



ISSN: 1545-679X

Information Systems Education Journal

Volume 8, Number 66

<http://isedj.org/8/66/>

August 5, 2010

In this issue:

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Candace T. Grant

Ryerson University
Toronto, ON, M5B 2K3 Canada

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Recommended Citation: Grant (2010). Successful Engagement of Undergraduate Information Technology Management Students in a Compulsory Course in Ethical Issues in IT in a Large Class Environment. *Information Systems Education Journal*, 8 (66). <http://isedj.org/8/66/>. ISSN: 1545-679X. (A preliminary version appears in *The Proceedings of ISECON 2008*: §2355. ISSN: 1542-7382.)

This issue is on the Internet at <http://isedj.org/8/66/>

The **Information Systems Education Journal** (ISEDJ) is a peer-reviewed academic journal published by the Education Special Interest Group (EDSIG) of the Association of Information Technology Professionals (AITP, Chicago, Illinois). • ISSN: 1545-679X. • First issue: 8 Sep 2003. • Title: Information Systems Education Journal. Variants: IS Education Journal; ISEDJ. • Physical format: online. • Publishing frequency: irregular; as each article is approved, it is published immediately and constitutes a complete separate issue of the current volume. • Single issue price: free. • Subscription address: subscribe@isedj.org. • Subscription price: free. • Electronic access: <http://isedj.org/> • Contact person: Don Colton (editor@isedj.org)

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Successful Engagement of Undergraduate Information Technology Management Students in a Compulsory Course in Ethical Issues in IT in a Large Class Environment

Candace T. Grant

ctgrant@ryerson.ca

Ted Rogers School of Information Technology Management

Ryerson University

Toronto, Ontario, Canada M5B 2K3

Abstract

The inclusion of ethics in business school programs including those focusing on business and Information Technology is seen as an increasingly important issue in curriculum design. This paper describes the planning, development and delivery of such a course in a large IT focused business school. It discusses both course content and teaching methods. The delivery experience clearly demonstrates that successfully engaging students, especially in a large class format, needs attention in both course development and delivery. Key to this engagement is relating the course material to their personal experiences; developing principles and frameworks that will be of value to them in their entry-level jobs; and providing opportunities for discussion and debate to develop their own critical thinking skills and expose them to the divergent perspectives of others.

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1. INTRODUCTION

Many business schools, especially those seeking accreditation, are showing an increasing focus on providing ethics education to students. There are a number of factors driving this. First, following the reporting improprieties at companies such as WorldCom and Parmalat, government oversight bodies, boards of directors and shareholders want not only to improve the awareness of unethical behaviour but also provide structures and guidance on what employees should do when it is discovered. (McDougall 2006).

Another key factor driving the need is the increasing global environment in which companies operate. Companies are not only expanding into other countries with different expectations on what are acceptable business practices, but that, even in home markets, the workforce is sufficiently diverse that each employee's assumptions about

ethical business practices may be different. (Kun Young Chung, Eichenseher et al. 2008)

Further, with the potential for increased litigation, professional bodies, beyond the long established professions, are articulating ethical business practices in the form of codes of conduct and codes of practice and some, such as PMI (the project management professionals) have disciplinary bodies responsible for the oversight and discipline of its members. (PMI 2007)

Ryerson University is a large downtown university in Canada's largest city. With some 25,000 full-time students who study in a wide range of disciplines such as Engineering, Nursing Science, Radio and Television Arts and Business it has a large multicultural base of students who are mainly from the Toronto area and travel to the campus in the centre of the city.

The Ted Rogers School of Management (a business faculty) at Ryerson University, pro-

vides a Bachelor of Commerce degree in four independent schools: Business Management, Hospitality and Tourism Management, Retail Management, and Information Technology Management. This paper reports on the approach to providing Ethics education to the undergraduate students in the Ted Rogers School of Information Technology Management (TRSITM).

As the use of Information Technology spreads and it becomes easier to digitize and disseminate content, our graduates will encounter an increasing number of issues, not only as IT users themselves and in their professional disciplines, but in their management and support of users outside of IT who make use of the technology. As a result, the school provides both a separate compulsory course in ethics in IT as well as embedding ethical discussions in many of the specialty courses, such as a final year elective in IT Consulting Skills and the two-semester capstone experience.

This paper describes the author's experience in developing and delivering the new course, "Information Technology, Ethics and Society" as a compulsory course for 2nd year students to be delivered in the second term of their second year. It has been delivered once in the winter term (January to April 2008) to approximately 200 students – 160 full-time day students and 40 part-time evening students and a second time with revisions to one class of 50 students in the fall term (September to December 2008).

This paper addresses the challenges encountered in engaging a large number of relatively junior students in a compulsory course on the ethical challenges that confront IT professionals. The paper describes the approach to developing and delivering the course. It includes an evaluation of what went well, the lessons learned and an identification of the changes required before the next delivery. It concludes with a summary of the changes made and the impact of those changes.

