# Microcomputers in Public Libraries for Public Access: A Survey

## Jennifer K. Carpenter

Microcomputers for public use are appearing in increasing numbers in public libraries around the United States. Public access services, which were first instituted in the late 1970s, are now geographically widespread. However, only a relatively small percentage of public libraries had implemented the service by the beginning of 1984. Many libraries are now considering adding such services. The use of microcomputers has been the subject of numerous articles, conferences, and workshops for libraries. Since micros are such a current topic of concern, very little research is available on their use. The purpose of the research for this survey was to determine the present use of microcomputers for public access in public libraries.

### Review of Related Literature

The demand for information about computers has created an abundance of literature for libraries. The focus of much of this literature is directed towards staff use of micros for library operations. As more and more libraries have implemented public access projects in the past three years, the amount of related literature has increased. No books were located that were solely concerned with public access; in the few books about all applications of micros in libraries, public access was briefly treated as one of the applications. Only one journal article revealed a research study related to public use of micros in libraries. Several journal articles described the projects of specific libraries. The references given at the end of this article are some of the sources used as background for this survey.

The one article that reported research on the public use of micros was written in 1982 by Kusack and Bowers: "Public Microcomputers in Public Libraries." In April 1982, a questionnaire was sent to one hundred public libraries randomly selected from the Library General Information Survey of 1978, which consisted of libraries

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serving a population of 100,000 or more. Responses were obtained from eighty-eight libraries; only twenty-two had at least one micro for public use or planned to acquire one within a year.

### Survey Procedures

The sample of libraries for this survey consisted of fifty-two libraries in the United States known to have implemented public access microcomputers by January of 1984. The libraries were identified by literature review and personal contacts. A questionnaire consisting of fourteen questions was sent to the fifty-two libraries. The questionnaire was designed with closed-response questions, requiring only a check for most answers. Since this type of question could limit the amount of information obtained, a space for comments was included with each question. The questionnaire was mailed with a cover letter in February 1984.

### Survey Response

From the original sample group of fifty-two libraries or library systems, forty-one responded, yielding an overall response rate of 79 per cent. The responses of five of the libraries were determined to be unacceptable. Services had not yet begun in two of the libraries. The service was no longer provided in two of the libraries; one of these indicated that the service had been discontinued because the computer was stolen. The fifth unusable response contained literature without the questionnaire. The numerical data for this analysis is based on the remaining thirty-six acceptable responses.

Since the study was initiated in North Carolina, the responses from libraries in the state are of particular interest. The questionnaire was sent to nine libraries in North Carolina, which were thought to be the only locations with public access micros. A 100 per cent response rate was obtained from these nine libraries. Acceptable responses came from seven: one library indicated that their service was not yet implemented, and one library reported the computer had been stolen but will be replaced. The responses from

the North Carolina libraries were analyzed separately as well as included in the total sample.

**Survey Results**

The results obtained from the questions (Q) will be discussed in the following paragraphs.

$Q^1$: "Is computer literacy a goal of your service? If no, please indicate your primary goal(s)." Of the thirty-six responses, thirty-three were "yes," while three were "no." Therefore, computer literacy was a goal of 92 per cent of the libraries. The three libraries which checked "no" indicated their primary goals to be: (1) "public access to microcomputers"; (2) "making computers & self-teaching tools available"; and (3) "bringing more patrons into very small libraries." Since each of these primary goals does involve computer literacy, these libraries may view computer literacy as a means rather than a final goal. All seven of the North Carolina libraries checked "yes" indicating that computer literacy was a goal of 100 per cent of the state's public micros.

$Q^2$: "Which of the following software applications are available?" Table 1 lists the applications, gives the number of library responses, and the percentage of the thirty-five libraries. Only one of the thirty-six libraries did not respond, because the computer itself was loaned and no software was provided. It is significant to note that thirty-four of the thirty-five libraries, 97 per cent, included educational applications, while only nine libraries, 26 per cent, allowed game use. Other responses which were written in by three libraries each were (1) business, (2) spreadsheet, and (3) Visicalc.

