THE FOURTH R: RESOURCES

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Because libraries have such a vital role to play in education, I would like to talk with you today about a future for education in our society that will be dramatically different from the past. The difference has been captured by your conference theme, "The Fourth R: Resources." Indeed, I would be quite willing to reorder the four R's and talk about resources as the first R in education. The citizen who has mastered reading, writing, and 'rithmetic without knowing how to extend learning through the use of resources can hardly be called educated in a world that changes as rapidly as ours. In fact, as we look to the world of tomorrow, even the word "educated" has a strangely anachronistic ring to it. There probably is no such thing as an educated person since education is a process, not a final accomplishment. As we look to the future of a learning society populated by lifelong learners, resources become a necessary R in learning.

The now familiar phrase "the learning society" brings to mind, not the school buildings and college campuses that people have associated with the education of the past, but a picture of people of all ages and from all walks of life engaged in a great variety of learning activities--from macrame to Milton, pursuing it in lecture halls, living rooms, libraries,

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museums--even in subway trains. Teachers of the future will be erudite scholars, practical executives and enthusiastic neighbors--not to mention self as teacher.

At the heart of the learning society lies a changing perception of education. There is not much place in a learning society for a concept of education as a static body of knowledge that can be passed on to the youth of the society as preparation for their adult responsibilities. That notion makes some assumptions that we wish now to question. (1) It assumes that there is some finite body of knowledge that forms the common core of education. (2) It assumes that we in the 1970's know what the citizens of the year 2000 will need to know. (3) It assumes that the human mind is capable of storing and retrieving information efficiently and effectively. Let us look at those assumptions more carefully.

The year 2000 is less than 25 years away, but with the exponential rate of change in human society, it is safe to state that much of what we think we "know" to be true today will be proved irrelevant or false by the end of this century. A famous architect wrote recently, ". . . Almost nothing that we were taught by our betters in or out of the architecture schools of the mid-century has stood the test of time. Nothing--or almost nothing--turns out to have been entirely true (Blake, 1974)." If a pragmatic discipline such as architecture (where one assumes validity of knowledge by whether buildings stand or fall) has no edge on truth, ponder the permanence

of knowledge in my own field of psychology. I thank my poor memory that I have forgotten so much of what I was taught about psychology in graduate school in the 1950's. I would surely be in trouble today if I remembered it as the truth that I thought it was at the time. Fortunately for my reputation as an academician, the president of the American Psychological Association seems to agree. During a meeting of the Association, he urged his colleagues to teach so as to remove "any arrogant scientistic certainty that psychology's current beliefs are the final truth. . ." (Time, September 15, 1975, p. 94). Education may well be a search for truth, but I hope that we will never be content to say that education is the dispenser of truth.

The human mind is a marvelous thing, but we abuse it when we assume that storage and retrieval of information is its greatest asset. The forgetting curve starts with about 60 percent retention immediately following a lecture, dropping to about 20 percent after eight weeks (McLeish, 1968). Or if one wishes to talk about longer periods of time and less specific demands, we can cite the Carnegie studies which showed that eight years out of college, high school teachers who had taken economics in college knew no more college economics than teachers who had never taken a course (N.Y. Times, October 5, 1975, p. E,9).

I doubt very much that there is a permanent body of knowledge that can be passed along to youth in the hopes that it will last a

lifetime. There are, however, intellectual skills, attitudes, appreciations and curiosities that will help people use their minds throughout their lifetimes. And active, inquiring minds are as likely to be found among 50-year-olds as among 10-year-olds.

I do not think that my profession of education has sat down and pondered the future and made conscious decisions about the kind of education that will be needed for the 21st century. But despite the lack of conscious planning on the part of the educational establishment, our nation is moving rapidly toward a learning society.

Librarians, I think, can grasp the true nature of the learning society of the 21st century better than educators can because your role in the society places you in constant touch with a wide variety of people who are already into lifelong learning--to use today's vernacular.

But I can best illustrate the pressures for societal change in education by looking at the changing role of postsecondary education.

A look at the response of postsecondary education to the needs of the learning society is significant for another reason. Research is in broad agreement that from 80 to 90 percent of the adults participating in organized learning activities have at least a high school education (Carp, Peterson, and Roelfs, 1974; National Center for Educational Statistics, 1975). There is corresponding evidence from the 1976 research study on the Roles of Public Libraries in Adult Independent Learning (Mavor, Toro, and DeProspo, 1976, Part II) that about 80 per-

picture changed abruptly, and we found ourselves abolishing one barrier after another in rapid succession. The call for equality of educational opportunity brought the establishment of open-admissions community colleges at the rate of one a week throughout the late 1960's. Then colleges of all kinds began actively recruiting previously excluded poor people, ethnic minorities, and women. Now higher education is looking for ways to abolish all other exclusionary practices, including discrimination because of age, part-time student status, and geographical isolation. Increasingly our national policy is that anyone who wants to learn is entitled to two years of formal education beyond high school.

