

THE NEW TECHNOLOGY : IS IT PART OF THE SOLUTION OR PART OF THE PROBLEM IN TECHNICAL EDUCATION?

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Abstract

This paper attempts to raise some significant questions about theory and practice in educational technology and the way in which educators perceive it. It also deals with cultural, social and philosophical issues that are often ignored in discussions of the use and potential of technology in education. While drawing together a varied image of the state of technology in the college today, some common themes emerge.

- * *Technology is not a panacea. Its use does not automatically lead to more, better, or cheaper learning; its introduction will not always happen quickly or easily; and it will not automatically compensate for poorly educated teachers or high numbers of students in individual classrooms.*
- * *Designing technology-based products for learning requires special care. One cannot simply reconfigure what has been used in the past and expect radically different results, nor is that process of design and development necessarily easy to specify at the current moment.*
- * *Technology has social as well as cognitive effects. While we often think of computers and their use in education as topics principally technical in nature, these systems are in fact intensely social in how we perceive them, how we use them and how we assess their effectiveness and value.*

Coping with these diverse and sometimes unanticipated aspects of technology-based learning environments requires educators to exercise special care in their design and use, and in working with others to use them.

Because technology is credited as being a significant factor in increasing productivity in many industries, some people believe that more effective use of technology in colleges could do more to improve educational opportunities and quality. Research indicates that while there are poor uses of technology in education, appropriate technology use can be very beneficial in increasing educational productivity

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INTRODUCTION

Technology applications can support higher-order thinking by engaging students in authentic, complex tasks within collaborative learning contexts. Instead of focusing on isolated, skills-based uses of technology, colleges should promote the use of various technologies for sophisticated problem-solving and information-retrieving purposes.

The preconceptions about technology's efficiency and effectiveness are strong, and often lead us in directions that ultimately turn out to be unproductive. What needs to be encouraged is a more thoughtful analysis of technology's effects that would allow us to perceive where its real values lie, while at the same time preserving us from the kinds of exaggeration and enthusiastic hyperbole that often substitute for careful judgment

Reformers have heralded each film and radio in the 1920s and 1930s, instructional television in the 1950s and 1960s, and more recently computers as a way to revolutionize classroom instruction by increasing teacher and student productivity. The hope was that "more could be taught in less time with these machines and students could learn more and even better than from textbooks or even the teacher use can be very beneficial in increasing educational productivity.

key factors that must be considered in evaluating the impact of technology on student achievement:

- The term technology refers not to simply one type of technology but to a wide range of electronic materials and methods for learning. It can apply to the use of computers in education, but it also can apply to video production and distance learning classes. Each type of technology has different uses and fulfills different learning goals.
- Assessing the effect of technology on student achievement is a complex

process.

- Changes in the information acquisition correlate with changes in other educational factors as well.

Technology is not a panacea : Use of technology does not automatically lead to more, better, or cheaper learning, its introduction will not always happen quickly or easily; and it will not automatically compensate for poorly educated teachers or high numbers of students in individual classrooms.

Researchers have realized that technology cannot be treated as a single independent variable that student achievement is gauged not only by how well students perform on standardized tests but also by students' ability to use higher-order thinking skills such as thinking critically, analyzing, making inferences, and solving problems.

Rather than using technology for technology's sake, teacher should ensure that educational objectives are achieved more efficiently, in more depth, or with more flexibility through technology. If there is a clear understanding of the purpose of and type of technology used, evaluating the impact is easier and more valuable. Colleges should successfully integrate technology show a clear and meaningful connection between technology and larger educational goals.

Students cannot be expected to benefit from technology if their teachers are neither familiar nor comfortable with it. Teachers need to be supported in their efforts to use technology. The primary reason teachers do not use technology in their classrooms is a lack of experience with the technology. So teachers are required to give deep training on new technology.