$Q^3$: "What brand(s) of microcomputers are you using?" Table 2 gives the names and state locations of the thirty-six responding libraries. On the table, the brand of micro and number of units owned are given for each library. The vertical column totals add the number of libraries which have each brand. Apples were used by twenty-

four of the thirty-six libraries, or 67 per cent of the total, which indicates a majority. Table 2 also reports the total number of micros each library has and the total number of brands by horizontal totals. Two or more different brands were owned by twelve of the libraries: Scottsdale and Salt Lake County both have five brands; Enoch Pratt and Menlo Park both have four brands.

$Q^4$: "Where was your micro hardware purchased?" and $Q^7$: "Where do you purchase software?" Table 3 gives the number of responses and the percentages for each answer. Ten sources were given for the purchase of hardware and seven sources for the purchase of software. The number used for determining the percentages of hardware purchase was thirty-six; for software, thirty-two. The software question was not applicable to two libraries because only hardware is available; and two libraries did not respond to the question. Table 3 shows that by far the largest number of libraries, twenty-eight of the thirty-six, or 78 per cent, purchased hardware from a local dealer. Software is purchased from more of a variety of sources, with local dealers being again the highest: twenty-seven of thirty-two, or 84 per cent. Purchase of software by mail order was the second highest response, checked by 72 per cent of the libraries.

$Q^5$: "What factors influenced your hardware purchase decision?" Table 4 gives the variety of responses for this question. Software availability, location of dealer, and cost were the factors which received the highest responses. Two of the factors written in the "other" response by two libraries each were (1) "user friendly" and (2) "quality of product." Two libraries wrote in the comments space that they desired to use several different products.

$Q^6$: "What other hardware is used with your micro(s)?" The results were that thirty libraries have disk drives; nineteen have color monitors; twelve have joy sticks; twenty-nine have a printer;

| TABLE 1 | | | | |
|---------|---|---|---|---|
| **Software Applications** | | | | |
| | *Total libraries: N=35* | | *N.C. libraries: N=7* | |
| Application | Responses | % of N | Responses | % of N |
| Educational | 34 | 97% | 6 | 86% |
| Data base management | 21 | 60% | 3 | 43% |
| Arcade-type games | 9 | 26% | 2 | 29% |
| Word processing | 28 | 80% | 5 | 71% |
| Programming | 26 | 74% | 7 | 100% |
| Simulations | 13 | 37% | 3 | 43% |
| Other[a] | 16 | — | 0 | — |

[a]This category includes eleven different applications, no one of which was included in more than three responses.

