

Forecasting the Future of Community College Learning Resources Centers

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THE DESIGN OF THE FUTURE is sketched on an invisible canvas whose linear dimensions extend into the very outreaches of space. Our ability to view and discern this design today is enhanced by our knowledge of the historical past and of the global present, a knowledge whose scope was severely limited in past epochs.

The transmission of ideas, facts and feelings from one organism to another to sustain life is the greatest achievement of mankind. The evolution from oral to written communication, spurred by the need to transmit information in an independent, objective format, is a history well known. The printing press, which increased the flow of information, popularized knowledge and encouraged literacy, now appears as a part of the continuum of knowledge transfer rather than as a new technology.

The computer, with its functions of memory, computation and control, provides an awesome extension of mind power. The linkage of computers and communications technology is an art-science, feeding upon its association in a symbiotic relationship. Computer/communications technology is shaping the future while at the same time it is providing mankind with the power to control and configure the design.

Societal transformations are the inevitable results of this revolutionary technology which has vastly increased human ability to originate, store, manipulate, control, interpret, and transfer information. Perhaps the most significant difference between the mass distribution era (fostered by the printing press) and the contemporary computer/

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communications era is the historical knowledge available to us today.

The written word, mass produced after Gutenberg's invention, introduced new power, formerly narrowly restricted within a privileged group, to virtually anyone who could achieve literacy. Words written down became the conveyors of literature, historical knowledge and technical information. The power of increased access to knowledge began to have its effect:

Word magic is one of man's most wonderful dangerous tools. It builds air castles, raises an army of dragon men, fixes a star on a name and sends human blood running through dirty gutters.¹

The increased literacy of early modern times provided only a limited view of the society. Man began to become aware of his history, but the collective recorded wisdom of past eras was not readily available. As the awakening sense of historical consequence led to the emergence of a "community of scholars" in the western world, the growth of a published and accessible body of historical thought provided perspective for the continued interpretation and scrutiny of the past. The conditions which produced Gibbon and Macaulay laid the framework for Darwin and Marx.²

The Industrial Revolution, which began in eighteenth-century England, created a momentum which has been irreversible, and which has increased its velocity with the advent of computer/communications technology. Still in a prototypical stage of development, still primitive in utilization, this technology has enormous capabilities which are stimulating the efforts of mankind to interpret and understand the information cycles of the past, the present and the future. For the first time in history, mankind has the tools to produce objective information, to transmit this knowledge instantaneously worldwide, and thereby to influence the future.³

The dimensions of tomorrow's world are being modeled by today's futurists on a global scale. Futures research is a widespread phenomenon, ranging from national policy institutes to international teams of intellectuals all exploring the implications of current activity upon the world's future.⁴

The goals of futurists transcend economic and political powers, aim toward increasing understanding, and promote future relationships among the Old World, the New World and the Third World. One of the largest futurist groups, the World Future Society, includes among its more than 40,000 members scholars, political and business leaders, scientists, economists, educators, and planners. Bertrand de Jouvenel, Robert Theobald, Amitai Etzioni, and Yoneji Masuda are but a sam-

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pling of the international scholars involved with the effort to identify, analyze and propose solutions at a global level.

Yoneji Masuda depicts the evolution of an information society of the future, predicated on a "global information utility" using a combination of computers, communication networks and satellites, which would have "an incalculable effect on human society." He further predicts the transformation of individualistic principles to a new principle of "synergetic cooperation" based on mutual assistance worldwide.⁵

The future of the postindustrial society is inexorably linked to the design of a global societal future. The individual in control of his or her immediate environment has been a myth for generations. The acceptance of interdependence as essential to the common welfare is a basic principle in planning any future system.

