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Broadening Perspectives: A Multidisciplinary Collaborative Teaching and Learning Experience

Carol Plummer, Teresa K. Buchanan, C. Barrett Kennedy, Lawrence Rouse, and John Pine

Abstract

Following in the wake of Hurricanes Katrina and Rita and conducted when Hurricanes Gustav and Ike struck the coast of Louisiana, a unique service-learning course stretched the boundaries of students and faculty in new ways. First, students and faculty from five distinctive disciplines designed the course collaboratively, infusing different perspectives into every aspect of planning and teaching. Second, the content area—human impacts of disasters and disease—required students (future leaders who will one day make critical decisions in the midst of uncertainty and conflict) to grapple with major human tragedies. Third, the course objective—to encourage critical analysis—required students to examine multifaceted and complex issues as they considered the environmental, political, and social effects of disaster and disease. Finally, this course used a qualitative research project as its service component, and the partner was our own university. The goal of the project was to offer information that would help the administration plan for future disasters. Students directly experienced disaster-related challenges through planned assignments requiring critical analysis and a ropes challenge experience simulating a crisis environment. In the first few weeks of class, proving that in education as in life timing is everything, Hurricane Gustav severely damaged the community and simulation became reality. While this course, entitled Honors 2000: Critical Analysis and Social Responsibility: The Human Response to Disaster and Disease, is not precisely replicable because of unique hurricane occurrences, any team of faculty can replicate the collaboration, flexibility, responsiveness, and authenticity that characterized the experience.

Introduction

Service-learning is a pedagogical approach that integrates community service with academic study to promote student reflection, critical thinking, and creative problem solving. Bringle and Hatcher (1996) provided a comprehensive definition of service-learning as “a credit-bearing educational experience in which students participate in an organized service activity that meets identified community needs and reflect on the service activity in such a way as to gain further understanding of the course content, a broader appreciation of the discipline, and an enhanced sense of service responsibility” (p. 68).

Adult learning theory is the framework for service-learning. Knowles (1972), with his explanation of andragogy as the art and science of teaching adults, viewed adult learners as mature and self-directed people who come into learning experiences to solve problems. Life experience is a valuable learning resource, and demands of social roles stimulate an adult’s readiness to learn. The teacher is a facilitator of knowledge who creates a comfortable and respectful learning environment using an andragogical pedagogy that responds to students’ needs and expectations with student-centered authentic learning activities.

Student-centered instruction uses pragmatic

approaches to teaching that encourage self-awareness, personal responsibility for learning, and ongoing evaluation (Ephross, 1989).

Honors 2000 is a service-learning course offered to all entering Honors College freshmen and sophomores at Louisiana State University. This course, Critical Analysis and Social Responsibility: The Human Response to Disaster and Disease, is taught collaboratively by multidisciplinary teams of faculty. In the semester in which this research was carried out, three five-member teams and one three-member team taught 350 students in 18 sections of 20 students each. One of the teams, the one described in this paper, consisted of five faculty members who came from the following academic units: architecture, education, environmental studies, oceanography, and social work. Each member of this team had been directly and actively involved in recovery activities following Hurricanes Katrina and Rita (2005 to the present). Their goal was to create a communication-intensive, experiential learning course that would introduce students to research while surveying the broad interdisciplinary parameters of disaster preparedness and response. With the university administration and student government as community partners, the faculty developed a service-learning project for which

students interviewed senior level students who were on campus during the 2005 hurricane season (Katrina/Rita, fall 2005). The course was designed to: (1) offer multidisciplinary perspectives about disaster and disease; (2) survey literature related to human response to disaster and disease; (3) help students develop critical thinking skills; and (4) introduce the use of qualitative research as both a service and community activity.

Course Description

This course was planned over the summer by a team of five faculty members and three students. Two students had taken this course in the preceding school year, and one was a freshman when Hurricane Katrina disrupted her studies. The students compiled, analyzed, and evaluated multiple texts, videos, and online teaching resources. They also conducted a pilot of the research project. The faculty, using that information, together crafted a syllabus with planned readings, experiences, and assignments to facilitate student learning (see Appendix A for a list of assignments).