Most people do want to learn, and they want society to provide the opportunity. In a national survey conducted by Educational Testing Service, 77 percent of the adults between the ages of 18 and 60 said that they were interested in learning more about some subject, and one-third had actually engaged in some type of organized learning activity in the year prior to the study (Carp, Peterson, and Roelfs, 1974). The respect for learning is widespread; people believe in it, and given appropriate opportunity, they practice it. The national picture today is one of great activity to embrace everyone in the new learning society. In the short space of 20 years, colleges have moved from a national policy of exclusion to one of inclusion.

The second trend I want to talk about in connection with higher education's embracement of the learning society, I shall label

campus-expansiveness. Geographically, as well as conceptually, colleges are reaching out to include a broader community. Early in the history of higher education, colleges were deliberately located in small towns such as Princeton, Ithaca, and Palo Alto--away from the hustle of the city. Faculty lived around the campus and students lived on the campus, and college was a community unto itself--its geographical isolation a symbol of its removal from the worldly concerns of the masses.

From these small residential campuses, we moved to the massive campuses epitomized by the land-grant universities. The community colleges were next in the evolutionary process of campus expansiveness, as they extended the concept of campus beyond the quadrangle of college buildings to include the entire community as their campus. Today, we speak of universities without walls, as education reaches out to people wherever they are.

The evolving geography of the college campus reflects the change from exclusiveness to inclusiveness in higher education, but it reflects something even more fundamental to the learning society. It gives formal recognition to the long-standing fact that educational institutions are not the repositories of all knowledge and that learning is not confined to the classroom. Great cities are conceded to have some of the finest educational resources available anywhere. Metropolitan libraries, museums, symphonies--even business offices--provide learning experiences unparalleled on conventional college campuses.

Where off-campus learning facilities do not exist in the environment, they can be created through imaginative use of technology. Talk-back television permits isolated learners to join in class discussions conducted hundreds of miles away. England's Open University has successfully popularized the vision of a high quality scientific microscope standing alongside the blender in the well-equipped kitchen. And rising out of the Great Plains of the United States is the University of Mid-America that promises to deliver quality education to sparsely populated regions of our nation.

The trend is as clear as it is steady. The college campus has burst explosively from its boundary, and decentralization of learning is the major trend for the educational establishment. Even thoroughly traditional colleges are looking for new people to serve and new locations of operation. In a survey conducted for the Commission on Non-Traditional Study (Ruyle and Geiselman, 1974) the investigators concluded that there were between 1,000 and 1,400 new programs in this country generally designed to attract adult part-time learners. Most of them are less than five years old, and two-thirds are utilizing off-campus locations. Thus, one of the consequences of the decision to include rather than exclude people from postsecondary learning opportunities is the expanded campus that takes learning to the people. Libraries, of course, have always done that, but what I want to illustrate is the significant movement of the educational establishment into the era of the learning society.

The two movements in higher education that I have described as people-inclusive and campus-expansive are fully underway, and their impact has been felt by almost everyone.

The third great trend is just beginning. We have seen but the tip of the iceberg, but it will have a profound effect upon education as an enterprise, upon teachers and students, on libraries, and on society at large. And that trend I shall label education-competitive and/or education-cooperative. I refer to the fact that in the new learning society, education is no longer a monopoly. Until quite recently, most learners were doing their formally recognized learning in the regular school system. But for a number of years now, enrollments in the so-called educational periphery consisting of business and industry, libraries and museums, government agencies, proprietary institutions, community agencies, and correspondence and television courses have been growing faster than those in the educational core. Even by the very conservative figures of the National Center for Educational Statistics, adult learners pursuing non-credit but formally organized learning, numbered over 17 million in 1975, a figure more than one and a half times the number of college students enrolled for degree credit. Although part of the extremely rapid growth of adult education in recent years can be attributed to the post-war baby bulge now moving into their adult years, the number of adults participating in learning activities is growing even faster than their numbers in the population. The spectacular increase in participation in so-called "organized

learning activities" is generally attributed to a combination of the demographics of the birth rate, the increasing need of adults to be informed, and the aggressive efforts of educational organizations to attract new student markets.

Despite the impressive growth of organized learning activities, however, it is probable that nonformal learning or self-directed learning is the largest educational enterprise of all. Since researchers have not collected statistics on noninstitutionalized learning, it is hard to talk about trends in self-directed learning projects. But belatedly researchers are asking some interesting questions about adult learning activities.

