THE RELATIONSHIP BETWEEN TECHNOLOGY AND ETHICS; FROM SOCIETY TO SCHOOLS

Dr. Behiye AKCAY
Istanbul University
Hasan Ali Yucel Faculty of Education
Istanbul, TURKEY

ABSTRACT

The purpose of this study is to discuss the ethical issues in education in terms of teachers, students, schools, and software companies. Recent growth of the internet and World Wide Web allows new developments in the way instructors transfer knowledge to their students.

Technology is a new tool in education that constantly changes and offers new opportunities for teaching and learning. Even so, old habits are hard to change. Typically, the effects of technology are complex, hard to estimate accurately and likely to have different values for different people at different times. Its effects depend upon people's decisions about development and use.

Keywords: **Ethics, technology, education, internet**

INTRODUCTION

We start our lives learning ethics from our parents. Those early lessons stay with us for a very long time if reinforced by society. So what is ethics? It is not the same as morals. It actually describes the character of one's profession or one's religion of practice (Simpson, 2004). During the mid 1970s, a medical teacher and researcher Walter Maner first separated the term "computer ethics" as a branch of philosophy. During the 1980s, schools started using computers.

A decade later, those computers connected to the internet. Not until November 1990 did schools' curricula have any ethical or social applications in regards to the web. These curricula were added because of the Computer Science Accreditation Commission/Computer Science Accreditation Board (CSAC/CSAB) recommendation. According to the Computer Ethics Institute, the curriculum programs should:

- **Not use a computer to harm other people**
- **Not interfere with other people's computer work**
- **Not snoop around in other people's computer files**
- **Not use a computer to steal**
- **Not use a computer to bear false witness**
- **Not copy or use any software for which you have not paid**
- **Not use other people's computer resources without authorization**
- **Not appropriate other people's intellectual output**
- **Always use a computer to respect other people**

Table: 1
Impact of Technology in Terms of Ethical Issues

Ethical Issues	Education	Impact
Privacy & confidentiality Hacking/Spamming Property/Copyright Netiquette Vandalism Access Accuracy	Teachers Students Administration Curriculum	Economy Society

This paper has three main parts: ethical issues, ethics in education and impact of technology as shown in Table: 1.

ETHICAL ISSUES

Privacy/confidentiality

Internet users consider privacy (security) to be one of the important issues. The usage of internet has grown explosively as fast internet connections get cheaper. However, a lot of the internet users (e.g. students) are not aware of the fact that personal information may be revealed when they go online.

According to law, one cannot pass someone else's private information to others. However, it is a known fact that companies take personal information collected on their websites and use it for telemarketing or sell it to another company. Anonymous information about users' web-surfing habits might be merged with individual personal information. Websites use cookies to gather information about users, but disabling cookies prevents users from doing necessary things at some websites. Websites might email users to say that their privacy policies are changing, but most users find it difficult and time consuming to read and understand privacy policies or to figure out how to request that the use of their personal information be restricted.

Online transactions of financial payments, grants, grade reports, and disciplinary actions are necessary for organizations such as universities and banks to function effectively. However, these transactions pose an additional risk to a student's privacy. For example, when students post their assignments on the net, these assignments may/may not represent students' beliefs, but if the assignment is controversial and if somebody can access it, it can jeopardize future employment or scholarship opportunities. Actually two main privacy acts protect students from those problems. These are:

- **Children's Online Privacy Protection Act: to protect personal information for children under the age of 13.**
- **The Family Educational Rights and Privacy Act: to protect the privacy of students' educational records and parental rights to informed consent.**

Spamming/Hacking

Sending a large number of files through the network and causing the system to crash is "spamming", is an abuse of information technology. A recent example occurred in March 2005.

Many business school admission files were targeted by computers when a hacker posted detailed instructions on a *Business Week* Online forum. The schools report that 32 applicants at Sloan University, 119 applicants at Harvard University, and 41 applicants at Stanford University were able to look at their application files. As a result of this, Harvard and Sloan rejected all the applicants who looked at their confidential data. Only Stanford University decided to talk to those students and make the appropriate decisions.

In this case each school had a different way of deciding what should be done in this situation. Harvard Dean Kim B. Clark said "those who have hacked into this Web site have failed to pass that test" (Wiesman, 2005). Ironically, even though those schools rejected the students, they might have been accepted at another institute because those schools cannot expose the students' names to anybody.

Property/Copyright

Copyright is an important issue since today's music and movie companies fight for their copyrights. However, the internet provides many websites to users to access these companies' products illegally. Even though there are many laws to protect property rights, this illegal access is ongoing. People argue that these products such as movie DVD's and music CD's cost too much. Still, it shouldn't matter if we can look at the issue from an ethical perspective.

Even though technology is a big part of our education system, there is an ongoing debate about who owns online educational materials, professors or the university. Since all the information is stored on the university database, its copyright belongs to the university. However, some faculty may argue that it's their own product of information and the copyright should be theirs. Another debate is that the on-line version of a course may reduce the value of the faculty. So the question is, should the faculty focus on increasing their value to the university, or continue to teach accordance with the new face of educational innovation in order to improve students' critical thinking (Peace & Hartzel, 2002).

