

EDUCATION OF PROPER WASTE MANAGEMENT BASED ON NON-FORMAL AND INFORMAL EDUCATION

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Abstract

The present work gives methods on how available information can be presented to as many people as possible in a way that will allow them to assimilate that knowledge. The most appropriate forms of education for the concrete target group are included in informal education. Informal education is divided into informal general education and informal education for the profession or for the professional work. The fact, regarding the method of giving information, has to be considered that people differ from each other, and in accordance with this, it makes a difference as to how they perceive certain information. Regarding this, the forms and methods of education have to be adapted to different types of people. Elements such as people's levels of concentration, motivation, non-linear receipt of information, stability of information and obtaining of knowledge are looked at more closely. The rapid development of science and new technology brings with it many opportunities for those who are learning on the one hand, and for those who are working on programs for education on the other hand. Information technology has also led to the development of various educational methods; one of them is the method of e-learning. This paper will discuss the mechanism of informal education called microtraining. The concept of micro training provides information in short bursts (about 15 to 20 minutes long), concisely and in an interesting way. Knowledge has become the main product of micro training in specific fields.

Key words: *informal education, e-learning, e-learning materials, microtraining.*

Introduction

After Coombs, adult education was divided into formal, non-formal and informal education. The characteristics of formal education are clear content, a temporal structure, a formal entry, clearly defined roles of the teacher and the students and the acquired level of education. Also although non-formal education has outlined clear goals, you do not achieve any valid degrees with it. Non-formal education is organized and conducted in a shorter period of time. Informal education has no established educational goals, no planned contents or methods. Informal learning could be understood as lifelong learning in everyday situations. The media and the World Wide Web have important roles in such education. Online study is one of the most recognized ways of e-learning. Learners who used online study are very independent in their study time (Ličen, 2009).

Non-formal education can be taken under the auspices of the concept of lifelong learning. The idea of lifelong learning dates back to the times of Plato and Komensky. In the 20th century, lifelong learning was developed and is still developing in the 21st century. Lifelong learning is becoming an increasingly important activity because of rapid technological development and

the way we live our lives. Lifelong learning needs to be looked at in two aspects. The first one is related to learning, which is gained by experience through a stream of life events, whereby individuals develop their own values. The second aspect relates to such learning, which we need to function normally and is associated with economic flows. This aspect is also closely associated with technological development and the development of information-communication technology (ICT). Such lifelong learning contributes to our adjustment to changes and to our knowledge and skills nowadays. On the other hand, the acquisition of knowledge and skills is necessary in order to solve problems, because it is the only way to actively participate in new situations (Ličen, 2009).

The purpose of this research is based on the development of the educational concept with using the appropriate educational methods in the environmental area which covers an area of waste management. For this purpose, the methods of micro-training and e-learning will be presented in the addition of the article. The purpose of micro-training is to train a core group of people who must be trained quickly and qualitatively to spread awareness among the broad mass of people in the future. On the other hand, e-learning is suitable for immediate education of the masses of people in the field of waste management.

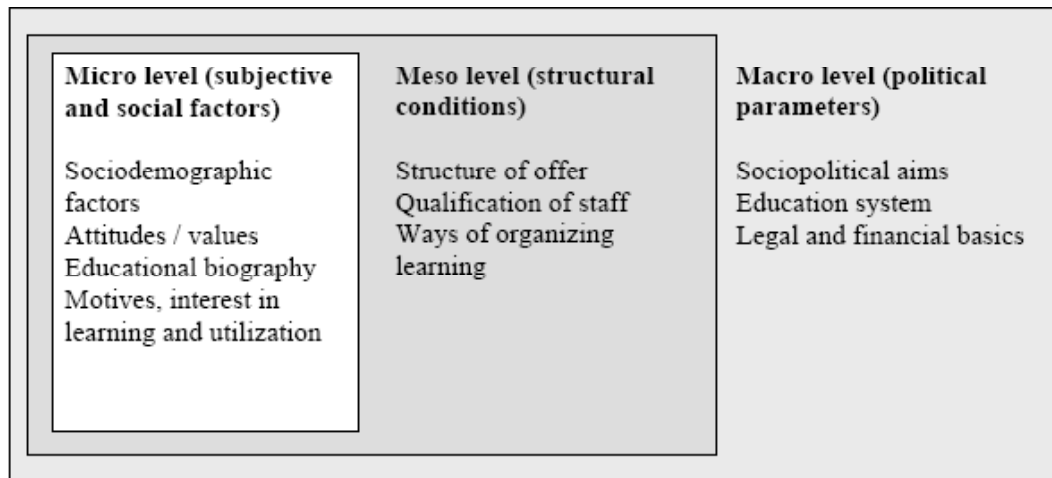
Objectives and Approaches to the Study

The study presented here wants to provide education guidelines for the wide range of Slovenian people in the field of proper waste management. The research is in the initial stage therefore the theoretical results are given for selected methods of education in the field of waste management. We should initially consider the following: Are people ready to arbitrarily and independently engage in informal education through e-learning materials and micro-training? We have to do an in-depth study especially about the barriers which they would face to integrate a wider range of people in this form of education. We must bear in mind the heterogeneous structure of people. In the next stage it is necessary to find a solution on how to overcome these barriers and regarding this we have to establish a method of education which will attract the biggest audience. It should be noted that a certain percentage of people will never make use of the offered educational mechanisms, however well-prepared they may be. In the following part we look at what factors affect an adult's decision to voluntarily take part in such education. Why volunteer? Because informal education, which is known to be based on each individual's decision on whether to take part in training.

