

What do students think about computer ethics?

by Gail Chmura

Editor's Note: This article first appeared in the Fall 2000 VSTE Journal. We are republishing it for two reasons. First, this work helps emphasize VSTE's commitment to keeping our readers aware of ethical uses of technology. Second, it is a good example of a teacher-research project, something we encourage all of our educators to participate in and write about.

Overview

Chmura's teacher research project conducted at Oakton High School (VA) raises serious questions about how and when educators should address issues related to ethical uses of computers and copyright laws. Chmura's computer science students were required to review articles related to moral and ethical attitudes of computer use. From the project papers the students had to write, Chmura discovered a variety of interesting reactions and opinions held by her high school students that led her to conclude that children should be made aware of computer ethics and etiquette at a very early age. In addition, the unspoken acceptance of unethical computer practices at home and at school may contribute to a wide variety of copyright and plagiarism issues that educators face in schools today.

Introduction

From a very young age, children enthusiastically use computers with both positive and negative support and role modeling from their parents and their teachers. Many parents often suggest borrowing software from each other, much like loaning a video among friends. Unlike video swapping, though, most people who borrow computer games or other software copy them onto their own systems for continued use.

When they return the borrowed disks, there's now a duplicate on their computer and two households are using a product that was legally purchased for use in only one household. The children know the software was not purchased by their parents. After all, there's no box or instruction booklet, etc. Parents may not say to their children-"It's OK. Joe's dad let us

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have a copy of his new game. Don't worry about it. No one will ever know that we are using an illegal copy." It's an unspoken acceptance of an unethical practice and an unethical lesson that is presented to the child as being OK to do. It's a lesson that it is OK to do wrong things if no one can catch you.

When children use computers at school, they are constantly leaning over into each other's space, sharing ideas, seeing how someone else does something and often times intruding to the point of even typing on the other person's keyboard. This enthusiasm for sharing and helping is encouraged by the teacher, without any restrictions or qualifiers put on the activity. Yet teachers do not understand why older students see nothing wrong with continuing this behavior. Teachers now try to discourage it but cannot understand why students are so quick to copy from each other without any remorse or sense of wrongdoing.

Ideas and computer work were OK to share, but not actual written answers. When these same students were younger, they were reprimanded for leaning over a friend's desk and looking at his paper to get the answer to a problem. With paper and pencil, the teacher's rules were different.

Students were taught to stay in their own space at their desks. But wait a minute! Do teachers really expect students to understand the difference between sharing and copying from the computer versus from a handwritten paper product or from an Internet source or from a textbook? What happened to "It's OK. Help each other. Information is public property. Use it!"

As children get older, the borrowing definitely broadens further than among a couple of households. Students become independent and use computers without adult supervision. After all, weren't the adults only watching to make sure the younger children did not "break" the computer?

Were parents really ever a concerned with what the child was "doing" or "seeing" on the computer? In this unsupervised environment, do adults think the "copying" mindset will suddenly vanish? Will the earlier, unspoken misconception that "It's OK to do something wrong if you can't get caught" change because the students are older? Why should students "know better" now if no one has ever discussed ethical issues with them?

"Hey, did you finish the report for history yet? I'm having a terrible time finding enough information."

"Yeah. I finished it. I copied things I found on the Internet. It's so easy to write reports now. Mr. Jones will never know I didn't write it myself."

"Well, I have Mrs. Smith. She'd figure it out!"

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“No way! Say, why not take a copy of my report and turn it in. You’ll have to change the heading a little, but it’s OK. No one will ever know.”

“Gee, thanks! That will help my stress level a lot. I have so much to do, and we have a long soccer practice today.”

Because of conversations I have overheard like this one, I added a section to the ethics project I assign to my high school computer science classes (see Lesson Plan, attached at the end of the article) I wanted the students to express their own beliefs of right and wrong and to weigh their behavior against their beliefs and standards.

The project required students to self examine their behavior and their attitudes toward the rights of others, including software authors, teachers, Internet sources and classmates’ work; and to suggest ways to address these ethical issues. I was very specific about the grading procedures in order to let students know the importance of each assignment (see Grading Rubric attached at the end of the article).

