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ABSTRACT

The Dade County Public Schools (Florida) Department of Basic Skills (DBS) computer education program was evaluated. Education Consolidation Improvement Act (ECIA) Chapter II funds were sought for maintenance of existing school computers; establishment of software consortium; and the acquisition of additional microcomputer equipment. The project was evaluated by observation of materials purchased and distribution patterns, using information obtained from DBS, the Purchasing Department, and the Office of Budget. Supplemental data were obtained from a telephone survey of schools participating in the computer education program. The evaluation determined that the allocation of project funds differed from the original proposal. However, all objectives were met. Recommendations resulting from the evaluation were made. These included refunding of the ECIA Chapter II Computer Education Project for another year; and consideration of the possibility of emphasizing completion and operation of the software consortium in proposals for continuation of this project. The Telephone Interview Schedule is appended. (DWH)

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DADE COUNTY PUBLIC SCHOOLS

ED256809

**EVALUATION OF THE 1982-83
ECIA, CHAPTER II
COMPUTER EDUCATION PROJECT**

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EVALUATION OF THE 1982-83 ECIA, CHAPTER II
COMPUTER EDUCATION PROJECT

Executive Summary

The Department of Basic Skills sought Chapter II funds in 1982 to aid in supporting Dade County's computer education program, which had in two years' time acquired 623 computer systems spread throughout 132 schools. It was proposed that the funds be used for: a) the maintenance and enhancement of the computers already in place; b) the establishment of a software consortium, including software and equipment, and the salary for a full time media specialist; c) the acquisition of additional microcomputer equipment. A sum of \$320,604 was requested; \$245,604 was granted.

The project was evaluated by observing what materials were purchased and the distribution patterns, using information obtained from the Department of Basic Skills, the Purchasing Department, and the Office of Budget. These sources were supplemented with data from a random-sample telephone survey of schools participating in the computer education program.

The evaluation found that the allocation of project funds among the various objectives differed somewhat from that proposed. The objective of maintenance and enhancement was met at less than half the expected cost. This permitted a reallocation of the remaining funds. Some \$18,000 more than requested was expended for software and hardware for the software consortium, and more than three times the anticipated percentage of funds was available for the purchase of microcomputer equipment.

The evaluation also determined that all objectives were met. The following recommendations are made:

1. The ECIA Chapter II Computer Education Project should be refunded for another year.
2. Consideration should be given to the possibility of placing a major emphasis on the completion and operation of the software consortium, in proposals for continuation of this project.

Background

Description of Dade County's Computer Education Program

To place the Chapter II Computer Education Project in the proper context, this section of the evaluation report describes the county-wide computer education program. In its school summary survey of 1981, the Florida Department of Education reported a total of 209 instructional microcomputers in the Dade County Public Schools. A year later, the 1982 survey reported a total of 1,068, an increase of over 500 percent in a single year. Most of those who dispute these figures claim that the increase is even greater. These figures will serve, however, to give an idea of how sudden has been the introduction of instructional microcomputers into the school system.

Much of the impetus for this expansion, and the central coordination, has come from the County's Bureau of Education, whose Department of Basic Skills (DBS) has been charged with the procurement and placement of instructional microcomputers, and with the responsibilities of curriculum guidance and support. A Preliminary Plan for Computer Education was developed in 1981, establishing a feeder system pattern of distribution whereby the major microcomputer laboratories would be established in the senior high schools and adult centers, with additional computer systems to be located at selected elementary and junior high schools.

Some 162 computers were purchased in 1981, with Title IV-B funds. An additional 461 were purchased in 1982 with a combination of Title IV-B and adult education funds. Also during that time many schools were acquiring microcomputers funded from other sources. A reasonably careful count of the number of microcomputers in the system as of October 1, 1982 is given in Table 1. This table was compiled from purchase lists from the DBS, and from printouts of the data collected from the Florida DOE survey (not from the published document). The total is actually lower than that released by the state, owing probably to a double counting in the state document of some adult education responses where the equipment is shared with senior high schools.

