



Carrels For Learning

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THE ROLE OF LIBRARIES in the last quarter of this century is already beginning to trouble most administrators as they attempt to anticipate the demands of their patrons. It is becoming increasingly obvious that a major portion of man's informational resources will be in a non-book format, and that the library will be expected to assume the role of a learning center with programmed material and electronic access to data banks of multi-media resources. Indicative of this trend are the micromaterials which have never appeared in print, the new emphasis on living history audio tapes, and the fact that for the first time portions of the present census data will be available only in a computer format. On the horizon are video cassettes, electronic video recordings (EVR), and a host of other informational storage devices to supplement or replace the hard cover book.

Librarians who plan to be a part of this new communications era must escape their image as "keepers of books," and assume a new role as resource specialists in all informational formats—audio, visual, printed and computerized. The new breed of librarians must also be conversant with the theories of human learning and instructional programming if they are to become actively involved in the library-college concept wherein they must assume a tutorial role, rather than occupy the conventional mode as dispensers of information.

It can no longer be assumed that substantially all education is to take place in the classroom. A majority of the carrels currently being used to support independent study programs are located in academic libraries, and adult learners will soon be turning to their public libraries for instructional packages which teach some new skill or provide the educational update for their respective professions.

The introduction of study carrels is the major innovation in libraries

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designed primarily to meet the needs of the independent learner, although they have been a part of the library scene since the 1500s when each English monk occupied a study carrel of his own.

Carrel designs range from simple dividers on library tables which provide only a semblance of privacy to the very elaborate "Q-Spaces," such as those designed by Sol Cornberg for the New York World's Fair, which offer relative isolation in electronic surroundings.

These two extremes in carrels, the "conventional" and the "electronic," were differentiated during their early development by two confusing terms, "dry" (unequipped) and "wet" (with connected electronic equipment) carrels. Fortunately these two terms are giving way to the more meaningful descriptors, "conventional" and "electronic."

During recent years study spaces have become increasingly popular with both librarians and library patrons. They permit better space utilization, require less staff supervision since they tend to diminish discipline problems, and provide the best environment for those doing intensive study. There is even some evidence that carrel users have a more favorable attitude toward the library. Many academic libraries report that the demand for carrels far exceeds the supply, and frequently their use must be restricted to faculty and graduate students.

Generally accepted standards recommend that school libraries provide seating for one-third of the enrollment, but no guidelines have been proposed for either school or public libraries to indicate the percentage of study spaces which should be in a carrel format. The recommendations of professional planners range from 70 percent to 100 percent. Oklahoma Christian College in Oklahoma City has achieved the ultimate by providing each of its students with a carrel, for his exclusive use, in the library.

Where programmed materials are available, a booth should be provided for every fifteen to twenty students, depending upon the length of the lessons and the library hours. When extensive note-taking is required, the ratio becomes one carrel for every ten students.

There are still those who question the assumption that individual learning requires the type of study spaces provided by carrels, noting that the majority of library patrons read at home. One response is that those who study at home may be doing so because the library lacks adequate facilities, and that this new mode of instruction requires other material to supplement the book. The preponderance of evidence seems to suggest that most learners prefer to study alone, in the midst

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of their fellow learners, surrounded by the total resources of the library.

Carrels may be acquired in a variety of sizes and designs. The three basic arrangements are the wall-hung, the row, and the island cluster. The wall-hung carrels are among the least expensive and are installed along the walls of the study area. Their lack of mobility is a consideration, and the use of valuable wall space for carrels should be justified.

The row carrels are most frequently positioned in a back-to-back arrangement which provides maximum space utilization, but gives a regimented appearance which is not aesthetically pleasing. Inherent problems in this design are the lack of easy traffic patterns and control.

The island cluster generally consists of four or six carrels in a square, rectangular or circular arrangement. Circular units are frequently used to camouflage supporting pillars in a room or, where a central rotating core is desired, to permit several carrels to use the same reference books, equipment or realia.

Three feet is considered the minimum width for a carrel, with four-foot units frequently recommended for adults or where considerable books or equipment are required. Five-foot carrels are suggested when it is necessary to have two projectors, or when two students are working together on a joint project. The depth of most units ranges from 24 inches to 30 inches.

Commercially produced carrels should be constructed on steel frames with high-impact plastic, designed to resist marks and stains, used on the sides and work surfaces. Soft acoustical facings should be avoided since they are easily defaced or destroyed. All booths should be equipped with a small bookshelf and, where appropriate, a dual twenty watt quick-start florescent lamp. A sufficient number of duplex electrical outlets should be provided in each carrel. One design, for example, may have three outlets at shelf level and two near the work surface. In some instances a single duplex will serve. Ampere capacity must be based on anticipated electrical loads.

