

ASSESSMENT OF OCCUPATIONAL HEALTH AND SAFETY AWARENESS AMONG STUDENTS OF THE FACULTY OF TECHNICAL SCIENCES

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Abstract: This paper presents a comprehensive analysis of the awareness and knowledge levels concerning occupational safety and health among students enrolled in the Faculty of Technical Sciences. Through surveys and data analysis, this study uncovers the existing gaps and areas of strengths in students' awareness and knowledge about occupational safety and health. The findings provide valuable insights into the efficacy of current educational programs in delivering this crucial information. Furthermore, by examining differences between students at various stages of their academic journey and pursuing diverse study programs, the research offers a complex understanding of the factors influencing students' awareness levels.

Key Words: Occupational safety and health, Awareness level, Knowledge assessment, Study programs

1. INTRODUCTION

Faculties represent dynamic environments where students are exposed to various physical, psychological, and social stressors. A healthy and safe working environment is a significant aspect of any workplace or educational space, regardless of its location. To enable students to have a successful academic experience and personal development, it is essential that they are familiar with the different factors that affect their safety and health and understand them as thoroughly as possible. The issue of student safety and health extends beyond time spent in classrooms and on campus. It also encompasses residence in student dormitories, commuting to the faculty, professional excursions, internships, and similar activities. Higher education institutions have a responsibility to provide students with information or direct them to sources of information regarding health and safety risks and protective measures. Furthermore, students should be encouraged to explore the places where they will live and work to develop the ability to independently assess risks. Educating students about behavioral rules, safety measures, and relevant safety equipment in each environment can significantly reduce potential risks, thus enhancing the safety and health of students.

To achieve these goals, collaboration between different units within the faculty is necessary. The faculty administration, teaching staff, student representatives, and safety and health experts must work together to identify specific student needs and develop tailored programs. An important step is the ongoing monitoring and evaluation of the effectiveness of implemented measures. This includes regular surveys of student satisfaction, gathering feedback on their experiences and challenges, as well as analyzing relevant statistics on incidents and safety and health-related issues. The aim of this comprehensive approach is to create an environment in which students can realize their full potential, both academically and personally, with a sense of security and support within the faculty environment.

In addition, it is important to emphasize that student safety and health at the faculty can also have an impact on their motivation, concentration, and academic success and experience.

2. EDUCATION AND TRAINING ON SAFETY AND HEALTH

Occupational health and safety (OHS) in the educational curriculum of higher education institutions (HEIs) should consider students' attitudes, values, as well as skills and competencies. Awareness of hazards and risks, as well as methods of avoiding their realization through the organization of the environment and behavioral patterns, should be part of safety and health education. Legal regulations, sources of information, and general concepts and terminology related to occupational safety and health should also be included (Krišto, 2015).

Although most students claim to have a good understanding of safety and health measures at work, they rate the use of personal protective equipment as the most important protective measure. This suggests that they may not have fully grasped the basic principles of occupational safety and health.

Incorporating occupational health and safety as an integral theme across a wide range of subjects within the higher education system holds significant importance in the context of a lifelong learning strategy aimed at fostering lasting impacts on essential competencies and attitudes. Moreover, it is highly desirable for this learning approach to be experiential, fostering interactive dialogues between educators and students. All students should receive education and training on the following (OSHA, 2016):

- Policies, objectives, and procedures for workplace safety and health;
- Functions of the occupational safety and health program;
- Whom to contact with questions or concerns regarding the program (including contact information);
- How to report hazards, injuries, illnesses, and near-miss incidents;
- What to do in case of emergencies;
- The institution's responsibilities toward the safety and health program;
- Workers' rights under the Occupational Safety and Health Act.

To make training as effective as possible, the following activities should be undertaken (OSHA, 2016):

- Provide information on workplace safety and health hazards and control measures for those hazards;
- Ensure that training is provided in a language (or languages) and at a literacy level that everyone can understand;
- Emphasize that safety and health program can only function successfully when everyone is involved and feels comfortable discussing concerns, providing suggestions, and reporting injuries, incidents, and hazards;
- Confirm, as part of the training, that all workers have the right to report injuries, incidents, hazards, and concerns, and to fully participate in the program without fear of retaliation.

