

7 . WHY INFORMATION ETHICS EDUCATION FAILS

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ABSTRACT

So-called 'information ethics education' at Japanese universities falls far short of expectation. This is partly because we do not have clear enough idea what to cover, but also reflects some basic cultural and philosophical confusion. We argue that we need to discuss information risk management rather than trying to formulate what information ethics is. Instructors equipped with all the necessary background expertise are severely lacking, and that creates a bootstrapping problem for teacher education. We propose simulated network emergency exercises for familiarizing future teachers with potential risks of the Internet.

Keywords

**Higher Education, Teacher Education, Educational Management,
Case studies, Culture, Electronic Mail(E-Mail), Literacy**

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1. Introduction

In this article, we discuss three reasons why information ethics education in Japan is still something to be worked out and for several years to come it will remain a complete failure. First, this term is a misnomer and its contents are poorly defined at best. Second, higher education is not the right place to teach basic rules of human interaction while elementary and intermediate schools are not well prepared for the kind of computer literacy education that are required to prepare the generation to live in the next millennia. Third, there are very few professors, teachers and instructors equipped with all the necessary background expertise to handle the course materials required. We go on to propose several strategies for a successful course and curriculum design for what is broadly, and perhaps wrongly, covered by this term. First, we need to provide the students with a precise understanding of the underlying ethical principles and detailed technical knowledge of the information society we are going to spend the rest of our lives. Second, we then need to consider how to bring together researchers and educators in various related fields to discuss and formulate what should be taught in this subject matter in elementary, intermediate and higher levels of formal education. Third, we must consider how to provide teachers at appropriate levels with necessary background knowledge.

2. Why Information Ethics Education Fails At University

Despite the widening awareness that ethics is an integral part of information literacy education, few educational institutions in Japan can be said to be quite successful in implementing such education. There is little consensus, if any, as to what the actual contents should be of the information ethics education. Very few teachers engaged in information/computer/multimedia literacy education is equipped with all the necessary background information such as technical details of the digital networks, its socio-cultural and economic implications and its legal ramifications. (Tatsumi, et. al. 1996; Harada, 1996)

2.1 A case study

Novice network users cause a wide variety of confusions and troubles. Most computer primer courses at the university level today incorporate some kind of information ethics instruction. This section will summarize the findings by Yokoyama et. al. (1998) on how students at Tokyo Gakuji Daigaku viewed various related issues.

Table 1 Facts on differences at information ethics education

<i>Question</i>	good		bad	
	<i>before</i>	<i>after</i>	<i>before</i>	<i>after</i>
1. make passwords out of telephone numbers	31%	0%	69%	100%
2. share an account with others	67%	26%	33%	74%

<i>Question</i>	OK		not OK	
	<i>before</i>	<i>after</i>	<i>before</i>	<i>after</i>
3. duplicate magazine photographs	92%	97%	8%	3%
4. use images from TV program	67%	86%	33%	14%
5. use photographs of celebrity	46%	91%	54%	9%

Table 1 suggests that the course material had good effects on how students control and guard their own passwords. Questions 1 and 2 shows that most of the students have a good understanding in the need for authentication and the potential risk of tampering by crackers.

While students say, in answers to question 1, that they wouldn't use copyrighted programs without authorization, in answers to questions 3, 4 and 5, it is shown that most students tend to be carefree and careless concerning copyright and privacy. It seems that the students tend to think that materials that have been broadcast or published can be freely reused. Such tendency may be rooted in the technical ease with which digital material can be duplicated.

The basic ethical principle of the Internet is to respects the rights and property of other network users. What constitutes inalienable human rights on the Internet or how to define property in the digital world is yet to be resolved. And this case study shows that teaching students technical or legal issues does not suffice to change how they behave.

2.2 *Why information ethics education is an issue now*

With the advent of WWW, the Internet population showed an unprecedented explosion, and universities in Japan are responding to the students' demand by adding more and more Internet-accessible machines. Here at Waseda University, with something like 50,000 students and 1,500 full-time faculty members, we have more than 6,000 Internet-connected personal computers and workstations, at least

half of which are available for students in general. User accounts for Internet mail/netnews usage, originally issued upon request basis for a handful of users, now exceeds 48,000, almost every member of the entire university will have such an account. Needless to say, this is not a situation unique to particular universities in Japan, nor is it limited to this country or that.

This catastrophic growth of network users in Japanese universities resulted in various confusions in the network usage, and administrators and faculty members are becoming more and more aware that education in 'information ethics' is at least as important as, and probably more important than, guidance and instructions in the use of hardware and software of computer networks.

