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Information technology presents schools with many unresolved ethical issues. The problems must be squarely met by school leaders and resolved at the earliest possible moments. Failing to address these issues in technology planning is failing to lead schools into the a new era of high technology learning and responsibility.

Ethical Issues of Educational Information Technologies[1]

Tweed W. Ross

New technologies present new problems to schools. The advent of modern communication and computer-driver technologies have provided a plethora of problems for school administrators. Not the least of these have been concerns about their ethical use by faculty and students. Many concerns have developed because of a lack of established policies and procedures. Past technologies used in schools have long traditions of appropriate guidelines. These guidelines have been formulated into Board Policy, law, and administrative regulation. Because computer and communication technologies are recent arrivals in the school curriculum, there exists a policy vacuum educators are struggling to fill.

These new technologies pose unforeseen ethical challenges which schools often try to fill with laws and procedures associated with older technologies. Consider the following scenarios and how they are related to technology from an different era.

The carbon-copy syndrome.
School documents call for an "original copy" to be submitted for authentication. With laser printing, which uses the same technology as copy machines, there is no way determine the "original copy." In fact, the original copy may only exist in an electronic format on a computer.

Theft of intellectual property.
A student or teacher copies a piece of software without permission from the publisher or author. However, the software is not diminished, it is still functional, the owner has its use and the publisher may have suffered no loss because it would never have been purchased.

Both scenarios raise concerns unknown before new technologies became widely available to schools. Subsequent issues about ethics and equity "tumble out" of basic questioning on how technology should be used to educate children.

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If schools are to effectively respond to the unforeseen ethical challenges posed by information technologies, they must open meaningful, responsible, dispassionate discussions with all reasonable audiences. These audiences include parents, administration, mature students, and the general public. To delay this discussion is to be reactive rather than proactive. To delay is to allow events to drive the agenda of implementing new technologies. The ethical vacuum created by new information technologies has presented schools with a problem, but not yet a crises. To put off addressing the issues presented by information technologies insures a later crisis.

The discussion of ethical uses of information technology in schools has two principal thrusts: policy development and a behavioral adjustment. Currently, there are five overlapping issues confronting school officials examining the ethical implications of information technologies: *copyright, privacy, accessibility, equity and humanity.*

Copyright

Issue

The issue of illegal or unauthorized duplication of electronic materials is not nearly as clear-cut as the Software Protection Association would like schools administrators to believe (Software Protection Association, 1991). The basic Copyright Law of the United State is constantly being reinterpreted in court challenges (17 U.S.C. & Lotus Development Corporation v. Paperback Software). If the doctrine of "fair-use" and archival backups didn't provide enough loop holes, the ease with which unauthorized copies can be produced and distributed makes copyright enforcement difficult. Many schools, whose policies prohibit software duplication, avoid confronting the issue of copyright by failing to implement effective policing campaigns. Such campaigns, would involve many dollars and a great deal negative publicity. Further, little has been shown to prove that software publishers would financially gain if unauthorized copying was stopped. Schools might avoid buying expensive software as they focused scarce resources on other priorities.

However, the issues of copyright are not simple for school personnel. How do students understand copying is wrong if the school copies software because its easy or they lack the money to buy quality products? Below are two likely scenarios.

Budget cutting
In an elementary school where the budget for instructional supplies has been drastically cut, teachers are concerned that there is not enough money to purchase quality software to use with their students. A number of teachers make illegal copies of commercial, education software, which they distribute to their colleagues (U.S. Department of Justice, 1992, p. 1).

Student games
A student shares an entertaining game received as a birthday present with classmates on the school equipment. This teacher finds this game to be not only entertaining but educational. Since the school had nothing to do with its purchase or installation, the teacher decides to leave the game on the machine.

Solution:

Policy. Schools must develop effective policies concerning the installation and duplication of software on school-owned equipment. These policies must be developed simultaneously with procedural statements for enforcement. If school boards and administrators are determined to limit the copying of software to the strict guidelines espoused by the Software Protection Association, they must accompany these policies with enforcement that will be a deterrence to those who would consider breaching such policies. To continue with threats such as the following with no meaningful enforcement serves little useful purpose.