Technology cannot be treated as a single independent variable, and that student achievement is gauged not only by how well students perform on standardized tests but also by students' ability to use higher-order thinking skill. Judging the impact of any particular

technology requires an understanding of how it is used for information acquisition and what learning goals are held by the educators involved, knowledge about the type of assessments that are used to evaluate improvements in student achievement.

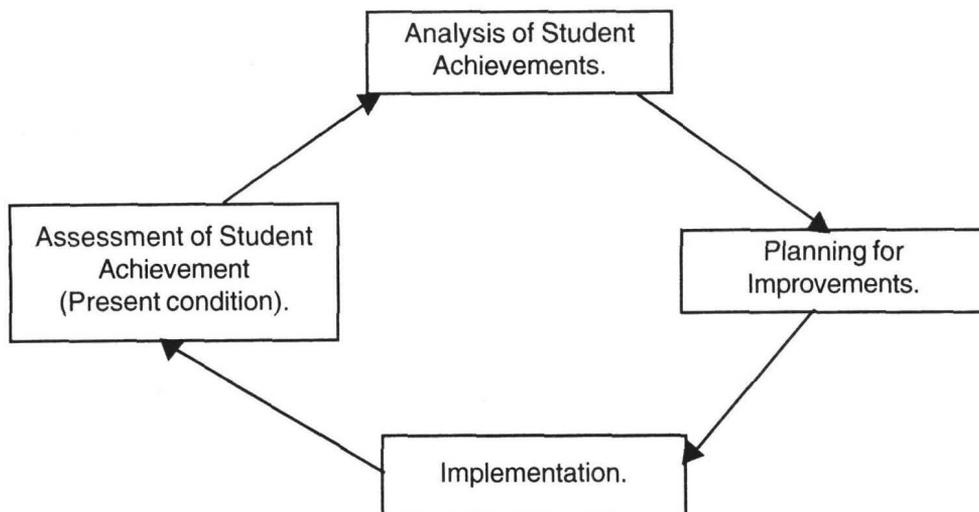
Designing technology-based products for learning requires special care: *One cannot simply reconfigure what has been used in the past and expect radically different results, nor is that process of design and development necessarily easy to specify at the current moment.*

Many different types of technology can be used to support and enhance learning. Various technologies deliver different kinds of content and serve different purposes in the classroom.

For example, word processing and e-mail promote communication skills; database and spreadsheet programs promote organizational skills; modeling software promotes the understanding of science and math concepts. It is important to consider how these electronic technologies differ and what characteristics make them important as vehicles for education. Technologies available in classrooms today range from simple tool-based applications (such as word processors) to online repositories of scientific data and primary historical documents, to closed-circuit television channels and two-way distance learning classrooms. Each one is likely to play a different role in students' learning. Teachers need to think about what kind of technologies are being used in the classroom and for what purposes.

AAPI:

Designing technology-based products for learning is a continuous process.