2. ETHICS IN BUSINESS EDUCATION

Identifying the Need

Increasing globalization, over the last 20 years, raises concerns on doing business in a global environment based on different cul-

tural perspectives. The book "Emerging Global Business Ethics" (Hoffman et al 1994) illustrates the wide range of topics being discussed more than 10 years ago, with sections on global variations in ethical behaviour, legal cases in international ethics, the behaviour of transnational corporations, and the emergence of transnational codes of conduct. More recently we are seeing major challenges arising from the different ways in which countries deal with intellectual property rights e.g.(Duong 2006).

The Project Management Institute, which governs IT professionals under their PMP designation, is concerned about two approaches being considered to address unethical behaviour. Should particular business ethics be developed or should prescriptive governance rules and codes of conduct be implemented? PMI has called for research proposals to investigate the impact this could have at the project delivery level and specifically on project management (Project Management Institute 2008).

University accreditation bodies such as the AACSB (the Association to Advance the Collegiate Schools of Business) in its Report of the Education Task Force to the AACSB's Board of Directors in 2004,(AACSB. 2004) stressed a need to address ethics in management education to better prepare graduates for the issues they will encounter in the workforce. The report says business schools "must encourage students to develop a deep understanding of the myriad challenges surrounding corporate responsibility and corporate governance; provide them with tools for recognizing and responding to ethical issues, both personally and organizationally; and engage them at an individual level through analyses of both positive and negative examples of everyday conduct in business".

Kohlberg (Kohlberg, 1969) individuals profess through six levels in their cognitive moral development from childhood beyond adolescence to mature adulthood and that education and age are factors in that progression. At the higher levels, individuals move from satisfying self-needs to a more conscience or principle driven approach.

There is substantial argument for a separate course focusing on computer ethics. Maner (1996) suggests that computer ethics should be studied as a field in its own right. The

malleability, the complexity, the discreteness of computer technology raises issues that are not encountered in other domains. Moor (1985) says that "just as the steam engine is the powerful resource of the industrial revolution, the logic of the computer is the raw resource of the Computer Revolution" and with it come unique ethical issues. Gotterbarn (1992) defines ethical issues in the software development process that IT professionals should be aware of.

The AACSB Report suggests a number of techniques that can support the development of ethical decision-making skills:

- 1) Develop an understanding of multiple frameworks that can be applied in the decision making process along with the ability to consider the interests and impacts to multiple stakeholders.
- 2) Make use of reflection to reflect on ethical decisions from the student's own perspective.
- 3) Analyze case studies similar to situations students would encounter in the business world.
- 4) Understand one's own values and be prepared to deal with other's conflicting views.
- 5) Understand the challenges that impact moral courage in acting on one's decision.

Developing the Content

A number of authors have shared their experiences in delivering ethics education to IT students. The Lucerne School of Business teaches an elective Business Information Technology course as a one-week seminar. They suggest, "The goal of the seminar is not to give answers to ethical problems but to provide an environment in which students learn to discuss ethical dilemmas and to make their own value judgments". They have found case studies, discussions, student presentations, demonstrations and role-play to be effective techniques to engage the students and provide a good environment to raise issues. Their class size was about 15 (Class, Brischherz et al. 2004).

With respect to specific topics and techniques, Lazaretti investigated the content and approaches in the teaching of computer ethics at universities in Spain and Portugal

and observed that discussion groups, use of press clippings, evaluation of class participation and term papers were the most popular. The most common topics addressed were privacy; misuse of intellectual property; invasive techniques such as hackers, viruses, etc.; codes of ethics and conduct for professionals. (Lazaretti 2005)

A recent study at York University in Toronto provides a profile on the current and anticipated future diversity in Toronto and suggests one way to bridge the cultural gap. Begin with the Golden Rule -- "do unto others as you would have them do unto you" and consider how this is a fundamental basis in seven major religions and the secular context of Kant. The study also suggests the use of role-playing and written scripts to encourage student engagement. (Prince 2006)

Williams defines three objectives in ethics education: increasing awareness, increasing cognitive moral development, and developing the ability to handle complex issues. Increased awareness comes through understanding the ethical consequences of one's actions. For example, developing poorly written and tested code in a medical environment can have life threatening implications for patients, possibly resulting in death. Students should strive to raise their cognitive moral development from an approach that makes decisions based on their own self-interest or following a set of formal rules to make decisions based on their own internalized standards of what is right and wrong. (Williams 2005)

Williams also suggests that an important aspect of handling complex issues is the ability to exercise self-control and follow through on the course of action that an individual has deemed appropriate and to understand what challenges they have to face in acting on their decision. Deciding that an issue is unethical is often the easy part, whereas acting on it is more difficult.