3. MATERIALS AND METHODS

The research was carried out using an electronic questionnaire and included students from different study programs and age groups. The questionnaire consisted of 30 questions, of which 5 were intended for collecting data about the respondents, while 25 focused on students' knowledge and awareness of OHS during their studies. Students' responses were collected using closed-ended questions with provided answer options. In questions where respondents indicated their level of agreement with statements related to the topic, the scale was set within a rating interval from 1 to 5. Depending on the question, the statements were formulated as follows: 1 – I don't understand at all/poorly and 5 – I understand completely/excellently. Additionally, the questionnaire included questions with "yes" or "no" answer options, along with the option "I'm not sure" or "not applicable." The first group of questions were related to gender, age, education level and study program. The second part of the questionnaire included carefully selected questions related to the main OHS issues:

- How would you assess your understanding of the terms "hazard," "harm," and "risks" in relation to safety and health?
- Are you familiar with potential hazards, harms, and risks to safety and health associated with being in classrooms at the faculty?
- How would you rate your knowledge/familiarity with hazards, harms, and risks to safety and health associated with being in classrooms at the faculty?
- Are you familiar with potential hazards, harms, and risks to safety and health associated with being in laboratories at the faculty?
- How would you rate your knowledge/familiarity with hazards, harms, and risks to safety and health associated with being in laboratories at the faculty?
- Are you familiar with potential hazards, harms, and risks to safety and health associated with staying in the student dormitory?
- How would you rate your knowledge/familiarity with hazards, harms, and risks to safety and health associated with staying in the student dormitory?
- Are you familiar with potential hazards, harms, and risks to safety and health associated with commuting to and from the faculty?
- How would you rate your knowledge/familiarity with hazards, harms, and risks to safety and health associated with commuting to and from the faculty?
- Are you familiar with potential hazards, harms, and risks to safety and health associated with professional visits/excursions?
- How would you rate your knowledge/familiarity with hazards, harms, and risks to safety and health associated with professional visits/excursions?
- Are you familiar with potential hazards, harms, and risks to safety and health associated with staying in the faculty cafeteria?
- How would you rate your knowledge/familiarity with hazards, harms, and risks to safety and health associated with staying in the faculty cafeteria?
- Did you receive adequate education and instructions at the beginning of your studies regarding potential hazards, harm, and risks to safety and health during your studies?
- How would you assess the level of awareness of safety and health measures during your studies?
- Would you know where to find your rights and obligations in the relevant legal and sublegal acts in this

area?

- Are you aware that your rights to safety and health also apply outside faculty premises?
- Do you believe that adequate safety and health measures were implemented and enforced at the faculty during the COVID-19 pandemic?
- Are you aware that there is a person responsible for occupational safety and health at the faculty?
- Do you feel that during theoretical and practical classes in classrooms, auditoriums, chemical, mechanical, computer, or other laboratories, you were informed about all hazards, harms, and risks of injuries and health damage?
- Evaluate to what extent professors and/or assistants control the implementation of measures for safe and healthy work during your time in classrooms, auditoriums, chemical, mechanical, computer, or other laboratories.
- Were you provided with personal protective equipment for the purpose of conducting practical classes in laboratories?
- Are health and safety instructions displayed in visible places (in classrooms, auditoriums, chemical, mechanical, computer, or other laboratories)?
- Are you familiar with the evacuation procedure and the meeting point in case of a fire?
- Was a fire evacuation drill conducted at the faculty during your studies?

4. RESULTS AND DISCUSSION

The research involved 86 students from the Faculty of Technical Sciences. The age of the participants ranged from 20 to 38 years, with an average age of 23 years. The sample included students at different levels of study, comprising 76 students in undergraduate academic studies, 8 in master's academic studies, and 2 students in doctoral academic studies. To ensure the representativeness of the sample, the survey encompassed students from 11 study programs at the Faculty of Technical Sciences (Architecture, Computing and Control Engineering, Energy and Processing Engineering, Power, Electronic and Telecommunication Engineering, Engineering Management, Mechatronics, Traffic and Transport Engineering, Occupational Safety Engineering, Information Systems Engineering, Clean Energy Technologies, Mechanization and Construction Engineering). The analysis of responses presented in the paper was conducted in relation to the affiliation with the study program.

