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УНИВЕРЗИТЕТ У НОВОМ САДУ, ФАКУЛТЕТ ТЕХНИЧКИХ НАУКА
ДЕПАРТАМАН ЗА ЗАШТИТУ ЖИВОТНЕ СРЕДИНЕ И ЗАШТИТУ НА РАДУ
САВЕЗ ЗАШТИТЕ НА РАДУ ВОЈВОДИНЕ
УДРУЖЕЊЕ ЗА БЕЗБЕДНОСТ НА РАДУ "28. АПРИЛ", МАКЕДОНИЈА

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УНАПРЕЂЕЊЕ СИСТЕМА ЗАШТИТЕ НА РАДУ



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UNIVERZITET U NOVOM SADU, FAKULTET TEHNIČKIH NAUKA
DEPARTMAN ZA ZAŠTITU ŽIVOTNE SREDINE I ZAŠTITU NA RADU
SAVEZ ZAŠTITE NA RADU VOJVODINE
UDRUŽENJE ZA BEZBEDNOST NA RADU „28. APRIL“, MAKEDONIJA

Nacionalna konferencija sa međunarodnim učešćem

UNAPREĐENJE SISTEMA ZAŠTITE NA RADU

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Ministarstvo prosvete, nauke i tehnološkog razvoja Republike Srbije
Pokrajinski sekretarijat za nauku i tehnološki razvoj AP Vojvodine
Pokrajinski sekretarijat za privredu, zapošljavanje i ravnopravnost polova AP Vojvodine

Tara, 23-26. oktobar 2013.

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Organizatori:

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Izdavač:

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Urednik zbornika:

dr Suzana Savić

dr Dragan Spasić

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Aleksandra Baukov

Dizajn korica:

Aleksandra Baukov

Štampa:

M Kops Centar

Tiraž:

150 primeraka

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EDUCATION AND ECONOMIC FACTORS AS ELEMENTS FOR IMPLEMENTING AND IMPROVING THE OSH SYSTEMS

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Abstract: The purpose of the paper is to represent the possibility for changes into the way of education for future OSH engineers. The changes are generally in a matter of implementing a model for education that would combine theoretical and practical experiences and direct practice regarding the application of the OSH legislation and OSHAS systems, which in future will be applied into teaching activities. On the other hand, the subject of the paper is also the economical factor as an element (advantage or barrier) for implementation, maintaining and improving the OSH system or the legislation regarding safety at work, especially in real systems in Macedonia.

Key words: OSH systems, Changing the way of education for future OSH engineers, Economical factor as an advantage or an obstacle for industrial systems

OBRAZOVANJE I EKONOMSKI FAKTORI KAO ELEMENТИ IMPLEMENTACIJE I UNAPREĐENJA SISTEMA ZA ZAŠTITU ZDRAVLJA NA RADU

Apstrakt: Cilj rada je da prikaže mogućnost promene načina obrazovanja budućih inženjera zaštite i zdravlja na radu. Promene se najpre ogledaju u načinu implementacije obrazovnog modela koji bi spojio teorijska i praktična iskustva sa neposrednom praksom vezanom za primenu zakona i standarda o zaštiti i zdravlju na radu, koji će ubuduće biti uvršćeni u nastavne aktivnosti. S druge strane, predmet rada je i ekonomski faktor kao element (prednost ili prepreka) implementacije, održavanja, i unapređivanja sistema zaštite i zdravlja na radu ili zakonodavstvo vezano za zaštitu na radu, naročito u stvarnim sistemima u Makedoniji.

Ključne reči: sistemi zaštite i zdravlja na radu, promena načina obrazovanja budućih inženjera zaštite i zdravlja na radu, ekonomski faktor kao prednost ili prepreka za industrijske sisteme