The future of higher education, of which the future of the community college is an integral part, is linked with the educational needs of the information society. John Naisbitt, in *Megatrends*,⁶ predicts that education will be "reconceptualized" during the next decade, and provides a caution based on his long-range perspective: "If you specialize too much, you may find your specialty becoming obsolete in the long run. As a generalist, committed to life-long education, you can change with the times."⁷ Naisbitt laments the lack of literate high-school graduates, as reported in the Carnegie Council of Policy Studies in Higher Education, and comments on the number of corporations entering into the education business by offering remedial courses in basic math and English for entry-level workers. He states:

without basic skills, computer illiteracy is a foregone conclusion. In the new information society, being without computer skills is like wandering around a collection the size of the Library of Congress with all the books arranged at random with no Dewey Decimal system, no card catalogue—and of course, no friendly librarian to serve your information needs.⁸

Satisfying information needs in such a society will be predicated on the attainment of superior information skills. Achieving basic skills on which academic success depends is a responsibility shared by all segments of the educational community. General education, continuing education and extended access to information are fostered and strengthened by excellent libraries. The technical and scientific community is dependent on information—accurate, complete and current. In a world where knowledge is a commodity, the library assumes an increasingly significant role. Masuda considers information and knowledge industries the "key industries of the future"; he categorizes libraries, along

with schools, as part of the education industry and as one of the "pillars" of the information society.⁹

The attainment of basic skills, the assurance of academic quality and the provision for lifelong continuing education are among the major challenges to the education industries. With an economy based on the creation and distribution of information, maintaining a literate and educated population is increasingly critical to economic, social and political survival in the future.

In the summer of 1981, *Change* magazine devoted the major part of an issue to the future of community college education. Funding policies, the literacy crisis and the renewed emphasis on excellence and honors courses were examined with candor and with resolution for increase in quality, with an emphasis on general education as well as on technical and vocational skills.¹⁰ The future of the community college in the structure of higher education is uncertain, dependent as it is on the state of the economy and the intensified competition for enrollment and resources.

A study of alternative futures was recently undertaken by the Brookings Institution, drawing on data supplied by numerous authoritative sources as well as anecdotal information collected on site visits. Although implications for their futures emerge on a somewhat pessimistic note, the researchers recognize the gravity of the need for governmental support of education. Breneman and Nelson acknowledge that the potential market for lifelong learning is a legitimate need and is a market only partially tapped, with community colleges "well-placed geographically and philosophically to develop further this educational frontier."¹¹ Their reluctance to include continuing education as a valid mission, supported by federal and state subsidy, may be attributed to the academic orientation of the distinguished institute, which continues to measure proper educational effort in terms of the traditional model of the eighteen to twenty-two year old degree-seeking learner.

However, this traditional learner may no longer be the typical community college student. The presence of the adult learner is an incontrovertible fact. Bringing maturity, experience and judgment, the adult learner is a significant factor in the future of the community college, on which his or her continued training and retraining depends.

As we narrow our perspective to focus on an aspect of the invisible canvas on which the future is sketched, we must not neglect the impact of the emerging global society. The variables which will influence and determine the future of community college learning resources centers (LRCs) may be divided into two broad categories: (1) external—beyond

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immediate control and impinging on its development, and (2) internal—capable of control or manipulation. Among the external factors are the future of computer/communications technology, of the society, and of the economy and funding, all of which affect the future of the institution. Among the internal factors are the structure and perceived value of the learning resources center, the professional capabilities and continuing education of the staff, and the psychology of the institution.

Although computer technology is not new, its application to educational systems, including libraries, is still in the early stages of development. Predictions about the applications of technology frequently have underestimated its abilities to change our lives and to foster social change. The future of the telephone in the late nineteenth century was said to have been considered quite limited due to an ample supply of messenger boys. The illustrious Benz, in 1927, is said to have predicted the manufacture of 40,000 of his motor cars over the next forty years—if enough chauffeurs could be trained.¹² Microfilm, developed and refined during World War II, was seriously considered to herald the demise of the book. When that proved to be an unfounded prediction, the advent of electronic publications and corresponding databases again produced a doomsday scenario, another lament at the passing of the book. In fact, the computer and database access have to some degree strengthened the future of the book, providing more comprehensive indexing to printed materials, and more immediate access for locating desired printed materials.

In probing the use of new technologies, the natural tendency is to view each emerging facet in terms of single or limited applications; while in fact contemporary and future computer/communications technologies are, by definition, multidimensional. A broad-based perspective is essential. An example familiar to librarians was the tendency of the 1960s and 1970s to develop computerized library circulation systems without considering that the circulation system might be integrated electronically with other library operations in the near future.

