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EDUCATION OF RISK MANAGERS: A NEW APPROACH

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Abstract: *For the past two years the COVID-19 pandemic has changed every aspect of human activities, especially the process of education. In circumstances where face-to-face teaching is no longer an option, the only solution is to adopt new ways of learning. Advanced Distributed Learning (ADL) is no longer a possibility, it is rather a necessity. Today, there are a lot of platforms supporting ADL, with noticeable expansion in variations and editions during the past year. The focus of this paper will be put on how to educate risk managers using various learning management systems (LMS) and different program packages and software regarding online learning. Some of the most popular and most used ADL platforms, with their advantages and disadvantages, will be presented.*

Key words: *education, risk manager, ADL, LMS*

1. INTRODUCTION

The proper education of risk managers is essential for a successful process of risk assessment in every human activity where negative events are likely to occur. The main task of risk managers is to identify the possible challenges and threats, to measure and determine the probability of their occurrence and, finally to calculate the risk and recommend the necessary measures to mitigate it. This process is impossible without education and constant training. For the past couple of years, the COVID-19 pandemic has influenced everybody and everything. After such a disaster, the process of education may become extremely challenging. The institutions (schools, faculties etc.) which do not adapt to a new reality may find themselves in a problem: how to organize and conduct teaching without the physical presence of students and teachers. In higher education, the application of Information and Communication Technologies (ICTs) in form of e-learning is already changing teaching and learning processes. Many pedagogical and socio-economic factors have driven higher learning institutions to adopt e-learning. These include greater information access; greater communication via electronic facilities; synchronous learning; increased cooperation and collaboration, cost-effectiveness (e.g. by reaching different students and in greater numbers) and pedagogical improvement through simulations, virtual experiences, and graphic

representations. Both trainers and learners can choose more appropriate applications which are flexible in time, in place, personalized, reusable, adapted to specific domains and more cost-efficient (Sife *et al.*, 2007, p.57). Fortunately, there are a lot of means to overcome this issue and ensure the constant process of education. Advanced distributed learning (ADL) gives the possibility to conduct online classes synchronously, asynchronously or blended. There are also a lot of platforms supporting ADL, which may be used for learning. All of these facts relate to the education of risk managers, as well.

The paper discusses the application of ADL platforms in the process of risk managers` education and training, specifically disaster risk managers and risk managers for risk assessment in the protection of people, assets and business in the system of education in the Republic of Serbia.

2. E-LEARNING

Technological innovation tremendously influenced the transformation of the education system, especially in the last decade and increased the efficiency in conducting administrative tasks and the learning process (Sife *et al.*, 2007, p.58). ADL leverages the full power of computer, information and communication technologies through the use of common standards to provide learning that can be tailored to individual needs and delivered anytime, anywhere including in-residence. ADL also includes establishing an interoperable „computer-managed instruction environment“ that supports the needs of developers, learners, instructors, administrators, managers and family (Curda and Curda, 2003, p.2). The learning process is significantly aided by the integration of ICTs and online resources. E-learning refers to the use of ICTs to enhance and support teaching and learning processes. It is the instructional content or learning experiences delivered or enabled by electronic technologies and it incorporates a wide variety of learning strategies and technologies. It is thus an alternative solution, which enlarges accessibility to training and becomes essential to complement the traditional way of teaching (i.e. face-to-face). This fact comes to the fore in COVID-19 pandemic conditions, where the possibility of using traditional teaching means is minimized or does not exist at all. There is a big leap in using various platforms for distributed learning and communication, in general. There are new platforms and/or new, improved versions of existing ones, daily. In this paper, two of them are presented, as possible tools for risk managers' education: MOODLE and ILIAS.

2.1. Moodle platform

Moodle represents a Learning Management System (LMS) software package with numerous advantages. All materials are open source and free of charge. Besides that, Moodle enables the creation of effective and efficient online learning, as well as the development of users' community using sound pedagogical principles (Beatty and Ulasewicz, 2006, p.36). Its wide usage is reflected in the support of various learning methods such as blended learning, ubiquitous learning, and flipped classroom and represent the leading Learning Management System (LMS) in Nothern American and European universities (Costello, 2013). The popularity of the Moodle platform lies in its simplicity and wide spectrum of services provided (chat, forums, surveys, etc). Additionally, Moodle usage may ease the students` engagement and create meaningful connections among different course segments (Carvalho *et al.*, 2011), allowing simple communication and discussion among users (Beatty and Ulasewicz, 2006; Chao, 2008; Churchill, 2009), and give timely teachers` feedback to students. In the end, the users are allowed to download and upload materials anytime and anywhere and to use software from any electronic device they possess, such as a computer or mobile device (Carvalho *et al*., 2011; Lonn and Teasley, 2009). Moreover, Moodle allows teachers to observe the learning

process and to create a safe, democratic and interactive environment where the user with all of their specifics is put on focus.

