

CURRENT TRENDS IN EDUCATIONAL PUBLISHING—A PERSONAL VIEW

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Perhaps the most distinctive characteristic of our times is the rapid increase in the rate of change. In whatever field one cares to look, the pace of change is accelerating. This is certainly true of education.

Because educational publishing serves education, the really important trends in educational publishing are the result of changes in education or in society's view of education. My thesis, stated briefly and straightforwardly, is that there are two major trends at work in American education. The first is a shift in society's view of education: once considered an expense, education is now seen as an investment. The second is a shift in the emphasis from teaching to learning.

Education as investment. Education as learning. These two phrases embody the ideas I hope to clarify and embroider. It will quickly be seen that the most important trends in educational publishing are a consequence of these two trends in education.

In 1958 total expenditures on education in this country were \$21 billion dollars. In the current year, total expenditures on education will be \$52 billion dollars, an increase of 147 percent in just ten years. Every indication is that expenditures on education will continue to rise. Yet while it is true that the contribution of the Federal government to education has risen spectacularly since Sputnik, it is also true that the Federal government's share of the total expenditures on education is still only 12.5 percent. Most of the increase in expenditures has come about because private citizens have made conscious decisions to spend more for education. These decisions have most often been made in voting booths when tax levies for education have been voted upon. Although it is generally acknowledged that increasing property taxes is the most difficult way to raise money, yet the citizens of this country have consistently voted to raise their property taxes in order to finance more and better education at all levels.

These increasing expenditures are impressive, but they alone do not prove that society has shifted its view of education, now seeing it as an investment. This country has always viewed education as

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important. The Northwest Ordinance of 1787 made special provisions to see that schools were a part of the total development of this wilderness region. Since that time education has become an ever-larger function of government. Until recently, however, education was not seen as an investment of the same type as roads, dams or improved agricultural methods which had visible payoffs. Good schools were not seen as a necessary concomitant of economic growth.

Today we are just beginning to believe that economic growth and well-being are tied to the level of education of vast numbers of people, rather than to a talented leadership alone. Although its truth is hard to establish, the belief is now widely accepted that California leads the nation in receiving defense contracts and obtaining research grants because of the magnitude of its investment in educational facilities and programs. The connection between California's investment in education and its success in obtaining contracts and grants has been cited by so many opinion leaders in Washington, in California, and in many envious state capitals, that it has almost become conventional wisdom.

This "conventional wisdom" is translated into action, for a number of states and local areas have determined to lift themselves up by investing in education just as other states and communities have invested in roads or dams or bridges or harbor facilities to lift themselves up. Some communities have now determined that the best way to overcome economic doldrums is to construct colleges. Community-financed factories to attract industry have long been a popular form of investment in community growth. Colleges are becoming another form of community investment.

The view of education as an investment is particularly common in the South, where many now feel that the extremely low expenditures on education in the past have been responsible in part for the depressed economy of the region. Economic planners and politicians have both determined that increased investments in education must be made if the South is to move forward.

In the so-called underdeveloped or developing nations, transportation and education are now seen as the primary areas for investment. And if education is seen in its broader perspective—including education in improved agricultural methods and commercial techniques, as well as in basic literacy—then investment in effective education is perhaps the most basic investment requirement of most African, Asian, and Latin American countries.

If we move our attention from the national level to the family level, we find that the vast majority of Americans expect their children to have an opportunity to complete at least fourteen years of formal education. They know very well that without this their children have less hope of achieving economic success or social status. Yet it was not so just a few years ago. In my lifetime there has been a

profound change in expectation. When I was a child, a majority of American youngsters did not finish high school. Only a tiny fraction went to college. Most of the top positions in business and government were held by men who prided themselves on being self-made, by men who had often never completed the eighth grade, much less high school or college. When I was a youth, it was expected that every youngster would finish high school. This would be the terminus of formal education for most citizens, with only a few going on to higher education. Top positions in business and government were then being held by men with bachelor's degrees. Now the expectations are greater still. It is generally expected that most youngsters will have an opportunity for at least two years of education beyond high school. Most of the top positions in our society are held by college graduates. The percentage of leaders holding advanced degrees is growing very rapidly and may already be as high as one-third.