> COPYRIGHT INFRINGEMENT INVOLVING THE REPRODUCTION OR DISTRIBUTION OF AT LEAST 10 COPIES OF ONE OR MORE COPYRIGHTED WORK(S) WITH A RETAIL VALUE IN EXCESS OF $2500 (ANY KIND, NOT JUST COMPUTER SOFTWARE) WITHIN A 180 DAY PERIOD IS A FELONY. FIRST OFFENSE IS PUNISHABLE IN GENERAL BY A SENTENCE OF UP TO 5 YEARS AND/OR A FINE OF UP TO $250,000 FOR INDIVIDUALS AND $500,000 FOR ORGANIZATIONS.
>
> (National School Boards Association, 1995, p. 11)

More effective policy choices involve random, regular checks of individual machines for unauthorized software and denial of services for those for regularly violate board policy. Such a policy, contains two hidden assumptions. First, the school is willing to make a commitment of resources towards enforcement. Second, information technologies have become such a vital part of the school program that denial of services is a real deterrent.

Behavior. Policies and punishments have negative impacts on the faculty and students attempting technology integration in schools. More effective in altering behavior are well reasoned educational campaigns and a commitment to providing needed resources for technology. A well-planned staff development program, coupled with a well-planned software purchasing budget will do much to alter behavior.

Privacy

Issue:

How much privacy do students or faculty members expect in electronic communication? Privacy in communication has been an issue since the invention of writing. New electronic means of communicating have heightened the ability to monitor and track personal communications in ways never considered by the most Machiavellian of administrators (Whalan, 1995). Questions about the appropriate degree of privacy arise from greatly expanded communication capability and networks (Johnson & Nissenbaum, 1995). Consider the following two scenarios:

Hate journal.

Students have journal writing assignments, which, because of the modern technologies are kept on a private, password-protected portion of a network. One student acquires another's password, reads the journal and finds it filled with "hate" statements, which he then publishes in the school paper.

Who is at fault? What should be done?

The underage student.

A faculty member is rumored to be having an affair with an underage student. The network administrator notices there is an inordinate number of messages between the faculty member and student.

Should the network administrator read the messages?

Should the network administrator tell supervisors?

The issues of privacy associated with information technologies in the schools must be balanced with basic concerns for individuals and society. There will be many opportunities and challenges—all for the best of reasons—to use the new technologies to examine and investigate students and faculty. However, clear guidelines should be established at the outset. These guidelines should only be violated after careful deliberation.

Solution:

Policy. After study, with a wide variety district sources, including students, faculty, legal counsel, and the public, school administrators should prepare for Board adoption a carefully crafted policy document. This document should outline the rights to privacy that employees and students can expect when using the district's technology. This policy should be carefully crafted and well articulated to all parties involved. It should only be breached following the direction of a competent legal jurisdiction and never to benefit either side of a disagreement. Using the previous *underage student* scenario about a student and faculty member relationship; if Board policy established absolute rights to privacy neither the Board, nor the teacher would be entitled to expose the student's communication.

Behavior. As part of the training received to gain access to the district technology resources, including networks and e-mail, a thorough ethical discussion with staff and students should be initiated. This discussion should involve explanation of District's policies and the reasoning used to develop these policies. It seems role playing exercises would be an important aspect of these efforts. Students and staff members should be presented with scenarios for their reaction. The scenario sessions would also provide a practical forum for examination of district policies.

Accessibility

Issue

Schools have, by tradition or policy, closely regulated access to students and student access to outside groups. Old patterns of regulation are visible in library review committees and placards requesting visitors to check in at the office when entering buildings. Security and the desire of particular social groups to gain access to students have increased school problems regarding student access.

The mantra of the Information Age is for scholars of all ages to be able to "learning anything, anywhere, anytime." This unchallenged assumption brings with it new connotations as the schools fling open electronic doors to the Internet. Should students learn about drugs, bombs, pornography, hate, violence, tobacco, and alcohol via electronic browsers? "Until now, most kids were confronted with real controversies only in carefully managed classroom situations. But on the Net, students are likely to encounter multiple responses—some of them offensive and inimical to consensus." (Tally & Brunner, 1995, p. 14).

Technology presents issues which must be addressed from ethical viewpoints about allowing student access to the outside world and outside world access to students. New communication technology, such as Internet access, has flung open schools' electronic doors.

The student searcher.

Students in a junior high social science class are introduced to Internet searching using Netscape®. One student stumbles upon the materials needed for a thermite reaction. After burning down the family garage, this student explains that he learned to mix this concoction at school.