TABLE 2
**Public Access Microcomputers Owned by Libraries**

| Library and State location | Apple | TRS-80 | Commodore | VIC-20 | Atari | IBM | Timex Sinclair | TI | Franklin Ace | Total Brands | Total Units |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Adrian MI | 1 | | 1 | | 1 | | | | | 3 | 3 |
| Baltimore Co. MD | 10 | | | | | | | | | 1 | 10 |
| Bettandorf IA | 1 | | | | | | | | | 1 | 1 |
| Cloquet MN | 2 | | | | 3 | | | | | 2 | 5 |
| Cumberland Co. NC | 2 | | | | | | | | | 1 | 2 |
| Dansville NY | | | | 1 | | | | | | 1 | 1 |
| Delaware Div. of Libraries DE | | | 1 | | | | | | | 1 | 1 |
| Denver CO | 1[a] | | | | 1[a] | | | | | 2 | 2[a] |
| Downers Grove IL | | | | | | | 1 | | | 1 | 1 |
| Edgecombe Co. NC | 1 | | | | | | | | | 1 | 1 |
| Enoch Pratt MD | | 4 | | 2 | 2 | | | 2 | | 4 | 10 |
| Florence OR | | | | | 1 | | | | | 1 | 1 |
| Forsyth Co. NC | 6 | | | | | | | | | 1 | 6 |
| Frankfort IL | 2 | | | | | | | | | 1 | 2 |
| Franklin Co. NC | | | | | | | 5 | | | 1 | 5 |
| Harlan IA | 1 | 1 | | | | | | | | 2 | 2 |
| Lincoln Trail IL | 15 | | | | | | | | | 1 | 15 |
| Lorain OH | | 7 | | | | | | | | 1 | 7 |
| Macon Co. NC | | | | | | | | | 1 | 1 | 1 |
| Madison WI | 1 | | | | | | | | | 1 | 1 |
| Mansfield-Richland OH | | 12 | | | | | | | | 1 | 12 |
| Mastics-Noriches-Shirley NY | | 8 | | | | | | | | 1 | 8 |
| Menlo Park CA | 1 | 1 | 1 | | 1 | | | | | 4 | 4 |
| Minnesota Valley MN | 1 | | | | 1 | | | | | 2 | 2 |
| Neuse Regional NC | 2 | | | 2 | | | | | | 2 | 4 |
| New Hanover Co. NC | 1 | 1 | | | | | | | | 2 | 2 |
| Norman OK | | 4 | | | | | | | | 1 | 4 |
| Portsmouth NH | 1 | | | 4 | | | | | | 2 | 5 |
| Rolling Meadows IL | 1 | | | | | | | | | 1 | 1 |
| Salt Lake Co. UT | 12 | | | 1 | 5 | 1 | 1 | | | 5 | 20 |
| San Francisco CA | | | | | | | | | 3 | 1 | 3 |
| Scottsdale AZ | 1 | 1 | 1 | | | 1 | | 1 | | 5 | 5 |
| Tredyffrin PA | 1 | | | | | | | | | 1 | 1 |
| Victoria TX | 1 | | | | | | | | | 1 | 1 |
| Wheeler Basin AL | 3 | | | | | | | | | 1 | 3 |
| Wilmette IL | 3 | | | | | | | | | 1 | 3 |
| **TOTALS:** | | | | | | | | | | | |
| # of libraries: N=36 | 24 | 8 | 5 | 5 | 8 | 2 | 3 | 2 | 2 | | |
| % of N | 67% | 22% | 14% | 14% | 22% | 6% | 8% | 6% | 6% | | |
| # of units: N=155 | 71 | 38 | 5 | 10 | 15 | 2 | 7 | 3 | 4 | | |
| % of N | 46% | 25% | 9% | 6% | 14% | 1% | 5% | 2% | 3% | | |
| **N.C. TOTALS:** | | | | | | | | | | | |
| # of libraries: N=7 | 5 | | | 1 | | | 1 | | 1 | | |
| % of N | 71% | | | 14% | | | 14% | | 14% | | |
| # of units: N=20 | 12 | | | 2 | | | 5 | | 1 | | |
| % of N | 60% | | | 10% | | | 25% | | 5% | | |

[a]Respondent checked brand, but did not indicate quantity.

and fourteen gave other responses, eight of which were different.

Q[8]: "Do you charge a fee to patrons for access? If yes, how much?" A total of twenty-three libraries, or 66 per cent, responded "no," and twelve libraries, or 34 per cent, responded "yes." No response was given by one respondent. Therefore, the majority, 66 per cent offered free access. The responses to "how much" were combined as follows: the five libraries that charged $1 for thirty minutes use were Baltimore County, Cloquet, Frankfort, Tredyffin, and Wilmette; the three libraries that charged $.50 for thirty minutes use were Delaware, Salt Lake County, and Wheeler Basin; San Francisco charged $1 for twenty minutes; Menlo Park charged a "nominal fee for reservations plus a fee for printing." Minnesota Valley charged $20 for a forty-eight hour loan. None of the seven North Carolina libraries charged a fee for access.

Q[9]: "Are your microcomputer hardware and software used in-house or loaned?" This question was answered by thirty-four libraries with the following results; thirty-one libraries, or 91 per cent, checked "in-house hardware"; six, or 18 percent, checked "loaned hardware"; twenty-nine, or 85 per cent, checked "in-house software"; and five, or 15 per cent, checked "loaned software." The Delaware Division of Libraries was not included in the totals because its micro is "loaned for two months to public libraries." All four responses were checked by three libraries indicating that they have both hardware and software for in-house use and for loan: Portsmouth, Cloquet, and Minnesota Valley. Only hardware was loaned by Dansville and Downers Grove. Franklin County loaned both hardware and software. The brand of micro most often loaned was the Timex-Sinclair; however, Apples, VIC 20s and Ataris were also loaned. The only North Carolina location that loaned was Franklin County which loans five Timex microcomputers. Other libraries which loaned were Downers Grove, one Time; Cloquet, one Apple and three Ataris; Minnesota Valley, one Apple; Dansville, one VIC 20; and Portsmouth, four VIC 20s.

