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INTERNATIONAL WORKSHOP ADVANCES IN CLEANER PRODUCTION

“CLEANER PRODUCTION TOWARDS A SUSTAINABLE TRANSITION”

Experiential Learning: Lessons Learned from Global Higher Education Programs for Cleaner Production in Latin America

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Abstract

Environmental education is linked to both business and engineering in a multinational partnership called *Pathways to Cleaner Production in the Americas*. In this partnership, faculty from seven Latin American universities are collaborating on the development of curriculum, and practicum/internship experiences that will equip engineering, environmental science and business students with the technical knowledge, skills and expertise required for the promotion of cleaner production in micro, small, and medium enterprises (MSMEs) in each country. The anticipated outcome is to generate a workforce equipped with new knowledge, skills and attitudes toward sustainability through cleaner production, and capable of facilitating and implementing sustainable industrial development. The partner universities modified or developed new courses, conducted workshops for capacity building of faculty and businesses in their communities, and incorporated experiential learning in practicums and internships.

This paper focuses on the following research questions generated for determining the impact of the experiential learning:

- What technical competencies do the students gain from the courses/practicum/internship?
- What social responsibility competencies do the students gain?
- What workplace competencies do the students gain?

A student survey was developed and administered to 72 students from six participating countries. The results reflect gains in knowledge, skills, and attitudes toward cleaner production; the challenges of the experience in the context of working with a business; teamwork, communication and problem-solving work skills; and the changes in perceptions of cleaner production, social responsibility, and their role in a work setting.

The survey results for the question regarding what was learned from teamwork indicate that the students perceived that they gained skills in multiple areas attributable to their experience in the practicum or internship when working as a team. Particularly strong across all participants were responses indicating increased skills in collaboration, communication, commitment to the project tasks and work ethics. Students indicated that the experiential learning changed their perceptions of teamwork and the value of working with others. The students also overwhelmingly reported that the biggest challenge of teamwork is miscommunication. The second most common response was lack of similar backgrounds within an interdisciplinary field such as sustainability in cleaner production. It is clear that students successfully gained technical skills from the course work but the experiential learning provided the context for gaining and applying social skills needed for working with others in the workplace.

Keywords: *Experiential Learning, Cleaner Production, Sustainable Development, Education, Practicum, Internship, Global Partnership*

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