INTRODUCTION

Safety and health at national universities in Japan has undergone significant changes in the past decade as a result of Japanese national universities becoming affiliated with the Occupational Safety and Health Act and transforming into the National University Corporation. Since national universities had to comply with this law and other related acts, measures were taken to improve the safety of university campuses.

The National University Corporation Ehime University (Ehime University) is a medium-sized university with around 10,000 students and staff and six faculties (Engineering, Science, Agriculture, Law and Letters, Medicine and Education). When the Occupational Safety and Health Act was first implemented at our university in 2004, it aimed to prevent serious accidents among contract staff and researchers and secure comfortable, safe labor circumstances; however, this objective was too narrow in that the students were not included. Undergraduate and graduate students are equally important, and it is our duty to protect their safety. In order to secure a comfortable campus environment for student education and research, safety and health has become our top priority. The staff at Ehime University therefore began to think about safety education for all students 1. Unfortunately, achieving safety and health on campus is not easy because the students’ sensitivity towards serious hazards and risks has decreased in recent years when boys and girls were addicted to video games without having real experiences, or when the chance to experimental procedure and practical training from the elementary school to high school decreased though they loved science experiments. In addition, the safety of researchers and students carrying out experiments and research in the laboratory setting is a concern. To change the intangible awareness of various risks, we created the Ehime Anzen-Eisei Group Leader (EAGLE) program, which is a volunteer group comprised of professors and researchers, aimed at educating and instilling students with a sense of awareness of safety risks and preventing hazards and risks in daily campus life.

ACTIVITIES OF EAGLE

EAGLE has provided undergraduate regardless of arts and sciences and graduate students with prospective and practical safety and health information. We are prepared to play an active role in arranging, presenting, and evaluating safety and health trainings. Students and staff must be trained to identify serious hazards that exist on campus and take preventive measures to recognize and neutralize the various hazards that they may encounter. Several
compulsory lectures have been prepared by EAGLE members in cooperation with other staff who are experts in various fields related to safety and health.

RESULTS

There are four lectures, ranging from an introduction to safety and health risks to practical elementary courses on safety and health, available for the students of Ehime University and these are briefly described below.

1. Introduction to safety and health in campus life: First step

As an introduction to safety and health for first-year students of Ehime University regardless of arts and sciences, several lectures in omnibus format are provided with topics including using common sense in campus life, public welfare and social competence. Although students may already be familiar with some of the risks on campus, they are often not aware of several hazards specific to Ehime University. The key words for this lecture are “accidents on campus,” “warning signs,” “accident prediction training” and “near-miss” (“Hiyari·Hatto” in Japanese). After the lectures, students study the materials at home and must answer questions and complete a report online using Ehime University’s e-learning system.

2. Basics of safety and health and hazard levels: Second step

Occupational safety and health is an integral part of working in modern society. After our students graduate, they become working professionals and must protect themselves against safety and health risks in various workplaces. Therefore, it is useful for students to learn some methods of avoiding serious accidents by taking part in hazard prediction training before they graduate. These lectures are in omnibus format and include the following topics: worker safety, law and security, electrical hazards, fumes and dust, noise and vibration hazards, radiation hazards, pressure hazards, fire hazards, chemical hazards, occupational safety and health acts, and environmental safety. Students also take part in an observational tour of a chemical corporation plant.

3. Safety education before conducting chemical experiments for undergraduate students: Third step

Chemical research laboratories in universities are more advanced than they have ever been. Inorganic materials such as heavy metals and powdered metals can be toxic and safety precautions are necessary. Nonmetals are also common in the laboratory and have their own set of potential hazards. The materials out of which products are made may become even more complex and exotic in the future. In addition to the more complex materials being used in modern research laboratories and the new safety and health concerns associated with them, chemical processes are also becoming more diverse. Students in science and engineering acquire skills by conducting various experiments and practical training and they must be educated on how to deal with dangerous chemicals and machines safely. In this lecture, students work through case studies of real-life accidents that actually occurred in laboratories to familiarize them with the risks associated with the experiments that they will be conducting. Through this lecture, students acquire a method and system for mitigating various risks in the laboratory. The key words for this lecture are “dangerous apparatus,” “chemicals,” “lack of oxygen,” “burning and explosions,” “glassware,” “personal health care,” “personal protective equipment” and “safety glasses.”

4. “Let’s find out what hazards are on campus!” at the Faculty of Engineering: Practical step 1

The “Find hazards” campaign has been held annually since 2008. This event aims to increase student and staff awareness and recognition of potential safety hazards in laboratories and workplaces on campus, and to increase reporting of serious hazards. Any serious hazards that are reported are remedied immediately, and the individual who makes the report is given an award by the director of the Faculty of Engineering. This event has contributed to the maintenance of safety and health on campus and has played a role in the development of the educational and research environment of Ehime University.

5. Graduate student safety and health committees at the Faculties of Science and Engineering, and Agriculture: Practical step 2

Our students are important members of the Ehime University community and we realize the importance of maintaining their safety and health. Graduate students in science and engineering laboratories are often employed as teaching and research assistants where they help undergraduate students who are new to conducting experiments minimize risks in the laboratory. We organized graduate student safety and health committees at the Departments of Science and Engineering, and Agriculture. The Department of Engineering committee consists of 63 graduate students who are elected by each laboratory. Committee members must attend our lectures on safety and health twice a year and are expected to pay close attention. We have also created an emergency communication system in case of emergencies such fires or large earthquakes, and committee members are required to submit an accident report when serious accidents occur in their laboratories. In the event of an evacuation on campus, committee members are required to submit an electronic report detailing the damage in their laboratory and the number of injured people using a personal computer or smart phone.

CONCLUSIONS

The research and education conditions for current university students and staff have improved significantly since the introduction of the Occupational Safety and Health Act. All Ehime University staff have been thinking about safety and health on campus since this act came into effect in April 2004. Increased awareness of safety and
health on campus has translated into an improved education and research environment from the point of view of student and staff safety and health by EAGLE.

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REFERENCE

1) Safety and health committee, The National University Corporation Ehime University: Activity Reports of Safety and Health, during ten years at Ehime University, 2014.