Planning the Delivery

Given the need to deliver the class in a large scale format, a study by Rahanu and Turner, (Rahanu and Turner 2001) provided some observations and challenges in moving a course from a small, highly motivated class to a large compulsory group and that it isn't just a matter of delivering the course to

more students. Appropriate planning is required to maintain the same level of engagement and motivation in larger spaces and where instructor/student interaction is not as frequent. (Rahanu and Turner 2001)

Foster (2004) in her report to Ryerson University to prepare for the Ontario "double cohort" (two years of graduating students would be entering university instead of just one with the removal of grade 13 from the high school curriculum) provided guidance on how to cater for large class sizes (greater than 150 students). Everything takes longer and requires more effort for 150 students than for 30. The instructor should be highly organized and communication and directions need to be crystal clear. Connecting the student with the class is also important and often connecting the student with a group within the class fulfills that objective where connecting with the instructor is not always possible.

Jeffries and Rogerson (2003) also provided some useful insights on developing critical as opposed to factual thinking skills and suggest that when students are actively engaged in discussion, there is a greater likelihood of creative and critical, as opposed to factual thinking. Their examples make use of both synchronous in class discussions as well as asynchronous dialogues through a discussion board such as Blackboard or WebCT. They also cite McKendress (McKendress, Stenning et al. 1997) to note that "learning occurs not only through participation in dialogue but also through observing others participating in it" and that even though students appear not to be participating in online dialogues, they are actually learning through reading the ideas shared by others.

3. DETERMINING THE DELIVERY APPROACH – THE METHODOLOGY

As with any university course, three key areas needed to be developed: the course content, the method of delivery and the method of assessment.

Course Content

Ironically deciding on the course curriculum was the easiest part as there is a significant body of literature and expertise available on the critical ethical issues confronting IT pro-

fessionals today. Four main areas were identified:

- 1) What is "ethics" and what role does it play in the current business and professional environment?
- 2) How do organizations such as corporations, governments, not-for-profits function? What are the ethical issues that can arise, how to identify them and what are various courses of action that one can take to address the situation? What is the role of an IT professional body in promoting ethical behaviours and practices?
- 3) What are the current ethical issues confronting IT professionals today? (For example: freedom of expression, privacy and surveillance, misuse of intellectual property, ethical approaches to software design and development, bridging the digital divide, cybercrime such as hacking, fraud, stalking, libel, ethics and video games, robotics and warfare.)
- 4) How to address the ethical issue: how can students identify an issue, understand the stakeholders, consider options beyond the obvious, and execute on their decisions considering the impacts their decision might have?

In preparing for the course, the author participated in a number of experiences, namely:

- 1) Auditing a small elective Ethics course directed to senior year students.
- 2) Attending a three-day AACSB workshop with experienced educators in teaching Business Ethics at the university level.
- 3) Auditing two large classes at the undergraduate level and reviewing a paper written by the author's school's Marketing department on teaching large classes.
- 4) Working with the University's Learning and Teaching Office to identify some useful delivery and evaluation techniques that would encourage student engagement.

The Ethics in Information Technology Elective

TRISITM had provided a senior elective in Ethics and IT that was typically taken by a small group (30) of its students in their final

year. The course was delivered by the school director, a highly engaging professor with many years of corporate business experience.

In observing his class, it became apparent that as Class suggested (Class, Brischherz et al. 2004): "Ethical education is a personal journey and it is as much about raising awareness of ethical issues as it is about providing a right course of action. And as a result, the delivery approach should focus on engaging the students to interact with the material and encourage the development of their own ethical frameworks".

Experienced Business Ethics Educators Views on the Challenges

AACSB fortunately offered a conference in the fall of 2007, at the University of Richmond in Virginia to support those involved in Ethics Education at the university level. University educators came from across the Americas (North and South) and were involved in both undergraduate and graduate programs.

Several common themes came up in their discussions.

- 1) As ethical education was a personal journey, the students had to engage and interact with the material. This was not easily achievable at the undergraduate level as many students lacked business experience and certainly had no business experience at the senior management level in organizations the level at which most case studies were centered.
- 2) Students often perceived ethics as a dry and difficult subject and struggled through discussions on philosophy or ethical frameworks such as utilitarianism and assignments for which there were not easily determined right answers.
- 3) Student engagement and interaction with the material such as discussions, debates, case studies, and workshops is important and this is becoming more difficult to deliver with the increasing size of classes particularly at the undergraduate level.

Teaching Large Classes of Early University Entrants

In order to understand the dynamics of teaching large classes of 19 to 20 year olds, the author observed a 200+ first year class of TRSITM students in a 2-hour lecture on Introduction to Information Technology. This was followed by and another first year class of Retail Management students in "Issues in Retail Management". A paper written by the Head of the Marketing Department also provided good advice on teaching large classes.