In addition, the project required the students to review a classmate’s paper to express whether they agreed or disagreed with the opinions expressed. This exercise also focused the students’ attention on the need to adequately cite references. Students used the guide to the right:

Then to complete the project, students wrote a follow-up reaction which called for them to read an article regarding moral and ethical uses of computers and to make a final summary statement reflecting each student’s opinions on the subject (see Follow-Up Sheet, attached at the end of the article).

I do not use software that is not legally licensed for classroom use, and I have always emphasized legal issues involved with copying software, not allowing students to make illegal copies of software so they could work at home. Some of my students cannot believe the rules and responsibilities I expect them to follow.

Ethics Paper Follow-up Evaluation

After you read the paper(s) given to you today, please answer the following:

1. What was the message/opinion stated in this paper?
2. Do you agree with the writer’s opinion and explain your reasons?
3. Do you think the writer referenced outside sources to write the paper? Why?
4. Did the writer give credit to the references used in writing the paper?
5. Do you think it is OK to copy information from sources written by others without giving them credit in your work? Why?
6. Rate this paper from 1 to 10, based on clarity of the opinion stated and strength of argument. Defend your opinion. (1 is the lowest score)

Rating: _____

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When our classrooms gained access to the Internet this year, a new dimension of ethical issues and rights and responsibilities of students surfaced. Issues came up such as viewing inappropriate information-profanity, pornography, criminal activities, viewing other people's email, downloading software or Internet information from school computers for private use, and posting inappropriate information on web pages.

How was I supposed to control and monitor what thirty students were doing at any given moment? I already knew the students would do whatever they could get away with, but how could I instill a sense of morality regarding computer use and etiquette in each individual?

Some of the responses I got from my students were very insightful. I hesitate to share their statements because I am not sure if they are their own or if they are taken from information they borrowed without giving proper credit. (Yes, students plagiarize even on a paper about ethics!) In any case, I do have permission from my students to use the statements they made in the various stages of their ethics projects.

Regarding the illegal practices of copying software programs:

1. If parents copy games and other programs when kids are young, the child will grow up thinking it is OK to do it, too.
2. If so many people don't think it's wrong to simply copy a program, why shouldn't the law reflect this?
3. Copyright laws have to change since the majority of people don't follow them or agree with them.
4. People who copy programs raise the prices for those who do not.
5. The easier a law is to break, the more often it will be ignored.
6. The only way to counter software piracy is to raise children with high ethical standards. It is something that CAN be taught.
7. Many people think of sharing software in the same way they think of sharing tools or household items. They do not see the fact that at any given time, there is only one rake or lawnmower being used by one person. When you copy software, it has reproduced, and is now two pieces of software, each usable by different people at the same time.

Regarding Plagiarism:

1. The fact that computers can reproduce information makes people believe that copying other people's work is not a crime. Just as it is wrong to blame someone for something they did not do, it is wrong for people to expect credit for something they did not do.
2. The facelessness of information is what makes people believe they can rightfully claim it as their own. If Internet users keep in mind that there is a person's face behind the information they are using, they would be more likely to cite it properly.

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3. Good students are pushed to cheat (i.e. plagiarize) when teachers give them too much work and not enough time. Teachers need to be more willing to listen to complaints of students and to change due dates and adjust the workload when necessary.

Regarding teaching young children computer ethics:

1. Ethics awareness must begin early in the schools and at home. Children must be taught that copying from a friend's computer disk or monitor is wrong. They must also be punished as if they were caught cheating on a test or copying homework. The question of cheating must be expanded to include copying information from a computer.
2. Parents must monitor and teach children from an early age where to go and where not to go on a computer.
3. When a person is a child, he or she should be taught right from wrong and have it stressed that doing wrong things is really bad, and if they do anything bad, they should be punished.
4. Children in today's world have been brought up to believe that information is free. For example, they think nothing of photocopying a magazine article or copying their friend's computer program or game. Parents need to teach their children to have an ethical code of behavior for what is right or wrong.

