

New trends in the production and use of modern educational materials

From the old dame school of New England to the computer-based learning laboratory on California's shores is a long way—in time, space and human achievement. How pupils will be learning in computer-based classrooms is still a matter for conjecture and experimentation. But this we know: Pupil, teacher and administrator are moving, in ever-widening spirals, toward teaching-learning materials which promise to help realize the great potentials of education.

Two technologies are at work on these tasks: print and electronics. Print technology is producing different kinds of textbooks, as well as other materials ranging from paperbacks, to programmed books, maps and standardized tests. The electric and electronics technologies are equally productive—offering improvements in such stand-bys as filmstrips and tapes, and at the same time proposing typewriters that talk and recordings that flash motion pictures on a classroom screen.

A closer look at these two great related families of instructional materials may be useful—especially since they are now viewed as components for an integrated systems approach to teaching and learning.

Products of print

Even the earliest American schoolbooks had many-sided facets. The first so-called spelling book printed on an American press (1650, at Cambridge, Mass.) was more than a speller—it also contained a short catechism, psalms and exercises for handwriting. George Fox's famous *Instructions for Right Spelling* (its short title) was an omnibus book, providing learning opportunities not only for language skills but also for arithmetic. Noah Webster conceived his books in a series, his blue-backed spelling book, for example, was the first of three volumes devoted to reading, grammar and other language arts.

Many goals, many books: These were but crude attempts to build concepts of flexibility into schoolbooks. Today, products of print are as varied and as wide-ranging as are the course offerings in American

schools. Almost daily, authors and publishers create textual materials to guide the teaching and learning of every conceivable subject at every age level. Today's textbooks reflect varying educational philosophies, changed and changing laws of learning, emerging social needs and points of views. No teacher needs to be bound by texts which do not suit him or his class—if he asks and gets approval to obtain the precise teaching tools he needs to advance his instructional objectives.

Textbooks incorporating newer knowledge and concepts of mathematics, social studies, science and English are already on the market; additional ones are in preparation. Books reflecting more accurately, and more fairly, the contributions of Negroes and other minorities are already available and will become available in greater abundance in the years ahead. Or, to cite two other examples, elementary teachers now have access to textual materials dealing with economics, anthropology and sociology—subjects up to now classified as belonging to the upper grades; while instructors of adult classes will be able to choose appropriate teaching and learning tools from a long shelf of materials prepared for the express needs of out-of-school young adults, adults with low literacy abilities and skills, and the aged.

Textbook satellites: The hardcover textbook, staple of American classrooms for three centuries, acquired many an ally during the past 50 years.

The pupil's workbook, the teacher's manual, the test booklet—each was created in response to pressing psychological or instructional needs. These items have proved their value over decades. The pupil's workbook and the teacher's manual of today are vastly different from their predecessors. Similarly, the anthology, or collection of readings, came into being when teachers realized the value of introducing young minds to samples of the best in literature, but did not have the advantages of book collections either in the classroom or in a school library.

A book acquired for a school library—elementary or secondary—gives the classroom teacher added power to teach and the pupil added opportunity to learn. That is why the U.S. Office of Education said