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Teaching Hazard Mitigation Planning through Learning Service

Melanie Gall  
*Louisiana State University*

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Teaching Hazard Mitigation Planning Through Service-Learning

Melanie Gall
DRU Symposium, New Orleans
February 16, 2011
Where can you teach hazard mitigation?

Disciplines:
- Civil Engineering, Construction Management, Chemical Engineering
- Continuing Education
- Environmental Sciences (e.g. Geography, Climatology)
- Environmental Resource Management
- Emergency Management
- Public Health
- Public Administration
- ...

LSU
LOUISIANA STATE UNIVERSITY
How to incorporate hazard mitigation planning?

• Class setting
• Seminars
• Online
• Workshops
• Service-learning

Classes:
• Environmental impact assessments
• Hazards analysis
• Risk management and assessments
How to incorporate hazard mitigation planning? (cont.)

• Teach components
• Teach all elements

At LSU

• Service-learning
• Combination of class setting and online
• ENVS 4262 - Environmental Hazards Analysis
  Dept. of Environmental Sciences
• Pre-plan support and during plan development (S09, S10)

http://www.fema.gov/library/viewRecord.do?id=2066
How to connect students with mitigation?

Service-Learning:
hands-on class allows students to gain further understanding of course content by participating in a service activity that meets community needs and highlights civic responsibility (Bringle & Hatcher 1995)

- Reflection
- In-class discussion
- Requires community partner & flexibility
Environmental Hazards Analysis (ENVS 4262)

- Community partner: LSU Public Safety
- Syllabus covered all elements of mitigation planning
- Assignments supported pre-plan and plan data collection (capacity assessment)
- Training in areas outside of course material
- Lots of team work
- Interaction with non-students
  - Community partner, assignments, ...
- Guest presentations by Casey Levy
Assignments - Pre-Plan

- #1 DRU Vulnerability questionnaire (individual)
- #2 Identify the hazards (data collection, team work)
- #3 Impact assessment (surveys, team work)
- #4 Identify mitigation actions (research, individual)
- #5 DRU Vulnerability questionnaire “plus” (individual)
- #6 Reflection paper
- Midterm and final exams
Assignments in support of plan

- #1 Human subjects training (NIH certificate, individual)
- #2 Draft surveys (online, face-to-face, 5 teams)
  - General, H1N1, admin/staff, labs, researchers
- #3 IS-22 Citizen Preparedness certificate (individual)
- #4 Deliver completed surveys (20 per person)
- #5 Present survey findings
- #6 Reflection paper
- Midterm and final exams
LSU System Multi-Hazard Mitigation Plan
General Hazards On-Line Survey

Team Members:
Kasey Pattan
Quang Tran

April 22, 2010

cschool.wordpress.com/
Survey Overview

- Objective:
  - To identify natural and man made hazards that respondents deemed important for campus emergency preparedness
  - To identify the percentage of respondents aware of and actively participating in LSU’s Emergency Text Messaging System
  - To identify effective ways to communicate with the LSU Community in the event of an emergency
  - To identify if the respondents have a personal emergency preparedness plan
- Only survey that was conducted on-line
Methodology

- LSU System Hazard Mitigation Online Survey
- March 15, 2010
- LSU Broadcast Center
- Emailed survey to entire LSU Community
- Storms, Guns, Germs, and More
- 1,036 Responses Collected
- No interviews were conducted in person
Results

Question 1: What hazards do you think the university needs to prepare for?

- Flood 66%
- Hurricanes 95%
- Hail 25%
- Tornado 61%
- Severe thunderstorm 68%
- Extreme heat wave 41%
- Earthquake 10%
- Lightning strikes 2%
- Wildfire 5%
- Severe winter weather 28%
- Chemical Spills 58%
- Nuclear accident 30%
- Campus shooting 91%
- Terrorist attack 49%
- Epidemics 69%
- Other 44%
ENVS 4626
LSU Hazard Mitigation Plan - Lab Survey
Overview
• **Lab Survey Team**: Carlos Giron, Stephen Wilson, Sarah Berry, Michael Schulz, and King Fung

• **Survey Group**: Professors (PI), Researchers, and Graduate Students that work within the +800 labs at LSU.
Survey Development

- Team Brainstorming Sessions
- Group Reviews and Edits
- Final Survey: 5 Sections, 50 Questions (actually 70), Closed & Open-ended Questions, Multiple Follow-on Questions
Types of Questions

- Where, Who (optional) & How Long?
- Training, CPR/AED, Emergency Facilities (type, location, testing), PPE (type, enforcement)
- Potential Hazards (type, detection, mitigation)
- Waste Handling, Chemical Inventory (methods, inspections), Housekeeping
- Previous Events (number, response, ratings, overall feeling of safety, areas for improvement)
- SOPs, MSDS, Animals, Backup Power, Data, Flooding, Gas, Infrastructure
Conducting Surveys

• Team scheduled interviews

• Mostly self-performed (with standby), walked halls and found other victims

• Total Completed = 86
Q6. Were you required to complete a safety training course prior to working in the lab?  

- Yes: 48%  
- No: 52%

Q6.1 If yes, please describe.
How we used the data...

• Pre-plan data helped write the application proposal
  - Successful award communicated with students
• Surveys converted into online versions for wider distribution across four campuses
• Very positive response by students
  - 50-50 online content helped scheduling and accommodated part-time students
  - Research assistants recruited from class to work on plan
  - Students found employment in hazard mitigation
Discussion

• Lots of pre-planning and instructions required
• Finding the right community partner
• Balancing work of undergrad and grad students
• Flexibility to adjust time and syllabus
  - IRB exemption of surveys
  - Broadcasting/university clearance
  - Meetings and interaction with community partner
• Teaches additional skills (e.g. team work, research, analysis)
• Get teams to organize themselves and meet up/check up
  - Team work can create problems
  - peer evaluations
Thank you for your attention!

Any questions?

Melanie Gall
Assistant Professor - Research
Department of Geography & Anthropology
Louisiana State University
gallm@lsu.edu