TABLE 1
Number of Instructional Microcomputers in Dade County Public Schools by School Level and Funding Source: October, 1982

| | Title IV-B and Related Funds | | Other Sources | Total |
|----------------|------------------------------|------|---------------|-------|
| | 1981 | 1982 | | |
| Elementary | 23 | 56 | 68 | 147 |
| Junior High | 40 | 115 | 81 | 236 |
| Senior High | 99 | 260 | 217 | 576 |
| Adult Centers* | -- | 30 | 23 | 53 |
| TOTALS | 162 | 461 | 389 | 1,012 |

*Only Adult centers located separately from senior high schools are counted separately. Shared equipment is counted with senior high totals.

SOURCES: Derived from Florida school summary survey data and figures, from Dade County computer education personnel.

The computers purchased through the DBS have all been complete systems. Each is equipped with essential peripherals (disk drive, program recorder and monitor), and a year's warranty. In addition, each participating school was given a software/peripheral allowance ranging usually from \$500 to \$2,500. In 1981, the Preliminary Plan had suggested providing each elementary school with one computer system, each junior high school with five, and each senior high school with fifteen.

Table 2 shows the number of schools receiving centrally distributed microcomputers in 1981 and 1982. Every senior high school has received 15 computer systems except one (which has 14). Sixty-three percent of the junior high schools have received computer systems, and each of these received at least 5 (two got 10). Fewer than half of the elementary schools received any computers.

TABLE 2
Number of Schools Receiving Microcomputers from Title IV-B and Related Funds, By Level*

| | Total Number of Schools | Number of Schools Furnished with Micros** | Percent of Schools Furnished with Micros (row percents) |
|--------------|-------------------------|---|---|
| Elementary | 175 | 78 | 45 |
| Junior High | 46 | 29 | 63 |
| Senior High | 24 | 24 | 100 |
| All Schools* | 245 | 130 | 53 |

* Adult Centers and Opportunity Schools are omitted.

** Thirty microcomputers were also distributed to two adult centers.

SOURCE: Figures furnished by computer education personnel.

As the program grew there was also a developing need to provide support for the computer systems already in the schools. Aside from curriculum and teacher training, which are not issues addressed here, there was the need to maintain the equipment, to acquire additional software for instruction, and to set up a central exchange for relaying and disseminating information and assistance. It was for these purposes that Chapter II funds were sought.

Description of the Chapter II Computer Education Project

The original 1982-83 Proposal for Chapter II funds was submitted in April, 1982. In February, 1983, the proposal was revised to take into account changes in various factors affecting computer education in the County, most notably Chapter I funding for computer instruction. The following description is of the proposal as revised, with the nature of the revisions noted.

The first objective was to provide a source of funds for maintenance and enhancement of the existing computer education programs, via the purchase of whatever additional materials, equipment, and related support resources might prove necessary. Preliminary inquiries by the DBS resulted in high priority being assigned to security devices for microcomputers, and to extended maintenance agreements.

The second objective of the proposal was "to establish a software consortium". The requested funds would be used to purchase software and equipment, and to employ a full-time media specialist to catalog and disseminate the software.

The third and final objective was the acquisition of microcomputer equipment. The balance of the funds received beyond those set aside for the above objectives, were to be applied toward the acquisition of microcomputers or related hardware for schools which had not previously received such equipment, contingent upon those schools' ability to meet specified criteria of eligibility.

This third objective was one of the two major revisions of the original proposal made in February, 1983. It replaced the original objective, which proposed to use requested funds to purchase CAI (Computer Assisted Instruction) and CMI (Computer Managed Instruction) software directly for participating schools.

The second major revision was in the allocation of proposed funds among the major objectives. Of the total amount requested of \$320,604, the initial proposal projected a division among the various objectives in this manner: a) for maintenance and enhancement, 62%, or \$200,000; b) for the software consortium (including salary and benefits for a media specialist), 22%, or \$70,604; and for the acquisition of CAI/CMI software, 16%, or \$50,000.

In the revision, the following allocations were proposed, again based on the \$320,604 requested total: a) no change for the objective of maintenance and enhancement, which remained at 62%, or \$200,000; b) for the software consortium, an increase from \$40,000 to \$75,000 for software and equipment, for a sum (including the media specialist) of \$105,604, or 33%; c) for the acquisition of microcomputer equipment, the remaining funds - 5%, or \$15,000.

