Fieldwork and Cooperative Learning in Professional Ethics

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Description

In this essay Michael Loui explains fieldwork and cooperative learning in professional ethics. The paper describes two courses relating to professional ethics in which students develop skills for working in multidisciplinary teams and deepen their understanding of collective moral responsibility.

Abstract

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In two courses on professional ethics, students collaborate in small groups on a fieldwork assignment. In this assignment, students visit a site and interview several professionals to learn about an actual ethical problem that occurred at that site. The students analyze the problem and write a group paper. Through this assignment, students develop skills for working in multidisciplinary teams, and they deepen their understanding of collective moral responsibility.

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1. Introduction

In college and university classrooms, with increasing frequency, lectures are complemented by collaborative and cooperative learning activities. Courses in philosophy [Thomason, 1990] and specifically in professional ethics [Herkert, 1997] have incorporated collaborative learning methods such as problem-solving in small groups, role-playing, and team projects.

I have used collaborative and cooperative learning methods successfully in two ethics courses at the University of Illinois at Urbana-Champaign: ECE 216, Engineering Ethics, and CHP 295, Professional Ethics. What makes ECE 216 and CHP

295 unusual is the fieldwork assignment, in which students collaborate in small groups to study a real ethical problem. By working in groups and by interviewing a group of professionals who handled the problem, students learn effective teamwork skills, and they improve their understanding of collective moral responsibility, a theme of both courses.

In this paper, I summarize the importance of multidisciplinary collaboration in professional ethics, describe the distinctive aspects of ECE 216 and CHP 295 in detail, and discuss the pedagogical value of the fieldwork assignment in both courses.

2. Cooperative Learning and Collective Responsibility

"'Well, that is his loss, not mine,' answered the Rocket. 'I am not going to stop talking to him merely because he pays no attention. I like hearing myself talk. It is one of my greatest pleasures. I often have long conversations all by myself, and I am so clever that sometimes I don't understand a single word of what I am saying.' 'Then you should certainly lecture on Philosophy,' said the Dragon-fly." - Oscar Wilde, *The Remarkable Rocket*

Collaborative learning is a form of instruction in which students work in small groups on structured assignments. Cooperative learning is a special form of collaborative learning characterized by interdependence between group members, face-to-face interaction, individual accountability for results of the group's efforts, and conscious reflection on the functioning of the group (also called "group processing") [Johnson et al., 1991]. Students in a cooperative group work together to achieve common goals, and they are graded on the success of their group and on their individual contributions. For example, the discussion of a question in small groups is a collaborative exercise. If in addition the instructor may call on anyone in any group to present the group's answer to the entire class, then the exercise becomes cooperative because each student is dependent on the others to prepare a correct answer, and is publicly accountable for the results.

Many professors and students resist adopting collaborative and cooperative learning methods, not only because of lack of familiarity with these methods. Professors worry that they might lose control of a class, and that they would cover less material. Students fear that their grades would be jeopardized by weak performers in their groups, and that they would learn less from peers than from the professor. In a comprehensive guide to cooperative learning, Millis and Cottell [1998] address these concerns and argue that cooperative learning can help students develop academic and interpersonal skills better than traditional teaching.

Cooperative learning offers many benefits over traditional pedagogical approaches [Johnson et al., 1991]:

- Increased cognitive achievement
- Promotion of higher-level thinking skills
- Improved self-esteem and satisfaction from helping others
- Development of social skills for effective group work, including negotiation and conflict resolution

These benefits accrue for several reasons [Cuseo, 1990; McKeachie, 1994]:

- Motivation: interaction with peers provides mutual support and stimulation, fostering personal responsibility; students gain control in making some decisions in a non-threatening environment
- Cognition: students become actively engaged by using elaboration strategies such as questioning, explaining, and summarizing ideas, in their own words, with peers at similar levels of experience

Perhaps the most important benefit of cooperative learning is that students learn how to work in teams with people who have diverse social and cultural values. Students learn how to reconcile conflicting values, and how to integrate different areas of expertise to achieve a common goal. Teamwork skills are increasingly important in almost all careers. Throughout commerce, government, and industry, people work in groups and teams to undertake projects and to reach decisions. Students who have learned teamwork skills in an academic setting are much better prepared for professional careers.

Cooperative learning poses an ironic challenge for a course on professional ethics because most professional ethics courses focus on individual responsibility. In

collaborative situations, moral responsibility is shared collectively [French, 1984; Ladd, 1982; May, 1987; May, 1991]. Collective moral responsibility does not mean that responsibility is diffused -- or atomized --to the point that no one is accountable. Rather, in a form of collective responsibility called "mutual accountability," group members are individually and jointly accountable to each other for the group's goals, progress, and products [Katzenbach and Smith, 1993]. In both work and academic settings, cooperative groups should be small, to promote individual accountability, and to contravene the natural tendency for an individual to disown the actions of a large group.

