

## Technology

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### A Tale of Two Reports

In this era of "bully pulping," reports on education evoke two reactions. Some see them as effective ways to develop public awareness and provide insights that empower individual educators to make different decisions. To others these same reports appear as substitutes for action; they present lofty imperatives, which are easily discounted by those who must implement them in the real world.

Two recent reports dealing with the "problem" of technology in education illustrate both perspectives: *Transforming American Education: Reducing the Risk to the Nation*, the National Task Force on Educational Technology report to the Secretary of Education (1986), and "Report of the Task Force on Technology," part of *Time for Results*, the National Governors' Associa-

tion 1991 Report on Education (1986).

Each report, standing alone, appears to be a competent, studied view of technology's role in education. When they are compared, however, their differences are apparent. One provides a practical vision; the other displays a traditional mind-set toward technology, which actually contributes to the confusion surrounding the issue. The following comparison highlights only the consequences of the fundamental difference between the two reports—their initial assumptions about the role of tools in modern society. Judgments about other differences in the two reports (e.g., one is federal, the other state) are neither intended nor pertinent.

The Department of Education report, developed at the end of Secretary Bell's tenure, has not been widely

disseminated. The Governors' report has been disseminated but, because it is one of seven task force reports in *Time for Results*, it may not have been widely read, which is unfortunate. The Governors' study provides what the Education Department report only promises—a strategy for "transformation" that points in the right direction for getting to the future from where we are today.

The two task forces had similar intentions: to recommend strategies that, by 1991, would have major impact on schools. Both envision a more performance-based, individualized learning environment. Each panel represented, or heard, public and private sector views of the history and current status of technology in society and education. Both projected the need for schools to prepare students for a different type of world in the 1990s, and then each applied "backward planning" to suggest ways to get from here to there. The similarity ends there.

The Education Department report makes the traditional recommendation of studies like these, which is to change "everything" (e.g., teacher education, curriculum, instructional roles) first and then use the tools appropriately. A slight variation in this report is the suggestion of a two-track approach in which schools use technology to continue "to improve traditional delivery," while a new, improved 1990s model is developed on a parallel "research, development, and evaluation" track, apparently to fall neatly into place in the next decade. The Governors' report, on the other hand, offers practical strategies that can empower today's educators to find new possibilities that will allow them to change their schools in the direction intended.

Why did the two reports arrive at different conclusions? Apparently each group started with a different assumption of technology's role. The Education Department view comes from the perspective of an *industrial* society. Tools exist between the worker and

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the product and serve as extensions of the worker, as limbs and senses. The Governors' report, on the other hand, looked at technology's role in the context of an *information* society. Here, tools stand between the worker and the many factors that ultimately influence the product. Information technologies feed the worker's decisions—and extend the mind.

Starting with this fundamental perspective, the Governors' report focus-

es on ways educators can use tools to address the problems of personal and school effectiveness. By contrast, the Education Department report seeks ways for the tools to solve the problems. Tools are neutral but carry the inherent potential to amplify and extend the user's values. Figure 1 compares selected ideas from both reports. The quotations are taken out of context but indicate the beliefs implicit in each study. They illustrate how, in

plans like these, "where you're coming from" can directly influence "where you're going."

Most surprising about the two reports is the Education Department's blind spot regarding the people whose daily decisions create and maintain schools. "Education" is discussed as if it were a "thing" apart from people. Perhaps because the Governors are closer to the management values beginning to pervade

| DEPARTMENT OF EDUCATION  | NATIONAL GOVERNORS ASSOCIATION  |
|--|---|
| <p><b>Purposes:</b><br/>           "to prepare for the ideal use of educational technologies" (p. 2)<br/>           "to investigate the potential of appropriately integrated technology to improve learning" (p. 1)<br/>           "concentrate on the current and emerging needs of learners" (p. i)<br/>           "the optimum use of technology-based education" (p. 18)</p>  | <p>"help schools reorganize using technology and other means, so that they become more effective and efficient" (p. 123)</p>  |
| <p><b>Technology:</b><br/>           "... has the capability to manage and deliver learning geared to the needs of each student" (p. 26)</p>   | <p>"When you go to the hardware store to buy a drill, you do not actually want a drill. Instead you want a hole. They don't sell holes at the hardware store, but they do sell drills, which are the technology to create holes. We must not lose sight that technology, for the most part, is a tool and it should be used in applications which address educational concerns or problems." (p. 135)</p> |
| <p><b>Current barriers:</b><br/>           "lack of ... well conceived plans to integrate the technology into the overall educational plans" (p. 3)<br/>           "technology not used as it was originally designed to be ... " (p. 3)<br/>           "Teachers do not understand how to exploit technology as a teaching tool." (p. 18)</p>   | <p>"... increase(s) the amount that an individual can produce, create, and accomplish in a given period of time" (p. 123)</p> <p>"not yet a full understanding of all the effects of different applications of technology" (p. 125)<br/>           "disagreement about the most effective ways to use them to improve educators' productivity" (p. 124)</p>   |
| <p><b>Goals for 1991:</b><br/>           "new educational environments in which learning for subject-matter mastery can be explored with the assistance of computers and related technologies" (p. 12)</p>   | <p>"a performance-based education system" (p. 129)</p>  |
| <p><b>How to get there:</b><br/>           "New software must be designed based on research in cognitive science, and artificial intelligence ... " (p. 2)<br/>           "Significant effort at systems design is necessary to create the integrated, interactive work station ... with visual, aural, verbal and numerical information managed by a computer networked with central data bases." (p. 2)<br/>           "will require significant reform in our pre-service and in-service programs" (p. 2)</p> | <p>"open and continuous communication to, and involvement of, all the players within the educational community in finding new ways to use technology. ... Its potential is to enhance the ability of those who teach and manage the educational system. Many obstacles can be overcome if this message is transferred effectively." (p. 135)</p>  |

Fig. 1. The Two Reports Compared

# Trends

American industry, they assume "workers" possess values and commitment to the same ends as policymakers and have drive to attain them, since their daily sense of satisfaction and effectiveness is at stake. Thus education's "workers" can be *trusted* to discover how new tools can make them even more effective. They don't have to have everything designed from outside and given to them.

Most unfortunately, the Education Department misused an important concept for education today—transformation. The report's recommendations for transforming American education "into the system it needs to become" use the concept as a synonym for "change." It's true; organizations, materials, relationships, and buildings can be changed. But they can't be transformed.

Transformation occurs only in the minds of individuals who see new

possibilities, choices, and connections for accomplishing human purposes. As a consequence of this altered view, different decisions "change" organizations and society. Thus, the two-track Education Department approach can only rob practitioners of discovery and problem solving.

The Governors' recommendations hold more hope, for they support the individuals who run schools. They advocate a more natural planning process, which takes advantage of the information and motives of individuals. Give them the tools and help them discover and use the consequences. They will push back the limits of the "possible" while doing their job. The experience will transform them and change education.

Someday we may look back at these two reports as turning points in our evolution from an industrial to an information society. The Education

Department study stands at the edge of outmoded educational thinking, and the Governors' report opens the gates to new understanding and action. □

## References

- Boyer, Ernest I. *High School*. New York: Harper and Row, 1983.
- The National Task Force on Educational Technology. *Transforming American Education: Reducing the Risk to the Nation, a Report to the Secretary of Education*. Washington, D.C., April 1986. (Photocopy)
- Task Force on Technology. *In Time for Results, The Governors' 1991 Report on Education*. Washington, D.C.: National Governors' Association, 1986.

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