Community Engagement and Outreach for STEMM Educators

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Student Engagement in STEMM

Research demonstrates that engaging students in the learning process: increases:

- Increases their attention and focus
- Motivates them to practice higher-level critical thinking skills
- Promotes meaningful learning experiences

Instructors who adopt a student-centered approach to instruction increase opportunities for student engagement in STEMM which then helps all students more successfully achieve the course’s learning objectives

Particularly important for engaging underserved student populations
Community Engagement - Definition

- The process of working collaboratively with and through individuals or groups of people.
- The people are affiliated by geographic proximity, special interest, or similar situations.
- The collaborations address issues affecting the quality or life or well-being of those people.
- It often involves partnerships and coalitions that help mobilize resources and influence systems, change relationships among partners, and serve as catalysts for changing policies, programs, and practices.
Community Engagement - Benefits

It is a powerful vehicle for bringing about environmental and behavioral changes that will improve the quality of life or well-being of the community and its members.
Community Outreach - Definition

- Community outreach involves the offering service to community residents freely and openly.

- Services can include:
  - Education
  - Social planning
  - Support of community activities
Community Outreach - Benefits

In terms of sustainability, community outreach allows citizens opportunities to get involved with their city in ways that allow them to choose and act upon the ways in which they believe are most fulfilling to themselves and their neighborhoods.
Challenges

- Shared goals but different objectives
- Communication
- Limited resources (funding, time, staff…)
- Different approaches to work (crisis response vs. long-term studies)
- Unequal power dynamics
- Past negative experiences
Building collaborations requires building trust

- Comfort-level within the partnership
- Respective roles of leaders, educators, students, community in the project
Building collaborations requires building trust

Establish project expectations early on
- Scientist vs. advocate
- Project plan
- Scope of project
- Level of commitment
Building collaborations requires building trust

Establish project expectations early on

- Budget
- Scientific and technical equipment and supplies
- Continued support and handover
- Ownership of data
Building collaborations requires building trust

- Implications for stakeholders
- Use of project materials and findings
- Project plan
- Media/communication plans
- On-site considerations
Building collaborations requires building trust

Responsibilities to stakeholders are professional and ethical responsibilities
- Potential conflicts of interest
- Potential harms to communities
- Insurance
Engaging Students

Involving students in community engagement and outreach requires planning:

- Involves two major phases:
  - Student preparation
  - Project development
- It is a dynamic process
Engaging Students

Guidelines for engaging:
- Provide a meaningful emotionally engaging project
- Understand the relative level of students’ and community’s needs
- Evaluate on mastery
Engaging Students

Guidelines for engaging:
- Foster a sense of competence and proficiency
- Provide autonomy support and feedback
- Facilitate collaborative learning and team building
- Establish positive teacher-student relationship
Engaging Students

Guidelines for project development:

- Provide a list of project options based on community needs and school resources
- Guide class through examining and prioritizing each project option
- Guide students through project planning and implementation process
- Implement the project
- Evaluate the project based on student and community gains
- Guide students through a project reflection session
Engaging Students

- Best practices in project management:
  - Projects are directly related to the academic curriculum
  - Meet a real community need
  - Provide for structured group reflection time
  - Are student-centered
  - Engage students in group decision making and problem solving
  - Find ways to match the skills and talents of students with the needs of the community
  - Provide a wide variety of options for students
  - Provide recognition for services rendered
Sample Projects
More information

Human Rights Projects: Guidelines for Scientists and Human Rights Organizations

Questions