One must take into account that the facilities designed today will be in use for a minimum of fifteen to twenty years, and that provision must be made for equipment which has not yet been invented. Expansion capability is far less expensive to provide in the initial installation than in some subsequent effort, as those who have attempted to install additional electrical or telephone outlets in an existing library building will attest.

The design of the carrel should be such that it can be readily altered

to meet the changing requirements of the library. An institution with a heavy media orientation might initially designate one-third of its carrels for those whose principal resource is books, making typewriters and calculators available in a number of them. The remaining units would be used for listening or listening-viewing activities.

The equipment required for these electronic carrels and their configurations will depend upon the library's collection and clientele. Those with a large phonorecord collection will make provisions for turntables, bearing in mind the obvious trend toward cassette tape recorders for all audio recordings. The cassette unit is far superior to the tape cartridge or reel-to-reel for all library applications, and the audio quality of the better machines is quite satisfactory.

The deck-mounted playback-only cassette is suggested because the design reduces the probability of theft, and the "playback-only" feature eliminates the possibility of tape erasure by some inexperienced operator. These are called "audio-passive units." "Audio-active units" with the additional ability to record are generally now found only in learning laboratories, although this situation is expected to change. The library would of course have portable tape recorders for making recordings of material for their own collections.

The availability of the relatively inexpensive playback units has made it possible for many libraries to circulate them for use at the library tables or wherever the patron might choose. The advantages are obvious; carrel space, or perhaps even seating space in the library, is not required.

The ultimate in access to prerecorded audio and video tapes in a carrel was once considered to be a dial access system connected to a bank of tape playback units. These installations permitted the joint use of the expensive tape equipment and made a wide selection of programs readily available to remote locations.

In the promotional material on these systems the inherent problems of switching, the listener frustration in joining a program already in progress, the inability to stop and repeat the tape at will, and the equipment breakdowns which paralyze the entire system were all minimized. Few of the dial access systems have achieved their projected goals, and the advent of high-speed duplicators and the decreasing cost of quality tape will serve to obviate the need for this expensive system, although a new generation of remote access facilities is emerging to better serve the learning needs.

Some means for projecting films, filmstrips and slides will be re-

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quired in the majority of the electronic carrels. Several manufacturers locate the projection equipment on a shelf above the work surface, with a rear screen positioned either at eye level or below the shelf. The obvious advantage of this arrangement is that the heat from the projection lamp does not affect the viewer as it does when the equipment is situated on the working surface. Most of the several types of 8 mm. projectors, filmstrip and slide projectors can be used with rear-screen installations.

The use of headphones is necessary to eliminate the noise problem which results in the use of a multitude of audio devices. The stethoscope-type earphone is not recommended for public facilities, and conventional headsets should be of a design which is easy to clean. One of the problems with the conventional headsets is that the headband makes them difficult to use with certain hair styles.

The recent introduction of a light plastic cup-like earphone which hangs on one ear with a minimum of body contact may well be the solution to the problem. A second advantage is that the device covers only one ear, and the user can remain aware of his environment. The total acoustical isolation which most headsets achieve disturbs many listeners.

Increasing numbers of the programmed independent study materials now being produced are in the auto-tutorial format. Some require the use of an automatic slide projector which can be synchronized to a tape recorder. A subaudible pulse advances the slides which are coordinated with the commentary. The equipment required to play the tape is either a stereo tape player, or one of the especially designed units with a built-in pulse-responding mechanism. The pause button found on many units permits the student to stop the program if there is a need to take notes or respond to questions in a workbook.

Academic libraries frequently find it helpful in compiling use statistics in the scheduling of programs and lessons to have time cards showing the number of students who have used the carrels and the amount of time spent there. This information is also of interest to the instructors. Time recorders are on the market which punch this data in machine-readable form so that the cards may be sorted and a computer printout provided.

As libraries become increasingly mediated, their patrons will be spending more time viewing projected materials such as films, filmstrips, slides, micromaterials, video tapes and computer data, all of which should be accomplished in a carrel.

Among the most interesting of the innovations is the video cartridge announced recently by several manufacturers. These tapes may be viewed on a conventional television set equipped with a cartridge adapter. The opportunity to view a recorded telecast of a symphony, play, historic or sports event of one's choosing should create an instant demand to which the library should respond by acquiring such cassettes for circulation.

The final design of the production models has not yet reached the stage where it can be stated whether the units will be installed in the carrels, or the signals transmitted on request from a central rack of playbacks. It is believed that both modes may eventually be implemented for flexibility in use.