In both ECE 216 and CHP 295, we devote several class periods to discussions of responsibility: how professional responsibility differs from ordinary moral responsibility, and what collective responsibility means. The fieldwork assignment, which results in a group paper, reinforces the concept of collective responsibility. Within each group, each student evaluates the performance of each other group member, so that students are individually accountable to each other. The fieldwork assignment is described in Section 5 below.

In ECE 216 and CHP 295, we do not take class time to explain how to work in groups, although we emphasize that students should be civil and courteous to each other. We distribute the following credo, which is adapted from the recommendations of Davis [1993]:

- I encourage everyone to participate.
- I seek out differences of opinion to enrich the discussion.
- I stick to the subject and avoid dominating the discussion with long stories.
- I restate what someone has said if it is not clear to me.
- I summarize what the last speaker said before I add my own contribution.
- I criticize ideas, not people
- I try to understand all sides of an issue
- I change my mind when the evidence is compelling.
- I focus on reaching the best decision, not on winning.

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3. Multidisciplinary Collaboration

"It seems to be one of the unfortunate facts of life that no mathematics book can be published free of errors. Since the present book is undoubtedly no exception, each of the [four] authors would like to apologize in advance for any that still remain and take this opportunity to state publicly that they are the fault of the other three." - Donald L. Kreider et al., *An Introduction to Linear Analysis*

In real life, solving ethical problems requires collaboration between different kinds of professionals. The combination of different experiences and values can lead to better, more informed decisions. Engineers know that every large project--designing a passenger aircraft, constructing an oil refinery, manufacturing an automobile-- requires a team of engineers with different specializations: mechanical engineers, electrical engineers, materials engineers, computer engineers, etc. Broader professional collaborations occur in other settings. In hospitals, patient care teams comprise social workers, physical therapists, nurses, and physicians. In environmental protection agencies, the drafting of regulations requires lawyers, civil engineers, and soil chemists. Physicians and lawyers, traditionally solo practitioners, are now employed in large medical clinics and law firms.

Multidisciplinary ethical deliberation may take two subtly different forms. In the representative form, the group contains a representative of each appropriate profession to ensure that the profession's interests are given attention in the group's decision. In the integrative form, the group ensures that all ethically relevant considerations are recognized in reaching a decision. Whereas a representative group may seek a political compromise among competing interests, an integrative group strives to ensure that the biases of individual professions do not interfere with the quest for good moral solutions. Members of different professions generally perceive and express moral issues differently because of their different training and orientations. In an integrative group, members endeavor to understand the issues from the perspectives of other professions, to overcome their own professions' natural blind spots, and thereby to reach a decision that does justice to all relevant moral considerations.

Ideally, the multiplicity of disciplinary perspectives can enhance the diversity of solutions. In business, a common multidisciplinary team is the "cross-functional" team, which brings together people who normally perform different functions: product design, manufacturing, quality control, marketing, etc. According to Parker [1994], cross-functional teams can reduce the time needed to accomplish goals and

can provide innovative solutions to complex problems: Cross-functional teams provide the basis for a creative mix of people with different backgrounds, orientations, cultural values, and styles. While this diversity can be hell to manage, the possibilities for bright new ideas...are great." To maximize this potential for diversity in brainstorming activities, individuals should first generate alternatives alone, not to make up their minds a priory, but rather to avoid possible group pressure for conformity and possible deferral to the most vocal or prestigious person in the group [Sniezek and Henry, 1989].

In ECE 216 and CHP 295, we teach students about the dangers of premature consensus, through memorable stories such as the "Abilene Paradox" [Harvey, 1988] and cases such as the Challenger disaster. Whether because of group tyranny through peer pressure ("Groupthink") [Janis, 1982], or because of individual anxiety about possible ostracism [Harvey, 1988], people in groups sometimes agree to undertake actions that upon private reflection, they would individually judge to be unwise. We encourage students to adequately consider dissenting views. In general, students should generate and evaluate multiple alternative solutions, and their pros and cons, prior to the identification of a preferred solution, for the following reason: people tend to overestimate the quality of their choices in difficult situations, and by generating reasons against their preferred alternatives, they reduce the chance of rationalization [Koriat et al., 1980].