The results related to the level of awareness and knowledge of students regarding workplace hazards and risks indicate that students of the Occupational Safety Engineering program are most familiar with workplace hazards and risks. This is expected given the specificity of the study program, which directly addresses occupational health and safety issues. The high level of awareness among these students indicates the program's success in providing relevant knowledge. Study programs such as Engineering Management and Mechatronics also have a higher number of students familiar with workplace hazards and risks, suggesting that these programs also pay attention to occupational health and safety issues. These conclusions are valuable as they suggest that study programs directly addressing occupational health and safety achieve a high level of awareness among students. They also show that programs not specifically focused on this topic can still provide significant information and raise awareness of occupational health and safety (Architecture, Computing and Control Engineering, Energy and Processing Engineering, Power, Electronic and Telecommunication Engineering, Traffic and Transport Engineering, Information Systems Engineering, Clean Energy Technologies, Mechanization and Construction Engineering).

The results related to the perception of students from different study programs regarding safety when arriving at and departing from the faculty indicate that students of Occupational Safety Engineering have the highest number of affirmative responses concerning safety when coming to and leaving the faculty. The high level of awareness among these students indicates their readiness to apply safety principles even in everyday activities. The study program Information Systems Engineering stands out as the only one with a higher number of students responding negatively to this question, suggesting a need for additional attention and resources to ensure greater safety awareness among students, especially concerning arrival and departure from the faculty.

Study programs such as Occupational Safety Engineering, Clean Energy Technologies, Information Systems Engineering, and Mechanization and Construction Engineering stand out in that most students provide a positive response regarding their familiarity with hazards and risks during classes. This indicates that these programs place special emphasis on the safety and health of students during the delivery of lectures. The obtained results also suggest the need for additional attention and training in the field of safety and health for study programs where most students responded negatively or were uncertain (Architecture, Computing and Control Engineering, Energy and Processing Engineering, Power, Electronic and Telecommunication Engineering, Engineering Management, Mechatronics, Traffic and Transport Engineering).

Clearly highlighted and accessible health and safety instructions play a crucial role in informing students about safety procedures and measures to be taken for the preservation of their health during their studies. A positive aspect that can be highlighted from obtained results is that there is no study program where most students believe that instructions are not prominently displayed, as required. This indicates that, at least to a greater extent, regulations

regarding the highlighting and availability of health and safety instructions are adhered to across all programs. The obtained results also reflect the commitment of the Faculty of Technical Sciences to providing safe conditions for students.

The results related to the perception of students from different study programs regarding actions to be taken in the event of a fire indicate a significant variation. The highest number of positive responses compared to negative ones is observed among students in Information Systems Engineering, suggesting that the majority of students in this program feel informed about how to act in case of a fire. A similar situation is noted among students in Clean Energy Technologies. These results emphasize the importance of additional research to better understand the accuracy and sources of information students use regarding fire procedures. This may involve interviewing students or conducting additional investigations to determine how students came across this information and whether it was officially communicated by the faculty.

The analysis of specific responses in relation to the affiliation with study programs provides a deeper understanding of how different departments at the Faculty of Technical Sciences address this crucial matter. Based on the collected data, it is possible to identify departments that demonstrate higher awareness and knowledge of occupational health and safety, as well as those that may require additional efforts in this area. This analysis can also aid in identifying areas where additional resources or training are needed to enhance awareness and practices related to occupational health and safety. These conclusions can be valuable for the development of targeted programs and policies contributing to the improvement of safety and health for students across all departments at the Faculty of Technical Sciences.

5. CONCLUSION

Raising students' awareness about safety and health throughout their entire college experience is a necessary step in creating an optimal environment for their academic and personal progress. Integrating these principles into the educational process, supporting relevant initiatives, and regularly updating safety and health policies can collectively contribute to the establishment of higher education institutions that not only impart knowledge but also prioritize the well-being of their students.

The research results within the framework of this paper represent important aspects of the safety and health of students at the Faculty of Technical Sciences, University of Novi Sad, providing a deeper understanding of the level of awareness and perception of students regarding various aspects of occupational safety and health.

Although the majority of students have basic knowledge and awareness of hazards and risks related to their studies, the obtained results indicate the need for further education and information to enhance their ability to recognize and respond to potentially dangerous situations.

The obtained results emphasize the need for further research to identify specific factors and causes that influence students' perception and awareness of occupational safety and health. Additionally, they suggest the need to improve educational programs and policies at the Faculty of Technical Sciences to better cater to the specific needs of students regarding occupational safety and health. Continuous education and information for students throughout their entire academic experience play a crucial role in enhancing their safety and health, underscoring the importance of developing training programs that are continuous and tailored to different study programs.

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7. LITERATURE

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