Honors 2000 was designed to foster critical thinking about the universal and particular aspects of human response to crises. The course consisted of 100 undergraduate college students, divided into five sections of 20 students each. Each week, the class met together (all 100 students and five faculty members), and later in the week the sections met independently for small group discussions and activities. These activities included:

1. Lectures and large group presentations of provocative content and activities
2. Weekly small group processing, discussion, and activities
3. An experiential learning component, the obstacle course
4. A research project suitable for freshmen that introduced qualitative methodology
5. Written assignments with peer and faculty feedback for content and writing style
6. Oral presentations of findings from 200 interviews about hurricane experiences

In addition to traditional academic instruction (readings, lectures, in-class activities, traditional assignments), the course incorporated two features described in detail below. The first unique feature engaged students in a simulated crisis environment (an obstacle course) that used andragogical pedagogy through experiential learning in activities

Table 1. Course Objectives

- To be able to clarify the nature and characteristics of natural disasters and their impacts on our human, built, and natural environments.
- To be able to describe and evaluate the contributions that science and public opinion make to our understanding of disasters and their impacts.
- To be able to assess written and visual representations of disasters, including fiction and non-fiction narratives, histories, documentaries, reports, and dramas.
- To be able to use writing, reading, and oral presentation for critical inquiry, learning, thinking, and communicating.
- To be able to understand a writing assignment as a series of tasks, including finding, evaluating, analyzing, and synthesizing appropriate primary and secondary sources.
- To be able to understand our response as citizens in the face of present and potential disasters.

that required students to make authentic decisions as a community, work with fellow students as team members, and exercise leadership. This occurred early in the course and served as a reference point throughout the semester, as faculty members reminded the students of the discomfort, successes, and challenges they experienced.

The second unique feature used a slightly different approach to service-learning. To provide valuable information for future planning by university administrators, the course participants interviewed students who had directly experienced the impact of Hurricanes Katrina and Rita on campus. This activity took place toward the end of the course. The interviews were integrated into the curriculum after consultation with administrators and student government officers who requested information in the form of a report on student experiences and suggestions. The team decided that gathering information from seniors (who were freshmen in the fall of 2005) was most critical because many would be graduating the following semester.

During this course, students developed their critical thinking skills as they solved faculty-generated dilemmas, grappled with provocative guest lectures, and examined their own and others' decision making processes during disasters. The

following sections describe how these features were used to present multidisciplinary perspectives about disaster and disease, survey literature about human response to disaster and disease, help students develop critical thinking skills, and use research methods for service-learning.

Multidisciplinary Perspectives

In addition to meeting throughout the summer to plan the course, faculty met weekly during the semester to discuss the class and make any necessary adjustments to course readings and activities. Each faculty member, representing distinctive disciplines, consistently and continuously provided input from the point of view of their academic background and expertise. For example, the social work professor lectured on post-traumatic stress disorder, presenting the internal challenges faced by those who experience disaster. The professor of coastal environment lectured on the unique vulnerabilities of the coastal area to natural disasters, presenting his own research to deepen understanding of the creation and prevention of such disasters. The professor of disaster management had much to contribute regarding the history of disasters and human responses to disaster and disease. The professor of architecture lectured about the importance of place and space, including safe building designs for safe communities. The professor of education helped design, facilitate, and consolidate learning and assessment activities. Thus, the students learned concepts related to the broader social issue without being limited to a single lens or subject delineation (Beane, 1997).