Netiquette

One of the main purposes of the internet is to serve as a communication tool. All chat rooms provide easy and cheap access to find friends or just to post ideas about anything. However, this does not give people the right to send offensive pictures or messages to anybody. We know that with today's technology, it is easy to access anybody's messages. By keeping this in mind, students may be less likely to write something or send pictures offensive to others that they will regret later on.

Vandalism

Protecting the computers and network while using technology is very important in school settings, for everybody uses these tools. Everybody should be responsible for protecting technological instruments. Teachers should teach students careful use of equipment, resources and facilities.

In November 2004, the University of Iowa Department of Psychology had to deal with vandalism. A group of people who called themselves advocates of animal rights destroyed many research materials, and computers and removed more than 400 animals from the Spence Laboratories. This act of vandalism cost the university thousands of dollars, which had to be paid from students' tuition.

Access

Technology should not primarily be used as a tool to reward students who finish their class work the fastest; instead it should be utilized as an opportunity for all students to engage in its interactive uses.

In the internet environment, there are so many inappropriate places students can access. The Children's Internet Protection Act requires public schools and libraries to take steps to prevent minors from accessing certain materials on cyberspace. Many filtering systems protect children from these inappropriate websites. The purpose of filtering software is to create a secure environment in which children interact online in a safe, educational, and entertaining context. Internet filters enable parents/teachers to block inappropriate sites or restrict access at certain times of day.

Some software also provides features that prevent children from revealing personal information, such as name, age, address, phone number, or school name to online acquaintances through websites and chat rooms. However, as we know, "students' curiosity….often enable them…..to overcome the external controls provided by filters." (Berson et al, 1999, p.161) Filters may help protect young students in elementary school settings, but filtering should be used less in middle and high schools. Instead, having educators available to guide students through the use of the internet, answering their questions and addressing safety concerns, would be more meaningful than relying on a static software program.

Inclusion of technology in any course has great potential to increase learning and expand students' knowledge. Educators have argued that free access to a wide range of information will be beneficial, as society moves into an electronic future.

Another side of the issue is that the increased use of technology is actually widening the gap between the "haves" and "have nots." This "digital divide" implies unequal access of some sectors of the community to information and communications technology and to the acquisition of necessary skills. The main reason for the digital divide is the cost to access information on the net. The source of this cost mostly comes from:

- **Wiring the university buildings**
- **Free internet access for students**
- **Purchasing the computer equipment**
- **Growing demand on technical employees**

Accuracy/Trust wordiness

Although there is a wide realm of information available on the net, there is no agency monitoring "truth or accuracy of information." There is no restriction on false information. Teachers should inform their students about the situation to protect them from citing or reading incorrect information. Inaccurate information can cause confusion in society, and even medical and legal issues.

EDUCATION

Teachers are important elements in the education system. Since they are responsible for the development of students, teachers need to be aware of ethical responsibilities. Teachers should be good role models for students because students learn by examples.

Being a good model requires caring, compassion, sensitivity, commitment, the pursuit of truth and respect of self and others, honesty, trustworthiness, integrity, equality, impartiality, fairness, and justice (Bodi, 1998).

Teachers should teach students the possible harm of not following the ethical rules while using the internet, and guide them through their use of the internet at a level appropriate to their age. This guidance should allow students to ask themselves:

- **Is it illegal?**
- **Does it violate ethics codes?**
- **Does it bother your conscience?**
- **Does it look as through someone is likely to be harmed? (Bodi, 1998)**
  The responsibility of teachers should be to:
- **Teach students not to use or pass personal information to others.**
- **Inform students how they can benefit from respecting the privacy of others because someday their own information may be at stake.**
- **Remind students not to take others' work directly or copy others' work from the internet as their own, for example, downloading illegal software, music, and movies.**
- **Remind students to be respectful to others when communicating on the internet, not using offensive words and pictures.**
- **Help students to develop positive attitudes toward technology.**
- **Outline explicit rules regarding access to content on the internet (Berson et al, 1999, Simpson, 2004, and Bennett, 2005).**

Teachers are in a unique position to show students how to use technology properly. According to the International Society for Technology in Education, teachers should follow performance indicators for social, ethical, legal, and human issues. These are:

- **Model and teach legal and ethical practices related to technology use.**
- **Apply technology resources to enable and empower learners with diverse backgrounds, characteristics, and abilities.**
- **Identify and use technology resources that affirm diversity.**
- **Promote safe and healthy use of technology resources.**
- **Facilitate equitable access to technology resources for all students (Bennett, 2005, p.38).**

After proper training in technology integration, teachers can engage students effectively in technology classrooms. At this point, schools should make in-service workshops for teachers to develop these skills. Therefore, the role of schooling is also changing. Schools also can provide a different learning environment to people, such as distance learning through the use of the internet; it would help people to pursue their studies in their own time and location.

