

The Teaching of Ethical Principles to Tertiary Level Students in Hong Kong

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Abstract

As teachers in the discipline of information systems, we have the responsibility and the resources to train people to become computer literate. With increasing knowledge and use of computers, professionals and users alike have to deal with ever more complex ethical dilemmas involving computers. A number of questions thus arise. How should we teach computer ethics? Is ethics, computer or otherwise, governed or influenced by environment and culture? This paper discusses some issues concerning computer ethics highlighted by interviews conducted with some tertiary level students.

1. INTRODUCTION

Information technology (IT) has proliferated in many walks of life, and the success of many businesses today depends on people who are computer literate. Many colleges and universities both in Hong Kong and overseas, with the intention of making their graduates computer literate and thus more marketable, introduce courses in their curricula to provide knowledge of computer and information technology to undergraduates and postgraduates. As society depends more and more on computers, it is also increasingly concerned with computer ethics and related issues such as software copying, unauthorised access and use of computer systems, and privacy. As teachers in the discipline of information systems, we can indeed help people become computer literate; thus it must also be our responsibility to make our students aware of the ethical implications and the associated responsibilities a computer user must inevitably bear.

The Department of Information Systems (IS) of the City Polytechnic of Hong Kong (CPHK) has the responsibility of teaching introductory courses (or modules, as they are called in CPHK) in information systems and data processing to more than one thousand students each academic year. The author is a lecturer of the IS Department, who has been involved in the teaching of similar modules for over two years. In any of these modules, the topics of computer ethics and related issues are usually taught and discussed in the final lecture and tutorial at the end of a semester of thirteen lectures and tutorials. The idea is that by that time, students should have learned all the fundamentals about computer and information systems and should be made aware of the associated social concerns and matters. Experience has shown that this is not an easy topic to teach since most of the students are either unaware of or uninterested in matters involving computer ethics. Out of interest, the author conducted interviews with randomly selected groups of students to find out what they consider ethical behaviour is and what it is not. It is hoped that these interviews will help to highlight specific issues which can help to

enhance teaching and discussion. This paper will discuss the term "computer ethics", the findings of the interviews will be presented and issues related to the teaching of ethics principles to tertiary level students will also be deliberated.

2. WHAT IS COMPUTER ETHICS?

According to Kallman and Grillo [4], "Ethics is the practice of making a principled choice between right and wrong". Ethics is also defined as "the rules of conduct recognised in respect to a particular class of human actions" [1]. From childhood, we have been taught by our parents and teachers that a certain kind of behaviour, the right kind, is acceptable to society, and the other, the wrong kind, is unacceptable to, or even punishable by, society. As responsible human beings, we have to make the right choices and do the right things according to ethical principles. Thus, facing ethical dilemmas and making ethical decisions are by no means new concepts. "Computer ethics" is ethics regarding computer and information technology. Is computer ethics different from regular ethics? The literature [1,2,3,4,5] suggests that there is no distinct difference, but rather the proliferation of use and capabilities of computers often create a special character to problems of computer ethics. Advancements in IT have led to the re-evaluation of ethical principles and practices [2], and the amazing capabilities of computers present new ethical challenges [4]. Society has not had sufficient time and experience to develop appropriate ethical concepts, since computer science and technology have only existed for about 30 years and they have been and still are rapidly advancing. Moreover, data communications take place without personal contact, changing relationships between people. Information held in electronic, magnetic and optical form is more prone to unauthorised alteration and access, and is far more fragile than information held on paper. Hence, it is not surprising that computer users, inevitably, expend considerable effort in protecting the integrity, confidentiality and availability of information stored on computers, rather than exerting their energy in tackling ethical matters [2,4].