A group of researchers in Canada have been studying what they call "highly deliberate efforts" of men and women to learn. They concluded that 98 percent of the population conduct at least one learning project per year. They defined a learning project as a series of related episodes adding up to at least seven hours in which the primary intention of the person was to gain and retain certain definite knowledge and skill (Tough, 1971). While less than one percent of the learning projects were undertaken for credit, intensive interviews revealed that the typical adult engaged in eight learning projects per year, averaging 90 hours per project. That means that the typical person in today's society spends between 700 and 800 hours per year in "highly deliberate efforts" to learn. As librarians, you are much more likely to see these self-directed learners than educators are. Indeed,

it is quite possible for the educational establishment to get in their way with our emphasis on courses, requirements and credentials. But some colleges are moving toward new flexibilities in education.

There are now three fully-accredited "colleges" in this country that offer no instruction whatever. They have no admissions requirements and no campus; they demand no attendance and impose no schedules. Instead, they use the learning resources of the community, granting degree credit for advanced learning without asking how or where it was acquired. The Regents External Degree Program of the University of the State of New York has awarded more than 5000 college degrees since it was founded in 1971. While some 600 of these degrees have been granted on the basis of examinations alone, most of the 13,000 students now matriculated in the New York Regents program submit a combination of certified learning experiences--courses taken on the job, during military service, or from community agencies plus learning experiences gained through paid and non-paid work.

Increasingly degree certification may be obtained from the credit recommendations of the prestigious American Council on Education's Office on Educational Credit. In the past few years, this office has reviewed hundreds of courses offered by the military, industry, labor unions, etc., certifying that the courses represent quality college-level learning and recommending to colleges the type and amount of credit to be awarded.

While these may seem far-out examples of the new flexibilities of the educational establishment, they seem less extreme when viewed in the context of the changing practices of so-called traditional colleges. Over half of the colleges in the country today recognize experiential learning (volunteer work in the community, foreign travel, etc.) through granting credit, and more than two-thirds of the institutions of higher education permit students to earn some college credit through acceptable performance on examinations (Ruyle and Geiselman, 1974).

Self-directed learners who pursue learning in or out of educational institutions have a very good chance today of converting knowledge into degrees--if they wish to do so. Recent research indicates, however, that the majority of adult learners are not interested in degrees; they are, however, interested in something more tangible than personal enrichment (Cross and Zusman, 1977). The leading motivation for adult learning, it turns out, is not very different from the leading motivation for adolescent learning. It is to improve one's lot in life through better paying, more prestigious, more interesting jobs.

Much of this unprecedented flexibility on the part of basically traditional colleges and universities is stimulated, I'm afraid, not by either the logic or the ideal of a learning society, but by the thoroughly pragmatic instinct for survival. The fact is that the shrinking population of 18 to 24 year olds is creating a highly competitive market for adult learners.

Since about 1970, between one-fourth and one-third of the colleges in the country have introduced new flexibilities and new programs calculated to attract adult part-time learners. The competition generates its own energy. More offerings on the part of colleges stimulate more interest on the part of potential learners. And more interest on the part of adult learners stimulates more effort on the part of student-starved colleges. But at the same time that competition is heating up between colleges, there is a move toward cooperation between the educational core and the periphery.

This cooperative phase is related to, but quite distinct from, the campus-expansive phase that I described earlier. By identifying an emerging cooperative phase, I mean to suggest that higher education will share rather than expand control over student learning. Historically, as the country has wanted more postsecondary education, we have looked to colleges to provide it, and colleges have responded through expansion of programs and facilities. Now it looks as though education will expand into the community through cooperation rather than mere extension. Education through cooperation represents a much bolder step into the learning society than does education through expansion.

The signs of the emergent cooperative phase are already visible. Getting a vice president of the Bank of America to teach a course in banking is illustrative of a new interest in adjunct professors. The use of paraprofessionals is indicative of a desire to spread educational responsibility into the broader community. The rapid

growth of peer counseling and peer tutoring programs gives formal recognition to the notion that students help educate fellow students.

Off-campus, the changes are even more dramatic. Cooperative programs exist between colleges and libraries, military bases, industry, community agencies, transportation systems, commercial and public broadcasting, professional associations and unions. It is hard to think of an area which does not have at least one good example of the education-cooperative phase of the learning society. In the true learning society, we all are learners, and we all are teachers. We teach what we know and learn what we do not know.

I have used the history and trends of higher education to illustrate the emergence of the learning society, partly because it is the field of my expertise, but more importantly because it reveals so clearly the expanding perception of education in the society.

Higher education has, through most of its history, operated within fairly well-defined boundaries and limitations. The learning society is breaking loose from those boundaries, and people are looking to the toal community for learning opportunities. There are some important distinctions between the pre-learning society where we are at present, and the mature learning society--toward which we are moving quite rapidly. Let me draw some contrasts:

First, the pre-learning society devotes considerable attention to determining who is eligible for admission to formal learning opportunities. The mature learning society places no limitations

on who may continue learning; all people are eligible for learning at the level that seems useful for them.