The unwanted agenda.

A distant group sets out on an educational agenda highly controversial and contrary to local norms. Several students join the "chat group" maintained by this controversial organization on the Internet. Some students choose to adhere to this outside group's practices.

Solution

Policy. Policy developments for safe accessibility need to be simultaneously addressed at several levels by school administrators and Boards. The following issues should be well thought out and articulated prior to implementation of Internet accessibility.

1. How many machines in each building will have access to the Internet: one machine in a central location? all the machines in one lab? all the machines throughout the building? The more machines that can link to the Internet the greater the opportunity for student

empowerment and learning. The more machines that can link to the Internet, the greater the potential for unwanted activities to take place.

2. What kinds of software control will be in place to limit student access and who will implement these software controls. Several commercial software packages are available to regulate student access to materials on the Internet. Some are SurfWatch®, Net Nanny®, CYBERsitter®, and Webtrack®. Each of these in some way or another prevents access to certain types of files on the Internet. The question is who determines what types of files are unacceptable for students.
3. A policy clearly defining the expectations of the administration and school board concerning the use of school access to the Internet should be established and communicated to all faculty and students. This policy should establish standards of educational use and penalties for misuse.

Behavior. Schools have for sometime, as a safety issue, helped students understand there are some people or groups to avoid. These efforts need to be expanded to include communication via the Internet. Schools teach even the smallest children not to talk to strangers. It is similar via the Internet. Responsible "net surfing" behaviors must be encouraged and taught. Students find ways to avoid policies and software that limit access just as they have learned how to get on the city bus to go downtown to "X-rated movies;" even though the school bus never went there (Executive Educator, 1995).

Equity

Issue

In coming years, the quality of educational opportunity may be as well defined by equitable technological resources as it is defined today by library resources, class size, instructional effectiveness, textbooks and administrative support. If America's future relies on a technologically literate populace, all groups must equally share in the resources which will enlarge student opportunities to learn. Failing to provide equitable access to new learning technologies is to create a new set of haves and have-nots. Yet this seems to be the very thing many schools are doing. A number of influential demographers point out that America seems to be developing a wider division between affluent and economically disadvantaged (Hodgkinson, 1991; United Way, 1989). Unless schools, in implementing technology, provide for equitable student access they exacerbate the problem. Consider the following scenarios.

The affluent student.
A student comes from a very affluent family which has several computers in the home all connected to high-speed modems and on-line services. These computers contain modern word processors, graphical calculators and other CD's for data storage. Laser printing is available in the home.

The non-affluent student.
Another student comes from a very disadvantaged family seeking only to provide the basic necessities of food and shelter. It is often a struggle to find sufficient money to purchase pencils, paper and other school supplies.

Both students are assigned a research paper as a homework assignment.

The affluent school.
Two schools operate in the same district. The Board has decided to provide each school an identical amount of money on a per pupil bases for technology implementation. These are neighborhood schools and one school is in an affluent part of the district, the other is in the run down part of the school district. The parents organization for the affluent school offers to have a fund raiser to support technology in their children's school.

Problems of gender-equity and access to technology have been well examined and many schools are actively pursuing solutions (Sanders & Stone, 1986). Problems associated with economic access and equity seem to be just surfacing. No one would seriously consider allowing only those students who could afford textbooks to have them. If technology is considered analogous to textbooks, who would propose that educational technology be limited to those who can afford to purchase their own?

Solution

Policy. School administrators and boards may need to attack the issue of accessibility on a number of fronts.

1. Schools should establish technology implementation as a high priority in all their buildings.
2. Schools should provide on-going budget commitments to district facilities. These commitments should be based on need, not equal dollars.
3. Schools should establish opportunities for those students who have few resources at home to use school equipment. This may include opening technology classrooms before and after school and on weekends.

Behavior. School administrators and teachers must practice and demonstrate behaviors that support equitable access to the necessary technology for students to learn. It goes without saying that blatant discrimination on the account of gender or race cannot be tolerated. Subtle discriminations on any account need to be avoided. These behaviors must insure that all students, irrespective of background, have an equal opportunity to the tools of learning. Technological access cannot be promoted or denied to any class of students. Careful attention to classroom behaviors must be paid to insure that such inequities are avoided.