The proposal was approved at a somewhat lower level of funding: a total of \$245,604.

Description of the Evaluation

This evaluation is based on the lists and files made available by the Director of the DBS, and her staff in the Computer Education section, and on records provided by the Division of Budget and the Purchasing Department. These sources were supplemented by a telephone survey of a sample of schools participating in the Computer Education Project, carried out at the end of the 1982-83 school year. This section describes how these sources were used. The "strategy" of the evaluation was to consider separately each objective of the proposal.

Objective: maintenance and enhancement of the existing microcomputer program. For this objective, completeness of the scope of distribution was checked by comparison of a list of schools scheduled to receive materials or services with previously issued lists of schools receiving computer stations from previous funding. Validation of purchase and intent to deliver was undertaken by examination of the purchase order (which contained the final negotiated cost and description of means of delivery) after processing by the Purchasing Department. The return by the recipient schools of property control/serial numbers of equipment to be maintained was accepted as an indicator of notification of, and acceptance by, those schools. Finally, effectiveness of the purchase was assessed by means of survey questions used to check the utility of the materials or services purchased against possible utility of selected alternatives.

Objective: to establish a software consortium. This objective was assessed examining the software and equipment purchase requisitions. Major purchases (over \$1,000) were identified from the Purchase Requisition List and the purchase orders examined in the Purchasing Department. Interviews with the computer education specialist and media specialist were employed to document the progress made in setting up the consortium. To assess the dissemination of information, copies of the newsletter begun in December were examined. Several survey questions were also designed to gauge the extent of that dissemination.

Objective: acquisition of microcomputer equipment. This objective was evaluated in a manner similar to that of maintenance and enhancement, above. The pattern of distribution was examined by comparison of a distribution list of equipment purchased with previous lists of schools which had received computer stations from the county. Since Chapter II funds were mixed with funds from other sources to meet this objective, purchase requisitions were examined directly to determine the exact contribution of the Chapter II funds. The requisitions were further checked against a master Purchase Requisition List supplied by DBS. Verification of distribution to appropriate schools was effected by examination of requests for equipment, to ascertain presence of validating signatures and countersignatures. Some of the results from the telephone survey were used to assess the consequences (for the affected schools) of the decision to drop the original objective of purchasing CAI/CMI software.

The telephone survey (hereafter referred to as OEA survey) was designed to inquire into several aspects of the project. A copy of the survey instrument is included as an appendix. A 25 percent random sample was chosen from a list of computer education contact persons in the schools, compiled by DBS. The survey was carried out in mid June, just prior to the end of the school year.

The expenditure figures given in this report are those from the original purchase requisitions, and not the final negotiated figures after processing by the Purchasing Department. This is regarded as acceptable and appropriate for an evaluation, where the emphasis is on effects as reflected in general comparisons and relative quantities, rather than monetary exactness.

Results

Objective: maintenance and enhancement of existing microcomputer program.

This objective was met by the purchase of maintenance contracts. Every participating school in the system was provided with contracts covering each computer and disk drive purchased through DBS. Eligible schools were defined as those which had received microcomputer stations through Title IV-B and related funds, and no computer system acquired from any other source was included.

Contracts for a total of 625 computer systems were requisitioned at an overall cost of \$79,375 (\$127 per system). This number was based on the 1981 and 1982 distribution lists, and not on a current inventory. Consequently, due to loss and/or subsequent replacements, about 42 units were missing or still in warranty, and thus not in need of maintenance contracts. Where this was the case, arrangements were made to apply the left over contracts to the next eligible units as warranties expire.

Originally, DBS had construed "maintenance and enhancement" to include anticipated needs for additional software, peripherals, and security devices, as well as maintenance contracts. By February, 1983, security devices and maintenance contracts had been given priority. The final decision (to provide only maintenance contracts) was based on results of a questionnaire sent out in March, 1982, supplemented by less formal communications between DBS personnel and participating schools.

In order to obtain an independent assessment of the relative value of maintenance contracts to the schools, when compared to the alternatives of additional software, or security devices, several questions were included in the OEA survey. When asked if they had sufficient software to get along, only 22 percent of the respondents to this survey replied that they definitely did not. Questioned about security, only 19 percent stated that security was a problem at their school, and all stated that security was not a problem where the microcomputers were concerned (i.e., all were in secure locations). Thus it appeared that these alternatives to maintenance contracts were perceived as a need by a relatively small percentage of the respondents.