Regarding Industries' Responsibilities

1. Computer engineers work, make and discover new things and don't even think of what society will do with them. The ethical issues we face with the Internet should have been considered before the product was released to the public.
2. If software companies really feel so strongly about people copying and sharing software, why don't they put more copyright safe guards on their products?
3. Copying for educational purposes should be made legal.

Regarding the Older Generation's Attitudes

1. The concepts of right and wrong are not clear to most computer users today. Therefore, even the most moral person could easily think differently than the law and commit a computer crime unknowingly.
2. The previous generation has felt comfortable violating copyright laws. They have passed that on to the current generation by their bad example. In order to build a strong moral code, the last generation must first be convinced that breaking copyright laws is wrong.
3. Persons involved in computer crimes usually acquire their attitudes at an early age.

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Regarding the need to teach computer ethics:

1. Moral laws can be extremely effective because if someone believes that what they are doing is wrong, they will probably not do it.
2. Newcomers to the computer world are often unaware of these laws and infringe upon them unknowingly. One primary job of groups attempting to enforce software copyright laws should be to make these laws well known to the general public.
3. Just because you can figure out how to break into someone's files or email does not mean you have a right to do that. Just because someone's front door is not locked does not mean you can walk in and browse around or use something because it is available and no one is watching. Just because the neighbors are not home does not mean you can look through their US mail in their mailbox, read their magazines, and put them back before they get home.
4. What is necessary is an ethical theory, valid for all humans – globally – a fundamental consensus on binding values, unconditional standards and personal attitudes.

After reviewing the students' ethics project papers and the conversations that I have had with them in class, I found the strongest messages from my students to be:

- From an early age, children should be made aware of computer ethics and etiquette.
- Teachers and parents must be better role models.
- Although information is impersonal, factual or unemotional, society must realize that it can belong to someone by law.
- Just because you have access to something doesn't mean you can claim it as your own.
- Philosophically, social change should occur to reflect the attitudes of the majority of society.
- A change is necessary in either the attitudes of people or in current laws regarding access to information.

Information is offered to us for the purpose of being read and internalized. It is intended to be merged with our previous knowledge and attitudes. What is not intended is the copying and reiterating of the information as if it were our own creation. Students need to have early practice in acknowledging what others say and do. Then they can concentrate on expanding this information or using it to justify their own ideas. This is how progress, growth and understanding occur without impinging on the rights of others.

Although most of my students expressed their agreement and understanding of the laws protecting software piracy, the issues related to 'cheating', copyright issues, etc., they still talk about the illegal things they continue to do. The bottom line unfortunately seems to be that as long as they aren't hurting themselves or others and as long as they can't get caught, they will do what they want, regardless of the law. While the current status of computer ethics is not acceptable, students should be engaged regularly in

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discussions about software, Internet and copyright laws. We may not see an immediate change in the amount of unethical computer use, but perhaps by setting a climate of intolerance for unethical and illegal activities in our schools, one day our students will educate their own children from a very young age to be responsible users of technology.

Computer Science: Ethics Paper Follow-up

1. Snooping in someone's computer files, email, program code, etc. Do you think it is OK to do the above and why?
2. Do you think it is OK to walk down the street, try the front door of every house, and upon finding one unlocked, walk in and browse around as long as nothing is disturbed? Why?
3. What is the difference to you between #1 and #2 above?
4. Do you think it is OK to copy software purchased by a friend since you really need this software and don't want to spend your own money to get a copy of it? Why?
5. Is it OK to also make a copy of the instructions that came with the software? Why?
6. Do you think it is OK for your friend to let 15 or 20 people make copies of this software and the instructions? Why?

If you answered YES to #4, 5, or 6, then also answer #7.

7. If your job were to write programs and create software, either in the design or programming stages, and your income was based on the sales of this software, would you still think it's OK to copy software from a friend for your use?
8. After you read the article given to you today, please answer the following:
 - What was the message of this article?
 - Do you agree with the writer's opinion and explain your reasons?
 - Do you think the writer used outside sources to write the article? Why?
 - Did the writer give credit to the sources used in writing the article?

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Computer Science : Ethics in Computer Use Sample Lesson Plan

Goal/Objective: Students will research current materials on ethical issues of computer use. They will state and justify their opinions of several of these issues.