Beyond these changes have come others. When I was in school, education was generally regarded as an experience that occurred during only one period of youth. When your head had been sufficiently filled with knowledge you left school, never needing further education. The majority of citizens now expect education to be a lifelong process. They expect to be trained and re-trained several times during their working careers. They look forward to education in leisure-time activities. Graduation from school is no longer considered the end of the learning activity for the rest of one's life.

These changes, these altered expectations, have come about because our society has begun to see education as an investment that will produce tangible returns. An example will illustrate: we see Aid to Dependent Children, the often-maligned ADC, as an expense, not an investment. Social breakdown or individual malfunctioning have made it necessary to spend money to help the unfortunate children who are dependent. We suffer the expense because we are basically humanitarian toward children. But we tend to treat the mother as a sinner. We are generally reluctant to increase expenditures for ADC, no matter how carefully the need has been documented. This is because we see ADC as an expense. Perhaps, however, it should be considered as an investment. If the children helped by ADC can grow up to lead productive lives as effective citizens, then their contributions to society, including their taxes, will repay the amount spent on ADC many times over.

Indeed, a few forward thinkers do see ADC and other welfare payments as investments in human development that will pay back many times the amount invested. But society in general has not yet accepted that way of thinking. Society still views Aid to Dependent Children as I believe it viewed education some years ago—as a necessary expense which has to be borne and as an expense which must be carefully controlled, reluctantly increased, and always given grudgingly.

Education, however, has now passed from that unhappy situation. The opinion of leaders in society now is that education is an investment that will bring about tangible returns. As with all investments, there is concern that the money be invested as wisely as possible. Investment priorities continue to demand decisions. The quantity and quality of the return on the investment is the subject of much debate. But it now seems clear that education at all levels and in all kinds of institutions has come to be regarded as an investment rather than an expense.

The major visible consequence of this change in viewpoint is the tremendous increase in expenditures on education previously mentioned. Spending on every kind of educational program has soared, with no end in sight. After defense, it is the country's largest single area of expenditure.

The realization that education is an investment has led to more time, as well as more money, being devoted to it. With Head Start programs and nursery schools and pre-kindergartens, a very large number of children begin their formal schooling at the age of three or four. Most of these children will not complete their formal schooling until they reach twenty-one, while many will continue formal schooling for some years after that. And all of the children now in our schools will have a lifetime of learning—in the military service, on the job, at home, and in more formal programs at schools and colleges. More of each day, more of each year, more of each lifetime will be invested in education. As with money, we expect this increased investment of time to have a payoff to society and to the individual.

Because society is now willing to give education more money and more time than ever before, it is going to demand more in the way of visible results: compensatory education will be expected to free young people from the ghetto; vocational training will be expected to insure skilled workers; and education in general will be expected to produce literate citizens capable of enjoying satisfying leisure.

Many school administrators and teachers have not yet tuned in on the new climate of opinion. Too many are not yet ready to be judged in terms of their results but are still talking in vague generalities about turning out good citizens or effective adults, without defining specifically what behavior they have taught to bring about good citizenship or effective adulthood. The coming years are going to be difficult for educators who are not willing to be measured by tangible, observable results.

For those educators who respond to the new role of education, it will be an exciting time. They will have more resources at their command, higher status in society, and more power to influence the course of society. But the dull, mediocre, time-server will find himself increasingly pressured and increasingly uncomfortable.

And what about the educational publisher? Well, there are dull, mediocre, time-serving educational publishers, too, who will find themselves increasingly pressured and increasingly uncomfortable. The educational publisher who can serve the new education, whose products and services can bring about tangible, observable results, will prosper.

As more money becomes available to spend on educational materials produced by publishers, it is only natural that there will be closer scrutiny of the quality and effectiveness of these materials. Less attention will be paid to esthetic values and more to the results obtained from use of the materials. If we invest in a publication, what educational payoff can we expect for our investment? To many publishers this seems a harsh standard, but it is the standard that society has a right to expect when it decides to invest large sums. Both education and the materials used should be judged on the rigorous standards of any investment—is the return satisfactory?