Theoretical Background

Motivation is very important for integration into the chosen type of education. Without motivation, inclusion in the education is impossible. Educational motivation factors are divided into psychological and sociological factors. Under the first type are classified motives, needs, attitudes, expectations, beliefs, values, etc. Sociological factors are gender, age, educational attainment, job, etc. (Mohorčič Špolar, 2011).

Hippel and Tippelt (2010) divided into three levels those factors which impact on the education of the participant. Those levels are micro, meso and macro level. Factors which affected individual participation are connected to each other according to the level below (Figure 1), but their interaction is difficult to empirically verify because they vary from person to person. Education, including formal education, public awareness and training should be recognized as a process in which individuals and society can best achieve their facilities. Education is the key to promoting sustainable development and to improving people's ability to solve environmental and development issues.



Source: Hippel von, (2010)

Figure 1: Factors affecting participation in education.

E-learning as a Tool of Non-formal and Informal Education

Integration into educational processes is very important for the whole population, for young people and also for the adult population in the times we live in and also in the future. In this paper we will examine in more detail two educational mechanisms: e-education and micro-training. Both terms are somehow complementary, since the implementation of micro-training can also be made possible by using e-learning materials that are an e-learning tool. E-learning is the successor to distance learning, which is characterized by the teacher and the pupil in relation to a separate educational space. The development of information and communication technology (ICT) has led to the occurrence of the concept of e-learning. This happened because modern technologies have led to the possibility of achieving a global network of knowledge. Our understanding of the concept of e-learning can be divided into technology-based education and corporate e-learning. The difference between them lies in the fact that in an integrated e-learning teaching process the physical separation of teacher and student is implemented (Bregar, 2010). The table below shows the other differences between both concepts.

Table 1. Comparison between: technology-based education and integrated e-learning.

Features	E-education	
	Technology aided e-education	Integrated e-education
Educational concepts and models	Traditional	Modern , directed to the participant and the creation of new knowledge
Using ICT	Partial and incoherent	Overall integrated into the educational process
Communication	Predominantly in the classroom	Space independent supported by ICT teaching Materials
Teaching Materials	Content determined, and linear	Open, flexible, interactive

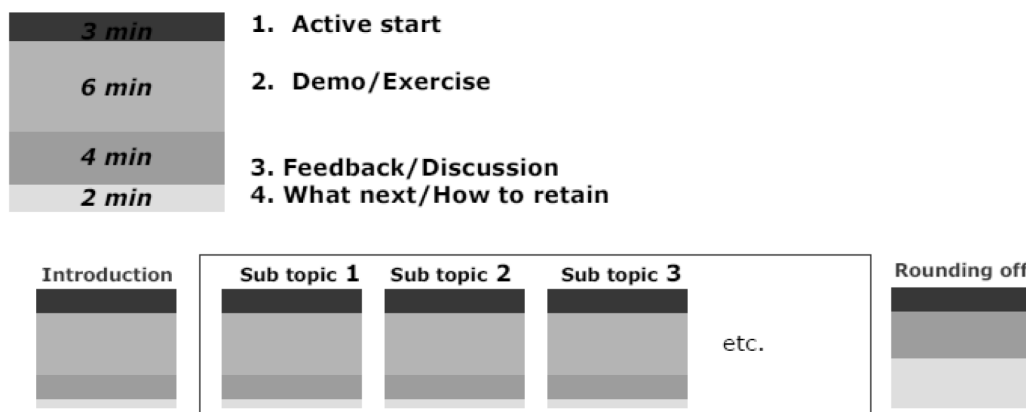
Source: Bregar (2010)

The differences between the people are in their approach to learning; the people differ in the type of learning such as visual, aural and text work. The predominant target group in non-formal and informal e-learning is adults. E-learning experts have an important role to play in the preparation of the subject matter. Experts are expected to possess a sufficiently wide knowledge of the scope and operation of ICT's for making e-learning materials (Bregar, 2010).

Microtraining as a Strategy of Non-formal Education

The second mechanism of non-formal education that will be presented in this paper is micro-training. The purpose of micro-training is to educate people in a short period of time, in a clear manner, target orientated and to present certain content in an interesting and attractive way.

The concept of micro-training was developed in the framework of the European Union called Leonardo da Vinci (Vries de, 2008). Micro-training is a method of non-formal education, which is mostly used in businesses and various organizations. We decided upon the study of micro-training and e-learning mainly because of the wide range of population that we want to educate using it. Micro-training seems a useful method because this method is an active process of knowledge creation and training. It is implemented in social interactions outside the formal learning environments, which are for many a repulsive form of education. Microtraining can be done in any organized institution, via the web or as e-learning. The time period of particular lessons is designed for about 15 to 20 minutes of learning. This mechanism of education is particularly important because it adapts to different types of learners. In the figure 2 we have shown the distribution of the time spent on one set of micro-training (Vries de, 2008).



