

The Optimization of the Educational Process of Security Technologies, Systems and Management

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Abstract— In this article, a research focused on the needs of private security industry is presented. In the first part of the paper the research of the PSI knowledge can be found, whereas the second part contains proposal of educational simulators for improving the PSI knowledge. The research presented in this paper is based on the research in Tomas Bata University in Zlin and European Training Standards for private security industry.

Keywords— European Training Standard, Private security industry, Private security training manual, Security officers, Training simulation.

I. INTRODUCTION

A private security industry (PSI) is a rapidly growing industry not only in the Czech Republic. The increasing importance of PSI leads to the need of professionalization and the educational process improvement. Nowadays, the knowledge is improved especially thanks to universities with educational programs focused on the PSI.

This paper describes the content of standards reflecting needs of private security officers' knowledge and the ways, how to improve the educational process using training simulators.

II. KNOWLEDGE TEST

The knowledge test used in this research originates from the test to gain competence certifications of "detective" due to Czech system. A test subjects were unfamiliar people and students of Tomas Bata University in Zlin who finished 1, 6 and 9 semesters. The test consisted of 150 questions and the participants had 180 minutes, however, the average time was 37 minutes. To pass the test, the 100 points had to be gained.

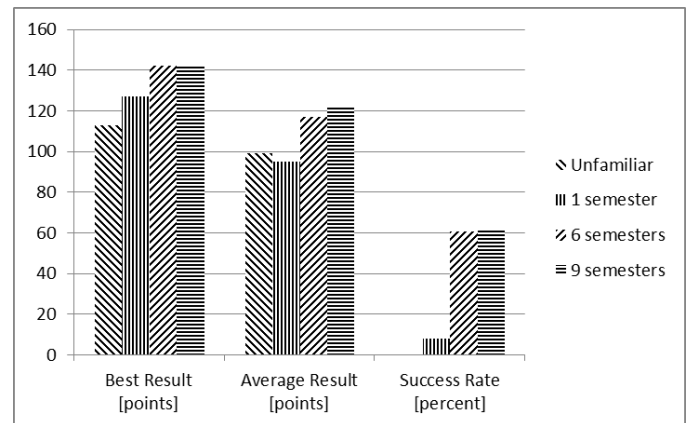


Fig. 1 Graph of Knowledge Test

The graph shows results of each testing group. In the first part, best results from the testing groups can be found. The second part shows the average result and the last the success rate of participants in test. As can be seen, there are big differences between participants of each group. Reasonably, the unfamiliar participants' to PSI success rate is the lowest, but even the success rate of 9 semester student is only about 60 percent (61.9%). Moreover, the research showed the most problematic group of questions – legislative questions, occupational health and safety and first aid.

III. EDUCATION PROCESS

In this part of the paper, the research focused on the European training standards (ETS) in security industry is described. ETS is divided into 14 chapters. These chapters are focused on the different parts of the PSI principles and are summarized below. Also, the information about current state of education of these topics are mentioned.

A. Private Security Industry

This chapter of ETS is focused on the basic definitions of private security industry (PSI) and private security services (PSS). It also contains a basic sectionalization of PSI to the sectors and services and their best practices. An introduction to the issue of guarding services, including the basic duties as well as the evaluation methods of security risk management, security analysis and audit are presented in this chapter. Moreover, the chapter deals with the issue of private detectives

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and the issue of basic law regulations and standards. At Tomas Bata University in Zlin (TBU), the subject called Systemization of Security Industry is taught. The knowledge in this subject corresponds with the one from ETS, moreover, it is much more extensive.

B. Private Security Officer

In the second chapter of the ETS, the profile of security officer is mentioned in relation to his duties, abilities and equipment. The methodology of all activities are discussed in the subject Systemization of security industry in the part called Introduction to guard services. The security officers' equipment is mentioned in the lecture of the Technology of Commercial Security I. The information presented in the ETS corresponds with the content of education at TBU. Here, the students learn basics of standards regarding to safety equipment and its use and the duties of the commander, shift manager and guards of the PSI.

C. Equipment

This chapter deals with private security officers' equipment, object documentation and its electronic systems. The personal equipment contains not only uniforms and radio, but even handcuffs, pistol, pocket spray "Mace", alarm button and baton. Students of TBU get familiar with this equipment especially in subject "Martial Arts". The education of this subject is both theoretical and practical.

D. Safety Procedures

Safety procedures are presented in the book as the methods and means of preclusion the undesirable situation and are divided into 6 chapters as can be seen in Table 1.

Chapters	
Security Guard	Access Control Activities
Occupational Health and Safety Procedures	Duties of Security Guard Leader
Firefighting Procedures	Observation

Table 1. Chapters of safety procedures.

The individual chapters are discussed in various subject of TBU. The activities related to security of property are taught in Technology of Commercial Security and Systemization of the Security Industry. Occupational Health and Safety Procedures (OSH) are taught in the subject of the same name focused even on the legislation of OSH and the supervision over OSH in companies.

E. Emergency Procedures

Emergency procedures are described as a complex of activities, which should be done by security guard to prevent, detect or minimize loss caused by accidents including first aid and the content of communication with fire department operator.

At TBU, subject called Modeling of Crisis Situations is focused on the crisis management, emergency response, hazard analysis and a protection of critical infrastructure.

Furthermore, IRS of State, Crisis and Information Management discusses basics of IRS of State and the system of crisis management of Czech Republic. Also, it helps students to specify the measures to specify criteria including information needs in relation to crisis management.

