reason is mainly used for a combination or distance learning. E learning provides a number of the possibility to control, coordination and testing of students, as well as mutual communication and discussion the participants of the course. Advantages and benefits of e-learning:

- Individualization of education,
- Overview of results of tests for each student
- The possibility of education a wider group of candidates
- Economization education
- manage access rights
- Evidence of the course participants
- Knowledge testing before, during and after the course
- Feedback through a questionnaire
- Possibility to add further information, text files, images, video clips, relevant legislation, changes, amendments to the course

E-learning course starts with the entrance test, which is a prerequisite for launching various parts of the course. The study is completed by final test. The aim of both tests is to evaluate the increase of knowledge as well as verification of the correct understanding of the course (Hubackova, 2013).

5. Conciussio

The subject Environmental management and environmental engineering should be the basis environmental education for security managers. Environmental education must be understood as a means of achieving environmental security (Kováčová & Drotárová, 2013; Kováčová & Vacková, 2014). Security managers must recognize the fact that most of the impacts on the environment, and any negative impacts threaten the environmental security. Implementation of a suitable management system has a positive impact not only on the environment but also often economic advantages and better position in the competitive struggle. Education in the field environmental security is currently necessary.

References