In contrast, respondents indicated that the problem of maintenance was a serious one. Seventy-four percent answered affirmatively when asked if they had experienced breakdowns or malfunctions of their equipment. Also, four respondents from schools which had purchased additional machines with their own funds stated that they found it difficult to find money for repairs when warranties expired. Finally, only 20 percent of the group reporting having experienced breakdowns expressed any dissatisfaction with repair services under warranty.

These results indicate that, compared to the alternatives of additional software or security devices, maintenance contracts were the appropriate choice for support of the program, and are adequate for maintenance of that program (assuming that service under maintenance contracts is similar to that under warranty).

Objective: the establishment of a software consortium.

Toward the objective of establishing a software consortium, expenditures totalling \$124,361.71 were reported. For purposes of examination and discussion, these expenditures were categorized as shown in Table 3.

Table 3
Expenditures for Software Consortium by Category

| | |
|--|------------------|
| Media Specialist (Salary and Benefits) | \$ 30,604.00 |
| Software | 43,485.02 |
| Equipment (hardware) | <u>50,272.69</u> |
| Total | \$ 124,361.71 |

SOURCE: Computed from DBS list, "Purchase Requisition Expenditures for Chapter II Funds 1982-1983," obtained on April 20, 1983.

The distinction between software and hardware represented in the table was made by inspection of the descriptions given in the DBS list. Items labeled "software" were so categorized, as were such items as books, filmstrips and subscriptions. The equipment category included only such items as were labeled "hardware" or which had specific labels clearly identified as hardware, even though certain software (utilities, for example) are perhaps more accurately interpreted as equipment. Also, since there are instances where hardware and software appear on the same requisition, the categorization is only approximate.

The software purchased was primarily instructional, but also included utility programs and such business oriented programs as those used for word processing and data base management. See Table 4 for a list of software purchases over \$1,000.

Table 4
Software for the Software Consortium
Purchase Requisitions for over \$1,000*

| Requisition Number | Date | Description | Amount of Requisition | Final Cost |
|--------------------|----------|--|-----------------------|-------------|
| B050543 | 10/27/82 | a) 21 software items (Atari and IBM) | | |
| | | b) 2 printer buffers | \$ 1,562.14 | \$ 1,440.71 |
| B050552 | 11/2/82 | CAI software (15 items, Atari) | 2,479.65 | 2,631.98 |
| B055941 | 11/10/82 | Educational Software (Apple) | 1,225.92 | 1,236.00 |
| B055947 | 11/16/82 | IBM software (word processing) | 1,037.00 | 998.50 |
| B055953 | 11/22/82 | Software (15 items, mostly Apple) | 1,126.44 | 1,265.57 |
| B068135 | 4/15/83 | a) Software (for IBM) | | |
| | | b) Hard disk expansion unit/ color monitor (for IBM) | 3,782.77 | 3,782.77 |
| Totals | | | \$11,213.92 | \$11,355.53 |

*Nine requisitions for over \$1,000, totaling \$20,417.97, were on the DBS list "Purchase Requisition Expenditures for Chapter Two Funds 1982-83". Three could not be located by the appropriate office of the Purchasing Department, although they had been assigned prefix codes.

Table 5, which gives equipment and hardware purchases over \$1,000, indicates the nature of these purchases. Much of this expenditure was in one-time-only purchases of networks, printers and plotters, and the like, including a number of computer systems of various makes; equipment necessary for the functioning of the consortium.