The dominant role of computer/communications technology is assured. Time frames are unpredictable due to compression of successive generations of development. Whatever the human mind can design in terms of technological requirements can be accomplished: "If we can dream it, we can do it," is the theme of the General Electric pavilion at the Epcot Center in Florida. The portion of these future technologies that will be devoted to educational purposes cannot be easily predicted; and uses of computer technology for educational purposes will vary and

will be fragmented as were applications of technology in the late sixties and early seventies. Once the effects of networking capabilities have begun to show value, however, there will be an acceleration in the adoption of the use of technology. The application of communications technology to computer systems lifts the individual institution out of isolation into shared benefits.

The social future and the role of post-secondary education can be partially forecast from data on hand—i.e., by projecting the number, type and needs of students—and from conjectures about future methodologies of instruction. The diversity of individual and social needs in a pluralistic society will probably maintain the diversity of methodologies of instruction. It is earnestly hoped that the use of computers in instruction will provide sufficient machine-generated data to facilitate research from which the most appropriate and effective uses of the technology can be extracted and applied.

The economic future is closely related to federal, state and local funding formulas, fiscal prudence, marketing techniques, and political persuasion. Although the economy has the greatest impact on the future of any unit of the college, economic factors are probably the least predictable over the long pull, and the least easily influenced by individuals. Planning, justification, measurable outcomes, and frequently, psychological factors are related to economic equities and inequities. The psyche-futures—i.e., the human factors relating to faculty, staff and the organizational structure of the college—are entwined and interlinked with the economic future of the institution. In summary, the future of any one institution is dependent on the intricate balance of the many technological, social, economic, and psychological factors which are present within the organization and within the community it serves, and they are linked with state and national directions for the future.

The future of the learning resources center within an institution is related to these external factors, as well as to its present organization and functions, for no future exists without a past, and the past influences the future. The learning resources center unit contains the internal factors over which control has been and will continue to be exerted, utilizing whatever external factors can be effectively employed.

Historically, the community college learning resources center has long been recognized as an important instructional service. In the 1930s B. Lamar Johnson, the Librarian and Dean of Instruction at Stephens (a junior college), created and reported mutually supportive relationships between the library and the classroom.¹³ His publications have been widely read and quoted, influencing not only library professionals but community college administrators as well.

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In the early 1940s, the role of the library in general education was closely examined by the National Society for the Study of Education. Part two of the forty-second yearbook of that society was produced by a distinguished "Committee on the Library in General Education." Innovations regarding the use of "nonreading" as well as reading materials in promoting learning were noted, as were other radical departures from traditional library practice, including collecting and circulating paintings, recordings and motion pictures, and providing for conference rooms and exhibits. Johnson, writing for that volume, used a phrase which has since become common usage; he recommended "making the library the resource center of the college."¹⁴

Not long afterward, many existing community college libraries began to undergo major transformations, paralleling the institutional change from a "junior college" to a comprehensive community college. Some simply retained the library intact, adding facilities to accommodate emerging audiovisual technology and to provide needed instructional support services for self-instructional programs. During the late 1960s and early 1970s, when new community colleges were being established at an unprecedented rate, the concept of the comprehensive learning resources center became fully developed, varying according to the mission and institutional goals of the individual colleges.

The new LRCs were designed to encompass a broad range of instructional support services, including the library, audiovisual materials, distribution, graphic and photographic reproduction, video production, audio- and video-learning laboratories, tutorial services, reprography, career information centers, and learning assistance centers.¹⁵ Expansion of LRC responsibilities to include computing centers and telecommunications centers was delineated in the 1972 publication, "Guidelines for Two-Year College Learning Resources Programs."¹⁶ These changes occurred in response to the expanding comprehensive development of the institution and the lack of preexisting instructional support units.

Social unrest and the clamor for relevance, which became a clarion call of student rebellion during the 1960s, had little effect on the emerging community colleges. Most institutions of higher education, woven into the fabric of the larger society, were being stretched and torn by the broad social forces in upheaval; but community colleges were virtually untouched. In many cases, the instructional methodologies were relevant, the faculty eager and energetic. "Islands of innovation" stretched across the continent—the new community colleges which were unaf-

fectured by tradition, and whose organizational and physical structures were designed to adapt to change.