Each of these confirmed the need to be highly structured, highly organized and overly communicative in both course material and in course administration. Students engaged more when there were class activities to which they could relate (e.g. identity theft over the internet) or when marks were assigned for the activity. For example, in the Retail Management class, ten students chosen at random at the end of the class were required to put together questions for next week's pop quiz based on the lecture. Course marks were allocated for submitting the questions. Assignment marks were only allocated to students in class. The class seemed to be full.

The Learning and Teaching Office - Investigating Other Techniques

Ryerson University has a Learning and Teaching Office that provides seminars on various aspects of teaching. Several tutorials proved invaluable, especially those on "Active Learning Strategies", "Using Simulation to Foster Inter-personal Skills Development" and "Assessment Student Learning". One of the Learning and Teaching Office professors invited the author to observe her fourth year Human Resource Management course use Simulations (a form of role playing using actors) to address specific ethically related issues that an HR manager might encounter. Several ideas came from the seminars:

- 1) Emphasis on active learning by limiting the lecture to less than 1 hour of the 3 hours class time and providing an environment for case study analysis.
- 2) Making use of the Simulations to allow students to interact and connect with the actors which provided an opportunity to

- “think on one’s feet” in responding to the often diverse views of stakeholders.
- 3) Tying the assessment to the expected student behaviours of engaging with the material in class time.

4. FINALIZING THE DELIVERY PROCESS

The investigation described above identified three major issues that the delivery process needed to address:

- 1) Students must engage with the material despite the large class size.
- 2) The majority of the students lack of business experience.
- 3) Personal ethical frameworks that can be applied to both general business and IT related ethical issues.

The Need to Engage with the Material Despite the Large Class Size

To maximize the amount of interaction time, the course was structured so that, on a weekly basis, all 160 students attended a common 1 hour session. This was followed by four separate 2-hour workshops each of which catered for 40 students.

The one-hour session was delivered in a lecture format in a large 500-seat theatre with podium and film screen. The purpose of the lecture was to present the course concept for the week, invite guests to speak on a specific ethical issue related to technology or business, and deliver common administrative information to the class as a whole.

A flexible classroom suitable for arranging desks into work groups was provided for each workshop. The purpose of the workshop was to generate engagement with the material in a manner that students could appreciate that others might not have the same views or follow the same problem solving approach. Debates, discussions, presentations, simulations were techniques used in the workshop.

Each workshop built on the materials covered in the lecture with an applied example. For example, in the first workshop, topics such as “Should Euthanasia Be Legal in Canada?” or “Is it Ever Right for One Country to Invade another?” were used to start thinking

about ethical issues and different perspectives of individual group members. To encourage participation, students discussed the issue in groups of five and then a spokesperson(s) shared their views with the class precipitating further discussions and issues raised by the group.

Individuals were then required during the workshop time to write up their own personal view of the issue and submit it electronically by the end of the class. This assignment was designed to enable the student to develop the ethical decision making skills to quickly analyze an issue, consider a number of options and articulate a recommendation which they can defend in a class discussion. No late assignments were accepted, encouraging students to come to the workshop to participate.

Weekly assignments were required before the end of class. Some were individually submitted. Some were submitted in groups. Feedback was provided by the instructor, by another student or by a group of students. Three percent of the final grade was allocated to each of the seven individual assignments.

Students were divided into eight groups of five to make it easy to pair groups for discussions or debates. This also provided a sub-class entity with which students could identify.

The Lack of Business Experience of the Majority of Students

One of the important aspects of the course is to help students develop a decision making process for dealing with ethical issues. Two key areas: understanding stakeholder perspectives and identifying alternative courses of action require the development of critical thinking skills. The University setting provided a good context to discuss ethical issues to which all students could relate. The Ryerson Student Handbook provides a good example of student roles and responsibilities. It also provides examples of policies and ethical frameworks with respect to plagiarism and cheating and understanding stakeholder impact.

In introducing students to ethical issues in Information Technology, it’s important to introduce them to situations they might encounter at junior levels in the organization or

areas of technical support or functional areas of business for which they might have a personal understanding e.g. e-commerce; software piracy, etc.

To support the course two textbooks were used, one theoretical (Reynolds 2007) and one practical (Spinello 2003) along with The Ryerson Student Handbook and various Canadian based materials such as the Charter of Rights and Freedoms; the Freedom of Information and Privacy Protection Act; the Intellectual Property office to supplement Reynolds which is an American based book. Blackboard was used to coordinate the distribution of announcements and materials and to support group discussions.

The Spinello case book provides a good compendium of case studies in IT that cover the major IT related issues such as intellectual property; invasion of privacy, etc. During the course, ten case studies were used. Each group was assigned a case study, presented their analysis, and recommended action to the class.