Table 5
Equipment for the Software Consortium
Purchase Requisitions for Over \$1,000*

| Req. No. | Date | Description | Req. Amount | Final Cost |
|----------|----------|---|-------------|-------------|
| D050538 | 10/18/82 | Amdak color monitor | \$ 1,518.00 | \$ 1,518.00 |
| B050547 | 10/26/82 | Quadboard & Okidata printer for IBM-PC | 1,827.22 | 2,390.00 |
| B050548 | 10/27/82 | Color printer | 1,559.00 | 1,795.00 |
| B050591 | 11/04/82 | Disk system w/corvus interface | 5,450.00 | 4,357.00 |
| B055926 | 11/09/82 | Peripherals for Atari 800 | 1,140.82 | 1,199.37 |
| B055938 | 11/12/82 | Software development system for Atari 800 | 1,150.00 | 1,160.00 |
| B055939 | 11/16/82 | Printer accessories | 1,218.00 | 1,186.00 |
| B055946 | 11/16/82 | Corvus multiplexer and cables | 1,319.00 | 1,037.00 |
| B055999 | 12/09/82 | Smartmodem/Chronograph | 1,247.00 | 1,556.00 |
| B060817 | 12/18/82 | Spare parts kit. Diagnostic kit (Atari 800) | 1,937.78 | 1,937.78 |
| B060819 | 12/21/82 | Misc. hardware and supplies | 1,656.00 | 1,480.30 |
| B060836 | 04/05/83 | Misc. hardware (IBM-PC) | 1,943.20 | 1,943.20 |
| B068137 | 04/04/83 | IBM-PC microcomputer system | 3,972.50 | 3,972.50 |
| B068193 | 03/04/83 | Atari 800 microcomputer system | 1,463.00 | 1,463.00 |
| B068370 | 04/18/83 | Network Monit (Atari 800) | 1,995.00 | 1,990.00 |
| B068373 | 04/18/83 | Plotter | 1,995.00 | 1,995.00 |
| Totals | | | \$29,874.02 | \$30,980.15 |

*Twenty purchase requisitions for over \$1,000, totaling \$40,598.95, were written, as reported in the list, "Purchase Requisition Expenditures for Chapter Two Funds 1982-1983". All were processed by the Purchasing Department but four could not be found for examination.

A newsletter, the Computer News, was begun in December, 1982 as the primary means of disseminating information, and to serve as a catalyst in promoting exchange of knowledge, materials, and experience among teachers and students. Current circulation is to every school in the district. Results from the OEA survey reveal that 89% of the respondents are familiar with the newsletter, although 88% of those who were familiar with it reported it wasn't being circulated once received. Of those who said they were familiar with the newsletter, 67% said they found it helpful or very helpful.

The software consortium is not yet operational. The lab has not been set up, and the cataloging of the software has not yet begun, pending the move to permanent quarters in the new Board/Administration building. However, the foundations - a permanent media specialist, a stock of software and the equipment to make use of it, and the means to disseminate information (the newsletter) - are in place, as described in the proposal.

Objective: acquisition of microcomputer equipment.

With the exception of one set of disk drives and one network, all funds spent toward this objective were pooled with IV-B funds remaining from the past fiscal year to purchase new computer systems for the schools.

Fifty-four computer systems were acquired, each consisting of a computer with a one year warranty, disk drive, program recorder, and 13 inch color monitor. Of a reported total value of \$65,448,* Chapter II funds contributed 63%, or just over \$41,000.**

In order for a school to receive computers, it was necessary to submit a written request signed by the principal and countersigned by the Area Director or his/her designee. Those signatures were taken to be indicators of an interest in computer education, and sufficient resources (e.g., qualified staff, secure locations) to support computer systems. Thirty six schools submitted requests for computer stations. Of these, 28 received computers. The distribution is shown in Table 6.

Table 6
Distribution of Computers from Title IV-B/Chapter II Funds

| | Schools Requesting | Schools Receiving | Number of Computers Distributed |
|---------------------|--------------------|-------------------|---------------------------------|
| Elementary | 23 | 15 | 15 |
| Junior High | 11 | 11 | 36 |
| Senior High | 1 | 1 | 1 |
| Opportunity Schools | 1 | 1 | 2 |
| Totals | 36 | 28 | 54 |

* The DBS list "EQUIPMENT ALLOCATION Title IV-B or Chapter II FUNDS" enumerates the computer stations allocated, by school. Due to a clerical error, the total sum given there is for 57 systems, rather than 54. The total given above is figured for the value given on the list for a single system (\$1,211), times 54.