Second, the pre-learning society has clearly specified requirements for teachers. We worry a lot about the proper credentials for teachers. The mature learning society welcomes as teachers all who have knowledge or skills to share with others. A bank executive may teach banking; an auto mechanic may teach auto repair; a businesswoman may counsel women seeking re-entry to professional education; a librarian may--yea must--teach the use of an ever-growing array of learning resources. In principle the openness toward teacher qualifications has already been accepted by the establishment in the recognition of non-professional educators as teachers.

Even more dramatic, perhaps, has been the official recognition on the part of the higher education establishment that degree-credit may be earned for non-classroom learning. The mature learning society is more concerned with student learning than with teaching credentials.

Third, the pre-learning society emphasizes accreditation for the official houses of learning. The learning society emphasizes the use of learning resources wherever they are found--in the home, on the job, in proprietary institutions, in museums, in a foreign country, in the incredible library system of this nation. In short, the pre-learning society is concerned with procedures, structures, qualifications, and standards. We are concentrating on what institutions offer rather than on what students learn. The mature learning society

is concerned primarily with learning itself. Someone said it long ago,"We can no more say that something has been taught when nothing has been learned than that something has been sold when nothing has been bought."

A learning society that is student-centered will be greeted with enthusiasm by many. On the surface, it sounds right. Many have long called for student-centered learning. But now that it looms on the horizon, it is becoming clear that such a future calls for change of sufficient magnitude to be distinctly uncomfortable for many educators. Orderly procedures and neat administrative arrangements may not be possible, and they may not be desirable in the new learning society. Permitting students to wander in and out of colleges throughout their lifetimes is by nature a messy procedure. Providing alternative routes to the degree turns evaluation and record-keeping into a registrar's nightmare. Helping students to assemble a learning program that meets their individual needs is incredibly difficult--pedagogically and administratively. Learning to utilize the expertise of non-professional educators challenges a sense of professionalism. Even learning to think of education as a lifelong process rather than a product that is secured through putting in time requires a complicated change in perspective. Learning to think about education in terms of student learning experiences instead of institutional course offerings is understandably threatening to educators.

Perhaps the emergence of the learning society is almost as threatening to librarians. Forces throughout the society will be sending an increasing diversity of learners to libraries in search of a staggering variety of learning resources. Are there people on the library staff trained to help people articulate their learning needs as well as to satisfy them? What provisions will be made for the browser who wants to spend time with tapes and films as well as books? What is the appropriate role for librarians in the much-discussed concept of brokerage systems designed to put people who want to learn in touch with resources, programs and services? I submit that the task of education in the learning society is not to keep the machinery running smoothly along a path laid out hundreds of years ago, but rather to look with imagination toward new roles for educators and librarians. Historically, the task of education has been the preparation of the young to become productive members of society. The task for the learning society is dramatically different. It is to help everyone, old and young alike, to use education and learning throughout their lifetimes for personal growth and enrichment, as well as for the betterment of society through the advancement and utilization of knowledge. Librarians have an important stake in that mission. May your conversations and deliberations throughout this conference stimulate and prepare you for the big R in the learning society.

References

Blake, P. "The Fallacies of Modern Architecture," Atlantic Monthly, September, 1974.

Carp, A., Peterson, R.E. & Roelfs, P. "Adult Learning Interests and Experiences." In K.P. Cross & J.R. Valley and Associates, Planning for Non-Traditional Programs: An Analysis of the Issues for Postsecondary Education. San Francisco: Jossey-Bass, 1974

Mavor, A., Toro, J.O., DeProspo, E.R. Final Report Part II: The Role of Public Libraries in Adult Independent Learning. New York: College Entrance Examination Board, September, 1976.

National Center for Educational Statistics. Participation in Adult Education, Final Report, 1975. Washington, D.C.: Author and Department of Health, Education, and Welfare.

Ruyle, J., Geiselman, L.A. "Non-Traditional Opportunities and Programs" In K.P. Cross & J.R. Valley and Associates, Planning for Non-Traditional Programs: An Analysis of the Issues for Postsecondary Education. San Francisco: Jossey-Bass, 1974.

Tough, Allen. The Adult's Learning Projects. Toronto: Ontario Institute for Studies in Education, 1971.

Valley, J.R. "Non-Traditional Learning: Diversity Plus Two-- the External Degree." The College Board Review, Summer, 1975.

Cross, K.P. and Zusman, A. The Needs of Non-Traditional Learners and the Responses of Non-Traditional Programs. Berkeley: Center for Research and Development in Higher Education, Univeristy of California, 1977.