INTRODUCTION

That safety at work places is a really necessary, speaks the facts themselves. Only if we look the number of people injured in 2012 in Bitola's region (336 people or 2.58% considering all of the employees in Bitola's region), it's more than obvious that changes are really necessary. On the other hand it we consider the fact that some organizations haven't made an risk assessment on direct work places, most of the organizations haven't got an implemented OSHAS 18001 system or ultimately did not report work injuries, conclusion is that changes are more than necessary. Indeed

many will tell YES security is more than necessary, but it really is a huge expense that burdens the already "slim" budget that they have. However this kind of a conclusion is in most cases refuted by the fact that injury directly (through lost work days as a result of an injury), or indirectly (through law trials or through money paid as a damage for the injured person) directly are costs for the organizations. Therefore, excuses must be put on side and organizations should step to a detailed implementation of safety processes, risk assessments and implementation of OSHAS systems in a matter for better and safer work places. Because this step is a join adventure for the organizations, consultants, professionals on that matter (safety workers) and inspections, the problem isn't such simple as it seems. Actually, the best way for implementation of these changes is to create a quality educated staff (with theoretical and practical experience) which in future will be the "backbone" of the safety systems in the organizations, regarding the role they have (experts, consultants or inspectors). For that purpose, a model represented into the addition of the paper is created. This model will be tested in a period of time and some modifications will be made, but till then the same one will be used as it is. The same one is represented into addition.

PRESENTACION OF THE MODEL

The model presented into figure 1, is developed and divided in 6 steps. The same one is a combination of theoretical and practical experiences which will create a health and safety engineer, which has knowledge to answer the work tasks. The model as it is, is created as a result of a long-term research that gave us the demands what should one safety engineer be able to do, or what the same one should know. Also the same one is practical, because students through this kind of an curriculum could have an practical experience in a matter of creating procedure, work guidelines, work instructions, work orders and OSH manuals, combined with the ability to work with measure instruments (instruments that measure temperature, noise, vibrations and lightness on direct work places). The model is represented into figure 1 in addition.

POSITIVE AND NEGATIVE SIDES OF THE CREATED MODEL

Seeing the created model, there are numerous positive and negative sides on the same one. Considering positive sides, they could be represented in the following points of view such as:

- Complete knowledge for issues related with OSH
- Creating quality workers prepared to response to everyday activities, based on the OSH systems
- Practical experience

- Numerous visits of business entities during the courses
- Numerous real case studies
- Contacts with societies, organizations and inspectors in a matter of OSH issues
- Experiences with preparation of OSH documents
- Quality curriculum (based on practice not only theory)
- Contacts with potential future employers

Considering the negative sides of the model, especially in Macedonia, there are several negative sides, such as:

- Short period for realization of the curriculum (one semester-three months or 75 school classes)
- The lack of business entities that are ready for this kind of an cooperation
- Expenses
- Lack of some measurement equipment (ex. moisture instruments)

