

PRESENT AND FUTURE APPLICATION OF  
DATA PROCESSING EQUIPMENT  
FOR SCHOOL LIBRARIES

James W. Jacobs

I am awed by the many scientific achievements which have been developed or perfected during the last forty years—the radio, jet aircraft, talking pictures, rockets, and television are but a few which flash to mind. In spite of our modern hardware and our continuing to reach new horizons of success, back home in the local library things are pretty much the way they were forty years ago, in that a library patron today, as in yesteryear, goes through somewhat the same exercise to locate information.

Modern society, with all of its many (and sometimes perplexing) technological aids, has developed in spite of the printed word being excruciatingly difficult to locate. And to make matters even worse, once the word is located and used, the same pain must be endured by the next searcher, and then the next searcher, and so on!

My assignment is to present the ways in which the Montgomery County (Maryland) Public Schools are using or plan to use data processing equipment to enhance the library program. Montgomery County is one of twenty-three counties in Maryland and is contiguous to and north of the District of Columbia. According to the last census report, Montgomery County is the highest average income county in the United States and also has the reputation for being the best educated county in the fifty states. There are about 90,000 residents with college backgrounds, and approximately 10,000 with some type of doctorate degree. Our county population is now close to 360,000; in 1950 it was about 164,000. The public schools enroll more than 94,000—the projected enrollment for 1966 is 110,000—whereas in 1948 when I joined the system it was about 20,000. There are 131 existing schools—100 elementary, 30 secondary, 1 junior college—with five additional schools to be occupied in September 1963. During the past ten years we have added 70,000 children and 3,500 teachers.

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Our school budget this year is around \$65 million. We have opened a new classroom each school day for the past four years. We have libraries in all schools, with one or more librarian in each secondary school and a full or part-time librarian in each elementary library. Our pupil growth is approximately 5,500 per year which necessitates an increase, including turnover, of about 750 new classroom teachers per year. This means four new classroom teachers every day just to stay even.

The Office of Instructional Materials, with which I work, has been assigned the general responsibility for coordinating the instructional materials program for the county schools. Our office is organized into several sections: (1) the office of the director, (2) the instructional materials center, (3) a central processing center, (4) a textbook depository, (5) a library or field services section, (6) a curriculum laboratory, and (7) a production section.

Our office is constantly searching for a better and more efficient modus operandi. Since we believe there is an easier and perhaps more efficient way to get the job done, we are reaching out to take full advantage of machines and technology. Since 1948, our system has had data processing equipment. We started out with an IBM 402, a sorter, a reproducer, a collator, and two keypunch units. We later added a second 402 and a 602A calculating punch. We have now the series 1401 with all necessary companion equipment.

We have developed the expected uses for this equipment. The more sophisticated the equipment has become, the more sophisticated the program. Currently we are making use of our equipment in the following ways: (1) payrolls and related records, (2) accounting, (3) testing and research, (4) federal aid, (5) pupil accounting, (6) secondary school scheduling related records, and (7) miscellaneous (including personnel data and Montgomery Junior Colleges).

These, of course, are not unusual nor unexpected in relationship to the capabilities of our hardware. Additional uses being planned include: (1) ranking of high school graduation classes by school and by type of diploma within school, (2) attendance accounting—secondary level, (3) catalog of approved textbooks—elementary and secondary, (4) inventory of textbooks—elementary and secondary, (5) catalog of audio-visual materials, (6) purchasing—preparation of bid lists, (7) purchasing—purchase order preparation, (8) purchasing—textbook order forms, (9) cafeteria—statements of income and expense, (10) cafeteria—analysis of income and expense, (11) enrollment projections, and (12) location and assignment of substitutes.

Several of these programs enter into frontier uses of this type of equipment. Our school system has no desire to be the first to the frontier; we are simply interested in capitalizing on what we have available as hardware in order to release staff time to accomplish things for which the hardware would not be appropriate.

One of the primary assignments of my office is to effect a better coordinated materials program. Coordination is more readily accomplished if information is easily available and rapidly accessible. Here are some ways by which coordination is being secured in our library program.

The school library program in Montgomery County two years ago would have been termed traditional. The library was larger than a classroom facility, rectangular in layout, with a work-room and office at one end and usually a small conference room at the other—often with two entrances, one marked IN, the other marked OUT. The work-room was adequate in size to take care of the repetitive chores of processing and mending but not large enough to accommodate special individualized library work of teachers or students. Tables and chairs, row on row, were in sufficient quantity to seat generally ten per cent of the rated capacity of the building. Schedules for using the library quarters were developed with a class of two coming in each period of the day for group assignments, etc., or at the elementary level by special arrangement. There were, of course, many of the traditional good uses made of the library but my point is that it was a fairly structured operation, largely restricted to printed media, due to tradition, physical quarters, and collection limitations. Some of our libraries, however, in spite of these restrictions were not following the traditional program. Some schools had added to their collection other than printed materials—they included in the card catalog information on such material, and in some instances the library staff assumed responsibility for the school materials program and worked with the full range of printed, visual, and auditory media.