Moodle is a platform that has been constantly updated. Many different versions of this software package are being released on monthly basis. The main advantage of this software is its large community of users, free-of-charge usage and simplicity of basic features. Of course, for some more advantage usage, certain training is needed. But, as mentioned, there is a large community and everyone is willing to assist. Moodle gives a lot of options for teachers and students, as well. Bearing that in mind, only their creativity is the limit, and there are only a few things that cannot be done via this platform. These restraints also relate to any other ADL platform and represent the limits of online learning, in general. About advantages and disadvantages of different LMS will be discussed later in the paper.

2.2. Ilias platform

ILIAS is also an open-source LMS intended for web-based education. It has been designed at the University of Cologne in Germany. Since then, both versions for business and public schools have been developed. The name of this software package comes from an acronym (ger. Integriertes Lern, Informations und Arbeitskooperations System) which stands for the system for integrated learning, information and cooperation in business. The system was made in 1998 and it has been developing since then. Due to a large and active network of programmers and users, ILIAS is constantly developing new applications and features. Its integrated tools allow organizations and educational systems to develop web-based education that fulfils their needs. Like Moodle, the usage of the ILIAS platform expanded tremendously during the pandemic. ILIAS offers similar options but in a different environment. It is very simple for basic usage, while for more demanding projects additional training is needed, especially for teachers and course creators. The software gives the possibility to a teacher to follow the activities of the students by different parameters (the number and frequency of system logging, the time spent on a system, the status of given tasks, the results of given tests, etc.) Almost every parameter of students` activity can be monitored. The special focus regarding course designing is put on learning outcomes which determine further course development. Moreover, the teachers are given the possibility to conduct an evaluation of their teaching materials and to receive feedback, through surveys and questionnaires. It is good to stress, that of many options in the ILIAS, the possibility of incorporating pre-made courses in the SCORM package (Sharable Content Object Reference Model) is a very useful tool. The ILIAS supports SCORM versions 1.2 and 2004 the 3rd and 4th editions which give additional benefits for teachers. This practically means that it is possible to create courses in different software packages for ADL such as Articulate 360, H5P, Camtasia, Adobe Captivate etc, and simply incorporate them into the ILIAS LMS. The significance of SCORM usage lies in the fact that it enables observation of users` success and it gives the option of re-usage of teaching materials, depending on individual needs.

3. EDUCATION AND TRAINING OF RISK MANAGERS

The process of education and training of risk managers in the Republic of Serbia is defined by various legislative acts. As mentioned before, the paper focuses on education for disaster risk managers and risk managers responsible for risk assessment in the protection of people, assets and business. For both occupations, it is necessary to have a proper license. The license can be obtained only if the proper education/training is given by a licensed legal entity. This means that education on risk managers is delegated to the legal entities and state administration is only responsible for the control and conducting of examinations. Legal entities which apply for an educational license have to fulfil a range of criteria: teachers with proper education and experience, facilities and appropriate teaching materials and a fully developed curriculum for

the course approved by the state administration. Once an obtained license is valid for five years period. A very important part is control of teaching quality. State administration and responsible Ministry should conduct announced and unannounced control to gain insight into the teaching process. But real control is always in the end when trainees come for the exam, where they have to show what they have learned, thus if learning outcomes have been fulfilled.

3.1. Education of disaster risk managers

In the Republic of Serbia, disaster risk assessment can be conducted by licensed legal entities that have a minimum of three fully employed licensed risk managers. For someone to gain a disaster risk manager` license, it is necessary to finish a course which will provide them with the essential knowledge to pass the exam, but what is more important, it will give them practical advice on how to properly conduct a disaster risk assessment. At the end of the course, the exam is necessary to be passed. The commission appointed by the Ministry of interior affairs organizes and carries out the exam, on the business premises of the responsible legal entity. The course is set into 30 classes, each class 45 minutes, divided into three main topics: the system of protection and salvation and crises management; disaster risk assessment and plan of protection and salvation. The first (general) part of the course focuses on theoretical knowledge about the system of protection and salvation and crisis management, while the second (specific) part of the course processes disaster risk assessment and protection and salvation plan. In Table 1, an example of the course curriculum is given.