Many of the new campuses were designed to offer maximum flexibility for adapting to emerging technologies. A planning statement published in 1971 reflects the educational strategies employed in designing a new campus:

Educational innovation is a challenge to today's administrators, particularly in planning new spaces. As the variables which produce learning are identified and introduced into educational systems, the learning spaces must be designed to respond. The non-traditional architecture developed here is in direct response to carefully-plotted interior space design, as form follows the specified functions.¹⁷

During the decade of the seventies, a number of LRCs became heavily involved in instructional development, including computer-assisted instruction. For example, in the early seventies, the Maricopa Campus of Phoenix Community College and the Alexandria Campus of Northern Virginia Community College were designated as demonstration sites for the National Science Foundation thrust in computer-assisted instruction. Known as TICCIT (Time-shared Computer-Controlled Information Television), these projects have continued to the present and serve as instructional delivery systems for full courses in algebra, English grammar and remedial English, as well as supplementary material in various subject areas. The original project was centered at Brigham Young University where course development continues.¹⁸

The proportion of LRC expenditures in the college operating budget began to escalate, rising above national norms. In some instances, the emphasis on instructional development shifted funds and diverted attention away from library collections and use of the library. Although no definitive study has been carried out, it is common knowledge that at some institutions where expenditures for expanded LRC operations outpaced established norms, the severe budgetary restrictions and enrollment declines of the early 1980s resulted in the abolition of positions and sometimes of entire service units which had been dedicated to instructional development. Funds were shifted to other areas of the college, often to support the relentless financial demands of computer technology.

The learning resources center has been evolving since its inception, developing from its original role as an expanded library designed to provide comprehensive support for instruction. As the technology of instruction changes, and as support for programs fluctuates, so does the

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shape and service of the LRC change. Libraries in four-year colleges and universities have undergone similar transformations, but on a different scale. In many large institutions, the span of control within the library was already so great that new units outside the library were constituted to handle instructional support services. During the decades of the 1960s and 1970s when funding for instructional technology was lavish, new administrative units not connected with the library were formed to accommodate television production and elaborate audiovisual support services. As the promises of educational technology in the form of machine-supported individualized instruction began to fade, and as the new promises of computer/communications technology began to glow, funding shifted to favor the new technology.

Learning resources center systems, services and materials have been designed and structured as supports for achieving institutional instructional objectives. The collections, the equipment, the facilities, and the staff constitute balanced, yet flexible systems. There is a long record of experience in instructional systems including learning laboratories designed for group and individualized instruction, technical instructional supports, sophisticated video services, and telecommunications systems. The integrated LRC, with its educational support services under the management of a single administrator, is ideally suited to shift emphasis to the academic applications of computer/communications technology.

The technological revolution has imparted new values to information. The information society is predicated on access to large bodies of information. Access to information is a prerequisite to informed choice, on which the social and economic future of an individual is largely dependent.

Information exists in many forms—books, periodicals, microforms, audiovisual materials, realia, ephemera, software programs, and databases. Whatever the format, systems of organization, access and retrieval are absolute requirements. Libraries are trusted with implementing and designing these systems. The structure of the library—or resources center—is predicated on the organization of materials for access.

In the past, the most common access was the card catalog, a system developed with clarity of format and logic, which provided access from several major subdivisions of a citation. When computer technology was applied to the card catalog, machine accuracy and consistency increased its power. More access points per citation could be created with less tedium and with greater accuracy. The technology simplified and speeded up the process of finding and using library records, and

even more important, the development of uniform processes enabled the transfer of biblio- and mediagraphic information among libraries. Librarians, who had previously worked with common rules but in relative isolation, were willing to loosen their individual control for a greater goal—increased access to information for all. Today, machine-readable databases in internationally consistent forms make possible the development of interlinked systems which will lead to new dimensions of collection development, resource sharing and accessibility.

