

International Virtual Exchange in an Introductory Environmental Science Course

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Incorporating global learning into college-level coursework can assist students in seeing the connections between their studies and the world outside the classroom. However, for many students, traveling abroad and participating in first-hand experiences with students from different cultures might be challenging due to financial or academic schedule constraints. Hence, incorporating International Virtual Exchange (IVE) can provide students with a global classroom learning experience. The project described here was implemented during two Spring semesters with different groups of students that concluded the course with a lifelong experience.

INTRODUCTION

IVE is a structured educational collaboration between geographically separate students facilitated through technology. IVE can help students develop intercultural and communication skills (Helm, 2019). A recent study showed that first-generation, female, African American, Hispanic, and financially disadvantaged students participating in IVE courses significantly improved academically than their counterparts who did not participate in IVE classes (Lee, J. et al., 2022). Allowing students to participate in an IVE experience can have a positive lasting impact, especially when it relates to an interdisciplinary class that introduces the many aspects of environmental science and the global challenges related to those aspects.

Environmental science is an interdisciplinary field. When taught at the introductory level for a heterogeneous group of students with different science backgrounds to varying years in their undergraduate studies, motivating students to be involved in the coursework is even more challenging. Therefore, incorporating IVE in the course can encourage students to see the connections between class work and the outside world through cooperating with counterparts in different countries. Students should be allowed to “critique the world they live in, see problems and issues from a range of perspectives, and take action to address them” (Leask, 2015, p. 17). In this IVE project, students were encouraged to critically analyze different environmental issues and realize they are of global concern; they also had the opportunity to communicate with international peers, an essential skill in today’s global workforce.

COURSE DESCRIPTIONS

The IVE project was implemented in an Introductory level environmental science course at Clemson University, USA, in cooperation with Tel Hai College, Israel. The project was part of the course requirement at CU and as an extra credit opportunity at Tel Hai College. The project agenda is described in Graph 1.

The participating courses are ENSP 2000: Introduction to Environmental Science and Policy, Clemson University, and Advanced Seminar in Biotechnology, Tel Hai College, Israel.

ENSP 2000:

Introduction to Environmental Science and Policy, at Clemson University, is a general education course students take from any major or year in college.

Course Description:

Basic principles of environmental science, including ecology, energy, resources, waste management, and air, water, and soil pollution. Consideration of issues, specific cases, investigative approaches, and remedial actions.

Advanced Seminar in Biotechnology:

is offered at Tel Hai College to biotechnology majors in their junior year.

Course Description:

Advanced practice in scientific writing, an in-depth research study of a selected topic in the field of environmental science, writing a scientific manuscript and giving a scientific presentation in a binding form.

Figure 1: International Virtual Exchange Project Agenda for ENSP 2000 – Introduction to Environmental Science and Policy

Activity	Date
Zoom Meeting 1	(3/8/2022)
<ul style="list-style-type: none"> - Get to know your international partners through whole class Zoom meetings. - Zoom breakout rooms and interact with international partners in a small group setting. 	
Canvas Discussions	
- Complete the “Ice Breaker” discussion	(3/17/2022)
<ul style="list-style-type: none"> -- Reply to your international partners’ post "Introduction to project’s topic." -- The following are some questions that our Israeli partners will answer, and you will reference this information in your final project: <ol style="list-style-type: none"> 1. Why did you choose this topic for your project? 2. Do you consider this topic a global challenge? Why? 3. How does the project relate to your current major? 4. How can the project relate to your future career? 	(3/28/2022)

Figure 1: *continued*

Activity	Date
Zoom Meeting 2	(3/29/2022)
<p>- Interview your partner and record a transcript of your meeting. The following are some prompts you can use in your interview with your Israeli partner that need to be included in your final project.</p> <ol style="list-style-type: none"> 1. What are some approaches to mitigate the issue by governments, institutions, organizations, or citizens? 2. Do cultural background, beliefs, or ethical perspectives affect mitigation approaches? 3. What initiative might you take as a current student or future leader to help our environment? 	
Zoom Meeting 3	(4/12/2022)
Israeli Students' Presentations	
Zoom Meeting 4	(4/29/2022)
CU students' presentation	

CONCLUSION

In this short collaboration, students had a unique learning experience, as was evident in their testimonials. This IVE experience “broadened their perspectives” about “international culture and environmental issues” and made them realize that “all of us around the globe are facing very similar challenges” and collectively agreed “that together we can work to help our planet.”

Finally, students stated that this experience allowed them to relate knowledge learned in the college classroom to the outside world in a “fun and unique way.”

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