What has happened during the last two years is that this new approach, as some few schools were finding challenging and successful, has flamed into a burning interest on the part of the full county library staff. Today, we are witnessing our library program seek a new level of service to the instructional program, the student enrollment, and the professional teaching staff. Many, if not most of our libraries, although in the same general quarters, are re-thinking and making new uses of what is at hand. The materials program is being co-ordinated in or from the library wherever and whenever possible. Many materials—new to the library collection—are housed in the library, space permitting. All materials are not necessarily housed in the library, but the library is rapidly becoming an information center for the complete materials program. With minor physical changes, provisions are being made for students as well as teachers to use materials on an individual basis through the use of special study cubicles or carrels. Opportunities for previewing and listening are available, and the use of the collection to help in the preparation of teacher-made/student-made transparencies, slides, or tapes is possible.

In the planning of new facilities, we are making an effort in the initial construction to develop a facility which promotes this new approach and which should permit the library staff to have an even better chance of success. We want each library to be the materials center of its school. We want a variety of instructional materials readily accessible to students and teachers for both individual and group learning situations. The program of requirements for one of our new secondary schools includes a reading room for 100 students (but not all at tables and chairs), staff work space, a research area, an area for independent study, storage space and preparation areas for audio-visual and other instructional materials, student typing space, and a conference area.

Realizing that our library program has broadened its scope of service, includes a multi-media collection, and serves as a materials information center, it is incumbent upon each person working with the program to seek new and more sophisticated methods and procedures for implementing the added responsibilities. Some of the activities, each at a different stage of development, which we think will help get the job done a little better and a little easier, are these:

- (1) We recently issued to each school a color-banded card file for materials contained in our county IMC (Instructional Materials Center), which includes approximately 8,000 items. The next step is to translate all titles to punched cards in order for multi-media listings to be made on request. This, we feel, will lend itself to resolving the question each teacher faces when planning a lesson—what materials are available?
- (2) We have just about completed the county's first comprehensive listing of secondary textbooks. This project came about as a result of the lack of a current inventory of useable copies of each title in every school. Realizing that a depository operates more effectively with information of this kind it was decided the quickest method of taking and maintaining a textbook inventory would be to make use of the punched card. Since a list was required, problems and needs were fused with the result being a punched card textbook list by title, including considerable explanatory data concerning each title and a means for taking periodic inventory, all accomplished by one-time effort.
- (3) Our curriculum laboratory makes a sincere effort to keep the administrative and supervisory staff abreast of current periodicals and other pertinent or new material. This is rapidly becoming a losing battle. We need some way of getting bare bones to the prospective user in order for staff

members contacted to request a meatier portion perhaps or the document itself. We should be able to develop a system whereby articles are listed by title or keyed to some index, placed on punched cards, printed out, and distributed for informational purpose. So much comes so fast, volume-handling techniques are a dire necessity!

- (4) The central processing center in its first 20 months of operation has processed about 175,000 volumes. The efficiency of the operation now in terms of what we were experiencing some months ago is vastly improved. However, we still find ourselves doing many chores in a repetitive and time-consuming fashion. From the time the title order is initiated by an individual school library through the entire processing operation until the book arrives in the library for use requires considerable coordination and fusion of work. We feel strongly that a machine program can be developed which will provide the initial order on a sensitized or punched card. The complete ordering and financial accounting cycle can then be geared to a machine, saving hundreds of manhours as well as expediting the operation. Our purpose in developing machine procedures is to reduce the span of time from the initiation of the order to the shelving of the book. We think this can be as short as three weeks—we now take six on the average. Once the title is on a punched card, we then have the capability of sorting for a variety of purposes: by title, by publisher, by jobber, by elementary or secondary school level, by basic or supplementary. We spend many hours developing lists of titles or bringing up-to-date—if this can be accomplished by available hardware, we would certainly be remiss not to take advantage of the equipment.
- (5) One persistent problem in the field of instructional materials is that of the review, evaluation, and selection of teaching materials. We are now in the first stage of establishing a comprehensive program which we hope will be helpful in the solution of this problem. In cooperation with the Office of Curriculum Development, our office has published a brochure on the review, evaluation, and selection of instructional materials for the school system. This directive provides information to each staff person concerning procedures for this phase of the total instructional program. In brief, the responsibility for seeing that review and evaluation takes place in its proper perspective is the responsibility of the Office of Instructional Materials. Selection is accomplished by staff members who are

involved in the actual teaching program. Materials are reviewed and evaluated and then recommendations are forwarded to our office. Obviously, in a system as large as that of Montgomery County the amount of materials reviewed, evaluated, and recommended for use is staggering. We expect to publish, with some frequency, broadly inclusive lists of materials which may be considered for purchase by individual schools. It appears obvious that developing a punched card system for handling these many items of instructional materials is necessary.

- (6) Another element of a comprehensive program is that of reviewing library book material. Our system receives new titles from many publishers. This large monthly influx of new materials is important to our library program and should be rapidly reviewed with reviews quickly consolidated and made available to all librarians. We expect soon to translate to punched cards not only pertinent title information but a brief annotation as well. The data when printed out will then be forwarded to all librarians for their constructive use in the acquisition program.
- (7) Although not a school system—initiated use of data processing equipment, our Montgomery County Public Library system is now publishing its catalog through the use of punched cards. Monthly acquisitions are listed in separate lists, subject, author, and title, and distributed from the central library to all branches. These listings show not only regular bibliographic information but each separate location or branch which houses the title. Annually, a complete up-to-date catalog will be issued. This new approach to developing the library catalog is a definite advantage to our school system as we place the appropriate lists in each of our schools, and thus provide a further opportunity to coordinate services of the school and the public library program. As a member of the Public Library Advisory Board, I am proud to include this use of data processing equipment in my report.