Many LRCs across the country have been profoundly influenced by the concepts expressed in the 1972 "Guidelines for Two-Year College Learning Resources Programs." The guidelines were developed over a period of several years by a joint committee of librarians and audiovisual specialists, which was chaired by J.O. Wallace, director of Learning Resources at San Antonio Junior College, who has served as a role model and mentor for hundreds of community college learning resources professionals.¹⁹

The learning resources "program" is defined in the "Guidelines" as, "an administrative configuration within the institution responsible for the supervision and management of Learning Resources Units, regardless of the location of these components within the various physical environments of the institution." The LRC is charged with meeting the needs of the students, and being organized and managed for users. "The effect of combining all learning resources programs under one administrative office provides for the maximum flexibility, optimum use of personnel, material, equipment, facilities, and systems to permit increased opportunities for the materials best suited to the user's needs."²⁰

Ten years after the "Guidelines," Robert A. Plane, president of Clarkson College of Technology, described the restructuring of his college library. In 1974 the library had been identified as the "number one problem" at Clarkson.²¹ Under Plane's direction, a faculty library committee helped form the Industrial Advisory Council to discuss the philosophy of a college library of the future. Representatives from Bell Laboratories, the General Electric Research and Development Center, Corning Glass, Eastman Kodak, Fairchild Camera, IBM, Kennecott Copper, Proctor and Gamble, Xerox, and the United States Department of Commerce served on the Industrial Advisory Council.

Discussions of the Industrial Advisory Council helped form the design of the Clarkson Educational Resource Center. Emphasis was placed on the centralization of related functions: "From the start it was noted that the Center should be viewed as the hub of a campus-wide

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system to provide integrated information support for the instructional, research, and administrative activities of the college." The concepts influenced the decision to abandon the word *library* in favor of the term *educational resources*, which Plane indicated was "to imply that the new library concept would be not only different but truly designed to support the educational enterprise. It would in fact have an expanded role."²²

Ten years before the development of the Clarkson concept of an "expanded library," the "Guidelines" had identified this as a desirable practice in community college learning resources centers.

The active role of the LRC in instructional development and instructional systems is clearly defined and acknowledged in the "Guidelines." The instructional supports from the "new" technology of the late 1960s and early 1970s were provided for the community college by LRC staff. Librarians were retrained and developed new and expanded competencies. The new media formats, including any equipment necessary for their use, were assimilated into the resource collection, as entities which needed to be described, classified, processed, labeled, maintained, and organized for access and use. Specialists were hired to provide the technical capabilities essential to the instructional technology of the times. The LRC filled an institutional need.

The restructuring of LRCs reflects an unmistakable parallel with the computer/communications era. LRC staff have anticipated the demands of the new technologies. Library school curricula and continuing education programs have been focusing on the applications of computer technologies to library processes for a number of years. Librarians, as the managers of information and resources, are applying their knowledge to the formats demanded by the new technologies.²³

It may be appropriate at this point to comment on the educational technology and instructional development programs of the late sixties and early seventies. For a few uncertain years there was a struggle for supremacy between the disciples of educational technology and the librarians. The difficulties resolved themselves as each discipline found its professional level in relation to mission, content and applications. Educational technology, in its most highly developed forms, is responsible for extended learning systems in "nontraditional" environments, utilizing cable, computer and satellite technology. The system has been defined by Bernard J. Luskin, executive vice-president of the American Association of Community and Junior Colleges, as:

1. A model for the design and validation of high-quality college-level courses.
2. A model delivery system.

3. An investigation of the effective uses of technology to make education available to people where they are.²⁴

Instructional development, a technical component of educational technology, has become integrated into the instructional support services offered by LRCs. Film services, video production and services, graphics, audioservices, and other related technical supports, once considered "innovative," are essential to the instructional programs of the college. The experiences of learning resources center personnel in adapting to the expanded information formats of the sixties and seventies have provided them the potential for becoming the campus center for academic computing support services.