Q[10]: "Where is (are) the micro(s) placed in your library?" The answers shown in Table 5 give a variety of eight places the micros are placed. The total number for the percentage was thirty-one, because five did not answer. The children's area and the reference area both had thirteen responses, resulting in 42 per cent for each of those locations. Those two areas also received the highest percentage from the North Carolina libraries, 43 per cent. The responses written in as "other" locations included "general reading area" (two libraries), "study area carrel" (one library), and

TABLE 3
Purchase of Hardware and Software

| Where Purchased | Total libraries | | | | N.C. libraries | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | N=36 Hardware | % of N | N=32 Software | % of N | N=7 Hardware | % of N | N=6 Software | % of N |
| Local dealer | 28 | 78% | 27 | 84% | 5 | 71% | 5 | 83% |
| General retail store | 2 | 6% | 6 | 19% | 0 | 0% | 0 | 0% |
| Turnkey vendor | 1 | 3% | 0 | 0% | 0 | 0% | 0 | 0% |
| Library vendor | 2 | 6% | 12 | 38% | 0 | 0% | 3 | 50% |
| Manufacturer's rep. | 1 | 3% | 4 | 13% | 1 | 14% | 2 | 33% |
| Mail order | 1 | 3% | 23 | 72% | 1 | 14% | 3 | 50% |
| Other[a] | 5 | — | 2 | — | 0 | — | 0 | — |

[a]This category includes four different responses for hardware and two for software.

TABLE 4
Hardware Purchase Factors

| Factors | Total libraries: N=35 | | N.C. libraries: N=7 | |
| --- | --- | --- | --- | --- |
| | Responses | % of N | Responses | % of N |
| Service contract | 3 | 9% | 0 | |
| Cost | 16 | 46% | 4 | 57% |
| Software availability | 19 | 54% | 4 | 57% |
| Location of dealer | 17 | 49% | 5 | 71% |
| Cooperation with local schools | 6 | 17% | 2 | 29% |
| Other[a] | 11 | — | 0 | — |

[a]This category includes eight different factors, no one of which received more than two responses.

| | TABLE 5 | | | | |
|---|---|---|---|---|---|
| | **Location of Micro in Library** | | | | |
| | *Total libraries: N=31* | | | *N.C. libraries: N=7* | |
| Location | Responses | % of N | | Responses | % of N |
| Children's area | 13 | 42% | | 3 | 43% |
| Reference area | 13 | 42% | | 3 | 43% |
| Circulation area | 6 | 19% | | 1 | 14% |
| Glass-enclosed area | 4 | 13% | | 0 | 0% |
| Separate room | 3 | 10% | | 0 | 0% |
| Other | 5 | — | | 2 | — |

"Adult Continuing Education area" (one library).

Q[11]: "Which of these are included in your micro use policies or guidelines?" Table 6 gives the number of responses for each policy or guideline and the percentages of the total of thirty-four libraries. A majority of the libraries do have policies regarding four of the topics. Only 26 per cent of the respondents have policies regarding "copying of software." In the literature review, many libraries noted that their policies and guidelines have undergone change since the initial service began. This study did not attempt to correlate the various policies. The respondents were asked to send copies of policies or guidelines if possible. User policies and other related materials were sent by thirteen of the libraries.