A second group completed a similar analysis and raised questions to the first group following their presentation. For example, one case involved a high school teacher, in an impoverished school, who was asked, by the principal, to install illegal copies of math tutorial software in the computer lab. There were no funds available to buy additional copies. One group recommended not installing the software due to lack of licenses. Another group pointed out the students would fail the public examinations without it and suggested contacting the vendor to arrange delayed payment while fund raising with local businesses.

Simulations were another technique used to bridge the gap with business experience. Actors were invited to the class to play the role of the primary stakeholder in a case study. Using the above example, an actor played the role of the principal and a pair of students, representing the teacher, met with the principal to present their viewpoint (in this case not to install the software). They could "time out" and discuss the situation between themselves or call on members of their group or other students in the class for help. The simulation emphasized two main things: the perspective of the stakeholder is often different in ways that one does not expect and that one often has to engage in

"on the spot" creative thinking to resolve a deadlock.

Students were also shown the film "The Corporation" (Achbar, Abbott et al. 2003) as an introduction to business, its evolution, business drivers and organizational structure. The film highlights many examples of unethical corporate behavior: pollution of the environment; advertising designed to manipulate children; hiring of child labour and unethical reporting of facts in the media. The film, 120 minutes in length was shown during one of the class workshops.

The Importance of Developing Personal Ethical Frameworks

One of the objective of the course was to make students aware of the ethical issues that can arise in the world of IT and the expectations of the workplace into which they will graduate. The course provided tools on the prevention, detection and enforcement of ethical behaviours. Tools and techniques such as: an ethical decision making process; different ethical frameworks e.g. utilitarian or rights-based or virtue-based approaches; policies such as codes of conduct, privacy and confidentiality agreements or checklists for implementing good IT practices such as security, industrial espionage, software development.

Students kept a personal reflection journal over the semester and were required to write a weekly reflection of 1 to 2 pages, identifying ethical issues they encountered in their everyday life, preferably, but not necessarily, with an IT component. The journal was worth 9% of the term mark and it was "all or nothing" – either 9% for a reasonable effort or 0% for not meeting the requirements.

5. COURSE ASSESSMENT

The course assessment framework was:

- 1) 50% for exams (20% for the mid-term and 30% for the final exam). Exams included multiple choice and essay questions based on a given case study.
- 2) weekly assignments, to be submitted in class, both individual and group, were worth 3% each for a total of 21% (only the top 7 assignment marks out of 9 were counted)

- 3) 9% for the completion of the reflection journal
- 4) 20% for the case presentations: 13% for the presentation and 7% for the case review.

6. THE FIRST DELIVERY EXPERIENCE

The course was delivered to a large class of students and a smaller class of evening students, which in itself raised a different set of issues because most of the evening students had many years of business experience. These different issues will not be discussed further in this paper since its focus is on the large, full time second year students. Here are the key elements of the experience.

The Need to Engage with the Material Despite the Large Class Size

The Workshop: The workshops were well attended with about 85% participation and the same students appeared to be absent from week to week. The good attendance was largely driven by the weekly graded assignments that were delivered in the class environment. The student must be present in class to receive a mark for a group assignment. Key elements of the workshop experience were:

- 1) **The students, overall, engaged in the course materials**, participating in group and class discussions in sharing their ideas and often raising ethical concerns on the course material.

Unfortunately, a workshop size of 40 was too large to ensure that everyone has an opportunity to contribute to discussions and that everyone gets appropriate feedback on their participation. A workshop size of 24 providing six groups of four would have been more advantageous.

- 2) **The students engaged in the case study presentations** – especially the first four that centered on issues of software piracy, freedom of expression, privacy and security. All four case studies were presented in one 2-hour workshop with one group's presentations followed by questions from their reviewing group. The reviewing group's analysis

was usually thorough and they raised thought provoking questions.

The students would have preferred more opportunity for everyone in the workshop to raise questions and engage in more debate and possibly spread the case study presentations over several weeks.

- 3) **Some of the students were quite comfortable in submitting an assignment by the end of the class.** These were students skilled in doing an adequate quick analysis, critical thinking and a written articulation of their points of view. Others were uncomfortable and wanted more time following the class to develop their response.

The point of the exercise was to encourage quick critical thinking. This perhaps may disadvantage the students with a specific learning disability or a lack of confidence in English.

- 4) Despite the indication that managers and supervisors assess and give feedback on the performance of their employees, **some students and student groups were not comfortable in marking and providing feedback on assignments for other individuals.**

Assignments were worth 3% of the grade and most grades ranged between 2 and 2.8 so there was little risk in poorly graded assessments. However, in the case of the larger case studies where marks were worth 13% and marks ranged from 8% to 12%, groups raising concerns on their marks would be considered. Rubrics and guidelines were given but would have benefited from a more detailed discussion on how they should be applied.