2.3 *Connotation of the term 'ethics'*

According to the on-line version of the Webster's dictionary, the term ethics means something like the following:

1: the discipline dealing with what is good and bad and with moral duty and obligation, 2a: a set of moral principles or values, 2b: a theory or system of moral values, 2c: the principles of conduct governing an individual or a group

When we talk about 'Ethics', Japanese people in general feel we are discussing either highly moral standards that are completely unrelated to our daily life or historical discussions of philosophers who have argued for various ideas decades, centuries or millennia ago that are unrelated to our modern present-day life. One particular problem in the Japanese intermediate education is that philosophy and ethics are taught as a rote memory practice of various sequences of trivial historical events such as which philosopher in the European history wrote which pieces of work at what year rather than as reading and discussing these writings in relation to the students' everyday life.

There is an additional confusion in the discussion since the Japanese language counterpart of the English word 'ethics' does not clearly distinguish between ethical principle and ethical judgments. For instance, when discussing information ethics, knowledgeable and intelligent people respond differently and argue among themselves in unreasonable terms regarding whether information ethics is different from our daily ethics. All we have to do to avoid unnecessary terminological bickering is to be careful not to confuse ethical principles and ethical judgments. Judgments on particular action, such as sending a file of a particular size over a particular network configuration, may change when available resources change. It may have been regarded offensive to send an e-mail message of 500kb at some time, but it may become OK in the near future to send an e-mail message with attached 10MB images. Ethical principles that pertain, not to send a file that would disrupt your server, the intervening networks, and your recipients' machine, which in turn is an application of the Golden Rule, however, does not change. In this respect, we may say that the ethical principles of information society is, or should be, no different from the rest of the world and history, but the ethical judgments of particular actions must take into consideration various social and technical aspects of the particular system that the action takes place in.

Another source for potential confusion in the discussion is that information ethics used to refer to professional code of conduct for Information Technology experts, while what we are considering here is more of a matter for every consumer of 'information product, hardware, software or contents'. For instance, when discussing copyright protection in computer courses, all we had to do was to stress that software products in general are copyrighted, and piracy may result in civil liability and criminal prosecution. In the world of WWW, where every private person can publish whatever she/he intends, we need to stress that almost anything that can be distributed on-line are copyrighted, and an act of uploading a file that contains materials that you did not make for yourself in its entirety may be considered to constitute an act of copyright infringement. Thus, what we discuss here in this note is more of consumer education rather than professional education.

2.4 *What people expect of information ethics education*

Despite the forgoing discussion, what people expect of information ethics education is everything that does not fall under hardware or software instruction. Computer centers do not want the students to bring in food or drinks and smoking is not allowed. Machines should be logged off or shut down before switching off for security and maintenance reasons. Waste printouts should not be left over around the printers. Pagers and mobile telephones should be shut off during class or inside a terminal room. E-mail messages should contain signatures not exceeding certain lines. Transfers of files exceeding certain sizes should be refrained from during the daytime. All these good manners and etiquette are regarded as matters to be taught by the computing center or in the computer literacy education, and through lack of a better place, they tend to be placed under the category of information ethics. But are they?

If you use a toilet, you are supposed to flush before leaving. Good citizens are not supposed to litter and environment-conscious consumers are supposed to recycle. These are again applications of the Golden Rule, but most people would never dream of including them as part of formal university education. If you go to a movie theater or a concert hall, you will be asked not to bring in food or drinks and refrain from smoking, and in recent years, they ask the audience to switch off the pagers and mobile telephones. These are matters of house policies and common decency.

If you use a foul language, your parents used to scold you in various ways depending on the culture. Here we may have a slightly different situation from our old worldly existence, since our communication was limited among people existing in physical proximity, so that more often than not, agents participating in a conversation or those overhearing them shared a greater part of their common sense. On the digital network, such presupposition cannot hold. People participating in the global network should always be aware that what he takes as common sense may be heresay to some others. What he considers foul may be neat to some others.

This may suggest that we have a real new agenda for the information ethics, but the guiding principle behind the ethical judgment is again the Golden Rule. (The on-line version of the Webster's dictionary has that Golden Rule is 'a rule of ethical conduct referring to Mt 7:12 and Lk 6:31 and stating that one should do to others as he would have others do to him.')

What is new is the understanding that the world today is connected in a different way than the world before the Internet, or the pagers and mobile telephones, or for that matter, telephone and telegraphs. Digital networks brought the worlds together in virtual proximity, so that anyone engaged in network communication must bear in mind that he is participating in a cross-cultural global communication.

2.5 *Who can teach such subject matters?*

Very often, computer literacy education in Japanese universities today is conducted by people in the computer science departments or related fields. With limited exceptions, such people are not equipped with the kind of understanding necessary to teach information ethics. As a result, those actually engaged in computer literacy education, or for expert computer science education for that matter, are quite reluctant to cover matters relating to rules, regulations, etiquette and ethics during their instructions.

Given that citizens/consumers of the information network society is just emerging, that those learning to use computers and networks as daily clerical and communications media are just graduating from universities, that these young generations will form the founding ancestors of the networked world tomorrow, situation today is critically serious in this matter.