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4. Two Courses on Professional Ethics

"Formal education can rarely improve the character of a scoundrel." - Derek Bok, *Beyond the Ivory Tower*

ECE 216, Engineering Ethics, is an elective for juniors and seniors, with no formal prerequisite other than expository writing at the freshman level. ECE 216 carries three semester-hours of credit. Since 1993, ECE 216 has been offered every spring. The number of sections has increased to three or four in recent years, with sections taught by different professors. Since 1996, one section of ECE 216 has been offered to students in the Campus Honors Program. The maximum enrollment in each regular section is 25 students--the maximum in the honors section is 15--because ECE 216 is designated as a writing-intensive course. Each student writes six mini-

papers, each two to three pages long, and an eight-page term paper. Each mini-paper analyzes an article or a case. An article analysis summarizes the main ideas, identifies the author's implicit assumptions and perspectives, and assesses the strengths and weaknesses of the arguments critically. A case analysis explores the conceptual and ethical issues in the case, determines the responsibilities of the actors, and proposes possible solutions. Each mini-paper may be revised and submitted for a higher grade by the due date of the next mini-paper, and the term paper must be revised. In the honors section, the fieldwork assignment substitutes for two mini-papers.

The syllabus of ECE 216 emphasizes issues in engineering ethics at the level of individuals and organizations, rather than social policy: professionalism, responsibility, honesty, confidentiality, conflict of interest, safety, relationships between engineers and managers, loyalty, whistle-blowing, codes of ethics, licensing, and choosing a vocation. Case studies include the Challenger disaster and the BART (Bay Area Rapid Transit) case.

CHP 295, Professional Ethics, is a new interdisciplinary seminar for students in the Campus Honors Program. I developed CHP 295 with James Wallace, a professor of philosophy who specializes in ethics, in the summer of 1996. Since then, we have offered the course only once, in the fall semester of 1997. The course also carries three semester-hours of credit.

Like other interdisciplinary courses in professional ethics (for example, a course at Cedar Crest College [Meade and Weaver, 1995]), CHP 295 presents ethical problems of different professions such as law, medicine, and science, with guest speakers from various disciplines on campus. CHP 295 considers relationships with clients, including deception, informed consent, and confidentiality; relationships with other professionals and employers, including loyalty and whistle-blowing; and relationships with the public, including licensing, compensatory justice, and access to services. We emphasize the collaborative solution of ethical problems using multiple disciplinary perspectives, particularly in the fieldwork assignment.?

Both ECE 216 and CHP 295 use a variety of case materials. Short cases, such as the cases assembled by Harris et al. [1995], are used in class. Typically, the students are divided randomly into small ad hoc groups, each with three or four students. Each group discusses the same case for about twenty minutes, and then the entire class discusses the case, identifying and solving the moral problems in the case. For

some cases, the class engages in role playing: students volunteer for speaking parts, and each student who does not have a speaking part serves as a coach for a student with a speaking part. Each speaker caucuses with two or three coaches to prepare for the run of the role-playing session. Thus, the role-playing activity is a collaborative exercise.

Short cases are assigned as mini-paper topics. Each student analyzes the factual, conceptual, and moral issues in the case and proposes possible solutions.

Whereas a short case involves only one or two ethical issues, the fieldwork assignment gives students experience with a long case that involves multiple ethical issues. Through this assignment, students learn to identify ethical issues in complicated real situations. In CHP 295, before undertaking the group fieldwork assignment, the students have one group paper assignment, to analyze a fictional case with multiple ethical issues (see Appendix #1).

For more suggestions on cases and their uses in teaching ethics, see the article by Davis [1997].

In both ECE 216 and CHP 295, each student completes an individual term project on a topic related to the course. Students choose their own topics, typically the ethics of a social problem: the privacy of electronic mail, pollution credits, genetic engineering, manufacturing with overseas labor, and so on. Each student gives an oral presentation of the term project, which results in a term paper that substitutes for a final examination. For the term paper, each class is divided into groups of three students, and within each group, students exchange papers to obtain comments from two peers. To focus the student's comments on another student's paper, we provide a checklist on content, organization, and style. Within each group, students have different topics, to avoid conscious or unconscious plagiarism. Hamilton-Wieler [1991] argues that this kind of collaboration, called "peer editing," helps students develop self confidence as writers, and fosters a community of writers in the classroom.