The Lecture

The 1-hour session was able to cover the key concepts in each of the chapters of the textbook so that students were aware of the expectations for the exam. Slides were posted following the lecture for reference.

A guest lecturer from the Project Management Institute talked about the ethics of managing projects. She also shared the role

that a code of ethics plays in her IT consulting company.

Throughout the course attendance at the lecture proved to be a challenge, typically 30% of the students attended. This is a common problem at the University.

Students felt that a 9:00 a.m. start time for a class that only lasted an hour was a long way for many to come if this was their only class in the morning (as a commuter school, student journey times often exceeded 1 hour each way).

There was also no incentive to come - there were no marks allocated and as slides were posted, they felt they could catch up on most topics.

The lecture hall was not conducive to engagement - 50 seats filled out of 500 with seating in the middle to the back to be able to see the screen effectively.

- 1) The guest lecture, while it was well received, was also poorly attended, partly due to poor weather conditions and transport delays and perhaps lack of communication that a guest lecturer would be coming.

The Lack of Business Experience of the Majority of Students

Given the experience of the students, a significant effort was expended to compensate for their limited business experience.

- 1) **Focusing on basic ethical issues to which all students could easily relate** made it easier to understand and apply the ethical decision making process, especially the stakeholder analysis and developing different alternatives that could be followed to address the issue. The example of cheating at the university illustrated the role that policies, such as Academic Misconduct or Plagiarism, play in communicating what is acceptable behaviour and the consequences of breaching those policies.
- 2) The Spinello text provided good examples of ethical issues of IT in business. **The case studies were short and easy to follow** and the only drawback was they included little financial informa-

tion that would have been helpful in developing truly realistic options or alternatives. Of the ten case studies chosen, eight of the case studies proved a good basis for discussion. The two that were not suitable, were either too far out of date to be relevant because the issue had been resolved (such as the Napster case) or too complex to be covered in the tight period (such as the AOL/Time Warner merger).

The students would have liked to spend more time on some of the case studies and to investigate the policies that organizations and IT departments would use to reinforce ethical practices such as employee contracts, codes of conduct, ITIL, CMM procedures or privacy/security statements.

- 3) The film "The Corporation" provided an insight into corporations and how the governance is in place to support reporting unethical business practices. It provided a useful, but somewhat biased, view on corporations with few examples of corporations with good business practices.

The students found the film insightful and commented on the bias of the director towards highlighting only the unethical practices of global corporations and his reasons for doing so but indicated that it would have been more worthwhile to provide the film for viewing outside of workshop time and use that time for in class discussion on the film.

- 4) **The students engaged in the simulations and said they learned a lot in interacting real time with the actors who took on the role of the stakeholder.** They were surprised that the stakeholders did not share their perspectives - the principal was more interested in her students' performance and the lack of funding than she was in issues of breaking the law over software piracy. In addition, students realized how quickly they had to come up with other alternatives in order to avoid the ethical issue and that at times, they felt they were at risk of losing their jobs.

More students would have liked to participate however, the learned from watching others engage in the interaction and by providing helpful suggestions.

The Importance of Developing Personal Ethical Frameworks

The students were initially asked to hand write their journal into a spiral bound notebook to make it easier to include articles, pictures, diagrams etc. After three weeks, many students asked if they could submit their journals electronically as their handwriting was out of practice. It was agreed that as long as the journal could be submitted in paper form at the end of the course that handwriting or typing would be acceptable.

Both the mid-term exam and the final exam included multiple choice questions on the theory and essay questions based on ethical analysis on a case study. The journals included reflections on ethical issues they had encountered at the university, in their work environment or in the community at large

Exhibit 1 provides a list of some of the major ethical issues they thought were important. (These were drawn from the exams and the journal.)

Some were issues they personally encountered e.g. the Transit Strike or the issue of Forced Marriages. Others were ones they were aware of, e.g. the University prosecuting a FaceBook study group for plagiarism. And others were ones they had read about in the media such as the use of technology in the workplace.

The students applied the seven-step ethical decision-making process provided in the Reynolds’s textbook throughout the course. The table in Appendix A summarizes how their capabilities improved in each step of the decision making process throughout the course.

Student Feedback

To provide some additional richness, in addition to the comments included earlier in the report, these direct quotes from the student evaluations indicate student responses to the experience:

Exhibit 1: Ethical Questions Raised by Students in Journals and on Final Exam Question

<i>Situation</i>	<i>Ethical Issue/Comment</i>
Transit Strike	Is it ethical for transport workers to go on strike as an essential service? Is it ethical for transport workers to walk off the job at midnight on a Saturday night without giving due notice to their ridership?
Digital Music Download	Many focused on the recording label as the primary stakeholder rather than the artist.
Forced Marriages	Is it right for a man and woman to be forced into a marriage by their parents? (The differentiation between a “forced” and an “arranged marriage” - in an arranged marriage either party can decline.)
Use of technology in the workplace	It is ethical for companies to restrict open access to the internet, social networking sites, msn and personal email in the work environment?
FaceBook	Is it ethical for the university to identify work done in study groups set up in a social networking environment such as FaceBook as cheating?
Cheating on a programming course	Was it ethical for a student to be punished for academic misconduct when he showed his work to another student who then stole it and submitted it as his own?
Open internet access	Is it ethical to share your internet access with friends who are not paying for the service?
Ticketmaster	Is it ethical for the only place that sells tickets for a concert to charge an administration fee?