The content of the course draws from a number of disciplines. Disaster science management draws from the fields of business, environmental studies, geography, anthropology, human ecology, landscape architecture, sociology, political science, public health, public administration, religious studies, architecture, education, civil and environmental engineering, oceanography and coastal studies, and others (Auerswald, Branscomb, LaPorte, & Michel-Kerian, 2006; Haddow, Bullock, & Coppola, 2007). The required readings, presented below, reflect the multidisciplinary nature of the content:

- *The Complete Persepolis*, by Marjane Satrapi (2003)
- *Collapse: How Societies Choose to Fail or Succeed*, by Jared Diamond (2005)
- *Bayou Farewell* by Mike Tidwell (2003)
- *The First Horseman: Disease in Human*

History by John Abern (2007)

- *The Plague* by Albert Camus (1960)

The entire Honors College faculty selected those texts for use in all the sections of the course. For the sections described in this paper, students also read and reported on a text from the list below. The texts selected by this particular faculty and student planning team were:

- *The Great Influenza: The Epic Story of the Deadliest Plague in History*, by John M. Barry, 2004.
- *Rising Tide: The great Mississippi flood of 1927 and how it changed America*, by John M. Barry, 1997.
- *Everything in its Path: Destruction of Community in the Buffalo Creek Flood*, by Kai T. Erikson, 1976, winner of the Sorokin Award
- *Heat Wave: A Social Autopsy of Disaster in Chicago*, by Eric Klinenberg, 2002
- *Isaac's Storm: A Man, a Time, and the Deadliest Hurricane in History*, by Eric Larson, 1999
- *The Road*, by Cormac McCarthy, 2006 (2007 Pulitzer Prize, fiction)
- *Down and Out in the Great Depression: Letters from the Forgotten Man*, Robert McElvaine, editor, 1983.
- *Polio: An American Story—The Crusade That Mobilized the Nation Against the 20th Century's Most Feared Disease*, by David M. Oshinsky, 2005 (2006 Pulitzer Prize, history)
- *Category 5*, by Ernest Zebrowski and Judith Howard, 2005

Finally, students attended and reflected upon showings of these movies: “Hotel Rwanda”; “An Inconvenient Truth”; “Low and Behold” (a movie directed by LSU graduate Zach Godshall about an insurance adjuster after Katrina); and “The Sleeper,” a play about New Yorkers after 9/11 directed by LSU Honors College student Kathleen McMurray.

Human Response to Disaster and Disease

Through these readings and course experiences, students examined the human impacts of disaster on their own lives, families, friends, and associates in both their home and campus communities. The content of the course was presented as the history of disaster response and the difficulties and complexities associated with disaster and disease. Through readings about

historical responses to catastrophes, personal accounts of reactions, and both futuristic fiction and classic literature, students learned about the powerful forces that accompany disasters. Students examined hurricanes and floods associated with hurricanes Camille, 1969, and Katrina, 2005. They also studied coastal erosion, the bubonic plague of the late 14th century, and the AIDS epidemic. Course discussion linked current and historical events to ethical considerations about citizenship and individual responsibility.

Just weeks after the course began, an authentic learning experience emerged when Hurricane Gustav devastated the campus and surrounding areas. The faculty immediately incorporated this disaster into the class by integrating information about this hurricane into the course material, focusing on the students' own experiences and developing their self-awareness through journals and reflection papers, class discussion, and individual discussions about students' decisions during this disaster (e.g., to go home, do volunteer work). Because Hurricane Gustav seriously damaged the city and campus, much of the course content paralleled the students' own experiences.

Critical Analysis

Throughout the various class experiences, faculty emphasized critical thinking and student reflection about disaster preparation, effects, and responses. The foundation for this approach, a crisis decision making and leadership development activity (obstacle course) with the LSU Sports and Adventure Complex, was scheduled early in the course. The objective of the experience was to help students understand the role of individuals and communities in disaster preparedness and response through this authentic, experiential learning activity. A ropes course, or Challenge Course, is an obstacle course designed to help individuals and groups develop strong concepts of leadership and teamwork. The challenge experience combines action and reflection to open the door to personal discovery and interpersonal understanding through demanding cooperative work on a series of physical activities (on high or low ropes, for example) or group problem solving to accomplish a joint physical task (climbing over a wall, balancing on a platform). A key objective of the approach is for team members to discover how individual contributions are vital to the success of the team.

This experiential program explores the intricacies of communication, cooperation, and trust within a safe, structured environment.

