PROFESSIONAL ETHICS IN THE INFORMATION SYSTEMS CLASSROOM: GETTING STARTED!

Mark W. Smith, Ed.D.
Assistant Professor
Purdue University
Department of Computer Technology
Knoy Hall, Room 242
West Lafayette, IN 47907

ABSTRACT: It would seem obvious to most people that professional ethics should be included as a topic in any curriculum. Whether it is done as a separate course or as units within courses is not at issue. For most Information Systems (IS) educators the real problem is, "How do I teach professional ethics" in my course? This paper suggests several ideas for the IS educator to help develop a sense of ethical professional behavior in their students. A brief discussion of the background for computer ethics and established codes of professional ethics and conduct in the IS industry; how to design and implement computer ethics into the IS course; how the IS educator can become more of a resource for his/her students in the area of computer ethics; and finally, some suggestions on class exercises, assignments and readings on computer ethics are presented.

Industry can present the computer professional with some very unique ethical choices. The IS professional is expected to make the "correct" choice based on professional training. We, as educators, may be somewhat negligent in providing the necessary education in computer ethics. Do not ignore this side of your students' education. Let's give our students the necessary background to deal with ethical questions in information systems before they are put to the test.

KEYWORDS: Ethics, Information System Curriculum, Information System Ethics, Pedagogy

INTRODUCTION

When and where did you learn that your chosen career in Information Systems required a sense of professional ethics? Was it while you were on the job? During a tough time for the business? In a world where business scandals are appearing with ever more frequency one wonders when and where the people involved learned about professional ethics? It seems obvious that a need exists for the teaching of ethics in the classroom in our institutions of higher learning. Forester and Morrison [1] have said that computer science students do not yet have a "social conscience" and that course work should include components in the teaching of ethical behavior. Gries [2] argues that software engineers aren't getting enough education in the area of ethics and that they "lack professionalism". IS managers say "it's not my job" and believe general management should be responsible for IS ethics training [3]. DeMichiell [4] feels that higher education must accept some responsibility for helping students develop sound ethical concepts regarding their future profession.

Learning ethical behavior begins early, but it doesn't stop when we graduate from high school. The very nature of the computer business, unseen electronic/magnetic data and speed of light processing, allows for abuse, change, misinterpretation, and ownership questions. Information Systems is a relatively new profession and as such has not had as long a time to develop ethical concepts. Complicating this even more is the fact that new computer technology continues to evolve presenting the profession with more and unanticipated questions on the ethical use of the technology.

In a recent article a study was conducted regarding IS majors and non-majors and their differences in "applied, ethical decision-making" [5]. The results of this study were encouraging from an ethical decision-making standpoint, however the presentation of how to incorporate ethics into the IS course/curriculum was not discussed in any detail. The focus of this article then is "how do I, as an IS professional educator, include a discussion of ethics in my courses"?

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The answer to this question goes back several semesters to a time when this author was experiencing what appeared to be a higher than normal incidence of academic dishonesty situations. In the search to resolve these problems, the larger issue of professional ethics and the importance of its understanding by the IS student became apparent.

So how does the Information Systems (IS) educator progress with the teaching of ethics in this highly technological undergraduate discipline? This paper attempts to help the IS educator answer this question by looking at the background of computer ethics and how to design and implement a unit on computer ethics into the IS course; how a faculty member can become an ethics resource for his/her students; a discussion of demonstrated professional behavior by faculty; a brief discussion of established professional codes and standards of conduct in the computer field and how to use them in the IS course; and finally the design of specific class exercises, assignments and readings on computer ethics.

COMPUTER ETHICS BACKGROUND

The need for ethical standards in the IS profession can be traced back as early as 1966 in which a code of ethics was proposed based on a similar code developed by the Engineers Council for Professional Development. It was not adopted by the Association for Computing Machinery (ACM), however ACM did use the code as its Guidelines for Professional Conduct. Later, in the 1970's, ACM and the Data Processing Management Association (DPMA), both members of the American Federation of Information Processing Societies (AFIPS) developed codes of ethics [6]. But the real problem is not developing codes of ethical behavior, rather it is the teaching of professional ethical decision making based on society and its current value systems. It is unrealistic to put newly graduated IS students into an ethical conflict and expect them to make the correct decisions if they've never been "trained" in the issues of professional ethics. Hence, this author believes such training must occur in our IS curricula. One of the "Underlying Principles" of DPMA's Model Curriculum for the 90's is "It is important that IS professionals possess a high ethical standard" [7]. As such, DPMA has stated that elective courses in IS Professionalism and Ethics be offered. This can only be accomplished if the faculty have the requisite expertise and teaching tools.