Among the major academic libraries which have accepted this mission are the University of Wisconsin—Parkside and Clarkson College. Both enjoy enlightened leadership. Robert Plane, Clarkson College president, and Alan E. Guskin, chancellor at Parkside, both have lectured and published on the educational values of placing the library in the midst of computer technology. At Clarkson College, the computer center and the library are housed together in the newly completed Shuler Educational Resource Center (ERC). The ERC accommodates traditional library resources, sophisticated audiovisual "technologically-assisted education," student access to terminals linked to the central computer, college archives, extensive use of microforms, and compact shelving, electronically controlled.²⁵

Guskin at Parkside regards microcomputers as "powerful educational tools" which "must be treated by educational policy makers as part of the academic support services of a university available to everyone, much as other resource materials are treated...."²⁶ The rationale provided for the library's role in computer technology is significant enough to warrant full reprinting:

1. Librarians tend to be people oriented and have professional experience in responding to the information needs of the faculty and students.
2. Librarians are skilled in information retrieval activities and changing technologies, even though they will obviously need additional training to become sophisticated in all aspects of computer searching and computer networking.
3. Librarians are information specialists, trained to be concerned with information acquisition, dissemination, and use.
4. Librarians are managers; they are involved in a host of administrative activities including purchasing, work-force analyses, and managing large numbers of part-time and full-time people. The library is the only campus unit organized to handle the information needs of a large number of users in an orderly, systematic way. The librarian's

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ability to manage will be important in administering new information technology and understanding staff needs.

5. Librarians tend to be responsive to changing university priorities.²⁷

Predictions for the Future

With the wide application of computer/telecommunications technology, the future has arrived. Each learning resources center in the more than 1200 community colleges in America will adapt and reconfigure its present in accordance with previous patterns, leadership, the physical and social environment, and the current stages of growth. The logic of incorporating academic computing within the learning resources center has already spawned computer labs in a number of community colleges.

In planning for the leadership role of the library as the center of academic computing, the most convincing and attractive aspect for college administration is that no additional funding is required, merely the allocation to the LRC of funds already appropriated for this purpose. The rationale quoted earlier—developed by Guskin, Stoffle and Baruth—contains cogent and sensitive statements which apply to community college learning resources centers as well as to universities.²⁸ In fact, the extensive experience with mediated instruction in laboratory settings has prepared LRC staff for the complications of operating microcomputer labs, which require control and distribution of reference manuals, diskettes and software; maintenance of training and consulting services; and enforcement of procedures.

The application of computer technology to library systems is slowly gaining momentum around the nation. Arguments to use in convincing policy makers and budget officers may include the advantages of networking, and the potential for limiting the size of the collection. Clarkson College has established limits to its monograph collection, which will be augmented by the use of online databases, microforms, and compact shelving.²⁹

The importance of the role of the LRC in computer/communications technology cannot be underestimated. Just as educational technologists and librarians were able to define their respective roles, so must the data specialists in the computer center and the librarians in the LRC assess and analyze the future of information handling at the college, in order to delineate functional responsibilities. The principal role of the public service librarian is to “provide a link between the user and information resource. To accomplish this requires the ability to

define the information problem, to understand and be sensitive to the needs of the individual student or faculty member, to be knowledgeable about available information sources, and to know how to gain access to them in a reasonable time period."³⁰ These qualities and professional skills are essential to the effective utilization of database searching, which must be used in conjunction with other resources in the LRC.

The competition for budget allocations will not diminish. The financial advantage of centralizing control is a factor which can be demonstrated. There is an equally important instructional gain—i.e., of providing centralized access to serve the interdisciplinary computing needs of the institution.

Under the best of conditions, the LRCs will expand and prosper. Long-range planning, persistence and the ability to cope creatively with obstacles will result in a stronger role for academic librarianship in a computer/communications society. The technologies already in place in the LRC—the audiovisual supports, the mediated learning labs, the microforms, the film and recordings collections, will not be “disinvented.” Proportions of media formats in the collection will vary as the effects of computer/communications technology begin to have an impact. Demand and use will govern these futures.

Audiovisual services will gradually change their scope and function as a result of new technologies. The incorporation of “instructional development” in classroom instructional support has been noted. In some instances the shift will focus on “computer tech” in place of “ed. tech,” depending on facilities and competencies. The audiovisual professional who has been responsible for mediated instructional laboratories will shift easily into administering micro-computer laboratories. In some instances, existing responsibilities for sophisticated audiovisual supports will continue.

The future of local video production centers in the LRC may be weakened as institutions look to professionally produced and widely marketed telecourses. The exceptions will be in those instances where video production and local cable transmission have become a significant part of the institution, particularly if credit courses are generated through the technology. The emphasis may shift from production to delivery systems where extended learning is an institutional priority. Implications for retraining and professional development should be carefully considered by mid-career personnel.