Through a combination of mental and physical demands within a controlled setting, the groups were challenged to effectively overcome obstacles while developing trust and teamwork, thus encouraging personal confidence and initiative and creating a learning environment that was comfortable and respectful. Class members had opportunities to take risks and have fun, a time-proven mechanism for breaking down interpersonal communication barriers and providing opportunities for growth. This form of active engagement promised long-lasting benefits that would allow each student to continue to learn from this experience, through reflection exercises, discussion, and experiential learning activities over the course of the semester.

This experience incorporated the Challenge by Choice (<http://wilderdom.com/ABC/ChallengeByChoice.html>) philosophy in which participants are encouraged to try new things, take risks, and push the boundaries of their individual comfort zones, a philosophy that allowed group members to choose their own level of involvement. With this in mind, the challenge program activities were intended to be accessible to all levels of physical ability and fitness. There were a variety of roles, from observing to strategizing to getting intimately involved in the action. The fundamental key to success was not a measure of individual strength, skill, or agility, but a measure of the group's cohesiveness.

One of the highest priorities of the challenge program is physical and emotional safety. For this experience, developing and exercising compassion, tolerance, and understanding were essential goals of the team-building exercises. Faculty worked with the program facilitators to create experiential learning activities that provided appropriate challenges in an environment that fostered emotional and physical peer support. The success of the semester was premised on the ability of the students to work as a team in their critical analysis. The course was also tailored for students to gain experience in leadership, team-building, and problem solving, while fostering communication, creativity, cooperation, camaraderie, self-awareness, and self-esteem. A key goal was that participants would leave this experience with skills that could be applied not only to all aspects of the course, but to the rest of their lives.

One challenge of the course was to prompt Piaget's disequilibrium to help students learn and grow, so faculty deliberately simulated the kind of discomfort that they might experience through the process of interviewing students affected by Katrina-Rita, necessitating the asking of tough

questions and eliciting uncomfortable, emotional memories about the personal impact of the 2005 hurricanes. It was essential to engage students in their own simulated crisis environment that would build a sense of community and create a foundation for teamwork. The exercise on the Challenge Course required them to define and analyze choices, work with fellow students as a team, and negotiate and implement action plans. This class activity was designed to make students more aware of their own responses to a crisis, how their class-mates deal with crisis, and how peer pressure impacted their own decision-making. This crisis simulation introduced students to many of the disaster response themes presented throughout the semester, and through student-faculty interactions, it also established the basis for a learning community of students and faculty.

The challenge program offered a team-building exercise that challenged the analytical, social, and physical skills of most students. Students stretched themselves by literally getting (uncomfortably) close in order to understand that teamwork is fully operational only when based on collaboration and trust. Collective problem identification and articulation (defining the problem), analytical thinking coupled with dialogue and negotiation, identification of objectives and development of strategies for achieving them—all provided the foundation for a successful semester.

In addition, the students reflected on the practice of good leadership skills through engaged “followship.” As Honors College students, many viewed themselves as leaders. Through the challenge ropes course, they were forced to think about the broadest possible definition of shared leadership roles and responsibilities in the context of a community, and to consider that leadership qualities were essential attributes of good team players (“followers”).

Faculty also encouraged students to explore the limits of their self-confidence by engaging in what were for the most part unfamiliar physical challenges through a variety of Challenge Course elements. By doing so, faculty hoped to establish the community group as a safe arena for taking risks without fear of failure, knowing this would likely energize the semester’s discussions by encouraging students to express divergent opinions and perspectives while overcoming their conditioned fear of failure (exceed self-imposed limitations), which serves only to limit our ability to learn and achieve.

Importantly, an inclusive dialogue and coordinated, collective action were necessary for

success in the Challenge Course. Whether by working together to raise a horizontal, segmented tent pole on their extended finger-tips through coordinated group action or rearranging themselves on a horizontal telephone pole by age, then first name alphabetical order, then height without falling off, students demonstrated a capacity to transcend basic inhibitions and exercise the thinking and communication skills necessary to achieve the objectives of each course element.