- 1) “Being in an ITM program equipped with knowledge about the latest technology, we as future IT professionals are faced with many ethical issues and dilemmas, and must be seen as leaders in properly addressing such ethical issues. Having such responsibility along with the skills and knowledge we often find opportuni-

- ties and vulnerabilities to use them to our advantage”.
- 2) Two textbooks were excessive (\$135) and one should include Canadian content.
 - 3) “The first day I set foot into this class I let out a groan at the idea of actually taking an ethics class..well I can say with a sense of humility that I was wrong...I enjoyed the hands-on work and the weekly assignments. I was so happy to be able to write regular essays again!”
 - 4) Excellent change of pace in the business IT program. However I didn’t like the journal idea very much...”

7. LESSONS LEARNED

The first instance of the course went as well as might be expected. While it would have been better if the course could have been piloted on a smaller number of students, the course provided value to most students and provided many insights for what worked well and the areas that need improvement.

In their final course comments, many students indicated they were initially skeptical of an ethics course but by the end, they could see its value. Several students were glad of the opportunity to engage in addressing issues for which there were not necessarily right answers but depended on how well you argued your case.

In an attempt to make the course an engaging experience for students, many techniques were tried that proved to be successful in their own right but in looking at them across the course, there were perhaps too many things included in a short space of time, leaving the students feeling uncomfortable and uncertain.

8. RESULTS FROM THE SECOND DELIVERY

Following the delivery of the first course, several improvements were identified. Each is described below along with the impact of the changes implemented for the second course.

- 1) Provide clearer communication on the value of the lecture an elaboration of the reading materials through examples, films, guest lecturers and presentations

of the concepts to be applied in the workshop. Perhaps introduce some incentive or reward for attendance. Find a smaller lecture theatre and a more conducive time - perhaps just before one of the workshops.

A smaller classroom, a more convenient time, a schedule where the workshop followed the lecture increased the attendance.

- 2) Continue to make effective use of the case studies and the simulations but spread them over the various weeks allowing more time to focus on the issues and the alternative solutions. Include more in-depth discussion on IT related policies and standards that could be used to manage ethical issues.

Instead of four case studies presented in a two-hour workshop, it was reduced to two case studies. All students were required to analyze the case and make a recommendation and sent it ahead of time to a rebuttal group. During the workshop, one group presented, one group rebutted and the class asked questions. There was a marked increase in the energy level, the engagement and the raising of issues.

- 3) Continue to use the Journals, encourage the use of an electronic environment for recording the journals and be a bit more directive in suggesting topics for the students to consider.

A shorter period of time, submitting electronically and being more directed in the questions produced some higher quality reflections on ethical issues in IT.

- 4) Continue with the evaluation structure especially the weekly assignments due at the end of class but give students preparation material so they could do some research before the workshop. Provide equal marks of 10% each to both presenters and reviewers since laterally it appeared that both groups did equal amounts of work.

Increasing the marks for the rebutters to 10% and emphasizing rebutting rather

than critiquing the presentation, resulted in a much better presentation of an alternate perspective.

- 5) Identify some mechanisms that could be included to improve their oral and written communication skills, especially in the areas of communicating their recommendations.

Discussion on argumentation and how to present a good argument, improved the quality of the written work.

9. CONCLUSIONS

In conclusion, it is possible to engage undergraduate IT Management students in a compulsory course in ethical issues in IT, even with a large class of full time 2nd year students. The course needs to be structured in such a way that the students can connect with the material. The course material should relate to their personal experiences, from either the real world or drawing on case studies that relate to the entry-level jobs they can expect to take as summer jobs or internship opportunities. There was a lot of discussion on student responsibilities to stakeholders at the university and how cheating could impact them and the reputation of the university. The Student Handbook provided excellent examples of policy frameworks that can be used to help manage unethical behaviour such as plagiarism.

The students also need to be able to engage with the material through discussions, debates, presentations, simulations, etc. Case studies provided good detailed IT related examples of situations that could occur in the workplace that provided a realistic basis for applying an ethical decision-making process and creative thinking in identifying alternatives that could help avoid ethical behavior.