The responsibility of schools is increasing too. Schools should have rules and obligations to help students learn how to use the internet in a safe and responsible manner. For example, filtering is important for school and home computers. Teachers and parents should work together and discuss what kinds of restrictions are more efficient for students. Some people think we should protect our children from harmful, offensive and inappropriate information on the web.

Calister and Burbules (2004) give a list of websites that are restricted by censorware Protect Organization;

- **Krusty the Clown**
- **The history of Nevada**
- **Declaration of Independence**

As we can see, sometimes the technology is not logical.

Schooling should help students learn how to think critically about technology issues, not what to think about them. Teachers can help students acquire informed attitudes about the various technologies and their social, cultural, economic, and ecological consequences. When teachers do express their personal views, they should also acknowledge alternative views and fairly state the evidence, logic, and values which allow that other people have those views.

In classroom teaching, technology changes the learning environment. It enables teachers to become guides as well as facilitators. It also permits students to become self-directed learners who collaborate with their friends and technology. Technology helps deliver lessons more effectively if used appropriately according to students' needs with the teacher serving as facilitator and mentor.

IMPACT

Technological developments have several impacts on our lives. These impacts economically, socially and interpersonally and educationally affect our daily lives.

The economic impact of technology is mostly seen in economically challenged places. It creates a digital divide between poor and rich, rural and urban, developed countries and undeveloped countries. When technology serves as reinforcement between social classes, it makes accessibility to education even harder for the poor.However, the internet provides a good resource for people. For example, distance learning allows universities to increase their market, while reducing financial demands on student. Because of distance learning, many individuals may access different educational institutions, and may become life long learners.
Besides these impacts on education there are also some drawbacks. For example in distance learning, it reduces the face to face interaction between students to students or/and students to teacher.

Although the use of internet technology in education is fairly new, this emerging field is being used more widely. Educators can take more advantage of these innovations than before by incorporating them into their educational practices and to adapt to changes taking place in society. Marry (2000) states that "technologies do not cause social changes on their own and that changes result from mutually influencing social and technological factors: New technologies like the printing press merely facilitate changes already beginning to take place." (p.43)

CONCLUSION

Our aim is to promote the development of students' critical thinking and analysis skills. The overall goal of ethical principles is to protect and advance human values.

Although the internet makes available a wealth of useful, educational information to the student, it also provides access to unwelcome information, such as inappropriate pictures and chat rooms.

Technology already plays an important role in K-12 education, and it will play an increasingly important role in the future. Our responsibility is to prepare students for this reality. The form of schooling is changing because of all the technology being infused into education. Technology development also facilitates more individualized instruction for each student.

From the educational perspective, teachers need to know how to use technology as a tool because although many students use computers at home, they generally do not know how to use them as tools for learning. Teachers should have enough background to decide which technologies to use, and how to use them. Part of being prepared for that responsibility requires knowing how technology works, including its alternatives, benefits, risks, and limitations. On the other hand, students should learn how to ask important questions about the immediate and long-range impacts that technological innovations and the elimination of existing technologies are likely to have.

BIODATA and CONTACT ADDRESSES of AUTHOR

Dr. Behiye AKCAY is a Lecturer at the Hasan Ali Yucel Faculty of Education at the Istanbul University. In 2007 she received the Ph.D. grade in Science Education at University of Iowa, USA. Her main research interests include Pre-service teacher education, nature of science, and history of science.

Dr. Behiye AKCAY
Istanbul University
Hasan Ali Yucel Faculty of Education
Department of Science Education 34470
Vefa-Beyazit/Istanbul/TURKIYE
phone: +90 (212) 444 00 00/ 26047
Email: bbezir@gmail.com

REFERENCES

Berson, M. J.; Bersn, I. R., & Ralston, M. E. (1999). A response to "separating wheat from chaff". *Social Education, 63*(3), 160-161.

Bodi, S. (1998). Ethics and information technology: some principles to guide students. *The Journal of Academic Librarianship, 24*(6), p.469. http://www.ebscohost.com

Callister, T. A. Jr. & Burbules, N. C. (2004). Just give it to me straight: A case against filtering the internet. *Phi Delta Kappan, 85* (9), p648.

Computer Ethics Institute. A project of the Brookings Institution.
http://www.brook.edu/its/cei/cei_hp.htm

International Society for Technology in Education. Educational technology standards and performance indicators for all teachers.
http://cnets.iste.org/teachers/t_stands.html

McGrath, D. (2004). Equity Revisited. *Learning & Leading with Technology, 32*(2), 36-39.

Murray, D. E. (2000). Changing technologies, changing literacy communities? *Language Learning and Technology, 4*(2), 43-58.

Peace, A. G., & Hartzel, K. S. (2002). Ethical concerns raised by the use of the internet in academia. *Journal of Information Ethics,* Fall, 2002, 17-32.

Ribble, M. S. & Bailey, G. D. (2005). Developing ethical direction. *Learning & Leading with Technology, 32*(7), 36-38.

Simpson, C. (2004). Should I or shouldn't I? An ethical Conundrum. *Library Media Connection*, October 2004, 18-21.

Weisman, R. (2005). Harvard rejects 119 accused of hacking. *The Boston Globe*, March 8, 2005.