THE FACULTY MEMBER AS AN ETHICS RESOURCE

Faculty members teaching a unit on professional ethics in a course or as an entire course must first become a "resource". To do this reading the most recent discussions on IS professional ethics would help prepare the faculty member. A search of the literature concentrating on recent articles appearing in professional journals, other periodicals and books would help the faculty member become a resource for the most up-to-date ethical questions confronting the IS professional. What better way to prepare one's students than to help them anticipate ethical problems they'll encounter upon entering the

profession! Some suggestions include:

* CD-ROM searches using *Computer Select* and *ERIC* (let's use the technology available to us!)

* The Fall 1989 issue of *Information Executive*, DPMA's journal on Information Systems management, was almost entirely dedicated to computer ethics [8]

* Review books and case studies. Several excellent books include: Dejoie, Fowler, and Paradice [9], Forester and Morrison [1], Parker, Swope, and Baker [10], Parker [6], Ermann, Williams, and Gutierrez [11], and Johnson [12].

* Review codes of ethics for professional societies and associations including those of ACM, DPMA, Engineers' Council for Professional Development (ECPD), and the Institute of Electrical and Electronics Engineers (IEEE).

Of particular note is the use of case studies since the student generally wants to know "what the ethically correct" decision should be. Many of the case studies contain opinions by experts in the IS field.

From a pedagogy point of view, Cohen and Cornwell [13, 14] present an excellent approach to incorporating the teaching of computer ethics in the classroom. DeMichiell [4] also presents a pedagogy which integrates ethical theory and business practice. Review of these articles will help the faculty member prepare to be not only a resource but a guide to his/her students in dealing with dilemmas in professional ethics.

THE FACULTY MEMBER AS A ROLE MODEL FOR PROFESSIONAL ETHICS

Teachers live in a very precarious position, a type of glass house. They are constantly being viewed by students and used as a role model. Should the faculty member exhibit any ethically questionable behavior this glass house could shatter! Parker, Swope, and Baker state that

"Although intent is a necessary component of unethical actions, professionals rarely can legitimately claim that they harmed someone unintentionally; they are expected to know what is ethical and what is not" [10]. This unethical action in turn could be interpreted by students as acceptable behavior since the faculty member is the "professional" role model the student associates with the IS profession.

One of Cialdini's [15] social-psychological principles described in his text, discusses "Authority" which points out that people in authority help shape our behavior. To any parent or teacher this is something seen every day. The authority figure's opinion is viewed as correct and influences the student's judgements of what constitutes sound ethical behavior. Of course, as Cialdini suggests, this authority figure should be an expert and trustworthy. Thus, the faculty member as not only a resource but also as a role model must be more than just a symbol. The faculty member should openly practice what he/she preaches.

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To ensure that the faculty member exhibits sound ethical behavior the following areas should be looked at:

* Ethical student/teacher relationships as well as teacher/teacher relationships

* Deal consistently and fairly with all students

* Maintain confidentiality of student information

* Discuss with students ethical standards expected for a particular course and curriculum

* Follow the letter of the law when it comes to hardware and software use and abuse

Remember, the faculty member must always exhibit the principles he or she purports to stand for.

INFORMATION SYSTEMS ETHICAL CODES/STANDARDS OF CONDUCT

Since most professions adhere to established codes or standards of professional conduct discussion of these codes should be introduced into the course from day one. Unfortunately, this is probably not the case. Reviewing DPMA's and/or ACM's ethical standards, the faculty member could easily invite stimulating discussion in the classroom. Some of the books already mentioned have lengthy and in-depth discussions of what the standards mean and examples/case studies which apply these standards. It wouldn't be unrealistic to ask students to "adapt" a set of these standards to the particular IS course in the beginning of the semester, thus establishing the ethical standards under which the students will conduct themselves.

