Fostering Hope by Using Technology in the Azraq Refugee Camp, Jordan

Inclusive Pedagogy in Designing an Engineering Classroom in the Azraq Refugee Camp

Class Structure/Approach
We co-designed the content, assessment, and pedagogy by considering the refugee camp context, community problems, infrastructure constraints, and learning objectives. We used students’ ongoing feedback in co-design to iteratively improve the class while it was going on.

In this course, students learned the engineering design process as a tool for problem solving focused on local community needs.

Course Objectives: empower learners with their own tools
- Fostering engineering thinking applied to solve local problems
- Developing professional skills
- Facilitating access to higher education coursework for refugee learners

Participants
- Participants were men and women, tertiary students aged from 18 to 50
- Students previously lived in Syria and were forced to leave their homes due to political conflict
- Some had prior university coursework, few in STEM area, and very few in engineering area

People of concern in Azraq: 53,285
Registered in the course: 44
Students selected: 28
Total of certificates: 13

Outcomes: three student groups prototyped viable local solutions
Students developed their analytical skills, engineering thinking, communication, and problem solving skills as a result of taking this course.

By the end of the course, students created three different projects that addressed different local problems.

Problem | Project
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Energy | Solar mosque – renewable power source for mosque
Recycling | Trash management system – Smart Truck
Environmental pollution | EconPro Environmental conservation

Takeaways: human AND digital interaction were key
- Daily interaction with students through online communication and assignment feedbacks enhances their engagement in the course.
- An active, blended, and collaborative learning environment facilitates knowledge and understanding.
- Students can develop engineering habits of mind by learning in a culturally responsive environment

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More info