As computers become more widespread and essential in human activities, so there are changes in the way businesses are conducted and the patterns people follow in their everyday lives. Society is increasingly concerned about computer ethics and the difference between what is right, what is wrong, what is acceptable and what is criminal [6]. The computer professionals, however, have two major difficulties in establishing a binding set of moral rules and ethics [3]. Firstly, as a relatively young field, the computer profession has had neither the time nor the organisational capacity. Secondly, and more seriously, computer usage goes beyond the profession. As more people become computer literate, more people who are not bound by any professional code of ethics are using computers. As a computing educator charged with the responsibility of helping and equipped with the resources to enable more people become computer literate, the concern is not so much with the abilities of the students to know, use, understand and appreciate the computer. Rather, the issue is how should we teach them so that they are aware of the ethical dilemmas that they will be facing with increasing computer use? Dilemmas such as making a pirated copy of other people's programs, keeping personal data of other people for profit, or keeping personal data without the consent of the individuals concerned, and balancing society's "need to know" and the individual's "right to privacy". More importantly, how should we teach them such that the decisions they make will be based on sound ethical principles?

3. THE INTERVIEWS WITH STUDENTS

Four ten-member groups of students, two groups at postgraduate level, the other two at undergraduate level were interviewed to find out their ideas and understanding of ethical principles on three issues of interest:

- software piracy;
- the transfer of personal data for commercial use;
- the retention of personal data by the state for national security purposes.

The postgraduate students are studying on a part-time management development programme. They all have full-time employment and many of them have direct or indirect use of computers in their daily jobs. The undergraduates are final year students of the degree course Bachelor of Arts in Information Systems (BAIS) and so belong to the new breed of information systems professionals who will hopefully bridge the gap between computer applications and business functions [7]. The interviews were conducted during normal tutorial sessions, with the atmosphere and discussion that are usual in tutorial classes.

On the matter of software piracy, the opinions of both the postgraduate and the undergraduate students are very similar. Not a single student feels that duplicating software for private use is wrong or unethical. As far as they are concerned, the copied software is not used for monetary gains, they are definitely not stealing, they are only using the software to learn to use the computer. As long as a properly purchased copy is owned by their companies or the Polytechnic, making extra copies for practice at home is totally acceptable. Had they had to pay for the software, they would not have bothered to use it at all, thus the copyright holder of the software is not losing anything. They perceive that the copyright holder may even benefit from this situation. As the students become more familiar with the software through private use, they may recommend it to their companies which will definitely purchase proper copies, thus boosting sales of the software. It is particularly difficult to present any counter argument because the students insist that as long as no money is involved with the pirated copies, using them privately is moral, ethical and perfectly acceptable.

Hong Kong is an important financial, commercial and industrial centre in the rapidly developing Far East region and information technology (IT) is used extensively in many businesses. If the personal data of an individual are stored in the computer system of one firm, the chances are that these data will be transferred, duplicated and stored on computer systems of firms in related or other businesses. As data protection legislation is not yet in place in Hong Kong [8], individuals have

no way of checking whether their data are held in computer files or whether the data are correct. Furthermore, businesses can transfer and exchange personal data for profits without the consent of the individuals involved. In fact, the individuals do not have to be informed at all that their data are on computers. This situation was described and put to the students for discussion. The reactions to this matter vary between postgraduate and undergraduate students. The postgraduates unanimously find this situation unacceptable: businesses making profits out of individuals in this way is unethical. Individuals do not benefit from this at all; in fact they may be harmed as the data may be incorrect or inaccurate. At the very least, some students complained that they have been inundated by "junk mail" from firms they have never heard of, and wonder how these firms got their details. The core feeling is that if businesses achieve monetary gains from such ventures, then individuals, at the very least, should be informed. The undergraduates have a different point of view. If business is to prosper, then the free flow of data, personal or otherwise, must be allowed. If any restrictions are to be placed on this free transfer, they should be minimal. They do believe, however, that individuals should be made aware of this situation. As for the "junk mail", some students suggested that it is an enhancement of their social status that their names actually got onto the mailing lists of some firms. This response is totally unexpected.

In Hong Kong, people who can legally live and work here have to carry their Hong Kong Identity Cards (HKID) with them at all times wherever they are within the territory. The Royal Hong Kong Police Force is empowered to stop and demand the HKID from anyone in the street. From an HKID, the personal data of any individual can be quickly and easily verified by computers. The rationale behind such measures is that illegal immigrants (mostly economic migrants from less prosperous regions of Asia) can be swiftly identified and removed from the territory. The retention and use of personal data of its citizens on computers by any country inevitably has serious ethical implications. As the interviewees are tertiary level students, some of whom are postgraduates, they are likely to be among the most