It was important to emphasize that each student had input, and even the quietest voice has a role and responsibility in the collective dialogue. Each individual member of the community could conceive of possible solutions and everyone had to succeed collectively in order for each one to succeed individually, with the chain only as strong as its weakest link. Importantly, this approach both demands and fosters an environment of respect and trust as a basis for building success.

The intensive progression of Challenge Course activities (elements) were intended to habituate students to the process of authentically stepping out of their comfort zone as a means to keep learning, building self-awareness and self-confidence, practicing compassion and respect, and measuring how and when to trust. A key objective was that the students would discover new levels of personal and collective confidence through engagement with the Challenge Course and would begin to conceptualize a comfortable and respectful learning environment. In this environment, students might shed inhibitions, get over any fear of failure, and become bolder and less risk-averse, so that they might be better able to sort out the different possibilities and permutations of problem-solving.

Qualitative Research as Service and Community Engagement

A key experience that helped students think about preparedness and disaster response from a multi-disciplinary perspective was the research project. After many meetings and iterations of interview drafts, and with expert help from the campus Oral History Center, the faculty team finalized an interview protocol focused on student perspectives about the campus response to Katrina and Rita, immediately and over time. The protocol consciously avoided a focus on sensitive issues or personal tragedy. Instead, it consisted of open-ended questions that allowed students to only share details about their experiences they chose to discuss. This activity was not designed to produce publishable or generalizable findings, but rather to

introduce students to research methodology in a way that was suitable for first-year undergraduates. It was also designed to facilitate individual engagement with the university community, a new setting for the freshmen whose individual needs called for an introduction to the university culture.

During the summer, the faculty planned the study and obtained IRB approval. After audio-recording equipment was obtained, the student workers were trained in use of the recorder, trained in qualitative interviewing skills, and asked to pilot the interview schedule. Two student workers interviewed the third who had been a freshman in 2005 when the hurricanes struck. They also piloted the interview with several faculty and staff members. Together, the student workers and faculty used the pilot experience to finalize the interview questions and process. Student workers also transcribed the interviews and noted how much time each task took to accomplish, helping to ensure the student assignments would be reasonable.

This data collection activity was designed with multiple objectives that encouraged students to take personal responsibility for their own learning, work as a team, provide input to the university on successes and failures regarding their responses to Hurricane Katrina, recognize opportunities to help and support those impacted by disasters, learn about qualitative research, and model civic engagement in our university community. Although the students conducted the interviews in the latter half of the semester, they were prepared from the beginning to interview seniors who had been freshmen (like the students in this course) at the time of Katrina. Specifically, early in the course, students were given background information about the project, provided with an interview schedule, and instructed in the basics of recruitment and interview engagement. They were given a coding framework along with information and lectures about human response to disaster and disease throughout history.

Data Collection

In pairs, students conducted four interviews—two where they were the primary interviewer and two where they observed and managed the technical details associated with recording the interview. In this way, each student directly participated in four interviews, but each individual student was only responsible for the transcription and coding of two interviews. They recruited people for the interviews from personal contacts (fraternities, dorms, friends, and family members) or, for those few who could not find students who

had been at LSU during Katrina, from a list of students provided by the faculty. All interviews were done with informed consent and were audio-recorded. Interviews were conducted outdoors, in public buildings, or at locations based on the preference and comfort of the interviewee. Most interviews took a half hour or less. A total of 200 interviews were completed for this project.

Data Processing and Analysis

After the interviews were completed and transcribed, students did an individual overall reading of their four transcripts and looked for the emergence of major themes. Some also did line-by-line coding based on a schema provided by the instructors. After doing their own coding, they compared their coding with those of their partner. After this, small groups pooled their findings and looked for common themes across multiple interviews. Individually, and then in groups, using the critical analysis skills promoted throughout the course, students began to generate general conclusions. Additionally, students noted unique and unusual statements or experiences. They selected quotes that represented the range of responses and integrated all of the information into a final report prepared by each group. Emphasis throughout the process was placed on student reflection and finding a deeper understanding of student concerns regarding preparedness and response. Students used grounded theory to ascertain the key points interviewees made in their responses, rather than having coding schema that was predetermined.