Subject: Moral and ethical responsibilities of using computers.

Audience: Any audience that is able to use, read and understand material found on the Internet (elementary through high school).

Objective: Raise student awareness of the social and ethical implications of computers in society.

Timeline: 6-8 weeks:

Initial Class: Complete worksheet on ethics attitudes. In class, read 6 articles provided by teacher, taking notes and recording bibliography information.

Week 1: Locate, print out (with bibliography information) and read two online sources regarding computer ethics.

Week 2: Turn in an alphabetized bibliography of eight sources and the notes taken from articles read in class.

Week 4: Turn in a first draft of opinion paper with hard copies of 2 online sources.

Week 6: (or one week after first drafts were returned to students) Turn in final paper with title page, bibliography, first draft and on-line printouts. Make a brief oral statement of opinions on ethical issues.

Week 6-8: (after teacher has returned papers) Read a classmate's paper and rate it for quality of opinions and arguments. Complete a post-ethics attitude worksheet.

Follow-up: (not included as part of project grade) Share constructive opinions and attitudes about ethical use of computers with younger students via email as arranged by teacher.

Materials/Equipment Needed:

1. Teacher / Librarian provides 8-10 articles on computer ethics/cheating/piracy issues. They can be from journals, magazines, Internet sources, etc.
2. Access to email and the Internet is necessary, with capability to print.

Student Preparation: Students should be familiar with research procedures, use of Netscape and the Internet. However they can be guided through procedures by the teacher or librarian as needed.

Teacher Preparation:

1. For younger grade levels, find Internet sites which have information on computer ethics issues. Older students should be able to find their own sites with guidance if necessary. Arrange for computer lab/ library use of Netscape as needed.
2. Find other teachers who are willing to use email to share information and opinions between students. Decide if students will be allowed to contact each other directly or only via teachers.
3. Allow yourself time to read and comment on the first drafts, returning them soon enough for the final papers to be completed per timeline.
4. Allow time to grade projects, returning them as soon as possible for peer evaluations.

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Computer Science: Project Grading Guidelines

Objective: This project is designed to raise your awareness of moral and ethical attitudes regarding computer use. You will be asked to form an opinion on this topic after reading eight sources. You will defend and justify your opinions using both written and oral communication with regard to the sources of information that you review.

Day 1: In class you will select and read six articles from the sources provided by the teacher. Notes will be taken on the reading and bibliography information will be noted. After completing this assignment, you will complete and turn in a worksheet about ethics attitudes. (3 points)

Week 1: You will locate, print out and read two online sources regarding computer ethics issues. These must have been published within the past two years. These sources should be referenced in your opinion paper along with the bibliography.

Week 2: (10 points) You will turn in an alphabetized bibliography of the eight sources and the notes taken from the classroom readings.

Week 4: (30 points) You will turn in your first draft of your opinion paper and hard copies of the two online sources. The paper should address issues such as copying and using software that you aren't licensed to use, turning in programs you copied from someone else, copying and using software manuals you aren't licensed to copy, and using an online source without giving credit to the source. The first draft should be four to five handwritten pages or two to three typed pages.

Week 6: (50 points) Turn in final paper including:

- a title page (basic info on title page)
- final paper (2-3 pages)
- your student ID number at the top of page 1
- final bibliography
- first draft should be turned in again
- online printouts (if you are willing to let me keep them)

Do not have your name on any of the pages of the final ethics paper except the title page. The final paper should be typed, double-spaced, font 12 or 14. Turn in the final paper with the grading sheet stapled on top of the title page. The final paper and bibliography should be stapled separately. The online printouts, if you are willing to let me keep them, and the handwritten first draft should also be stapled separately.

Week 6: (2 points) Be prepared to make a few oral statements in class about your opinion. (5 points) You will read a classmate's paper, evaluate it and give it a rating of 1 to 10, 1 being lowest, based on the clarity of the opinions stated in the ethics paper, defense/arguments in support of the opinion, and use of appropriate references to sources used.

Weeks 6-8: Interact with younger students regarding ethics issues via email-as arranged by teacher.

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