highly educated citizens of Hong Kong, thus their ideas and opinions on this matter are of significant interest. Again both the postgraduates and undergraduates expressed similar opinions. "The ends justify the means" is the predominant view. According to the students, in order to maintain law and order in Hong Kong and to assure continuous prosperity, the problem of illegal immigrants must be dealt with effectively and efficiently. If this means that everyone has to carry his/her HKID, and has his/her personal data stored on computers, so be it. For the good of the community, they are prepared to accept and comply with such measures. Some of the students suggested that it may be due to the intrinsic culture of Chinese people to obey and follow rules of the government, or it may be the effect of colonialism that the people of Hong Kong, in general, do not consider this measure as a serious erosion of their privacy or human rights.

4. DISCUSSION AND CONCLUSIONS

It is difficult to categorically state that the ethics of the students, as described above, are wrong. In the current environment and culture of Hong Kong, it is considered honourable to follow rules and regulations and to make complaints or disgruntled statements as little as possible. Although we know that it is unethical to copy others' programs without their permission, whether it is for private or business use, the students argued convincingly that nobody is hurt or losing anything, so how can it be wrong? These are very entrenched beliefs and attitudes which will take a substantial amount of time to alter. The difference in opinion between the postgraduates and undergraduates on the issue of "junk mail" indicates a rather mindless trend on the undergraduates: improved "perceived" social status is seen to be good. Yet some people prefer to maintain a low profile and hence may prefer to reduce their "perceived" social status. It may also indicate immaturity of the undergraduates that they appreciate any increase in social status, no matter where it comes from.

It seems that the current teaching pattern of spending one lecture and one tutorial on ethical issues, although stimulating in nature, is not adequate in helping the students to establish sound ethical principles or even just to change their current beliefs and attitudes towards the issues. It may be worth integrating ethical principles into the subject matter of the computer course, making students progressively aware of computer ethics as the course continues. Of course doing this means that major revisions in the organisation and presentation of the materials of the course are necessary. This will involve expenses of both considerable time and energy. However, it will be worth the effort because computer educators do have the special responsibility for ensuring that future generations of computer professionals and users are aware of the social problems caused by computers and the ethical conflicts these professional and users will face [3]. Furthermore, we should not be merely training technicians, but articulate information technologists. These technologists should be endowed with communication skills, interpersonal skills and should possess an appreciation of the social and ethical implications of information technology [3].

One direction of research which may help to tackle the problem of teaching ethical principles will be to develop a comprehensive questionnaire with the aim of accurately recording and measuring the students beliefs and understanding of ethical principles and how they apply such principles to make ethical decisions or judgements. The questionnaire can be distributed to students of different races, backgrounds and cultures so that a comparison can be made to help us further in our enhancement of teaching.

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5. REFERENCES

- [1] Johnson, D.W. (1984) *Computer Ethics: A Guide for the New Age*, The Brethren Press.
- [2] Parker, D.B., Swope, S. & Baker, B.N. (1990) *Ethical Conflicts in Information and Computer Science, Technology, and Business*, QED Information Sciences Inc.
- [3] Forester, T. & Morrison, P. (1991) *Computer Ethics: Cautionary Tales and Ethical Dilemmas in Computing*, The Press: Cambridge, Mass.
- [4] Kallman, E.A & Grillo, J.P. (1993) *Ethical Decision Making and Information Technology: An Introduction with Cases*, Mitchell McGraw-Hill.
- [5] Johnson, D.G. (1985) *Computer Ethics*, Prentice-Hall Inc.
- [6] Shelly, G.B., Cashman, T.J., Waggoner, G.A. & Waggoner, W.C. (1994) *Complete Computer Concepts and Windows Applications*, Boyd & Fraser Publishing Company.
- [7] Wong, E.Y.W., Jordan, E. & Chamberlain, D.M. (1992) *The IFIP/BCS Information Systems Curriculum: Its Contribution to an Undergraduate Programme in Hong Kong*, Proceedings of the 5th UK Conference on Information Systems Teaching: Improving the Practice 92, 139-143, 2-4 September.
- [8] Wong, E.Y.W. (1992) Issues Related to Data Protection Legislation in Hong Kong, *Proceedings of the Singapore ICCS/ISITA '92 Conference*, 253-256, 16-20 November.