CLASS EXERCISES, ASSIGNMENTS, AND READINGS

Cohen and Cornwell [13] believe that "practice with solving morally ambiguous scenarios may accelerate the moral development of our students". Finding exercises, assignments, and readings which aren't dry and boring to the student can be one of the real challenges to incorporating IS professional ethics into the course or curriculum. Some ideas include:

* Team teaching may be a practical solution. DeMichiell [4] suggests that because philosophers might not have an interest in IS technology, and the IS faculty member may not feel comfortable teaching in an area usually oriented toward liberal arts, they should team teach IS ethics.

* Group presentations in which students must take a pro/con stand

on a particular case study and back up their stance with current literature search. Such areas students find particularly interesting include electronic crime, piracy, privacy, and hacking.

* Require students to develop their own case studies from recent newspaper and magazine articles.

* Develop role playing scenarios so students can "feel" the effects of ethically questionable situations.

* Cohen and Cornwell [13, 14] use the scenario method but carry it much further in a five step pedagogy they have validated.

* Have students evaluate scenarios in the same manner found in examples in Parker, Swope, and Baker [10], and then compare their results with the opinions found in the book.

* Use the "Ethics Quiz" which appeared in the Fall, 1989, issue of INFORMATION EXECUTIVE [8]. (See Appendix 1)

* Use the "IS IT ETHICAL?" questionnaire found in Parker, Swope, and Baker [10] to help students formulate their own ethical guidelines. (See Appendix 2)

Of the items just mentioned the Ethics Quiz has proven to be an interesting and discussion provoking exercise. Nine questions are asked with a range of responses from A to D for each question. A guide on how you did explains how your responses tie in with a sense of ethics and what the job requires. It helps the student determine where they fall in the often grey areas of ethical decisions.

There are many other ways to make ethics an exciting and interesting topic in your class. In Parker, Swope, and Baker [10] a somewhat simplified and general set of questions can be used to help your students answer the question "IS IT ETHICAL?," taken from Ethical Conflicts in Information and Computer Science, Technology, and Business.

CONCLUSION

This paper presents a brief introduction and background on the subject of computer ethics. It then suggests methods which can be used to incorporate the topic of professional computer ethics into the IS course. Included are specific exercises, readings, and an ethics quiz. These represent only the tip of the iceberg and are presented to help the IS educator "get started" on the subject of IS professional ethics.

Professional ethics in the Computer Information Systems/Sciences is a developing topic which demands discussion and training in the undergraduate IS curriculum. Today's complicated society and the ever increasing role of IS in all aspects of our society require the IS professional be prepared to make ethical decisions. These decisions have a much farther reach than the individual IS professional and require the IS professional to be prepared to handle responsibilities which impact on society. Industry can present the computer professional with some very unique ethical choices. The IS professional is expected to make the "correct" choice based on professional training. IS educators, as a whole, may be somewhat negligent in providing the necessary education in computer ethics.

Thus, the role of the individual IS faculty member becomes even more important as a result. Teaching computer ethics in the classroom can no longer be considered an optional topic. Society demands that future IS professionals be prepared to analyze the complex problems confronting them and make the proper ethical decisions. It is an obligation of the IS faculty member to help train the student to be prepared for this responsibility. Use of some of the techniques mentioned in this article may help the faculty member meet this obligation.

As a now famous set of commercials by Nike suggest, just do it. Incorporate computer ethics in your IS curriculum now. It's a difficult subject to deal with, however with preparation you can help your students define and understand professional ethics and why they're needed. Involving your students now in this subject area may help them make the best choice later when confronted with a decision which puts their professional computer ethics to the test!

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AUTHOR'S BIOGRAPHY

Dr. Smith is an Assistant Professor in Computer Information Systems, Department of Computer Technology at Purdue University, West Lafayette, Indiana. He received his Ed.D. from Nova University, Ft. Lauderdale, Florida, in Computer Education. His current research interests include computer ethics, computer anxiety, and micro-based COBOL program development. He is also the Book Review Editor for the Journal of Information Systems Education.

