



3rd
INTERNATIONAL
CONGRESS ON
ENVIRONMENTAL
HEALTH 2014

PORTO, 24th to 26th SEPTEMBER 2014

**PROCEEDINGS
BOOK**

EMERGING RISKS AND CHALLENGES ON ENVIRONMENT,
HEALTH AND SAFETY

Allied Health Sciences School of Polytechnic Institute of Porto,
Portugal

Title:

3th International Congress of Environmental Health: Proceedings Book
3^o Congresso Internacional de Saúde Ambiental: Livro de Resumos

Edition:

1st Edition / Book in 1 Volume, 520 pages

Authors / Editors:

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Publisher:

(ESTSP-IPP)

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Área Científica da Escola Superior de Tecnologia da Saúde do Instituto Politécnico do Porto

Design / Layout:

4CS

Local / Date:

Porto / November 2014

ISBN:

978-989-20-5086-7

Legal Deposit:

384046/14

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Assessment of students' attitudes and environmental behavior at School of Allied Health Sciences of Polytechnic Institute of Porto

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INTRODUCTION:

In recent decades, the sustainability in higher education institutions has become an important issue for these institutions, as they realised their impacts in the environment and became more aware of their responsibilities to the society. Sustainability also presents an opportunity to promote new approaches in education such as problem based learning, more interdisciplinary and applied learning (Corcoran et al., 2004).

As one of the key elements in these institutions, students play an important role, and their attitudes and environmental behaviour have a strong impact in the sustainability of the institutions and, as stated by Zsóka et al. (2013), students who behave in a consistently pro-environmental manner are drivers of a more sustainable future. It is crucial to know the students attitudes and environmental behaviour in order to promote, for example, effective environmental education.

OBJECTIVES:

Assess the attitudes and environmental behaviour of the students of Allied Health Sciences School of Polytechnic Institute of Porto and to verify if there were changes after the implementation of an environmental education program; to evaluate if there are differences between the attitudes and environmental behaviour of the students attending Environmental Health's course degree and the remaining students of the institution.

MATERIALS AND METHODS:

The questionnaire was applied to 327 students, attending six courses degrees. These were chosen randomly with the exception of Environmental Health (EH) course. The same questionnaire was delivered to the same students in June 2013 and March 2014. The identification of the students was required but the confidentiality of the answers was ensured. In the period of time between the first and second administration of the questionnaire, in the School of Allied Health Sciences of Polytechnic Institute of Porto, took place several initiatives of environmental education, directed to the students. The data obtained by the first administration of the questionnaire were used to compare the Environmental Health students with the students of other course degrees.

The questionnaire was based on the audit of Eco-Schools Portuguese program of the Foundation for Environmental Education and consisted of thirty-eight questions, concerning attitudes and behaviours related with four environmental issues: waste, water, energy and transportation. Respondents were offered a choice of five pre-coded responses (Likert scale). For each respondent, a score was created with the sum of the values of each selected option and it was converted to a percentage (100% corresponding to the most environmental sustainable attitudes and behaviors).

Statistical analysis of the data was performed using SPSS Statistics 21 software. To verify if there were differences in the attitudes and environmental behaviours between the first and second administration of the questionnaire, it was used the paired sample t-test. The differences between the students of Environmental

Health course and the remaining 5 courses in analysis were checked by t-test for independent samples. For all tests it was assumed a significance level of 95% ($\alpha = 0.05$).

RESULTS AND DISCUSSION:

The mean results, of the globality of the students, before and after the development of the environmental education program, are presented in Table 1.

Table 1 - Evolution of the sustainability of student's attitudes and behaviours

| | Waste | Water | Energy | Transportation |
|------------|-------|-------|--------|----------------|
| June 2013 | 71% | 76% | 76% | 53% |
| March 2014 | 72% | 81% | 83% | 61% |

The student's attitudes and behaviours were especially suitable in the matters water and energy and lower, although they can still be considered good, on the theme waste. Regarding the results concerning transportation, the deficit of public transports or unsuitable schedules could explain the lower percentages, namely the preference by the use of private vehicles. Comparing the results obtained before and after the implementation of an environmental education program, although there were improves in student's performance in all of the issues analysed, the modifications between the first and the second responses were not statistically significant.

The difference of attitudes and behaviours of the students of Environmental Health course and the students attending other courses is presented in Table 2.

Table 2 - Comparison of sustainability of EH student's attitudes and behaviours with students of other courses

| | Waste | Water | Energy | Transport |
|---------------|-------|-------|--------|-----------|
| EH | 75% | 76% | 75% | 50% |
| Other courses | 69% | 78% | 77% | 55% |

The differences obtained were not statistically significant. This result was unexpected, since the Environmental Health course has the sustainability issues integrated in the curriculum and it was predictable a better performance from these students. But, as stated by Vicente-Molina et al. (20013), informal environmental education through the media, the Internet or social interaction with the family and friends can be determinant for students from other courses to acquire pro-environmental attitudes.

CONCLUSION:

The students' attitudes and environmental behavior at the School of Allied Health Sciences of Polytechnic Institute of Porto, in general, present a high valuation. However, the statistical analysis revealed there were no significant statistical differences before and after the implementation of the environmental education program and the between the students attending the course of Environmental Health and the remaining courses in analysis. These features lead to a challenge: to create an environmental education program that further compels the students to behave in a more sustainable way.

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