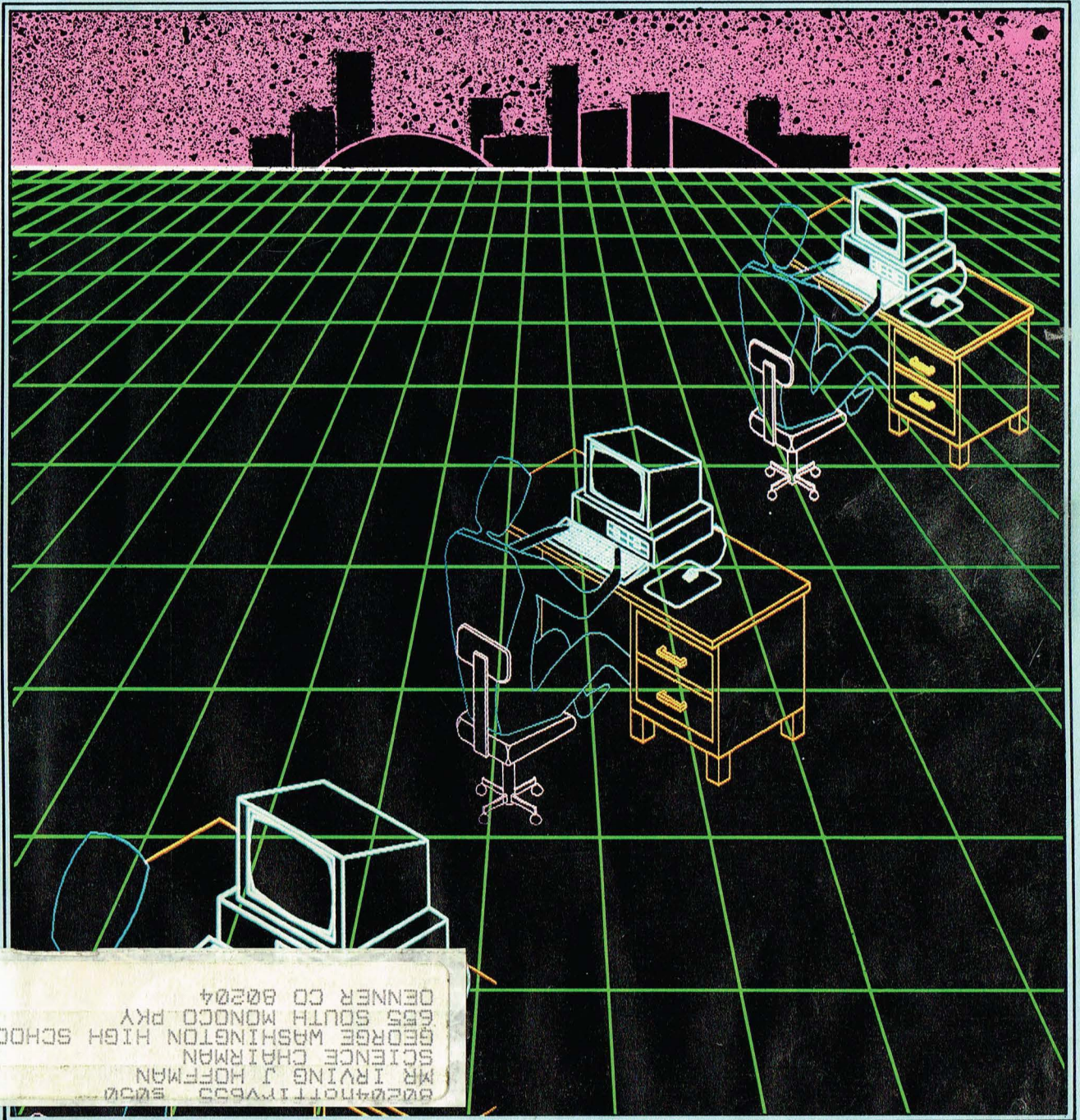


ELECTRONIC

education



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- Control Data's Norris tackles 'shocking' school problems
- Hively puts the spotlight on good social studies software
- Preparing students for jobs is real issue

10 William Norris of CDC tackles 'shocking' school problems - The man who's the "father of PLATO" once again demonstrates his concern for educational progress through a model school resource sharing project. *By Jim Bleyer*

14 Preparing for any job - 1994 - To help your students prepare for the job interview in 1994, the author gives some hints for educating them today. *By Margaret Bingham*

18 When 'computer literacy' matures... - Once the current 'stopgap' attempt to implement computer literacy as a curriculum is re-evaluated, schools will adapt an approach that integrates this technology throughout the curricula. *By Irwin Hoffman*

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50 Computer competence: Hitting a 'moving target' - The National Assessment of Educational Progress and the Educational Testing Service are making plans to define "computer literacy" in schools. *By Thomas Ewing*

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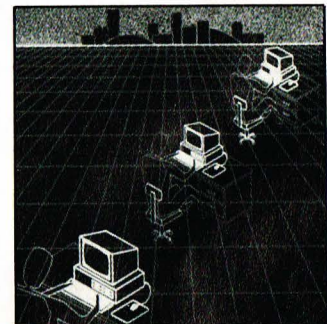
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On the cover:

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A L M O S T O N L I N E



Although the recent presidential campaigns gave it fairly short shrift, Control Data's Chairman William Norris says the biggest challenge facing the country is the use of advanced technology in improving the public educational system.