The future of mediated instructional laboratories will fluctuate as new and validated materials are developed in the areas of computer-assisted instruction, computer-managed instruction, and computer-based instruction. The LRC that housed a typing lab will provide a

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microcomputer word-processing lab. Math labs, reading labs and remedial English labs will be equipped with microcomputers as effective software programs are developed for those critical skill areas. The lab supervisors and staff assistants will need minimal training in operation of the new equipment, and the basic functions of control, access and distribution will not change.

The size of the institution and the LRC facilities will determine, to a great extent, the scope of the operation. In a smaller institution, one microcomputer laboratory with extended hours and a carefully selected software collection can serve word-processing, individualized skills instruction and assignments in data-processing classes. The capabilities of microcomputers have barely been exploited and they are increasing. The clustering of microcomputers in a lab setting is highly desirable: fostering interdisciplinary use, economies of staffing and greater access to programs.

The LRC should consider providing a computing support center for faculty and staff where workshops, instruction, practice and consultation can be carried out. If facilities and funds permit, a large center also could be used for business and industry training, literacy training for citizens, and recertification for public school teachers. If facilities and funds are modest, even a small area where privacy can be maintained would be of value to faculty, who are learning new skills in order to become knowledgeable about computers and instruction. Such a center, organized by LRC staff, could strengthen the instructional partnership between the LRC and the faculty.

Two other factors, not related per se to computer/communications technology, are seen as imparting increased value to the LRC. One is the continuing lifelong learning role of the institutions. The adult learner is more demanding, is often more familiar with the resources, is more able to define his or her information needs to the library staff, and most important, is able to express a perception of the value of the services.

The other factor is the increasing emphasis by the institution on general education courses, coupled with the emergence of honors programs in many institutions. These thrusts are significant in their dependence on strong library resources. The library function, which has been the foundation of the process of education, will continue to be fundamental to instruction, strengthened and expanded by the capabilities of new technologies.

The educational needs of the information society will be greater than ever before in the history of mankind. To the continuing scrutiny of the past will be added the interpretation of unprecedented masses of information on which to base the future.

The LRC is the campus unit which can fuse the instruments of technology and the accumulated knowledge of the past, present and future. LRC staff members in more than 1200 community colleges in America represent a vital resource of experience and professionalism, and these staff members are ready for the challenges of the computer/communications era. Reading the design of the future is a responsibility which will require enlightened leadership and support.³¹

References

1. Jennings, F. *This is Reading*. New York: Bureau of Publications, Teachers' College, Columbia University, 1965, p. 11.
2. Boorstin, Daniel J. *The Republic of Technology: Reflections on Our Future Community*. New York: Harper & Row, 1978, pp. 11-20.
3. Masuda, Yoneji. *The Information Society*. Bethesda, Md.: World Future Society, 1981, pp. 50-57.
4. Shane, Harold G. *The Educational Significance of the Future*. Bloomington, Ind.: Phi Delta Kappa, 1973, pp. 5-8.
5. Masuda, *The Information Society*, p. 85.
6. Naisbitt, John. *Megatrends: Ten New Directions Transforming Our Lives*. New York: Warner Books, 1982, p. 93.
7. *Ibid.*, p. 96.
8. *Ibid.*, pp. 32-33.
9. Masuda, *The Information Society*, pp. 88-90.
10. Breneman, David W., et al. "The Future of Community Colleges." *Change: The Magazine of Higher Learning* 13(July/Aug. 1981):16-25; Dubocq, Tom. "American Community Colleges in Crisis—A Conversation with Robert H. McCabe." *Change: The Magazine of Higher Learning* 13(July/Aug. 1981):26-31; Vaughan, George B. "A Review Essay—Edmund J. Gleazer: Values, Vision, and Vitality." *Change: The Magazine of Higher Learning* 13(July/Aug. 1981):32-33; Yarrington, Roger. "A Review Essay—George B. Vaughan: Questioning the Community College." *Change: The Magazine of Higher Learning* 13(July/Aug. 1981):34-35; and "Meet Dale Parnell, A New President for the American Association of Junior and Community Colleges." *Change: The Magazine of Higher Learning* 13(July/Aug. 1981):36-37.
11. Breneman, David W., and Nelson, Susan C. *Financing Community Colleges: An Economic Perspective*. Washington, D.C.: The Brookings Institution, 1981, p. 25.
12. Ragsdale, Ron (remarks during a presentation at the conference "Computers in Education, '83," 27 June 1983, Rutgers University, New Brunswick, N.J.).
13. Cohen, Arthur M., and Brawer, Florence B. *The American Community College*. San Francisco, Calif.: Jossey-Bass, 1982, p. 157.
14. National Society for the Study of Education. Committee on the Library in Education. *The Library in General Education* (Forty-second Yearbook of the Society, Part 2). Chicago: University of Chicago, 1943, p. 98.
15. Cohen, and Brawer, *The American Community College*, pp. 157-60.
16. American Library Association. American Association of Community and Junior Colleges; and Association for Educational Communications and Technology. "Guidelines for Two-Year College Learning Resources Programs." *College & Research Libraries News* 33(Dec. 1972):305-15. (Also appears in *Audiovisual Instruction* 18[Jan. 1973]:50-61.) [Hereafter cited as: ALA.AACJC; and AECT, "Guidelines."]
17. Bisdorf, Donald L., and Terwilliger, Gloria. "A Team Approach to Campus Planning." *American School and University* 44(Nov. 1971):38.