Let me now turn to the second trend that I want to discuss, the shift from teaching to learning.

From long before Socrates until our own times the teacher has been the core concern of education. The educational process has been focused on the act of teaching, and most of the arrangements of education have been made to facilitate teaching. But now we are slowly coming around to another belief. Perhaps learning is really the core concern of education. Perhaps the educational process should focus on the act of learning. Perhaps education should be planned to facilitate learning.

Some of the implications as well as the visible aspects of this shift from teaching to learning are discussed below. When the emphasis is on teaching, it is desirable to have students in groups, their size being primarily a function of the kind of teaching and of the mode of communication. In a learning-oriented educational environment, however, the emphasis is on the individual learner. A large mute group—of thirty, or three hundred, or whatever number—is inappropriate, because in any group toward which a single teaching message is directed there will be a range of response. Some will not get the message. Only when the emphasis is on conveying a message to each individual can individual learning be certain.

When I attended elementary and high school, all of the seats were securely fastened to the floor. They still are in many schools. All of the seats faced front, toward the teacher. The teacher ranged the front of the room, at the desk, by the blackboard, sometimes standing at the head of a row. The whole physical arrangement of such a classroom was designed to facilitate the act of teaching. Or consider the university lecture hall with its podium in the front and arcs of seats arranged so that every student faces the teacher. In a large hall with hundreds of seats focused on the teacher's podium, can

there be any doubt about where the emphasis in education is? It is obviously on teaching.

But in other parts of the university there are carrels or tables around which the seats are placed without a focal point. We are beginning to see new arrangements for individual study. The focus of such facilities and arrangements is obviously the act of learning, rather than the act of teaching. In most modern elementary schools, furthermore, the desks have been unfastened from the floor. Many schools have individual study carrels and other facilities that promote individual learning activities.

When the emphasis is on the act of teaching, it is obviously most efficient to have rigid schedules to which the movements of students are geared. These schedules insure that groups of students gather at the appropriate time in the appropriate place to be taught. We all know that learning does not take place in this way. We do not learn in rigid time blocks. We cannot begin learning when the bell rings and stop when it rings again, although it is easy to begin and stop teaching when bells ring. In a number of colleges and universities there is greater emphasis on independent study, on having the learner allocate his own time in terms of the needs of the learning experience. Most such programs are experimental, but they are widespread.

The high schools are just beginning to experiment with flexible scheduling. It is too early to tell whether the time is ripe for this idea, but it is obviously necessary if learning is to replace teaching as the focus of the schools.

Elementary schools have been much more flexible about time. In the elementary classroom, good teachers have routinely permitted individual students to work independently at their own pace. In the kindergarten one youngster may paint for ten minutes, while another youngster paints for two minutes, cuts for twenty minutes, and just stares into space for ten minutes. There is great individual flexibility. For still younger children there is almost a completely flexible independent schedule for each individual child. Perhaps that is why most of the available research indicates that the bulk of learning occurs at a very young age. Perhaps we learn best then because we are free to schedule our own time in relation to the real needs of the learning task at hand instead of being scheduled by outside forces to suit the convenience of the teacher.

Intertwined with the emphasis on teaching has been the emphasis on enculturation. If the purpose of education is enculturation, then it is clearly not desirable to permit each individual learner to learn what suits him. Enculturation demands that the act of teaching be emphasized, for only by emphasizing teaching can there be assurance that the key aspects of tradition, custom, law, mores, and so forth are correctly transmitted to the next generation. With enculturation as a primary purpose, the act of teaching becomes the central core of education.

I believe our society is beginning to doubt the value of enculturation as a goal of education. A more practical goal in today's world is preparation for change. Society is beginning to see the importance of preparing each individual to cope with rapid and unpredictable change. To cope with change the individual needs skills and attitudes that are quite different from those needed for entrance into the established culture. The skills and attitudes needed for change must be learned individually. If we seek to prepare children for change, we need to shift the emphasis of our educational process from what is taught to what is learned.