First aid not only in an emergency situation is taught in the third semester of the master degree course in subject Basics of First Aid. In this course, students learn both theoretical and practical (using live simulation) about the most common types of injuries that can threaten the life of the injured person. After completing the course, students are able to identify the type of injury, including recognition of arterial and venous bleeding. Moreover, they are able to organize and do the first aid, resuscitate and provide basic information to IRS.

F. Private Security Industry Legislation

This part of ETS, the legislation of PSI is described, especially the privileges of private security officers. Completing the course of the Law 1 students gains knowledge in the field of constitutional law, civil and family law, commercial law, community law, labor law and criminal law. In addition, students get familiar with the problems of public administration, public administration and internal security of the country. Course Law II is, as an extension of the Legislation I, also focused on the law of Czech Republic, especially on the law related on the PSI.

G. Firefighting Procedures

The impact of a fire, the process of burning, the most common occasions of fire, the ways of fire spreading, the kinds of fire-distinguisher and its utilization, all these problems are discussed in the seventh chapter of ETS. At TBU, there is no subject related to these topics.

H. Occupational Health and Safety

This chapter deals with basic knowledge of occupational health and safety field, the company occupational health and safety management, proceedings during Occupational Health and Safety breach, the suitable legislation and governance supervision. In the first two semesters of the master study program, students are attending the subject with the same name.

I. First Aid

In this chapter, the security guard is learning the basics of the first aid, the most common types of injuries, bleeding, fractures, etc. Students becomes familiar with measures and countermeasures of communication with afflicted by injury. At TBU, the First Aid subject is taught.

J. Customer Care and Quality of Service

Customer care and quality of service chapter describes the principles of customer care in relation to the safety. The aim of this chapter is to:

- 1) *Establish the principles of customer care,*
- 2) *describe ways to help customer professionally and friendly,*
- 3) *describe principles of ISO 9000,*
- 4) *summarize rules of quality and OHS,*
- 5) *describe responsibility for the quality of services.*

There are two subjects at TBU, which are partially focused on these topics – Psychology and Marketing Communications and Technology of Commercial Security II.

K. Communication

Communication, both verbal and nonverbal, is one of the basic skills characterizing each human and is crucial for security guards. Using this skill, he can not only professionally talk to customer, but also prevent potential problems or resolve conflicts. On this skills, the subject called Psychology and Marketing Communications is focused.

L. Job Relations

This part of ETS is focused on the optimization human activities, such as time-management and solving traumatic and stressful situations. Labor relations are mentioned in the subject Ergonomics and Psychology.

M. Work Regulations

This chapter deals with labor legislation, security guards' and their employers' duties, collective agreement, internal regulations of the company and work order.

However, there is no specialized subject at TBU focused on the topics mentioned above, students are getting familiar with them during attending the education and accepting internal guidelines of the university.

N. "Basic Training" Project

This chapter is focused on the training methods of ETS and training evaluation. Because of the character of this subject, there is no need to teach the topics related to it.

IV. OPTIMIZATION THE EDUCATIONAL PROCESS

In this chapter, the appropriate simulators or simulator types for each part of ETS are proposed to improve the educational process. The simulator types are proposed if the market with simulators of this type is wide enough. The concrete simulator is proposed if it is unique or if it let us to learn more chapters of ETS to safe costs. The simulator types and concrete simulators are described below, in Table 2, moreover, the concrete simulators are described below the Table 2.

A. VBS 2/3

"The VBS virtual environment offers realistic physics, comes with an extensive content library for creating models and populating scenarios, and has the capability for expanding existing terrains and developing geospecific terrains. VBS3 is well suited for learning how to think, communicate and make sound decisions. As a tool for tactical scenario training and mission rehearsal, VBS3 allows trainees to practice field tactics many times over without expending live ammunition,

without costly travel time, and without risk of injury to soldiers or damage to expensive equipment." [3] This simulator is suitable especially for learning safety procedures thanks to its variability and the possibility of communication in a group.

Chapters	Appropriate Types of Simulators
Private Security Industry	Educational simulators
Private Security Officer	Communicational simulators
Equipment	Projection screen simulators
Safety Procedures	VBS3 [1]
Emergency Procedures	VBSWorlds [2]
Private Security Industry Legislation	Educational Simulator
Firefighting procedures	Firefighting simulator, VBSWorlds [2]
Occupational Health and Safety	Live simulation
First Aid	Live simulation (Casualty Simulation Kit)
Customer Care and Quality of Service	VCAT [3]
Communication	VCAT [3]
Job Relations	Educational Simulator
Work Regulations	Educational Simulator
"Basic Training" Project	N/A (test)

Table 2. Appropriate types of simulators.

B. VBSWorlds

"VBSWorlds is a revolutionary 3D learning engine based on the powerful Thinking Worlds technology that will allow you to create more motivating, immersive virtual training scenarios." [4] It allows to make new scenarios focused on the learning emergency procedures and firefighting.

C. Alelo VCAT (Virtual Cultural Awareness Trainer)

"Powered by industry-leading technology and experts with unmatched diversity in educational, cultural and experiential backgrounds, Alelo combines understanding of your unique goals with the efficacy of a role-playing learning environment." [5] However, this simulator is focused on the learning communications especially in army, it could be helpful even in everyday life.

V. CONCLUSION

This paper discussed in the first part the knowledge test, which primarily shown the most problematic groups of questions – legislative, occupational health and safety and first aid.

The second part described the research focused on the European training standards (ETS) in security industry, divided into 14 parts. For each part, the appropriate type of simulators for education process optimization were chosen.

Moreover, the research analyzing the educational process at TBU is mentioned. It shows that ETS are implemented into the education but the firefighting procedures, which should be taught in some specialized subject.

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