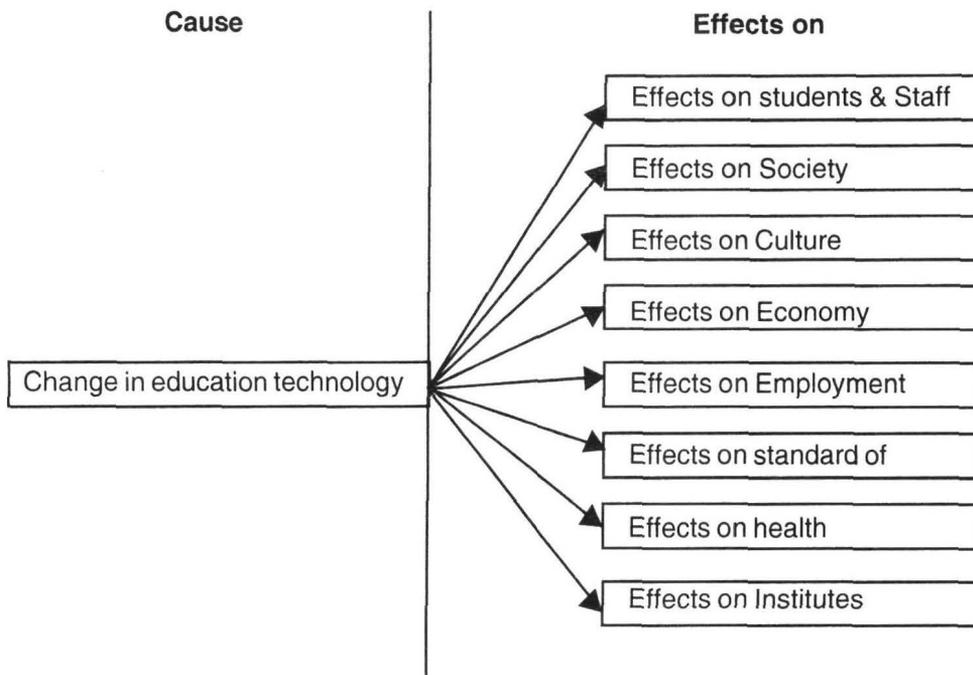


ASSESSMENT OF STUDENT ACHIEVEMENT.

Technology is changing rapidly and offers a huge array of opportunities and resources; student achievement and improvements in *thinking skills are difficult to measure*. Assessing the effect of technology on student achievement is a complex issue. Traditional standardized assessments to measure changes in student performance due to implementation of technology is not sufficient. To measure the effect of specific technologies on student achievement, assessment methods and instruments should be appropriate to the learning outcomes promoted by those technologies.

Judging the impact of any particular technology requires an understanding of how it is used in the classroom and what learning goals are held by the educators involved, knowledge about the type of assessments that are used to evaluate improvements in student achievement, and an awareness of the complex nature of change in the school environment.

Technology has social as well as cognitive effects: While we often think of computers and their use in education as topics principally technical in nature, these systems are in fact intensely social in how we perceive them, how we use them, and how we assess their effectiveness and value.



Cause and Effect diagram

Because colleges are complex social environments, however, it is impossible to change just one thing at a time. If a new technology is introduced into a classroom, other things also change. For example, teachers' perceptions of their students' capabilities can shift dramatically when technology is integrated into the classroom also, teachers may find themselves acting more as coaches and less as lecturers. Another example is that use of technology tends to foster collaboration among students, which in turn may have a positive effect on student achievement. Because the technology becomes part of a complex network of changes, its impact cannot be reduced to a simple cause-and-effect model that would provide a definitive answer to how it has improved student achievement.

Educational technology is not, and never will be, transformative on its own. But when decisions are made strategically with these factors in mind, technology can play a critical role in creating new circumstances and opportunities for learning that can be rich and exciting. "At its best, technology can facilitate deep exploration and integration of information,

high-level thinking, and profound engagement by allowing students to design, explore, experiment, access information, and model complex phenomena.

They also will be able to ensure that teachers, parents, students, and community members understand what role technology is playing in colleges and how its impact is being evaluated.

CONCLUSION

It is concluded that, while the trend toward technologizing the colleges cannot and should not be halted, teachers themselves should become more critical of the purposes of computerized education and begin to insist on a more serious role in defining and directing the appropriate use of information technology in their classrooms.

At root, the author's claim is that the debate about the role of the new technology in society and in colleges is not and must not be just about the technical correctness of what computers can and cannot do.



(Cont. from Page No. 15)

5. Parthasarthy R. Workshop on Industrial Practices and Engineering Curriculum, Kongu Engineering College, December 6-8, 2002,
6. Suganthi, L and Anand A.Samuel, Industry Institute, University and Government Interactions - A critical study. The Indian Journal of Technical Education. Vol. 25 (2) April-June 2002 pp 50-53.
7. Murthy S.S, Industry Institute Interaction, The Indian Journal of Technical Education, Vol. 25 (2). April-June 2002, pp 32-37.