Through much of the history of education, a primary purpose has been preservation of the past. Perhaps this is the same thing as enculturation. This focus on preservation of the past has made the teacher the central figure, and indeed only a great teacher can build the images and convey the values that make the past seem relevant to our own times. But the focus is changing. Gradually society is accepting that education's major role must be to prepare individuals for the unknowable future, and this inevitably shifts the emphasis to the learner. What counts are the skills, attitudes, and knowledge that will serve him for a future that will inevitably be different from the present.

In the past, education concerned itself with imparting to students a fixed body of knowledge. It was easy to conceive of the student as an empty bucket to be filled up with knowledge. Between empty buckets and pourers of knowledge, there is no question of status. The one who pours must be the focus of our attention. It is still often tacitly assumed that there is a body of knowledge to be poured into the minds of students, and hence we tend to see teaching—or pouring—as the key function.

In many schools, knowledge is now recognized as a shifting, changing thing. In these schools, the focus is on process, on learning skills and learning processes, rather than on teaching as such. Skills learned by the student to cope with changing knowledge are seen as much more important than specific bits of knowledge.

Let me now shift gears. In the old days, there was a real but unspoken chasm in school between "us" who sat at the desks and "them" who stood at the front of the room. Teachers were beings apart and we took pride in seeing how much we could put over on them.

But what happens in some of today's classrooms when the teacher does not stand at the front of the room, but sits in a circle with the students? What happens when the learning process involves discovery and it quickly becomes obvious that the teacher is discovering along with the students? What happens to the unspoken warfare when the teacher acts as a helper in the learning process rather than as the fountain of knowledge and discipline? Perhaps some of the zest of making spitballs and sailing paper airplanes is lost. My

own children seem to be more serious than I remember being. But they also seem to have learned a great deal more.

In the elementary classroom particularly the role of teacher is changing rapidly. Authoritarianism is on the way out. It served well when education emphasized teaching. The teacher naturally fell into an authoritarian role, for did not society accord to the teacher the wisdom, knowledge, and power, as well as the responsibility, for the educational process? Now, however, in many schools, the teacher is seen as the orchestrator of learning experiences. He is not the fount of all knowledge, but rather he assists the learner to find the best sources of information and to pace himself and to evaluate his own progress. A teacher's role is in this way focused upon learning.

In the past, schools emphasized competition among the students for grades, or gold stars, or praise. The basis for competition was to see who could absorb and regurgitate the largest proportion of the information presented by the teacher. Competition was seen by the teacher and by society as a way to motivate youngsters.

The new education emphasizes cooperation. Whatever competition among students may do for the ego of the teacher, it has been proven to be harmful to students. Competition does not facilitate the learning process nearly as much as cooperation, which reduces tension and motivates greater efforts than competition. Despite the commonly accepted myth that competition is the way of life in the real world, almost all of us spend almost all of our time in cooperative activity. We are cooperating with our fellow workers on the job, cooperating with our family on home-centered tasks. Cooperation is a much more useful and meaningful and widespread mode of life than competition. In a learning-oriented educational system, competition will not be considered a prime motivator.

What is one to do about grades? They have been a part of the competitive system, usually symbolizing the proportion of the teaching retained and regurgitated by the student. A grade of "A" has indicated that a student is able to give back between 90 percent and 100 percent of the material presented by the teacher, whether or not it is relevant to the student or even true. We have arbitrarily determined that the ability to regurgitate less than 50 percent of the material taught is unacceptable, and we mark such a memory performance with a failing grade.

What counts for the teacher is the amount of his presentation that the student gets. What counts for the learner is something entirely different, namely his progress from the point at which he started learning. In some schools, report cards have become progress reports that really do try to give the student objective information about his own individual status and rate of growth. It seems clear that this type of grading—if it can be called grading at all—will become more and more widespread as the shift from teaching to learning continues.

Another aspect of the competitive, teaching-oriented system has been the existence of the normative test. The normative test is one which compares students with each other. This kind of test is expected to produce the so-called normal or bell-shaped curve of scores. Normative achievement testing is an extremely important part of the typical schools. It is a big business, too. But the typical normative test is only a sophisticated measuring device of teaching-oriented education. It is really not very important to know that a student is better informed about certain facts of history than 75 per cent of the other students who have taken the same test. The implication of such information is that the test actually contains information that all students must be taught. Such a test serves the teacher's ego by separating those who have memorized the teacher's presentation from those who have not. But the normative test does not inform the student directly about what he does not know or only partially understands. The normative test is not a diagnostic guide to future learning activities.