Q[12]: "Approximately how much of the available time is the service being used?" Totals for the thirty-one libraries which responded are: four libraries checked 95-100 per cent use; 13 checked 75-94 per cent use; eleven checked 50-74 per cent use; and six checked less than 50 per cent use. Two responses were checked by three of the libraries: Wilmette checked 50-74 per cent use on weekends but less than 50 per cent on weekdays; Mastics-Noriches-Shirley checked 95-100 per cent use in the children's department, and 75-95 per cent use in the adult department; Adrian reported 95-100 per cent use in the summer and 50-74 per cent use the rest of the year. It is significant to note that of the six libraries which checked less than 50 per cent use, five charge fees for the service. Therefore, it is reasonable to assume that free access results in greater use.

Q[13]: "Do you offer workshops or orientation for patrons?" Of the thirty-five libraries which responded, twenty-eight answered "yes" and seven answered "no." Thus, the majority of 80 per cent do offer workshops or orientation for patrons. At least two of the libraries that checked "no" only loan the equipment.

Q[14]: "What staff training and development activities do you use?" These are the results for the thirty-three libraries which replied: thirty, or 91 per cent, checked "orientation for staff"; twenty-eight, or 85 per cent, checked "hands-on experience"; fifteen, or 45 per cent, "training on specific software." Comments by four libraries indicated that the staff is encouraged to attend computer classes at local colleges or technical schools.

## Summary and Conclusions

Computer literacy is viewed by libraries with existing public micros as the primary goal of the service. This goal is accomplished by a variety of applications in the libraries. The micros are utilized for both adult and children's services. Nearly all of the services include educational applications. Programming, data base management, and word processing applications are offered by a majority of libraries. A few libraries allow recreational, arcade-type games; however, many libraries prohibit this use in their guidelines. It is important to determine which applications will best meet the library's goals before the equipment is selected.

| | TABLE 6 | | | | |
|---|---|---|---|---|---|
| | **Use Policies or Guidelines** | | | | |
| | *Total libraries: N=34* | | | *N.C. libraries: N=7* | |
| Policy or Guideline | Responses | % of N | | Responses | % of N |
| Age restrictions | 18 | 53% | | 0 | 0% |
| Registration of users | 27 | 79% | | 6 | 86% |
| Time limitations | 28 | 82% | | 7 | 100% |
| Advance reservations | 18 | 53% | | 6 | 86% |
| Copying of software | 9 | 26% | | 1 | 14% |

Many factors influence the choice of microcomputer equipment. In selecting hardware, the considerations of most libraries are software availability, location of dealer, and cost. This indicates that libraries are concerned about the availability of software compatible with the chosen applications. The microcomputer hardware was purchased from a local dealer by a large majority of libraries. The location of dealer is of concern because of convenience for maintenance and repair. By far the most used brand of micros in libraries is the Apple, although the market is shared by at least eight other brands. A few libraries chose to offer a variety of products to the public. A large majority of libraries provide disk drives and printers; many use color monitors and other peripheral equipment. The availability of local maintenance and repair is not as important in the purchase of software. This market is shared more evenly between local dealers and mail order vendors.

Free access is an issue of microcomputer service which sparks conflicting viewpoints. The majority of libraries offer the service free of charge; however, several libraries do charge fees for access. There is evidence that free access does create greater use.

The loaning of microcomputer hardware and software is a service of a few libraries. Some of these libraries also provide in-house use. The less expensive brands of computers are most often loaned. Most of the libraries which loan hardware also loan software.

Libraries with public service micros have found the need for strict policies or guidelines for use. These guidelines include age restrictions, registration of users, time limitations, and advance reservations. Flexibility to change these guidelines as needed is essential for this rapidly developing service.

The focus of this research study was to determine how microcomputers are being used for public access in public libraries. The author hopes that the information collected and presented will be of use to those libraries that are planning for implementation of this service or an expansion of existing services.

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## MICROCOMPUTERS IN NORTH CAROLINA PUBLIC LIBRARIES
### CHILD ACCESS
#### JUNE 1984



1. Bladen County Public Library
2. Cumberland County Public Library
3. Edgecombe County Memorial Library
4. Forsyth County Public Library
5. Franklin County Library
6. Halifax County Library
7. Haywood County Public Library
8. New Hanover County Public Library
9. Rowan Public Library
10. Stanly County Public Library
11. Fontana Regional Library—Macon County
12. Public Library of Charlotte & Mecklenburg County