**There were some difficulties in following these expenditures, in that the purchase requisitions for several computer systems were not located. The problem was circumvented by computing the Chapter II funds spent for computer systems in two ways. First, a total was arrived at by a direct summation of the purchase requisitions which were examined, taken from the files of the DBS's computer education section. This total was \$41,436.90. Then, working from another DBS list, "Purchase Requisition Expenditures for Chapter Two Funds 1982-1983," all other expenditures (except those in question) and the surplus in account reported by the Division of Budget as of June, 1983, were subtracted from the total funds available, yielding the difference as a total of \$41,609.83. The difference between the two totals (\$172.92) is insignificant.

This distribution was such that all requesting schools which had not previously received computers from IV-B funds received one or more computer systems. Forty-four of the 54 computer stations went to schools that either had not previously received computers from the County, or had not received the "quota" originally suggested in the 1981 Preliminary Plan (1 for each elementary school, 5 for each junior high, 15 for each senior high). Of the remaining 10 computer systems, 2 each went to junior high schools that had already had 5 computers, and 1 went to an elementary school which had already received a computer.

The effect of this distribution, in terms of extending the program throughout the system, was this: the number of elementary schools which have received at least one computer increased from 45 percent to 53 percent; the number of junior high schools which have received at least 5 has risen from 63 percent to 74 percent; and every senior high school has now received 15 computer systems.

Finally, the revision of the proposal, to purchase additional hardware rather than CAI and CMI software, is supported by results from the OEA survey. To begin, none of the respondents from any school surveyed made any reference to CMI software, which is used to aid teachers in managing student records. The number of microcomputers in the system is still limited, and they tend to be used directly for student instruction, rather than computer management of instruction.

With specific reference to grade level, none of the senior high schools, where 60 percent of the computers are found, expressed any interest in CAI software. All were programming oriented and indicated that very little software of any kind was used.

Of the respondents from junior high schools, with 25 percent of the computers, two thirds said they were oriented toward programming. One third specifically mentioned CAI software. All but one said they had enough software to manage. None were of the opinion that the Department of Basic Skills should assist them in purchasing software.

Only in the elementary schools, which have 15 percent of the computers, is CAI software a major factor. Eighty percent of the respondents mentioned CAI as their major function. Only a third however, said that they did not have enough software to manage. Again, there seemed to be no prevailing opinion that such software should be furnished by the Department of Basic Skills.

Discussion and Recommendations

The actual expenditure of the Chapter II funds granted for the Computer Education Project differed somewhat from the distribution estimated in the revised proposal. This is summarized in Table 7, where the proposed and actual distributions of the funds are compared. Briefly stated, it was possible to meet the requirements of the first objective with considerably fewer funds than originally anticipated (32 percent vs. an estimated 62 percent). The savings thus incurred were then redistributed among the other objectives. Nearly \$20,000 more than planned was spent toward the establishment of the software consortium, and it was possible to almost triple the expected amount spent for microcomputer equipment.

Table 7

Distribution of Chapter II Funds by Objective:
A Comparison of Proposed and Actual Expenditures

| | Proposed | | Actual* | |
|--|-----------------------|-----|----------------------|----|
| | (\$320,604 requested) | | (\$245,604 received) | |
| | \$ | % | \$ | % |
| Maintenance and Enhancement | \$ 200,000 | 62 | \$ 79,375.00 | 32 |
| Software Consortium | 75,000 | 23 | 93,756.71 | 38 |
| Media Specialist (salary and fringes) | 30,604 | 10 | 30,604.00 | 12 |
| Acquisition of Microcomputer Equipment | 15,000 | 5 | 41,436.90 | 17 |
| Unexpended (6/21/83)** | - | - | 258.46 | 0+ |
| Totals | \$ 320,604 | 100 | \$245,431.07 | 99 |

*That the amount received does not match the total expended is due to the fact that the figures given are from the requisitions, and not from final costs after processing by the Purchasing Department.

**The unexpended figure is the balance left in account as of June 21, 1983, as reported by the Office of Budget.

The evaluation found that all objectives were met as described in the revised proposal. It is therefore recommended that:

the ECIA Chapter II Computer Education Project be refunded for [1] an additional year.

In addition, some of the information gathered in the preparation of this report supports the significance of the second objective, the establishment of the software consortium. The results of the survey indicate that instructional computers in the schools have not yet assumed a very influential role. Most respondents (67 percent) stated that a breakdown of their computer(s) would have little or no effect on their instructional program at this time.