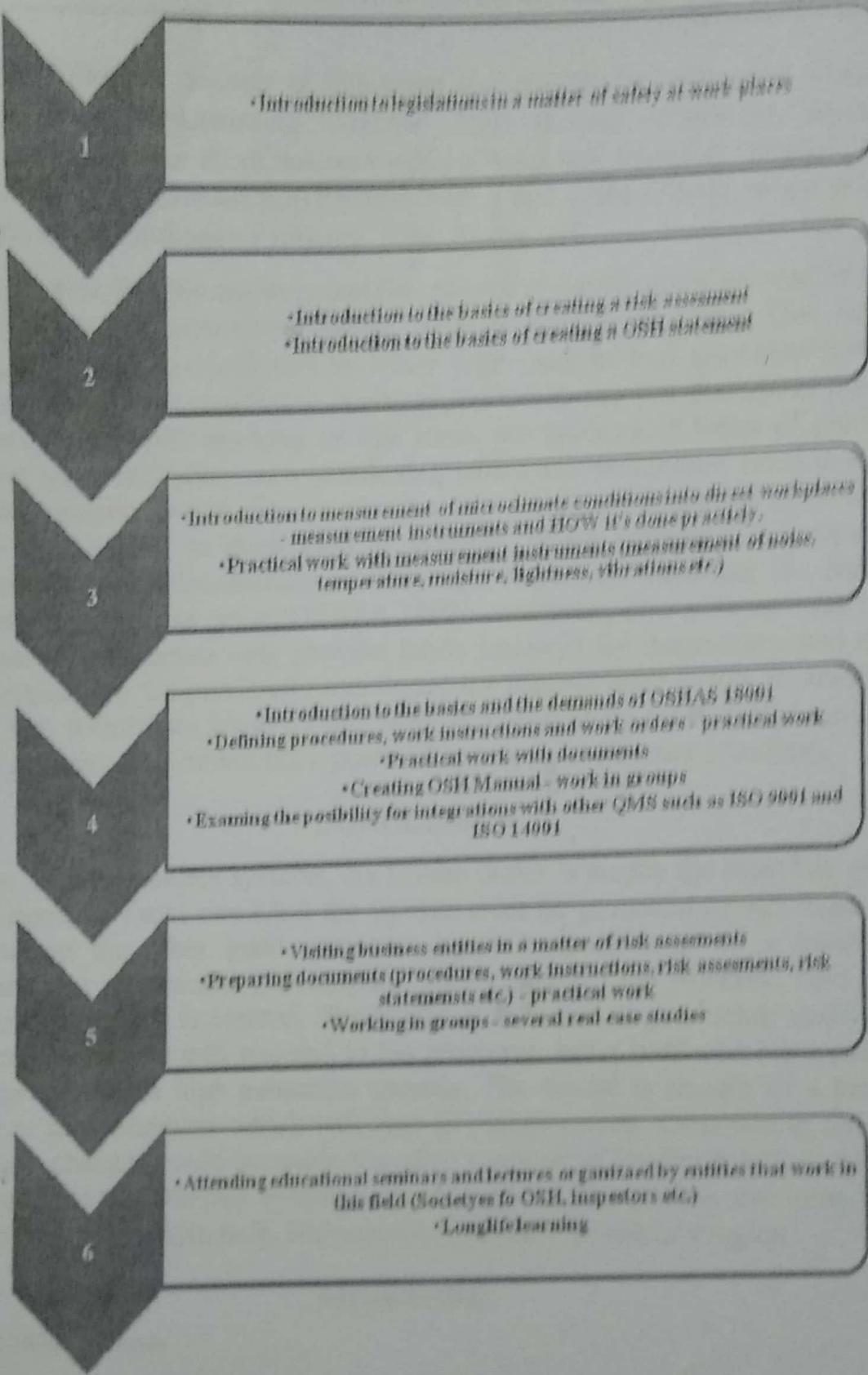


Figure 1. Created model for education of future safety engineers

Also one of the key aspects at this point that should be mentioned when talking about the issue implementing OSHAS 18001 in real enterprises, especially in Bitola's region, is that these business entities has small financial "power", and they approach to the implementation process with a low price criteria, when selecting a consultant or a consultancy company. If we ignore this

problem, fact is that the implementation process or certification process of OSHAS 18001 is partly or completely wrong, what is another problem. This isn't only opinion, this is a fact confirmed by many organizations that gravitates this region (Bitola's region). This conclusion is also supported by the fact that above mentioned consultancy companies working on this issue, are working in terms of profit (give me money and I will give you a certificate), with some exceptions. So in most of the cases, the implementation process remains only on paper. But even more wrong is the way of approach to these kind of systems, where consultancy companies or organizations create documentations only in a matter for fulfilling the legislative requirements or only to get an OSHAS 18001 certificate, also with rare exceptions. In this matter companies only provide funds (money) for documents, and nothing more. Considering the previously mentioned the biggest loser in this situation is the worker, who is fulfilling his every day work activities on no safe work place (a place who has a documentation but not a practical approach in a matter of safety).

CONCLUSION

When we talk about safety systems, the human factor is maybe the most key element of these systems. From one hand the worker must be protected on his direct work place, but on the other hand someone (again human) must do a quality job considering risk assessment with actively involvement of the workers. That is why these kind of a model is created. The model is in a aim of producing quality staff (safety engineers) who will respond to the problems, but a staff who has a practical experience during his high education process. The model is an aim of a practical application, an application which will find it's weak places. Considering this weak places some changes could be made but after a period of implementation. Also the paper represents the OSHAS system with its weaker places when the same one is applied in business entities in R. Macedonia, especially in Bitola's region.

LITERATURE

- [1] OSHAS 18001 demands
- [2] I.Kuzmanov, PhD dissertation, Faculty of Technical Science in Bitola, 2012
- [3] Other relevant web research