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18. Wilson, Lois S. "TICC IT: A Computer-Based Success Story." *T.H.E. Journal* 12(March 1985):94-95.
19. Wallace, James O. "Two-Year College Learning Resource Standards." *Library Trends* 31(Summer 1982):21-31.
20. ALA.AACJC; and AECT, "Guidelines," pp. 6-7.
21. Plane, Robert A. "Merging a Library and a Computer Center." *Perspectives in Computing* 2(Oct. 1982):14.
22. *Ibid.*, p. 15.
23. A detailed overview of the impact of technology on the modern library may be found in the 1984 *Library Journal* issue on "Information Technology": Boss, Richard W. "Technology & the Modern Library." *Library Journal* 109(15 June 1984):1183-89; Friedman, Fred T. "Something There is That Doesn't Love a Computer." *Library Journal* 109(15 June 1984):1190-93; Martin, Susan K. "The New Technologies & Library Networks." *Library Journal* 109(15 June 1984):1194-96; Freedman, Maurice J. "Automation & the Future of Technical Services." *Library Journal* 109(15 June 1984):1197-1203; De Gennaro, Richard. "Shifting Gears: Information Technology & the Academic Library." *Library Journal* 109(15 June 1984):1204-09; Malinconico, S. Michael. "Catalogs & Cataloging: Innocent Pleasures & Enduring Controversies." *Library Journal* 109(15 June 1984):1210-13; Nielsen, Brian. "An Unfolding, Not an Unveiling: Creating an Online Public Library." *Library Journal* 109(15 June 1984):1214-18; and Mason, Robert M. "Mason on Micros: The Challenge of the Micro Revolution." *Library Journal* 109(15 June 1984):1219-20.
24. Luskin, Bernard J. "Library: A Focal Point for the Extended University." *Community & Junior College Journal* 46(March 1974):71.
25. Marsh, J. Arlen. "New York Humanizes Technology." *School Products News* 22(Sept. 1983):17-20.
26. Guskin, Alan E., et al. "Library Future Shock: The Microcomputer Revolution and the New Role of the Library." *College & Research Libraries* 45(May 1984):179.
27. *Ibid.*, p. 181.
28. *Ibid.*, p. 179.
29. Plane, "Merging a Library."
30. Guskin, et al., "Library Future Shock."
31. The analogy of the future's invisible canvas is drawn from a poem by Andrew Hughes, published in Yoneji Masuda's work *The Information Society as Post-Industrial Society*, Washington, D.C.: The World Future Society, p. 47. (The poem appears on the title page to part two, "Framework of the Information Society." Life is so rich / making dreams come true / beyond the satisfaction/of today's needs / to grasp time-values / and create the design / etched / upon / the future's / invisible canvas.)