Video monitors are already in use in one-third of the libraries which are involved with independent study programs for use with closed circuit systems. The availability of the video cartridge is likely to increase the demand for television display units in the carrel areas.

Only the more sophisticated libraries now have computer terminals with access to data banks, but the hardware and software is becoming increasingly available. The activities of the National Library of Medicine, the Library of Congress, and the Westinghouse Learning Corporation in developing data in a computerized format are well known. By the time the rest of the nation acquires the data transmission level being developed by the state of Washington, a considerable body of data should be available. It has been proposed that the Washington libraries be served by a computer which could provide MARC information, circulation control and information retrieval.

Within the next decade many libraries should be able to provide their patrons with access to computerized search and retrieval of all available media materials on any subject. Slow-scan television and graphic transmission equipment will make it possible to scan the pages of a book in some distant library and to obtain the desired reproductions immediately. High-speed transmission and recording equipment will permit the rapid relay of both audio and video information either instantly, or at night when the rates are less. All of these systems are operational, and the person in one of tomorrow's carrels will have access to the informational resources of the world.

Storage, retrieval and circulation of the materials and equipment introduced into the library by this new technology are not within the scope of this article, but must be given consideration in the design of any new facility.

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Those who must plan new buildings before the full impact of this new era can be evaluated would be well advised to follow the example of Stephens College in Columbia, Missouri, and to provide a grid of vacant ducts, at frequent intervals, under the floor of the library to facilitate the transition to any new medium.

There must be provision for additional air conditioning. The electronic equipment in the carrels will generate some heat, but the major concern will be the considerable demand for temperature control which may be required by the computers at the time they become operational.

Public and university libraries are just beginning to respond to the requests from their patrons for the full range of conventional media materials and equipment. If they are to maintain the library's dominant position as a resource center, immediate action must be taken to implement total information retrieval. The library should plan to become the local data bank link for both its own carrels and those which will be established in residences, business offices, and academic and governmental agencies.

Academic libraries may determine that they will house the carrels for the humanities, while those used primarily for laboratory work will be placed in the buildings of their respective subject disciplines. Informational access to the library will be through the data transmission devices so that the researcher may have the best of both worlds—his specimens, microscope and the library's resources all available in his carrel.

There are still many librarians, already short of funds, staff and space, who are reluctant to incorporate this instructional facet into their libraries. The public acceptance of these resources, however, seems inevitable, and those who resist will find themselves competing with facilities willing to accept the challenge. These parallel activities will dilute both the role and the financial support of the library.

The future belongs to those who prepare for it, and in order for the library to survive as an information source it must be prepared to supply total information in any format and to provide the facilities for its utilization.

RELATED REFERENCES

- American Library Association. Association of College and Research Libraries. Standards Committee. "Standards for Junior College Libraries," *College & Research Libraries*, 21:200-06, May 1960.
- Browne, Michael. *Libraries: Architecture and Equipment*. Draeger, 1970.

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- Beggs, David W., III, and Olivero, James L. "Place out of Space . . . The Independent Study Carrel . . . and a Variety of Studies in Lakeview High School, Decatur, Illinois," *National Association of Secondary-School Principals Bulletin*, 46:193-202, Jan. 1962.
- Cook, J. J. "Increased Seating in the Undergraduate Library, University of Michigan: A Study in Effective Space Utilization." In Burkhalter, Barton R., ed. *Case Studies in Systems Analysis in a University Library*. Metuchen, N.J., Scarecrow Press, 1968, pp. 142-70.
- De Barnardis, Amo. "To Carrel or Not to Carrel? That is the Question," *Audio-visual Instruction*, 12:439-40, May 1967.
- Ellsworth, Ralph E. *Planning the College and University Library Building: A Book for Campus Planners and Architects*. 2d ed. Pruett Press, Boulder, Colo., 1968.
- Fredenburg, Vera. "Trends in School Media Facilities," *Focus on Indiana Libraries*, 22:180-82, Dec. 1968.
- Lewis, Philip. "Study Carrels Sprout in All Parts of the School," *Nations Schools*, 77:82+, June 1966.
- Porter, Billy L. "Dial Access Information Retrieval: Where Do We Go From Here?" *Educational Television*, 2:24-26, June 1970.
- "Push-Button Carrels for the World's Fair," *American School and University*, 36:34-35, April 1964.
- Sommer, Robert, and Peterson, Peggy. "Study Carrels Re-examined," *College & Research Libraries*, 28:263-65+, July 1967.
- "Study Carrels: A Bright, New Idea in Modern Library Facilities," *Grade Teacher*, 83:72-75, Nov. 1965.