In a learner-oriented educational system a different testing program is needed. I like to call the tests in such a program "yes-no" tests. They are often called task analysis tests. If the task is to add two plus two correctly, then the test can simply analyze whether or not the student can perform this task. There is a clear-cut criterion. Such a test produces either "Yes, the student can add two plus two correctly," or "No, the student cannot add two plus two correctly." From such tests comes the diagnostic information by which the individual learning process can be directed most productively.

This type of test can be embarrassing to the teacher. When the teacher has presented the information that two plus two equals four, and ten children score at the low end of the curve on a normative test, the teacher normally takes comfort in the thought that these children are dumb, stupid, disadvantaged, or otherwise unable to absorb that which has been taught. The task analysis test, however, implicitly assumes that everyone can learn the task. If ten children have not learned that two plus two equals four, there is likely to be a deficiency in the way this information has been presented. The fault now lies with the teacher and not with the student. It is now up to the teacher to take steps to present the information in some other way to these ten students so that they learn to perform the task correctly.

In my mind such an orientation is wonderful. One of the most heartening days of my life in education was the one when I realized that the IQ, as measured by IQ tests, was not fixed and immutable, as I had been taught in college and graduate school. What joy to find that we really did not know any limits to the ability of human beings to learn. What a challenge to find that the responsibility for producing student progress could not be evaded by blaming poor performance on an unchangeably low IQ. The day that the IQ came

unstuck was for me the day that I began to recognize that teaching as the core concern of education would be replaced by learning.

The real impact of this change has not yet really been felt by educational publishers. Few colleges or universities operate so as to emphasize student learning. Whether it is a vast freshman course or a small graduate course, it is likely that a standard textbook will be assigned that closely follows the oral presentation made by the professor. The entire emphasis will be on the act of teaching.

But some of our newest colleges are changing. By many different means, they are emphasizing learning. In such colleges the market for the standard basic textbook is substantially altered, and a much larger market for books and other instructional materials is provided. But for the publisher who has tailored his operations to the production and distribution of basic textbooks in large lots, this new type of college is most unsettling. And when it uses computers and videotape machines and micro-image storage and retrieval, and many other technological devices which seem to reduce the market for books, the publisher looks even more askance.

In only a few of our high schools and elementary schools has this shift to learning had much impact. The effects on publishers are yet to come. The number of schools that have reorganized their curricula and practices is small, and even for these, the restrictions of state and local adoption and purchasing practices make it difficult to move away from the standard basal textbook. But I believe the trend is unmistakable.

An educational system focused on learning requires much more sophisticated diagnostic devices. It must accurately pinpoint the exact status of each student and more effectively indicate the activities that will produce learning. It requires a tremendous diversity of materials, which must be responsive to the individual student's most effective learning mode and to his style and pace of learning. There must be materials which proceed very slowly and carefully to help the student who is having difficulties, and there must be materials that go beyond anything we now have in permitting students to follow their interests.

This means that the library as a learning center must be expanded tremendously. And it means that the publisher must devise ways to supply the materials in a manner that is economically feasible for publishers, authors, libraries, and tax-payers. From what I see today, none of these groups is entirely ready for the kind of expansion in service to learning-oriented education that is demanded.

By and large, publishers have been reluctant to change their long-established habits, founded on a teacher-oriented educational system. These habits, based on building a standard product for simultaneous use by hundreds of thousands of students in thousands of classrooms, have a strong economic basis. Mass production, mass

distribution, and mass consumption have made the educational publishing business quite a profitable industry. Publishers, by and large, are reluctant to change when they have a good thing going.

But change is being forced upon them from the outside. There are scores of projects going on in universities, in school systems, and in regional educational laboratories aimed at producing instructional materials for use in learning-oriented programs. These new projects are a very serious matter for the educational publishers, for they represent a separation between the publishing industry and the most forward-looking educational innovators. If this separation persists, it will have drastic consequences not only for the publishing industry but also for education.