Results and Reports

After discussion and analysis within each section, each group presented its findings to the entire class. After presentations about these findings, each group was given ongoing evaluation in the form of written feedback from faculty members and other students, with both positive comments and suggestions for improvement and additional critical analysis. Each group used the feedback to improve their presentation for a final public presentation given to the community partners, the university administration, and student government. Students prepared both a written report and a presentation that described their assessment of student and campus awareness of the need of emergency preparedness and what constitutes appropriate emergency response.

The overarching conclusion of one group was that disasters create a sense of the unknown, the uncertain, and the unexpected. Based on quotes

Table 3. Interview Questions

- | | |
|---|--|
| 1. Were you attending LSU during the fall of 2005, around the time of Hurricanes Katrina and Rita? Can you tell me what was going on with you during that time? | 9. What were your major accomplishments in the weeks/months following Hurricanes Katrina or Rita? |
| 2. Once the storms hit, what were your main concerns? | 10. Were there services you learned LSU provided after you no longer needed them? If so, what? |
| 3. How did things change for you at LSU after the hurricane and its impact? | 11. How did the campus change during and/or after the storms? How do you feel about it? |
| 4. How did you feel about the university's response to the crisis created by the storms? | 12. What advice would you give incoming students about: a) living at LSU after a disaster, b) in general? |
| 5. What things did the University, its employees, your professors, or others at LSU do that were most personally helpful to YOU? | 13. What advice do you have for LSU authorities concerning the handling of disasters? |
| 6. What things done by the University and its staff do you feel were useful, helpful, and beneficial to others? | 14. In regard to future potential tragedies, how prepared do you feel LSU is? |
| 7. Were there other things you wish LSU had done to help during this time? | 15. What, if any, disasters/tragedies/crises are of concern to you? How prepared do you feel LSU is in responding to these problems? |
| 8. What single memory during that time stands | |

from their interviews, the group documented a sense of the unknown—with a lack of information creating anxiety, people seeking rapid and accurate updates, and a recognition that some anxiety is inevitable in such circumstances. The students found evidence in the transcripts of their interviews that disasters create unanticipated stressors. A heightened sense of vulnerability was also apparent in the interviews. Here is evidence of this in their own words:

Driving became a nightmare. ...I was worried that my whole freshman semester was going to be pretty messed up. ...The PMAC (Athletic Center) was like a big emergency triage center. ...It was pretty crazy. ...There was no food in the grocery store. ...Everything was slightly more difficult, well significantly more difficult, for everyone.

It was just a little frightening to know that a city so big and so close to us could just be completely demolished like it was. ... [I had] general worries about the campus and the population increase and how I was going to fit into all that. ...I mean, just the overall shock of you know, holy cow, this happened to us.

Additional findings included a denial of vulnerability, feelings of losing control over one's life, and fears about the possibility of other crises. For example, one student said:

You know, on TV, we see all these things about the Virginia Tech shooting. That doesn't worry me on a daily basis, but it could happen.

As they examined the university response to the disaster, students in all sections found that most LSU students enrolled at the time of Hurricane Katrina had positive perceptions about the actions taken by the LSU administration. Specifically, the interviewees made positive comments about the university's flexibility, openness to new students (who joined the campus after being displaced by the hurricanes), and faculty adaptability.

Because the disaster created by hurricanes Gustav and Ike occurred in the midst of the semester, the interviewees' own experiences closely resembled those experienced by the interviewees. Also, many of the interviewees compared and contrasted the university responses to hurricanes Katrina and Rita with those following Gustav. The students reported that the interviewees often unfavorably compared the university response following Gustav and Ike with that following Katrina and Rita. That was interesting because

the administration had changed after Katrina and Rita, and the response to the second set of storms (which actually had a much worse direct impact on the campus community than the storms of 2005) was perceived as substantially different by faculty and staff who were also present during each storm.

