Implications of the Microcomputer for Educational Administrators

Micro-friendly administrators have an edge—their productivity is rising and they're able to use technology to the best advantage.

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Although it's no joke, the comic line about the good news and bad news can be applied to microcomputers for education. The good news is that information, our most precious resource in education, can be better managed, more creatively configured, and more comprehensively retained than ever before through the use of computers. The bad news is that our scarcest resource—money—will determine whether we will be able to acquire and maintain the equipment to move to a full integration of microcomputers in education.

It is important to realize that we are not *about* to enter the information age; we are already well into it. Our priority need is a paradigm shift in our thinking in this era in which knowledge or information is the currency of the realm.

For instance, parents attending a recent PTA board meeting strongly pushed for further computerization and voted to buy a second microcomputer with leftover PTA funds. As the motion was about to be carried, two teachers who represented the faculty strenuously objected and urged a counter proposal. They reasoned that, since the children in the school were such superior readers, it was far more important that the PTA buy a large number of additional copies of the most advanced reader so that all of the children could be doing the same thing. Compare these teachers' attitudes with some of the virtues of the microcomputer—the ability to work with students individually, to proceed at the pace of each student and to do any number of *different* things with each student.

A related megatrend identified by Naisbitt (1982) is the move from either/or to multiple choice. Unlike the teachers in the above example, people are demanding and getting a number of different options. Annison (1982) warns that private industry will pick up the profitable things that education now does, but not such things as special education. They will also provide the multiple options people want but are not getting in the schools. Such a market-driven philosophy will require new ways of thinking about our work as well as a great deal more flexibility than we have now.

Peters and Waterman (1982) found that leaders in 64 of the best-run companies evidenced a high concern for people and an experimental, intuitive approach to management. This combination is as important for educational administrators as it is for teachers. *Inc.* (June 1983) takes up this theme and offers the example of the manager of a small business who wanted to get the full potential from his company's computer. At the end of each business day, he had the computer print a sales analysis that listed the total sales per products, profit, and cost per product, and the total cost per ad per product. From this data, he determined which items were selling and built his daily ads to showcase them. Sales quadrupled. A similar potential exists in daily comparisons of student achievement/attendance/teacher activity. The key is to have good data in time to inform decision making.

In a special report on how computers are remaking the manager's job, a Harris survey of middle managers found that 91 percent believe computers increase their productivity; 84 percent believe they increase the number and variety of responsibilities they can handle; but 55 percent have not mastered the operation of the machines themselves (*Business Week*, April 25, 1983). Managers who use the computer reported that they've become more analytical and now ask better questions to get better information. Information is power, and those who master its acquisition have an edge. The *Business Week* report found that the new leaders were once operators who learned the new technology and adapted, and then moved up in the corporation. They second Naisbitt's idea that hierarchies will be flattened with data flow that is more direct between the shop floor and top management. The focus is on doing, not planning.

What does all of this mean for educators? We believe it is a clarion call for administrators to become computer literate—sufficiently literate to be able to ask those who program information to do it in a way that will enable them to answer the necessary questions; sufficiently literate to know the full range of capabilities of computers so that they can plan to use them for access to information bases, teleconferencing, automatic data transmission and receipt after hours, database management, scheduling, and word processing; and sufficiently literate to strategically increase the computing capabilities of their schools.

To make the transition to an information age, perhaps no skill will serve educational administrators as well as the ability to manage change. Annison notes that educators' "responsibilities are now heavier than they have been in the past. What is terribly difficult about it is that you are still running institutions that are rooted in cultures and traditions of the two societies that are gone" with fixed periods and rigid curricula. What's more, he stresses, there

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will be "no more great solutions from Washington." It is going to come down to "your personal behavior today, tomorrow, next week, and next month." His agenda for educators to make the transition to the information age calls for us to:

1. Learn from the future.
2. Build a vision of what we want to do.
3. Learn to be comfortable with chaos.
4. Take this once-in-a-lifetime opportunity and run with it.

The critical questions we must ask are: What capacity does the school system have to adapt to the volcanic eruption of new technologies, new industries? To make creative leaps from where it is now to where it will be in the future? To solve complex, nested problems? And finally, what capacity does the school system have to make the needed capital investments? Gillespie (1983) writes that although computer hardware is becoming less expensive, "the uses and number of users are expanding, and the cost of support (labor) is increasing. If every student and faculty member needs 5 to 10 hours access, the costs will be easy to estimate."

These, then, are the challenges. As you prepare to meet them, you might keep these thoughts in mind:

"Revolutions Never Retreat" (*Business Week*).

"Dogs and Computers Can Smell Fear" (Gillespie).□

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Buy 'Em While They're Hot!

Computers have a lot of potential for education, but for now. . . .

KERRY M. JOELS

"Come in, Mr. Snively."

"Nice of you to see me, Mr. Blankenship. How are things here at Jefferson Junior High?"

"Better now that you're here! The parents and school board have been all over me to get computers into the classrooms. By the way, you're looking different somehow."

"It's probably the gold chains and leisure suit. When I shifted from Prosaic Publishers to Lemon Computers, I spent some time in a training session in Silicon Valley, where everything is laid back and high tech to the max. But let me tell you about the Lemon IV."

"Right. What can it do?"

"As you already know, the whole world runs on computers. Everyone needs to be computer literate."

"Well, that's what they say, but I don't know; I can certainly drive my car even though I don't know much about its insides or how to tune it up. What I want to know is, what can a Lemon IV do for our curriculum?"

"Well for sure it's going to help your teachers teach. Computers are probably the greatest teaching machines ever devised. You have games, drills, games, programming, uh . . . games . . ."

"Programming? Why do the kids have to know how to program? I thought that's what your software people did *for* us. Are there a lot of those kinds of jobs out there—a lot of programming jobs? You know, I tried to program a Lemon computer once. All it kept saying was 'Syntax error, syntax error, syntax error.' " What in blazes is a syntax error?"

"Oh. Ha ha. That just means it didn't like what you typed in."

"But I was only copying a program from your How to Program in Five Easy Steps Manual."

"Were you using Version 2? You probably were. Version 2 hasn't been debugged, so you've got to expect things like that to happen. You should've been using Version 3. Version 3 has been debugged."

"Debugged?"

"Right. Look at this list here, Mr. Blankenship. Why, there are over ten thousand programs available on the Lemon IV. This is just a sample."

" 'Zorgon, ZZZapppooo, Kill the Kyreneans'?"

"No, no. Look here, under Education."

" 'Math Drill, Spelling Drill, Power Supply Design, Hexadecimal Conversions.' How will this help my seventh-graders?"

"Our math drill goes all the way up to fractions. It's really good—there's this little clown who dribbles the numbers like basketballs. If the kid gets the prob-

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