If the publishing industry does not attune itself to learning-oriented education, it will leave the field to government-sponsored publishing efforts which are likely to evolve into government-controlled publishing programs. Then the natural conservatism of the politician will replace the creativity of the researcher in determining what shall be published. Publishers are not likely, in the long run, to be as conservative as congress. I believe, however, that there are a number of educational publishers who recognize the current trends in education and who are hard at work producing instructional materials that will meet the needs of a learning-oriented educational system.

The two last points I shall discuss are teacher militancy and the classroom of the future. The trend to teacher militancy will have an important impact on the future. Recently thousands and thousands of teachers went on strike. It was a very visible manifestation of deep dissatisfaction with pay, prestige, and power. Teachers forcefully demanded higher salaries, more prestige and status, and more power in determining what happens in the schools. By and large they won a major portion of their demands, but I predict the strikes will be more wide spread in the future.

In the short run, teacher militancy will retard the shift to a learner-centered school. In the short run, the one to two percent of the school budget presently allocated for instructional materials will be eroded as some part of that money is shifted to pay increased teacher salaries. In the short run, the teacher will become even more dominant in running his classroom as he sees fit.

But in the long run, the result will be substantially different; teachers cannot expect to be true professionals, compensated at truly professional levels, and not be evaluated on performance. Tax-payers and school boards will not be willing to pay every teacher with the same education and length of service the same salary, no matter how good or how bad his performance. Merit ratings and merit pay seem to be an inevitable consequence of the professionalization of teaching brought about by strikes.

The idea that there should be one professional teacher for every thirty students is going to be killed as well. We have established such an ideal ratio for \$6,500-a-year personnel. It is not likely to be practical for \$12,000-a-year personnel. Greater specialization of function is coming with the introduction of teacher aides and other para-professional personnel. We may ask a \$6,500-a-year man to wipe noses, collect milk money, and check hall passes, but it seems unlikely that we are going to want to use the time of a \$12,000-a-year man on such low-level activities. We will employ more differentiated and specialized personnel in the schools. And this will bring about a situation where the highly-paid professional will be responsible for the learning activities of several hundred children and for the supporting activities of a team of para-professionals.

However, it is unlikely that there will be enough people available to fill all the requirements for sub-professional work. Medicine has already found that the nurse, the nurse's aide, the lab technician and other sub-professionals are in extremely short supply. The response to this personnel shortage must be automation and a greater dependence on devices, instruments, and materials prepared and installed by outside organizations. In the long run, the publisher will have an opportunity to play a much greater role in education and get a larger share of the educational budget because of the forces that have been made visible by the teacher strikes.

Now, what about the future?

Learning will take place at home, but the major learning experiences will still be in schools. Although the school day will probably begin and end at fixed times it is likely to be longer than it is now. However every student may not attend for the full time. The school may well be open at least eleven months of the year, and many schools will be open during the evenings for individual study by students and by adults in the community, as well as for various group recreational, educational, and civic activities.

Much of the student's school day will be self-paced, without rigid schedules and time blocks, although there will, of course, be certain scheduled events, for group activities are desirable and these need to be scheduled. Each student will be assigned to a teacher-counselor. In addition, he will have an individual study carrel or module. At some place there will be a computer terminal to which he can go for a variety of purposes. The student must check at frequent intervals on the point he has reached in learning, where he has come from, where he is going, and what alternative routes are available. The computer will store and present this information. It will also store a continuous record of the student's progress in every area from the moment he came into the educational process. Test data, information on the student's physical condition, socio-economic factors, and all other information that might be of importance will be stored in a data bank.

Other computer data banks will store learning activities. These learning activities will be geared to specific tasks, to the attainment of specific knowledge, skills, or attitudes. The use of these activities will be likely to produce measurable behavioral changes in the desired directions. In fact, the learning activities will be chosen in terms of their proven ability to produce measurable or observable changes in behavior.

The learning activities stored in the data bank of the computer will be graded in terms of the level of difficulty and separated in terms of the learning mode to which they are directed. They will be classified as group or individual activities, either teacher- or self-directed. These learning activities will form the core of the curriculum. There will be such an extensive bank that each student will be able to follow his own personal course of study based on his own needs and capabilities.