The faculty team was extremely impressed with the students' observations and conclusions from the interview analysis and class discussions. The process demonstrated that undergraduate students were quite capable of partnering with faculty as full members of a research effort. The student analysis was insightful, sensitive, and developed through a unique perspective.

In summary, as researchers students gained interviewing skills, learned the basics of data collection, obtained knowledge in use of equipment and data management, experienced coding and learned about inter-rater reliability, were able to provide a synthesis of massive amounts of data, and engaged as members of their campus community taking responsibility to contribute by providing feedback to our community partners. They took the responsibility for this learning activity and they benefited from ongoing self, peer, and faculty evaluations.

Integrating Course Components

Given the multi-faceted nature of this course, integration of various components was essential to help the research hang together rather than fall apart. In addition to ongoing cross-referencing of experiences such as films in the small seminar meetings, interview responses in the large class lectures, and the obstacle course in journal entries, the following specific examples further illuminate faculty efforts at integration. Explicit linkages were necessary to help students weave the entire class experience into a coherent whole.

Faculty provided suggestions for weekly journal writing that included questions like, "How do the things you did in the ropes course relate to the lecture topic on facing fear of the plague, or help you acknowledge your fear about interviewing, but move forward and do it?" In their journaling, students practiced critical analysis skills learned from information provided both online and in class activities throughout the course.

In order to emphasize the prevention aspect of human response to disaster and disease, faculty used a concrete personal symbol—aluminum water bottles—to represent how individual actions can assist in disaster prevention. The bottles were given to each student to help them think about what the environment, sustainability, and personal

health issues. This concrete item helped ground their examination of disaster and disease in the consideration of personal responsibility and the importance of taking small actions to prevent future problems.

A problem occurred during one of the large class student presentations when the technology failed, and the designated student speaker froze. The rest of his group involved in the presentation did nothing to assist. The faculty used this as an opportunity to discuss teamwork, joint responsibility, and relate their obstacle course experiences to other settings.

Finally, a very important linkage occurred when a formal reception was scheduled for university administrators and student leaders (our community partners) to hear student presentations of their combined findings about student experiences following Katrina. The students took the presentations very seriously, believing they had something essential and important to contribute, potentially making a difference when and if future disasters happened at our university. A positive experience of civic engagement, being aware they could contribute something valuable, and being carefully listened to, may translate to increased community involvement in the future.

Conclusion

This course exemplified the successful implementation of a number of innovative characteristics of service-learning and progressive higher education. In addition to being an exemplar of a grant-funded service-learning class, it also was a model of effective multidisciplinary teaching and of research conducted by undergraduates.

The team collaboration went beyond what is usually possible in college teaching, with weekly meetings lasting from June through December. For this type of complex teaching and learning experience, faculty found that a high level of coordination and communication was essential (Brookfield, 1986). One faculty member noted, "When we didn't meet regularly things got more difficult." Being supported by a small grant made the amount of work and commitment more palatable for faculty. The funding supported the purchase of equipment and funded student workers who helped develop the course readings, assignments, and research protocol. It also subsidized student participation in the ropes course experience.

This course was characterized by extreme collaboration, including strong leadership involvement of students. Faculty modeled and required a great deal of collaboration, thus

facilitating a comfortable and respectful learning context and showing the type of cooperation that is required of individuals, communities, and societies after a disaster. Effective coping requires people to take risks and to attempt new actions. Student collaboration included an expectation to team with a classmate (someone they did not know) to conduct interviews. It was challenging for these new college students to find a senior to interview. In fact, although this experience was designed to meet their developmental need to fit into the campus community, it was a difficult and somewhat frightening experience for most students. As Kolb and Fry (1975) maintained, the facilitation of this type of learning is entirely different from typical college instruction—an engaged learning that helps students make meaning and can be widely generalized. Planned ambiguity challenged students to take responsibility for their learning while emphasizing the critical analysis component of the course, both essential in this format, to student learning (Mezirow & Associates, 1990; Tennant & Pogson, 1995).