Humanity

Issue

It is not a new phenomenon that schools are torn between delivering content and developing socialized individuals ready to take a place in the modern American community. Educational technology advocates propose that new electronic devices offer opportunities to impart content in "more, better, faster, cheaper" ways (Perelman, 1992). However, as Neil Postman (1995) explained new technologies of the past have been Faustian bargains. Unless schools pay particular care, information technologies have the potential to deprive students of the humane treatment and socialization that hallmark American educational efforts.

Home schooling.
Two highly technically literate parents opt to keep their children at home and purchase quality software products for the instruction of their children. Additionally, these children have access to MODEMS and on-line data services. They become proficient in using these technologies to acquire basic knowledge in traditional content. However, they never attend a school with other children, and withdraw from social exchanges with peers.

ILSs at ttheir best.
A local school is hard pressed by the public at large and the media to raise the scores of their students on standardized tests. To accomplish this task the set up a comprehensive Integrated Learning System. For major portions of the school day, students work on assignments at computer terminals with only minimal contact with teachers and other students.

Solution

Policy. School leaders must set about establishing policies that focus on the real agenda of the public school. Technology has presented opportunities to enhance the education of students, but this should not be used to supplant socialization of students. This policy must not be an either high academic achievement with technology or effective socialization without technology. Policies must be developed which promote using educational technologies in the school to enhance the academic accomplishments of students while liberating instructional personnel so they can focus on helping students prepare for those socialization skills identified by the SCANS report. (1991)

Behavior. Technologies provide a number of new opportunities for students to pursue socialization skills. New educational technologies can enhance collaborative and cooperative efforts. One of the real benefits of new electronic networks are ways for students to collaboratively work on projects. "Working together, apart" (Schrage, 1990) becomes a real possibility with the development of local and wide area networks. Teachers can use technologies to promote understanding with a wide variety of students locally and internationally.

Summary

In order to insure the safety of students and the effective implementation of educational information technologies, school administrators, teachers, Boards of Education and other stockholders must come together to develop effective, locally-acceptable, solutions to ethical dilemmas present by new technologies. The problems brought about by copyright, privacy, accessibility, equity and humanity issues can only be resolved by thoughtful deliberation which stressing two factors: educational preparation and student safety for the 21st century.

References

1. Executive Educator (1995). E Wire. *Electronic School: Supplement to the American School Board Journal, 17*(9), A4–A11
2. Hodgkinson, H. (1991). Reform versus reality. *Phi Delta Kappan, 73*(1). 9–17.
3. Johnson, D. G. & Nissenbaum, H. (Eds.). (1995). *Computers, ethics and social values*. Englewood Cliffs, NJ: Prentice Hall.
4. Lotus Development Corporation v. Paperback Software Intentional and Stephenson Software, Limited, Civ. A. No. 87-76-K, United States District Court, D. Massachusetts.
5. National School Boards Association. (1995). *Plans and policies for technology in education: A compendium*. Alexandria, VA: National School Boards Association.
6. Perelman, L. J. (1992). *School's out: Hyperlearning, the new technology and the end of education*. New York: William Morrow.
7. Postman, N. (1995). Virtual students, digital classroom. *The Nation, 261*(11), p. 377–382.
8. Sanders, J.S. & Stone, A. (1986). N*euter computer: Computers for girls and boys*. New York: Neal Schuman Publishers.
9. Schrage, M. (1990). *Shared minds: The new technologies of collaboration*. New York: Random House.
10. Secretaries Commission on Achieving Necessary Skills (1991). *What work requires of schools: A SCANS report for America 2000*. Washington, D. C.: U.S. Government Printing Office.
11. Software Publishers Association. (1991). *Is it okay for schools to copy software?* Washington, D. C.: Software Publishers Association.
12. Talley, B. & Brunner, C. (1995). New literacy of the Net. *Electronic Learning, 15*(1), 14–15.
13. United Way of America. (1989). *What lies ahead: Countdown to the 21st century*. Alexandria, VA: United Way of America.
14. U.S. Department of Justice: Office of Justice Programs. (1992). *Ethical use of information technologies in education: Important issues for America's schools*. Washington, D.C.: U.S. Department of Justice.
15. Whalan, J. (1995). You're not paranoid: They really are watching you. *Wired, 3*(3).

Footnotes

1. For the purposes of this article, "Information Technologies" are defined as those electronic technologies that enhance the management of data or communication. Schools face a wide variety of ethical dilemmas posed by other technologies—biomedical for example—but this article avoids these issues.