I do not believe that most or even many of the learning activities presented to students in the future will come directly from the computer to a teletype or video screen or other computer output device. A large percentage will be found in the conventional media, and the printed word will probably provide the greatest source of learning activities. The computer is quite likely to direct the student, when asked what is the appropriate learning activity, to turn to chapter twelve of his textbook.

I believe that students will continue to read books; they will also see films, listen to tapes or records, study pictures, and even listen to lectures. But the learning activities will be tailored to the specific learning needs of each individual student. After each block of learning activities, he will be tested or observed to determine if his performance or behavior has been changed. For example, in the case of arithmetic number facts, the results of a test presented by the computer may be fed back into the computer for entry into the student's data bank. An analysis may then be given to the teacher-counselor if action seems necessary to improve the student's performance.

If the learning activities are to promote good citizenship, for example, the computer would provide the teacher-counselor with a checklist of observable behavior patterns that indicate good citizenship. Observation would determine whether or not the student exhibits the behavior associated with good citizenship, and analysis by the computer would determine whether or not he had made progress, and if not, what additional learning activities might be appropriate.

A major task of both para-professionals and the teacher-counselor will be to praise, reassure, support, encourage, and take a personal, warm interest in each student. This should be more possible with the greater individualization of instruction. The teacher-counselor may not be talking to thirty students all day, but it is quite likely that he will be able to talk privately and personally with each

student every day. I believe that even five minutes a day of personal conversation is worth more than five hours of group lecturing.

Some of our best schools already have the kind of learning center that will serve students. It is merely an expansion of what our best school libraries have always been, and its heart is its book collection. The collection is certainly not restricted to textbooks; any book which can make a contribution to a student's learning is a likely prospect for the learning center. It will also include video screens hooked into a video tape library. There will be computer terminals for drill and for other kinds of learning activities. There will be objects and recordings, and all kinds of other materials and machines available for learning. Most of them are already developed and can be observed in use somewhere today.

The activities of the student in the school of tomorrow will certainly be changed. There will be much more individual work. Much more flexibility of time allotment. Many more kinds of learning activities. A continuous record of student progress. A much greater emphasis on the realization of individual potential rather than on conformity to group norms.

Although their activities will change, students will adjust quickly. The teacher's activities will change just as much, but a good many teachers are going to find it extremely difficult to change to meet the new requirements of their profession. Extensive programs of re-training will be needed. Changing the average teacher from lecturer to counselor will take a lot of doing, but I believe that once teachers recognize the opportunity that this change affords, they will respond.

Such schools are beginning to be developed, some in old buildings; some in new. Computer systems are being developed and tested to take over the massive record-keeping job inherent in a school devoted to individual student progress. Flexible scheduling, team teaching using para-professionals and the teacher-counselor concept, and the learning center with individual study carrels are all in use in schools today.

Yet the gap between the best and most innovative schools and the poorest schools is huge. Only through a massive investment of funds and massive commitment to change can we begin to close this gap. Because of our national belief in education as our best investment, I think we will do what is necessary, although we may move slowly, uncertainly, and often with loud argument.

This movement in education makes the future of educational publishing look bright. The old-line companies with their emphasis on the single basal textbook may founder on the shoals of change. The electronic giants with their glorification of hardware are likely to find that educating individuals is not a product of the weight of hardware—just as these same companies are finding that winning a

war in Vietnam is not the product of the weight of hardware. But the educational publisher who keeps his eyes focused on the learner's needs, who is willing to develop and distribute the instructional materials that are best suited to solving the individual's learning problems, and who further keeps in mind the importance of economy—such a publisher will grow and prosper.

In educational publishing, the most visible current trend is change. The major thrust of this change, as I have shown, comes from two areas. First, our society now views money spent on education as an investment, not as an expense. As a result a great deal more money is committed to education, and this increased spending in turn leads to further change.

Second, the core concern of education is changing from teaching to learning. This emphasis on learning is having profound effects upon the organization of school activities, upon the activities of the individual learner, and upon the activities of the teacher. In the school of the future, as it is affected by these two major changes, there will be an important role for the educational publisher.