Source: Overschie (2007)

Figure 2: Microtraining session divided into four sections.

As part of microtraining, for an active beginning we start with a mental activity, which involves thinking, organizing, comparing and setting goals which have to be achieved in the education period. After that there are six minutes available for exercises, with connected activities for different learning styles. The work is performed in conjunction with texts, sounds and also with pictures. The learning process is performed on the basis of concrete examples. Feedback is given on the basis of discussions in which the experience, views and obtained knowledge is exchanged between the participants of the micro-training. The microtraining leader must keep a full course in terms of verifying the understanding of the questions used in the discussion.

Under the next point participants are encouraged to produce their own goals in the topic of education, discuss how the knowledge was gained and maintained in possible continuation educational topics. In the following sequence of the micro-training they must determine the next topic of education (Overschie, 2007).

Methodology of Research

The survey was made among the experts about the personal choice of educational methods and the choice of methods of education for the general public in the field of waste management.

Data Analysis

Among the experts, 48 % of surveyed prefer to educate by participation in conferences, 31 % by e-materials and 20 % by printed materials (figure 3).

For the general public as the preferred form of awareness or training in the field of waste management the experts are chosen (figure 4): 33 % of systematic training, 18 % by the e-learning and 13 % with the trade fairs. To this was followed by lecture, courses and conferences, each with 9 % and 3 % with their self learning and 3 % with guided seminars.

In the future research another survey are going to be made among the general public about the most common methods of education, which are used. It is assumed that the most of surveyed will choose the methods associated with the distance learning, methods that offer flexibility and the individual approach to the learning.

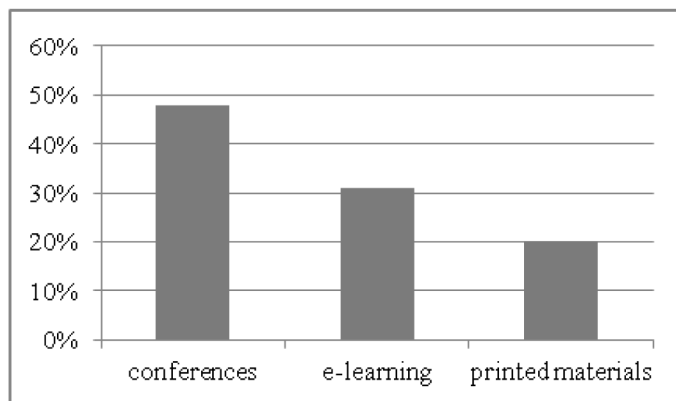


Figure 3: The preferred form of education for experts.

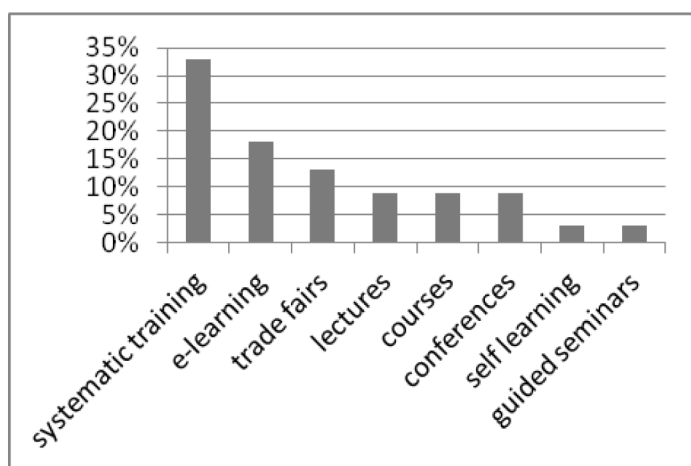


Figure 4: The preferred form of education for general public.

Conclusions

Lifelong learning, informal and non-formal education are becoming increasingly important because of the rapid changes in social, cultural, economic and technological fields. Nowadays is the acquiring the knowledge, data or information on the easy ways, because of the high development of the informational-communicational technology. Spending time on that kind of education has to be minimized. Nicholas Carr, in his work *The Shallows* wrote, “*the electronic revolution is approaching its peak ... creating a new intellectual ethos. Paths divert again in our brains.*” (Carr, 2010, p. 77). Carr, in this work, among other things, raised the issue of obtaining information in a way that we use today. Online texts are not read in depth, as was done in the period when the printed book was the only source of knowledge. Today information is perceived only the surface. That information was stored and formed into the final set of knowledge.

Presented methods such as micro-training and e-learning, can be used to raise awareness of people or acquire the new knowledge. two possible methodologies to support non-formal education, which focuses primarily on adult education. In today’s rapidly-developing world, especially in the field of technology, lifelong learning is most important. Which methods will be used for this depends on the basis of requested contents (needed knowledge/skills) and individual needs. Above all, it is important that in a short time we get to the quality and useful knowledge/skills needed for successful integration into the social and economic environment.

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