5. Fieldwork Assignment

"One way of making education more holistic is to get outside the classroom and off the campus...the change in environment changes everything. The class becomes a social unit; students become more fully rounded human beings--not just people who either know the answer or don't know it. Inside the classroom, it's one kind of student that dominates; outside, it's another. Qualities besides critical thinking can come to light: generosity, steadfastness, determination, practical competence, humor, ingenuity, imagination. Tying course content to the world outside offers a real-world site for asking theoretical questions; it answers students' need to feel that their education is good for something other than a grade point average." - Jane Tompkins, *A Life in School: What the Teacher Learned*

The fieldwork assignment in ECE 216 and CHP 295 has two primary purposes:

- To apply case analysis skills to a real, difficult ethical problem
- To learn how to work in groups

Each group of students visits a pre-selected site in the community to learn about an ethical problem that professionals at that site have encountered. Each group writes a paper that presents the problem as a case and provides a case analysis. Unlike the interview assignment designed by Whitbeck [1995], in which each student writes an imagined scenario and asks professionals what they would do that scenario, students in ECE 216 and CHP 295 work in groups on cases that actually occurred. They learn to handle realistic situations with multiple facets and subtle nuances in complex sociopolitical contexts. Unlike the service-learning assignment of Fitzgerald [1997], in which students volunteer at community service agencies to learn about social responsibility, students in ECE 216 and CHP 295 interview practicing professionals learn about professional responsibility.

In preparation for the fieldwork assignment, the instructor locates a primary contact at each site. In different semesters, the sites have included a medical clinic, a hospital, a law firm, a manufacturer, a software publisher, and a consulting engineering firm. The ethical problems chosen by the contacts can vary in depth and difficulty. We have learned that it is important to discuss the problem choices with the contacts in advance, to ensure that the problems are appropriate.

Students rank the sites from most preferred to least preferred. We generally assign students to one of their top two site choices, while balancing personalities and strengths among the groups to be fair to everyone. Research on cooperative

learning strongly recommends heterogeneous groups, to provide a diversity of ideas and viewpoints [Johnson et al., 1991; Millis and Cottell, 1998]. Each group has three or four students, and each site is visited by one group.

Each group has about four weeks for the assignment. First, one student in a group calls the contact person, asks about the general outline of the problem, and arranges a date and time for the first round of on-site interviews with the contact and other professionals at that site. During the interviews, the students ascertain the facts of the ethical problem, identify the assigned duties and moral responsibilities of the participants, and inquire about cultural, organizational, and legal constraints on possible solutions. The students ask specific open-ended questions.

After the first round of interviews, the students in the group brainstorm to decide how to present the case narrative, to analyze the case, and to formulate alternative solutions. In this phase of the assignment, students witness the power of groups in providing multiple perspectives on a problem and generating multiple ideas. At this stage, the students prepare an outline of the paper. Next, the students return to the site to talk to the contact person and others again to check on the accuracy of the case narrative and to evaluate the feasibility of their proposed alternative solutions.

Because students are busy, they frequently have difficulty in scheduling meetings outside the class time. If necessary, they may schedule interviews during a class period, and they are excused from class for the day. In future offerings of these courses, we plan to use World Wide Web conferencing tools, to enable groups to meet asychronously.

After the interviews, the students in a group produce a single paper six pages long, double-spaced, divided into a case narrative and a case analysis of approximately equal length. Although the case narrative should be faithful to the spirit of the actual incident, the narrative may embellish the details of the case. For example, the narrative may include snippets of conversations that might have occurred. Further, the names of the participants are changed to protect their privacy. The case narrative for one group in CHP 295 appears in Appendix #2.

Students find that writing a paper in groups is challenging. Not only must they reach a consensus on the content of the paper, but they must also produce a single document. If different students draft and rewrite different parts of the paper, the

result can be incoherent. Alternatively, all students in the group could write every sentence together, but this method takes much more time. As Ede and Lunsford [1985] emphasize, however, the benefits of coauthorship outweigh the disadvantages.

After the instructor reads the paper and returns it to the group, the students have one additional week to revise the paper and to submit the revised version for the grade on the assignment.

When the revised papers are submitted, each student submits a confidential evaluation of each of the other students in the same group. The peer evaluation includes an overall rating on a five-point scale (Excellent, Good, Satisfactory, Fair, and Poor), and comments on the following criteria:

- cooperation with others
- timeliness of work
- quality of contribution

Before evaluating others in a group, each student evaluates his or her own performance. Although the self-evaluation is not used in determining the grade on the assignment, the self-evaluation helps the student assign a rating to another student by comparing their performances.

There are several ways to incorporate peer evaluations into the student's grade on a paper. In ECE 216 and CHP 295, we use the following simple rule: each student whose average rating is Satisfactory or better receives the full grade for the group paper, which is usually very high; each student whose average peer rating is below Satisfactory receives a commensurately lower grade. Another way to incorporate peer evaluations is to make the student's grade for the paper a weighted combination of the group grade and the average peer rating, with the lowest peer rating dropped.

