LIFE

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A MONSTROUS WAR
by ROBERT SHERROD

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BOLD AND BARE

JANUARY 27, 1967, 35¢
Young pioneers in an educational revolution are being taught by electronic schoolmarm—machines that are making an eerie and promising impact at all levels of learning, as told in the following article.

The Computer as a Tutor
'Hello, Jimmy,' said the machine, 'I've been waiting for you'

by EZRA BOWEN

Inside the low, windowless building, 18 computer terminals—each with a teletypewriter keyboard, cathode-ray tube, earphones and projection screen—were lined up in back-to-back rows. One wall of the room looked like a dark mirror but actually was one-way glass. Near it, a half-dozen men and women holding clipboards waited anxiously; the results of four years of planning and preparation in the complex world of electronic education were finally about to be put into regular, classroom use.

A side door burst open and in trooped a dozen scrabbling little first-grade children, some wide-eyed, some smiling, some a little scared. The children were seated at the terminals and the computer quickly took them in hand. "Well, hello, Jimmy," the machine said into an astonished 6-year-old's earphones. "I've been waiting for you." Thus began the most eerie—and perhaps the most promising—dialogue ever carried on in a United States grade school.

The windowless chamber was a new first-grade room of the Brentwood Elementary School at East Palo Alto, Calif., and the exotic computer system was Brentwood's new math and reading teacher. Since that first day, Nov. 1, 1966, half of the first-graders in the first grade at Brentwood have been taking all their arithmetic and the other half most of their reading from the IBM 1500 computer, and they will continue doing so until the end of the current school year. Other elementary school children have occasionally faced off with a computer for short-term experiments, but this is the first time a machine has ever been handed the responsibility for a full chunk of the regular first-grade curriculum. Furthermore, the 1500 is taking up the challenge in a neighborhood where teaching has not always flourished. The Brentwood area is a mélange of gas stations, drive-ins and tiny ranch houses, where 85% of the population is Negro, and too many of the school children are a year or two behind the national norm in elementary reading. But in these first few months at least, the 1500 has thrived in this environment.

"We really wanted something like this," says Brentwood's principal, William Rybensky. "We're committed here to innovation." Indeed, Brentwood has offered up 100 of its children to the computer, and the machine's testers, programmers and assorted spear carriers outnumber the rest of the Brentwood faculty. So far, everyone involved in the experiment seems absolutely delighted with it.

The IBM Corporation is especially happy since it has invested some $30 million in the research and development of computer-based instruction. "There may be a lot of profit in this one day," says Leonard Muller, Director of Instructional Systems Development for IBM. Executives of other heavyweight electronics corporations agree. They have begun to hear the rustle of the new money that is falling like autumn leaves onto educational ground.

Most important, the kids love the experiment, although that first day, when they confronted the 18 terminals hooked into the computer, some of them shied away. "If I touch it, it'll hurt me," said one small girl, stepping back. One of the projectors assigned to teach the children and tend the program touched the face of the cathode tube and slapped on a set of earphones. Reassured, the girl and her classmates allowed themselves to be seated and the earphones drawn over their heads.

Soon the terminals in front of the children began to dance with images—white-dotted and white-line drawings of a dog, a bone, a cat—all flickering from the brain of the computer onto a gray screen. Through the earphones, a voice said, 'Bow-wow, woof-woof...'

Touch the dog with your light-pen and see what it does." Each child at his own terminal, touched the dog with the light-projecting pen he held, and the dog went for the bone. An electronic snail crawled onto the tube, veered away from a turtle and went to visit his friend, a butterfly. The voice at each terminal murmured new instructions—"Touch the snail" or "Touch the turtle." As the lessons progressed, a child who touched the correct image heard the voice ooze a gentle "Good." When an incorrect image was touched, the voice softly said "Nooooo," then repeated the original command. Sometimes a tiny arrow popped onto the screen above the correct picture. If there was a hesitation of more than five or 10 seconds, the voice said, with a slight rigidity, "Do it now." And if a child made two or three mistakes, or did nothing at all, the computer tapped out a distress signal on a monitor, and the teacher came—even as she once did for you and me—to find out what the trouble was and correct it.

The kids were fascinated. One boy, when he finished his lesson, twined his legs around the base of the swivel chair and refused to move. His proctor gently pulled him away. As he dug his heels into the rug, she pushed him out the door.

"He didn't want to leave because he was so absorbed," said [Pat Suppes], the Stanford philosopher and mathematician who, along with Stanford psychologist [Dick Atkinson], developed the mechanized reading and math programs for Brentwood. "Usually he gets so bored in regular class, he starts trouble."

By the end of the first week, the computer had subtly moved half the class into its first exercises in New Math. (The other half

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UC San Diego
What has happened?
• Shifting views about higher education
• Access and affordability
• New learners, new needs
• Internal soul-searching
How do we respond?
Identify the niches

1. MOOCs
coursera.org
**Identify the niches**

1. MOOCs

2. Online only/for credit (*UCOE; San Jose State+Udacity*)
Blog

September 13, 2013 10:45 AM

More (Bad News) on the Udacity Partnership at San Jose State

By Daniel Lazer

This Udacity-San Jose State online college partnership is really just the gift that keeps on giving, isn’t it? At the beginning of the year, with great publicity, San Jose State announced an agreement with online course provider Udacity, which builds massive open online courses (MOOCs), to build a special MOOC series just for the college.

There were, let’s just say, a lot of problems with the project. In particular, the completion rate in the online courses was pretty low and the college seemed to be able to correct that problem only by enrolling different, better prepared students.

It gets worse. According to an article at Inside Higher Ed:

San Jose State University on Wednesday quietly released the full research report on the for-credit online courses it offered this spring through the online education company Udacity. The report, marked by delays and procedural setbacks, suggests it may be difficult for the university to deliver online education in this format to the students who need it most.
Identify the niches

1. MOOCs
2. Online only/for credit (*UCOE*)
3. Hybrid/blended (flipped classrooms)
Identify the niches

1. MOOCs
2. Online only/for credit (*UCOE*)
3. Hybrid/blended (flipped classrooms)
4. K-12, college preparation
5. Job skill certification/CE/compliance training/in-service
Identify the resources

1. Production
2. Re-educating instructors
3. For K-12: partnerships with schools
4. For job skill certification: partnerships with industry

Q: Who pays for the resources?
Q: Who gets the revenue?
Q: How to manage all of this?
Do we lead?

1. New approaches to pedagogy
2. Personalizing learning
3. Assessment ‘at scale’
4. Interactions (instructor-student & peer-to-peer) ‘at scale’
5. Project-based