On the other hand, experts on ethical study in Japan tend to prefer philological, historical and philosophical discussions the relevance of which is not immediately understandable to the common students. Experts in legal study are minutely segmented, and those working on copyright issues may prefer not to discuss trade mark or patent litigation.

3. **Three Ingredients Of Information Risk Management**

3.1 *What should be covered by information ethics education*

Ethical judgments on particular action depend on the precise understanding of social and technical aspect of that action. And the implication of such actions change depending on the technical infrastructure of the environment such as network bandwidth, hardware and software configuration, rules and regulations, user contracts and so on. Therefore understanding of such subject matter is the prerequisite for adequate judgments. A course on information ethics must contain:

- discussion of historical and contemporary ethical ideas
- ethical codes of various professions
- social and technical analysis of the present day world
- information risk management
- discussions of rules, regulations, laws and conventions
- discussions of e-mail manners and etiquette
- how human rights have been neglected

With the introduction of such a course in elementary and middle education, we expect that students' lives will become safer, sounder and more efficient. The 3 Rs of E-Mail (Diane, 1996) is a good candidate textbook for such a course at the college level. We have to offer students how to deal with information risks that we encounter in this digitally networked society of today, where freedom with responsibility and fairness and equal opportunity are the key ingredients.

3.2 *Ethical principles of the present world*

A civilized person in the global communications network today should be aware of his responsibility, should be fair and should be law-abiding as a consumer of information resources. The global communications network brings together parties in different countries, different regions, different seasons and different time zones, where language, culture, religion, economic conditions and common sense are world apart.

Formal education conducted by national or standardized schools more often than not emphasized giving a standardized package of knowledge to children, so that adults can participate in the local community with the shared common sense. The degree with which standardization and diversity are enforced or allowed may differ from country to country or from time to time, but the whole point of literacy education is to enable people to communication with each other in an efficient way. A new challenge that we face today is how to teach children to communicate with people who are brought up in a different ethno-cultural, socio-technological and econo-legal background.

3.3 *Science and technology behind information networks*

Understanding protocols of TCP/IP helps us to understand how e-mail sent while the mail exchanger server is down does not fail and so does not return immediately. If you want to avoid 'Information Risk', it would be better for you to understand mathematical logic and programming, processing speed of computers, memory storage, transfer of packets, character codes, protocols and formats. Also the standards of industrial products are necessary for cooperative exchange in world-wide communication. Among them we note: International and industrial standards such as keyboard layouts, standards of paper sizes, and the contribution and

significance of national standards such as JIS and international standards such as ISO.

3.4 *Legal issues: rules and regulations*

Rules and regulations that we make, know, need and obey are consequences of applications of principles to technology and standards. Therefore, if some principle differ at different parts of the world or in different social systems, rules, and regulations differ accordingly. For example, in a strict communist society, people do not possess private property. If some technology or standard will change in future, these rules and regulations will change too.

4. **Bootstrapping Problem**

4.1 *Educating future teachers*

Given the diversity and the expertise required for teachers of this kind of subject matter, we see how difficult it would be to implement such ideas immediately. On the other hand, the explosive growth of network users that we see demonstrates that we cannot wait for a generation until such information risk management courses are taught at the elementary or intermediate schools. Therefore, we must seek a way to bring up teachers who are ready to handle such subject matter, on the one hand, and re-educate present teachers to equip them with necessary prerequisites.

In ordinary elementary schools and high schools, only limited numbers of computer or network literate teachers are available. National and local government and school boards are trying to instruct teachers unfamiliar with computers how to handle word processing software, e-mail handler, and WWW browsers. Although such guidance is necessary, what is really needed is that teachers become aware of various potential risks of computer and network usage. Letting the participants into simulated emergency situations is a good way to familiarize them to the important issues of information risk management.

4.2 *Emergency exercises*

Although not all automobile drivers are trained to cope with emergency situations, dealing with simulated emergency situations is an integral part of an airplane pilot training. Similarly, although it may not be necessary for all students to be exposed to simulated network emergency, such exposure is an integral part of teachers engaged in education in a networked environment. As examples of such exercises, we can list something like the following.

- excessive traffic or mail loss caused by machine failure
- illegal entry from outside
- violation of copyright and libel/defamation on WWW by students
- publication of outside obscene material via WWW by students

- unwanted disclosure of personal information
- leaking sensitive information by colleagues
- Internet money game or SPAM
- false reports from outside parties of students' misconduct

5. Conclusion

In this article, we have discussed why information ethics fails at universities and elsewhere in the school system and have proposed new designed plan to educate or re-educate teachers who will engage in education of literacy.

It has been shown that the subject of information ethics education at universities or K-12 schools must include principles of the Internet-Society, technology, national and international standards, regulations, rules and laws and ethics. So, we have called the contents of this subject matter information risk management.

In education of information risk management to future school teachers, we proposed that the programs include emergency exercises. In dealing with these emergency exercises, future school teachers will realize potential risks of the Internet at their schools and will learn how to control and manage these risks.

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7. Biography

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