The peer evaluations emphasize the mutual accountability concept discussed in Section 2: each student is accountable to every other student in the group. Peer evaluations are fair, because they reward students who contribute to the group's goals and penalize the few goldbrickers.

In addition to submitting peer evaluations, each student completes a simple individual evaluation of the assignment:

- What did you learn about ethical problems in the workplace?
- What did you learn about working in groups? What went well? What did not?
- How could the fieldwork assignment be improved?

Lewis et al. [1998] offer detailed advice on assessment of multidisciplinary teams.

The students' evaluations of the fieldwork assignment have been overwhelmingly positive. Representative excerpts are given in Appendix #3. In the final evaluations of each course, many students say that the fieldwork assignment was the highlight of the course, and that they wish there could have been more fieldwork assignments.

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6. Conclusions

In two professional ethics courses, a fieldwork assignment enables students to connect their academic learning with professional practice in a meaningful way. Through this assignment, students become more confident about their ability to handle difficult ethical problems that may arise in their careers as professionals. Furthermore, because the assignment is conducted in groups, students develop teamwork skills and gain a deeper understanding of collective moral responsibility.

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Appendix #1, Group Analysis of Fictional Case

Students in CHP 295 were assigned to groups, with three students in each group. Each group wrote a three-page analysis of this fictional case.

Legal Records

At Dewey, Cheatham & Howe (DCH), the fourth largest law firm in Chicago, managing partner Robin D'Cradle wants to increase the productivity of the secretarial staff. Robin believes that many secretaries spend too little of their time typing legal documents and too much time sending frivolous e-mail messages. Robin hires Dana Torrez, an information systems consultant, to enhance the firm's computer systems to monitor the keystroke rates of the secretaries and to record their e-mail messages for later review by supervisors.

Dana is grateful for the contract, a satisfying recognition for the excellent reputation of Dana's small but growing consulting business, Urbana Information Consultants (UIC). If all goes well, Dana can look forward to a long relationship with DCH. Dana has some nagging doubts about the wisdom of using keystroke rates to measure productivity, and is concerned that the e-mail messages might include embarrassing personal correspondence. Nevertheless, Dana accepts Robin's argument that managers have a duty to monitor productivity, and that because DCH owns the computing equipment, all e-mail messages belong to DCH.

Reasoning that it would be impractical to record every keystroke and to store every message, Dana decides that a statistical approach should suffice. Dana asks J.C. Jackson, a distinguished professor of statistics at the University of Illinois, for advice. After studying the situation, J.C. recommends a complicated adaptive randomized sampling method to collect the data, and a sophisticated resampling strategy to infer the keystroke rates.

At UIC, Dana's associate Kelly Kim is a recent computer engineering graduate from Illinois. Kelly doesn't understand J.C.'s algorithms completely, but is confident about implementing them correctly. Anyway, thinks Kelly, J.C. is fully responsible for the results of the statistical calculations.

Kelly wants to implement a state-of-the-art distributed client-server system, to learn about this new technology. Kelly is convinced that from a technical point of view, the best network server for the system is the amazingly fast IPM AS/460, augmented with several gigabytes of disk storage. Kelly is thoroughly familiar with the capabilities of the IPM AS/460 because Kelly's domestic partner is the product manager for the IPM AS/460 at Illinois Programmable Machines. In fact, because Robin seems willing to invest a lot of money in the project, Kelly surmises that DCH could afford two network servers, for much higher reliability.

Among the small group of people at DCH assigned by Robin to work with Dana's firm is Leslie Long, the chief accountant. Robin has trusted Leslie for many years. Leslie's motto is, "Good decisions require good data." Nearing retirement, and with many responsibilities at DCH, Leslie has been unable to keep up with modern auditing techniques. Leslie is uncomfortable with the statistical audit proposed by J.C.: Leslie suspects that because secretaries' workloads vary dramatically from one day to the next, a sampling approach may not produce sufficiently reliable data. Leslie may offer only a qualified opinion on the system.

Also in the DCH delegation is Merle Matsunaga, a paralegal assistant. Merle insists that only the secretarial staff be monitored electronically. In Merle's judgment, the professional staff, including the paralegals, handle particularly sensitive information from clients. Thus, their e-mail messages should not be stored centrally, where the messages could be read by any secretary's supervisor.

Because no one in the DCH delegation is on the secretarial staff, Dana decides to find out more about the secretaries' workload

Rights

Use of Materials on the OEC

Resource Type

Essay

Parent Collection

Essays on Ethics Instruction

Topics

Pedagogical Approaches

Discipline(s)

Teaching Ethics in STEM
Engineering