The students need to see value in the course, especially on how it will help them to get a job or progress in a career. Developing principles and frameworks for use in the business world such as codes of conduct, non-disclosure agreements, employee contracts, guidelines on use of technology are deliverables they can take away to the places of work.

10. REFERENCES

- AACSB. (2004). Ethics and Education in Business Schools. Report of the Ethics Education Task Force to AACSB's International's Board of Directors. AACSB. St. Louis, MO, AACSB The Association to Advance Collegiate Schools of Business.
- Achbar, M., J. Abbott, et al. (2003). "The Corporation". Canada: 120 minutes.
- Class, C., B. Brischherz, et al. (2004). Methods in Teaching Ethics to Students of Business Information Technology. 33 International Symposium IGIP ASEE, Fribourg Switzerland.
- Duong, C. M. (2006). "Intellectual Property rights Protection Weak in China, U.S. Says Commerce's Israel, USTR's Stratford says better local enforcement needed". USInfo.State.Gov.
- Foster, M. K. (2004). "Enhancing Teaching Practice in the School of Business Management". Toronto, Canada, Ryerson University: 48.
- Gotterbarn, Don. (1992). The Use and Abuse of Computer Ethics. *Journal of Systems and Software*, 17(1).
- Hoffman et al (1994). Emerging Global Business Ethics. Ninth Conference on Business Ethics, Bentley College, Quorum Books, Westport, CT.
- Jeffries, P. and S. Rogerson (2003). "Using Asynchronous Computer Conferencing to Support the Teaching of Computing and Ethics." Annals of Cases on Information Technology: 2003: 370.
- Kohlberg, L. (1969). Stage and Sequence: The Cognitive-Developmental Approach to Socialization. In *Handbook of Socialization Theory and Research*. Chicago: Rand McNally and Co.
- Kun Young Chung, J. Eichenseher, et al. (2008). "Ethical Perceptions of Business Students: Differences Between East Asia and the USA and Among "Confucian" Cultures." Journal of Business Ethics 79(1-2): 121-132.
- Lazaretti, A. (2005). "Teaching Computer Ethics at Spain and Portugal Universities." The Ethicomp E-Journal 1.

- Manner, W. (1996) "Unique Ethical Problems in Information Technology". Science and Engineering Ethics. **2** (2).
- McDougall, P. (2006). Money, Power and Principle. Information Week. **April**: 20-22,24.
- McKendress, J., K. Stenning, et al. (1997). Why observing a dialogue may benefit learning: The vicarious learner. PEG '97, Sozopol, Bulgaria.
- PMI (2007). Project Management Institute Code of Ethics and Professional Conduct, PMI.
- Prince, R. H. (2006). "Teaching Engineering Ethics using Role-Playing in a Culturally Diverse Student Group." Science and Engineering Ethics **12**(2).
- Project Management Institute (2008). Ethics and Corporate Governance in Project Management (Public and Private) - request for research proposal.
- Rahanu, H. and E. Turner (2001). Using a Distance Learning Approach Applicable to Teaching Ethics to Business and Computer Science Students. Ethicomp 2001, Gdansk, Poland.
- Reynolds, G. (2007). Ethics in Information Technology, Thomson.
- Spinello, R. (2003). Case Studies Information Technology Ethics. Upper Saddle River, NJ, Prentice Hall.
- Williams, S. D. (2005). "Yes, you can teach business ethics; a review and research agenda." Journal of Leadership and Organizational Studies Winter 2005.

APPENDIX A

How ethical decision making capabilities improved throughout the course.

Ethical Decision Making Component	Initially	End of Course
Identifying the ethical issue, get the facts.	Good at identifying a straightforward ethical issue.	Improved in assessing the facts to articulate more complex ethical issue.
Identify stakeholders and their positions	Poor at identifying the stakeholders beyond the obvious 1 or 2 primary stakeholders.	Overall improvement in identifying secondary stakeholders. Often missed the primary stakeholder if it was an ethical issue in which they were involved.
Consider the consequences of your decision, especially on the stakeholders.	Good at identifying the problems that would arise in not addressing the ethical issue.	Continued favourably.
Take various guidelines and principles into account	Good at using the ethical frameworks such as utilitarian, virtue, etc.	Improved in making use of other frameworks such as codes of conduct, policies, etc.
Develop alternatives and evaluate them	Poor at identifying more than 2 options: the on/off situation. To do this or not to do this.	Improved in the creativity of the options identified. More were identified although not necessarily of greater quality.
Make a decision	Weak in articulating the reasons to support their recommendation, either orally or in written form using principles or frameworks to support them.	Improved during the course as they became familiar with ethical frameworks and techniques such as codes of conduct, policies, etc. Oral and verbal communication skills improved.
Evaluate the results of your decision	Not always easy to see the impact of their recommendation on the stakeholder.	Improved through the simulations of seeing the impact of their recommendations through the eyes of a stakeholder.