APPENDIX 1: AN ETHICS QUIZ

taken from **INFORMATION EXECUTIVE** *with permission*

Ethics has different degrees of importance to the career prospects of different people. To determine if ethics is likely to play an important role in your career, take the following quiz.

1. If my boss asked me to lie to cover one of his mistakes, I would:

   A.   Quit
   B.   Lie
   C.   Say it made me uncomfortable
   D.   Do it this time, but refuse if it became a pattern

2. If I discovered that I had intentionally violated an important regulation, I would:

   A.   File a report acknowledging my mistake
   B.   Wait and see if it was as important a violation as it seemed
   C.   Discuss the situation with my boss
   D.   Try to straighten out the error and talk to my boss if I couldn't

3. If I observed a fellow employee stealing from the company, I would:

   A.   Report the employee
   B.   Keep an eye on the employee
   C.   Ask the employee why he or she did it, and then decide what to do
   D.   Try to make the employee return what he or she stole

4. If I knew my boss and a co-worker were having an affair, I would:

   A.   Transfer to another department
   B.   Ignore it
   C.   Wait to see if the performance of the department was affected
   D.   Talk to my boss to clear the air

5. If a headhunter approached me with an attractive offer, I would:

   A.   Talk it over with my boss before proceeding
   B.   Ask my current employer to beat the outside offer
   C.   Meet with representatives of the outside firm, and talk to my boss if I was serious about leaving
   D.   Ask each employer to make his best offer and take the highest offer

6. If I thought one of my employees had a drug problem, I would:

   A.   Exercise my right to ask the employee to take a drug test
   B.   Wait and see if the employee's performance declines
   C.   If appropriate, talk it over with the employee
   D.   Seek guidance from the personnel department

7. If a fellow employee was having trouble keeping up with his or her work because of family problems I would:

   A.   Try to help by taking up the slack
   B.   Advise him or her to talk to our boss
   C.   Help out for a short while
   D.   Try to talk to a member of the family

8. If a fellow employee was a victim of racial discrimination, I would

   A.   Create a file documenting the problem
   B.   Tell the employee I would provide support if he or she complained
   C.   Complain to a superior likely to be sympathetic
   D.   Advise the person that he might be happier elsewhere

APPENDIX 1: AN ETHICS QUIZ, CONTINUED

9. If I took a job with a competing company, I would

    A.   Never use information from my current job
    B.   Use information from my old job to support my new employer
    C.   Use only general information from my old job
    D.   Seek legal counsel before using questionable information

A GUIDE TO HOW YOU DID ON THE ETHICS QUIZ

* If you answered "A" most often, you have a strong sense of ethics, but tend to be rigid. You will run into ethical conflicts in your career unless you find a very like-minded company.

* If you answered "B" most often, you are too willing to compromise on ethics. You will run into trouble if your job requires you to exercise judgment without clear guidelines.

* If you answered "C" most often, you have a strong sense of ethics balanced with flexibility. You can act ethically and succeed in most organizations, but will leave those that are wholly unethical.

* If you answered "D" most often, you are unwilling to deal directly with ethical conflicts. You will run into trouble when others sense that you avoid hard issues.

APPENDIX 2: "IS IT ETHICAL" QUESTIONNAIRE

*See **Ethical Conflicts in Information and Computer Science, Technology, and Business**, by Parker, D.B., Swope S., and Baker, B.N., for more information [10]*

To be ethical, an action should elicit a positive response to all applicable primary questions below, and a negative response to each clarification that follows the question.

* IS IT HONORABLE?

Is there anyone from whom you would like to hide the action?

* IS IT HONEST?

Does it violate any agreement, actual or implied, or otherwise betray a trust?

* DOES IT AVOID THE POSSIBILITY OF A CONFLICT OF INTEREST?

Are there other considerations that might bias your judgment?

* IS IT WITHIN YOUR AREA OF COMPETENCE?

Is it possible that your best effort will not be adequate?

* IS IT FAIR?

Is it detrimental to the legitimate interests of others?

* IS IT CONSIDERATE?

Will it violate confidentiality or privacy, or otherwise harm anyone or anything?

* IS IT CONSERVATIVE?

Does it unnecessarily squander time or other valuable resources?

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