



Enhancing Cultural Competence and  
Global Awareness for Baccalaureate  
Nursing Students: An Interdisciplinary  
Service Learning Approach

# DISCLOSURES

- Authors
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- The authors declare that there are no conflicts of interest.
- This project was approved by Purdue University's Institutional Review Board

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# Learner Objectives

- describe the utility of an interdisciplinary, service learning approach to the development of cultural competence.
- discuss strategies for the development of sustainable solutions to global health challenges.

# BASIS

- Multiple calls in nursing education to:
  - increase cultural competence of nursing students (Riner, 2011)
  - increase interdisciplinary educational experiences (IOM, 2010; Smit & Tremethick, 2013)
  - develop a global health perspective (Carlton et al., 2007)

# OPPORTUNITY

- Engineering desire to increase effectiveness and sustainability of service projects in developing countries by broadening the approach



# OVERARCHING GOAL

- Develop sustainable, community scale water treatment systems in the Dominican Republic
  - reduce the water-borne disease burden in the affected community
  - identify and engage community partners to promote sustainable change
  - provide opportunities for economic development
  - appreciate the contributions of various disciplines to the success of community projects

# SPECIFIC OBJECTIVES

- Create a sustainable, community-scale water treatment system for residents of the selected community
- Utilize readily accessible resources/contractors
- Offer excess water generated to the community at an affordable price
- Improve health of the residents
- Establish a community governance structure to operate and maintain the system
- Provide hands-on education and training for students
- Expand project to similar communities in the DR

# PROJECT HISTORY

- Started summer of 2012
- Initially funded by an EPA P3 Grant
- Supported by Aqua Clara International and the Rotary Club of Las Canas
- Involved students and faculty from several disciplines (graduate and undergraduate)
  - Civil and Environmental and Ecological Engineering
  - Nursing
  - Agricultural Economics
  - Biological and Food Sciences

# CLASS STRUCTURE

- Variable 1-2 credit course
- Student driven
- Interdisciplinary, service-learning approach
- Lectures
  - Overviews of the DR
  - Discipline specific
- Experiments
- Survey development
- Grant Writing



# INITIAL SITE: ANA JULIA PRIMARY SCHOOL, LAS CANAS, DR

- Rural community near Santiago
- Approximately 300 students
- Approximately 200 homes



# WATER & HYGIENE AT ANA JULIA

Existing Cistern



Hand Washing Station near Latrine





# TRIPS TO THE COMMUNITY

## March 2013

- Meetings in Las Canas
  - Rotary, School, Health Clinic, Community Members, UCATECI
- [Collected data](#)
- Demographics
  - Health
  - Economics
  - Community
- Planned for construction of water system and overall implementation



## May 2013

- Met with the community
  - Established overall support for project
  - Initiated development of the governance structure
- Located resources for construction



# TRIPS TO THE COMMUNITY CON'T.

## March 2014

- Met with governance group (El Patronato)
- Contacted local contractors
- Outlined trip to build system



## June 2014

- Completed build of system
- Trained teachers on hygiene curriculum
- Trained El Patronato about system maintenance



# RIBBON CUTTING



# Outcomes

- Community
  - Improved water supply
  - Governance structure
  - Educational program
  - Empowered community
- Students, Faculty
  - Global experience
  - Hands-on experience
  - Interdisciplinary skills
  - Grant writing skills
  - Speaking skills
  - Appreciation for interdisciplinary collaboration and cultural differences



# Q: What impact did this project have on your cultural competence?

- “Cultural competency will also play a huge part in my career. I have the possibility of working with any number of patients from different countries, from different cultures, and from different religious and spiritual practices. It will be my job to take into account a patient’s views, understand what they are and why the views are important to the patient, and then do my best to incorporate these views into the patient’s care. Through this project, ***I have seen how culture can be so integrated into a person’s life and their day-to-day practices. I have seen firsthand how important it is to people to have their culture respected, and I plan to take this with me for the rest of my life and career.*** The other skill I have acquired is being able to talk to people and make them feel important, understood, and involved. All of these things are important skills to have as a nurse since I will be helping patients everyday.”

## Q. What impact did this project have on your cultural competence?”

“Although I'd traveled to several different countries, including regular trips to Spanish-speaking countries, it's a different story to develop a long-term relationship with a specific community and try to accomplish something together. As the Purdue team, one of our major goals was to facilitate Dominican ownership of the water treatment system.

***Working across an ocean always comes with some difficulties, perhaps most prominently in terms of communication and differing cultural expectations about how to get things done. However we worked with some amazing community leaders and members who poured an enormous amount of effort into the project, and it is rewarding to call many of them friends after going through this process together.”***

**Q: Did what you experienced match what you expected? Why or why not?**

- “I think that ***I did not expect technology to be present*** because so much of what we had focused on in class dealt with the issue of poverty and inability to access clean water. ***That clouded my thoughts and did not allow me to think that although access to clean water is an issue, having technology and having clean water are not mutually exclusive ideas.***”

# Q. What impact did this project have on your ability to work as a part of an interdisciplinary team?

- “I represented the public health perspective on the project, but ***it was a privilege to work together with multiple other fields*** including civil engineering, agriculture economics and food science. ***I was amazed at how much we learned from each other and felt there was true collaboration*** (no one limited themselves to only "their" field of study).”
- “Through this project, I have learned that ***people from all disciplines have something to offer, even though it may not be outwardly apparent.***”

# Overall Summary of Student Comments

- Gained an appreciation for the roles of multiple disciplines necessary for success
- Liked fact that it was a real world problem, not an “imagine-if”
- Saw “aspects of poverty” never seen before
- “Richest experience of my college years”
- Community “embraced the students”

# IMPLICATIONS FOR NURSING EDUCATION

- Global experiences help to:
  - stimulate re-evaluation of personal and professional values
  - prepare nursing students for the increasingly global realities of healthcare
  - enhance cultural competency
- Nursing programs must incorporate more opportunities for students to enhance cultural competence via global experiences

# References

Carlton, K. H., Ryan, M., Ali, N. S., & Kelsey, B. (2007). Integration of global health concepts in nursing curricula: A national study. *Nursing Education Perspectives, 28*(3), 124-129.

Riner, M. E. (2011). Globally engaged nursing education: An academic program framework. *Nursing Outlook, 59*(6), 308-317.

Smit, E. M., & Tremethick, M. J. (2013). Development of an international interdisciplinary course: A strategy to promote cultural competence and collaboration. *Nurse education in practice, 13*(2), 132-136.

# Questions?



# STATUS OF CURRENT PROJECT

- Trip May 2015
- Children and Teachers using system
- Excess water not being sold
- System not being maintained



# Activities

- Met with:
  - El Patronato
  - Teachers
  - Community Members
- Surveyed the community
- Held community meetings
- Developed further educational materials





# Future Projects

- Trip May 2015
- Visited six communities
- Completed initial assessments
- Four water systems to be built



# DATA

## Health

- 40% of patients seeking care diagnosed with diarrheal illnesses attributable to waterborne parasites
- 50% of women diagnosed with a rash attributable to contaminated water

## Water

- Availability
  - Costly
  - Variable quality
- Analysis
  - School faucet
    - *E. coli* concentration > 100 MPN/100 mL
    - Turbidity of 0.18 NTU
  - Source well storage tank
    - *E. coli* concentration >48.3 MPN/mL
    - Turbidity of 0.19 NTU