Table 1. Disaster risk assessment course – curriculum

Topic	Teaching unit
General part	
System of protection and salvation	Legislative regulative
	Concept, structure, subjects and carriers of the system
	Standards in the field of protection and salvation
Crisis management	Concept, classification and characteristics of crisis
	Concept, principles and specificity of crisis management
	System and crisis management bodies
	Crisis management leadership
	Communication in crisis
Specific part	
Risk assessment and protection and salvation plan	Endangerment assessment
	Risk assessment
	Scenarios production
Production of protection and salvation plans	Production of protection and salvation plans based on risk assessment
Workshop 1	
Workshop 2	

This example of the course curriculum gives a very clear insight into what topics and areas are covered. Through workshops, trainees are taught how to identify and analyze all potential dangers, how to assess risks and what risk treatment should be conducted. They also learn how to produce a protection and salvation plan based on the risk assessment. All course is planned to be carried out face-to-face, on the business premises of the licensed legal entity.

3.2. Education of risk managers for protection of people, assets and business risk assessment

Risk managers in this field are also trained and prepared for the exam by licensed legal entities. The course lasts for 36 classes and it covers a variety of topics, according to the standard SRPS A.L2.003:2017 Security and resilience of the society – risk assessment. The topics are as follows: the concept of risk management and assessment, security of the organization, risk assessment in various aspects of business and methodology of risk assessment in the protection of people, assets and business. The course also contains two workshops where trainees are being taught how to produce risk assessments by themselves. At the end of the course, all the trainees are obliged to pass the control exam.

4. ADL IN THE EDUCATION OF RISK MANAGERS

As shown previously, both of the courses contain theoretical and practical parts. For theoretical parts, it is more than suitable to organize courses via ADL, using one of the proposed LMS platforms. The courses may be planned as synchronous and asynchronous. In the synchronous part, trainees could be taught about basic principles regarding different risk assessments, according to the given curriculums. After each topic is covered, a short knowledge assessment should be conducted and the teachers would have a clear insight into the trainees` progress. In the asynchronous part, the trainees could be given various exercises connected with the topics covered in the synchronous part. Also, LMS software packages offer the possibility for the trainees to ask questions, discuss and debate interesting and unclear matters. They can also assess the teachers` ability to transfer knowledge, their methods, and their behaviour during classes. All of this represents very useful feedback, so the teachers and course designers would be able to increase the quality of the teaching process. Another advantage of risk managers` education based on ADL is that groups of trainees can be larger which directly affects the overall costs to be lower.

E-learning offers a lot of options and this crisis period enabled ADL to develop rapidly. Most academic institutions willingly or not transferred to this model of education. Web-based learning, distributed work and e-cooperation exploded during the Covid-19 crisis (Redondo *et al.*, 2021). Since the pandemic started, it has been noticed a significant increase in solutions for e-learning, including tools and methods such as video conferences, virtual teaching, digital libraries and numerous software for web-based learning.

On the other hand, there are some disadvantages of the proposed ADL model for risk managers. Firstly, all the workshops still have to be conducted face-to-face, which means that at some point in time, all the trainees have to come to business premises. There is also a question of motivation during e-learning classes. It is often noticed that the concentration and motivation of the students are on a lower scale when they follow classes online. It is explained by the fact that they are usually at their homes; they don't have the `feeling` that they are in class; the control role of the teacher is diminished etc. Lastly, the ADL education model means that all the trainees possess technical and other conditions fulfilled – computer, stable internet connection and separate individual working space, which is not often the case.

Bearing everything in mind, the e-learning education process for risk managers should be considered an option, especially in these uncertain crisis times. The first step needs to be the incorporation of this model of training into legislative regulative by giving the option to the licensed legal entities to choose which education method they will use (face-to-face, e-learning or a combination of both).

5. CONCLUSION

The appropriate education of risk managers today is more important than ever. We have all witnessed what kind of negative impact the Covid-19 pandemic has had, particularly on the education system. So why is proper education/training of risk managers so significant? If they are not trained, they will not be able to identify possible challenges, dangers and threats. Furthermore, they will not be capable to calculate the probability of negative events, thus analyzing possible risks. Without risk identification, no measures for its mitigation will be planned. In this situation, the vulnerability of everyone (individuals, businesses, society etc.) is increased and resilience is reduced. The consequences can hardly be measured.

The proposed education model for risk managers in this paper does not exclude traditional (face-to-face) teaching. On the contrary, it discusses and points out that in a crisis, such as the Covid-19 pandemic where physical presence is not an option should be possible to find an alternative. In regular conditions, ADL platforms could be used as an aid for traditional teaching with all its options and features. Of course, all of this should be recognized by responsible ministry and state administration ensuring legislative support. After that, certain efforts have to be made regarding teachers` education on how to completely use various LMS platforms where developers, designers and managers should be involved. The goal is to make a stable education system for risk managers so that they will be well prepared to deal with all the challenges, risks and threats.

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