For more than 20 years, CDC - under Norris' personal direction - has been involved in cooperative programs with educational institutions to develop its computer - based educational system, PLATO, for distribution to schools. With a development price tag of millions, PLATO represents Norris' belief that corporate America can turn some of its profits back to society by improving education. Read more about the Control Data approach on page 10.

Since 1981 we have featured stories about brainwave input to computers, CAI and, in general, all manner of the most probable and most fantastic uses of computers in society and in education in particular. With this issue, we concentrate on topics covered by pragmatists after my own heart. From the article on PLATO and its educational applications to the article on preparing students for jobs in the next decade (page 14), this issue offers advice from the experts on how educators can relate computers to real-life applications.

Irwin Hoffman's article, "When computer literacy matures" on page 18 focuses on his experiences in successfully tying classroom learning to society's needs. Nothing builds students' confidence more than the realization that the knowledge acquired in school actually earns them the respect of adults and peers. Hoffman points out something that seems of particular importance: computers can bring word processing capabilities to every subject, thereby holding out the hope that writing will become more of a requirement in all fields.

It even makes me hope that writing skills might improve a little. Our article, "Spelling instruction gets a boost," on page 16, deals with some ideas to improve students' spelling and, therefore, their written communications skills.

Next month's *Electronic Education* concentrates on using databases, one of the more exciting ways computers can give students in the smallest schools the advantages only large school systems used to be able to offer.

STW

When computer literacy metamorphosis is complete...

by Irwin Hoffman

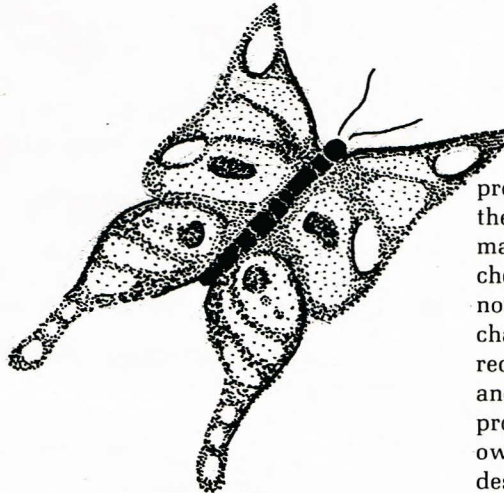
Teaching computer literacy in schools today is nothing more than a stopgap attempt to acquaint our students with the milieu of the Information Age...and it's generally inadequate for the task. But when the metamorphosis of this curriculum is complete, then its revolutionizing potential will unfold.

Word processing, with its widespread appeal, will be the catalyst that brings about this metamorphosis--uniting the curriculum and employing modems, databases and networking to further cement a homogenized learning experience.

Students in typing classes will either sit at dedicated word processors or at microcomputers with word processing software and spelling and grammar checking programs producing beautiful manuscripts with correct spelling and syntax.

This training will overflow into other classes that require written papers. In fact, there will be an increased demand for written work from students. Technical English with word processing will be taught by faculty from the business and language arts departments. Academic departments will replace the artificial delineations that have kept them distinct with a more universal type of education.

Students will communicate via modems and networks with databases to store and access information produced in or for their classes. From these communications, students will prepare reports for all levels of academia, telecommunicate with outside sources and retrieve data from world-wide databases. The man-



agement of information for all sorts of purposes will be a daily occurrence. Accessing this information, massaging it, preparing reports from it and designing the formats for records, will all be commonplace learning experiences.

Independent studies within courses will allow students to pursue skills and knowledge in music, science, social studies and other fields. And the role of the teacher will change to that of a facilitator in a shared educational networking environment. Like a spider's web, the new environment will be complex, with no easily discernable beginning or ending. Those who know will teach, those who don't will learn.

Much of this is taking place at selected schools around the country. For instance, at George Washington High School in Denver, Co., students can go to the public library and access an electronic card catalog to find sources in any of seven distinguished libraries in Colorado. From their own computer laboratory, they can access the Library of Congress, the wire services and other databases through information utilities.

Students, from remedial to advanced placement, use word

processing software to prepare their written reports with automatic spelling checkers, grammar checks, automatic indexing, footnoting, tables of contents and changeable fonts. They design records for complex databases and even write their own database programs. They also write their own computer manuals and design educational software that teaches geography, English, mathematics, physiology and botany.

These activities all occur within a framework of human networking where a cadre of teachers and technicians blend into the environment and are almost invisible to an onlooker. Upon close inspection, one can see this one-to-one interrelating between teacher and student.

This "information sharing" is diametrically opposed to traditional teaching techniques. In this environment, students play a larger role in their own education and, consequently, exhibit the pride of ownership. Spinoffs of this technique are motivation, productivity, creativity and self discipline.

It's tragic that accountability reforms sweeping the country tend to fight this new approach. It takes great courage to resist these pressures in today's educational scene but teachers must fight it if there is going to be any hope for computer literacy to unfold into its potential. **EE**

Irwin Hoffman is a math teacher at George Washington High School, Denver, Co., and is often cited as the father of the first high school-based computer education program in the country.