The lack of any vocalized need for more CAI and CMI software - particularly in the elementary schools - also indicates underutilization. Instructional use of computers at all levels currently appears very narrow. Based on OEA survey results, instruction in the junior and senior high schools appears largely restricted to teaching programming to a relatively few students who must meet rather rigorous mathematics prerequisites. This emphasis is at the expense of other instructional applications which also serve the future needs of students and the community, such as word processing and data base management.

At the same time, the number of computers in the school system continues to grow. Among the schools surveyed, the number of computers increased by 26 percent between October, 1982 and June, 1983. This increase is independent of any machines furnished through Title IV-B, Chapter II, or Chapter I funds. For example, one elementary principal reported that her P.T.A. was acquiring six Atari 400s to establish a lab for her school. Using OEA survey data as the basis for linear projections by school level, the increase in computer systems throughout the school system from these various sources will be some 400 new machines, between October 1, 1982 and October 1, 1983.*

Within this context, some selected results of the OEA survey, reported earlier, are pertinent: few respondents had any knowledge of a software consortium, or its purpose; respondents expressed little expectation that the Department of Basic Skills would or should assume the responsibility for furnishing further software. By implication, these results seem to indicate a lack of perception of guidance in providing this type of support. A fully functioning software consortium might be made to serve not just as a source of information, but an integrating function in support of a unified curriculum, prior to such activities as increased software allocations to the schools. It is from this perspective that a second recommendation is made:

that consideration be given to the possibility of placing a major emphasis on the completion and operation of the software consortium, in proposals for continuation of this project.

[2]

*This is a conservative estimate. The rate of growth is very probably still increasing. Over the next few years an exponential function would likely yield greater accuracy, with an exponent slightly greater than unity. Over a longer period some "s-shaped" function would be more realistic.

APPENDIX
Telephone Interview Schedule

Telephone Interview Schedule

Fill in beforehand

- 0a. School _____
0b. Contact person, & position _____
0c. Number and type(s) of micro(s) _____

- 1a. I have you listed as the contact person for the instructional computers at (0a). Is that correct?
1b. Your position as given is (0b). Is that correct?
- 2a. Your school is reported to have _____ Ataris and _____ other brands. Is that correct?
2b. (If 2a is no) Was it correct on October 1, 1982?
2c. (If 2a is no) What is the number now?
- 3a. What is the major instructional application (CAI, CMI, programming...)?
3b. Can you estimate how many students use the equipment?
3c. What grades are covered?
- 4a. What about software; do you have what you need?
4b. Do you know about the software consortium (describe if necessary)?
4c. Have you ever been in contact with the media specialist there, Molly Weeks?
4d. Do you receive Computer News, the newsletter?
4e. (If 4d is yes) How helpful do you find it? Very ___ O.K. ___ Not very ___
- 5a. Where is (are) your computer(s) located (lab, library, etc.)?
5b. How secure is that location?
5c. Is security a problem?
5d. (If 5c is yes) Do you have any security devices?
5e. (If 5d is yes) How were these acquired?
- 6a. Have you had any problem with the equipment operating properly?
6b. (If 6a is yes) Was the service adequate?
6c. How seriously does (would) a stoppage affect your instructional program?

The School Board of Dade County, Florida adheres to a policy of nondiscrimination in educational programs/activities and employment and strives affirmatively to provide equal opportunity for all as required by:

Title VI of the Civil Rights Act of 1964 - prohibits discrimination on the basis of race, color, religion, or national origin.

Title VII of the Civil Rights Act of 1964, as amended - prohibits discrimination in employment on the basis of race, color, religion, sex, or national origin.

Title IX of the Education Amendments of 1972 - prohibits discrimination on the basis of sex.

Age Discrimination Act of 1967, as amended - prohibits discrimination on the basis of age between 40 and 70.

Section 504 of the Rehabilitation Act of 1973 - prohibits discrimination against the handicapped.

Veterans are provided re-employment rights in accordance with P.L. 93-508 (Federal) and Florida State Law, Chapter 77-422, which also stipulates categorical preferences for employment.

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