Multiple perspectives was an important theme of the course. The faculty provided different perspectives, not only from their distinctive disciplines, but also through authentic learning activities and using a wide variety of readings (graphic and classic novels, chapters, and texts), videos, movies, online activities, lectures, and guest speakers. They covered many topics (the collapse of societies, hurricanes Katrina/Rita and Gustav/Ike, the effects of Camille on Nelson County, Virginia, the Buffalo Creek flood, the Black Plague, AIDS, and polio). Students were asked repeatedly to reflect upon their feelings and opinions about content of the course and their experiences, individually and in small groups, in order to develop self-awareness through comparisons and contrasts with others' experiences. These experiences represented many different perspectives related to disasters, and the faculty continually inserted thinking that represented their distinctive disciplines into the course learning.

Traditionally, solitary and logical reasoning about philosophical issues has defined critical thinking. The best metaphor for that model is Rodin's sculpture of *The Thinker*. A typical scholarly definition that embodies this idea is "the process of analyzing and assessing thinking with a view to improving it" (Paul & Elder, 2007). However, that type of critical thinking is not particularly well-matched to the demands and characteristics of our post-modern world (Mezirow & Associates, 1990).

Alternatively, the metaphor of a quilt can portray modern transformational critical thinking. In this metaphor, the member of a community of learners actively brings together shared pieces of different perspectives to create new knowledge that is creative, striking, and relevant (Thayer-Bacon, 2000). This service-learning course experience successfully facilitated transformational critical thinking. The students' final papers, conversations in class, and their exam responses all showed evidence of this. Students began to construct an understanding of human response to disaster while developing their critical thinking skills. This course was an exciting teaching and learning experience that was particularly effective at facilitating post-modern critical thinking. As Knowles provided guidance and an underlying theory for this course, we return to his major precepts, recognizing their significance in building this successful educational endeavor. In order to help students learn how to be skillful in directing social change, we drew on activities that would increase their self-awareness, be guided by a friendly and informal climate, and would build skills in human relations and group work, built through respect for others (Knowles, 1972).

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Appendix A. Honors 2000 Course Assignments

Essay 1 (DS, 12 pt Times Roman, 1" margins, 3 - 5 pages) 15 percent

Students will write a brief essay entitled "How should and do people (individuals, communities, and societies) respond to disasters?" Due September 2nd.

Exam 1 (in class) 15 percent

Students will be given 5 questions to prepare ahead of time. They may bring with them to the exam any materials except prepared exams. They will be given one of the 5 questions to answer at the time of the exam.

Essay 2 (DS, 12 pt Times Roman, 1" margins, 6 - 8 pages) 15 percent

Students will write up the results of their interviews—the analysis of the interviews, linking their findings to the course material (readings, discussions, activities, etc.) A very rough draft is due October 30th, a revision using feedback is due November 6th, and the final version is due November 13th.

Exam 2 (in class) 15 percent

Students will discuss the question "How should and do people, communities, and societies respond to disasters?" using course information and experiences to support their ideas.

Group Project Presentation 10 percent

Students will present the findings from their interviews to their sections November 25th, and the sections will present the collective findings from their section to the entire group on December 4th.

Response to Freshman Service Project (2-3 pages) 5 percent

All students are expected to attend.

Journal (minimum of 2 pages per week) 10 percent

The students will keep a journal with their reactions to the course readings and course-related experiences. This journal could use the format of a reading journal (using QHQ, or "muddiest point" or could be an outline of major ideas) or the format of a reaction journal (connecting the text ideas to other ideas in other texts or course material—not necessarily to personal experiences or reactions). This will be collected periodically and randomly throughout the semester.

Book Review 10 percent

The students will select one book from the syllabus list or another book with permission of section instructor. The student will read the book and turn in a book review using the guidelines by the end of the semester

Class Discussion 5 percent

Student participation each class will be monitored and evaluated throughout the semester. Students who choose not to participate in the discussion will lose points in proportion to the degree of their disengagement (>2 absences or obvious inattentiveness or no participation in discussions will result in the loss of these points).