

Computer Resource Booking: A Development

By Donald P. Bates

In September 1983, the Media Centre of the Grey County Board of Education went "live" with a computer booking system tailor-made for resource distribution. Though this is not unusual for larger jurisdictions, it is usually beyond the reach of smaller boards such as ours: The project became a reality through a cooperative venture. What follows is an overview of the process which led to software development to be used in eight Ontario boards.

The demands on 16mm film and other centralized resource libraries have been increasing in spite of the declines of school population. The Grey County Board of Education, a smaller rural school jurisdiction in Ontario, is no exception with resource distribution increasing some 60% since 1976. This situation was coupled with the reality that the Board is not in a position to add staff to address the problems brought on by these increases. In considering alternative solutions, the possibility of easing the workload pressure of resource handling by transferring much of the manual clerical work to computer intrigued me.

The project began with a study of operative systems in other school jurisdictions and colleges. It seemed obvious that for a library the size of Grey County to offer the same services we do now of reservation and multiple bookings per title, a system of some capacity would be required. Hence microcomputers were considered less desirable but seemed to be the only facility remotely within our fiscal reach.

Coinciding with my consideration of the problem was expansion and development within our Board's Computer Service Department. Grey County established a computer service in the early 1980's. It was a facility set up in conjunction with the Ministry of Education to provide essential computer services for this and surrounding boards. These installations were known as CRJE sites (Cooperative Remote Job Entry), essentially terminal links with the Ministry's mainframe in Toronto some 140 km. The local board's staff managed several standardized programs related to business functions and student guidance services. The facilities

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were not interactive, hence not suited to on-line booking resources.

But changes were coming. The boards working with the Ministry of Education to provide a network of computer services in the province were considering a move toward minicomputers at such terminal sites. The facility would allow localized computing as well as maintaining some of the benefits of networking. Standardizations of hardware would allow development of programs at the Ministry level for use throughout the province. A decision was expected early in 1982.

Arthur Docherty, Manager of Systems and Planning with Grey County Board of Education, and I discussed my department's needs in light of the pending decisions on computer hardware and formats. It was decided I would poll media personnel and/or directors of education of Ontario school boards to try to identify jurisdictions with mutual interests; my enquiry would also determine possible interest in working cooperatively to develop software. Arthur, on the other hand, would sound out his associates of the Educational Computing Network of Ontario (ECNO) to determine support from the Ministry of Education and other boards.

By mid-March there was enough of an indicator that interest warranted further discussion. Jim Henderson, Management Information Systems Branch of the Ministry of Education and a member of ECNO, agreed to arrange a meeting of representative media and computer per-

sonnel for June 1982, from Northumberland and Newcastle, Nipissing, Lakehead, Essex, Windsor, and Grey County boards of education. Among the results of this meeting were guidelines for a fall working session to consider specifics.

Again, Jim Henderson of the Ministry of Education acted as a resource person, making arrangements to study two operative systems as part of an October meeting, i.e. boards of education in Wellington and Waterloo Counties. The agenda also included a review of various possibilities and the drafting of criteria which would provide the flexibility/adaptability needed to be useful to a variety of media services, including such things as variable courier schedules, different loan policies, and the like. Finite terms of reference for the needed software and clear direction for production, including timelines, came out of the meeting.

Waterloo County, one of the pioneers using the computer to book learning resources, was facing a major rewrite problem to convert to their new VAX facilities as part of the standardization of hardware referred to above. Both Learning Resources and Computer Services Departments expressed interest in becoming involved in the development of the program; the ECNO Committee could see the advantage of including a partner who would bring media experience into the design. With criteria identified, a proposal was prepared and the computer services personnel at Waterloo accepted the challenge of design and writing. Boards committed to participating at this initial



The film clerk books films through a friendly negotiation with a school level liaison. A direct INWATS

telephone line is used to bypass the busy central switchboard.

COURSES IN MICROCOMPUTERS IN EDUCATION IN CANADIAN UNIVERSITIES

COMPILED BY
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UNIVERSITY OF SASKATCHEWAN

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Process

stage agreed to contribute their share of development costs; the program will be available to other ECNO boards in the future for the same amount, with proceeds to help develop enhancements.

The program is an interactive one that allows a clerk to work on-line with a school representative by telephone to reserve curriculum items throughout the school year calendar; this greatly increases the feedback to teaching staff of information needed to facilitate lesson preparation. The system also generates labels and packing slips for the shipping routines as well as providing statistics required to improve library management and plan professional development to identified needs. Incidentally, the potential is there for schools to book resources directly from school level terminals as these become available.

The biggest payoff for me, though, is job enrichment. The manual posting and constant resorting of paper required to expedite some 16,000 circulations a year has to be one of the least rewarding jobs! Now my staff will have a personal contact with someone in each school, and film reservations will be made as a result of human

interaction.

As the program neared completion, I began an implementation strategy that included necessary approvals as well as the sharing of information with school principals. In May, I met with school liaisons who had been designated by the principal. Procedures were explained, with their input encouraged, regarding necessary phone schedules and the design of the internal local procedures. As a result of this dialogue, I prepared a June notice for all teachers in the system to explain the planned change. This is intended to be the last such notice from me. Information about ordering films will now be relayed through the school liaison to enhance that role; this was initiated with posters and information sheets being supplied to them in quantity for use with staff at the start of term in September.

During the late spring and summer, the program was installed and "gotten-up". Ours was among the first operative, so there was constant communication between our office and both media and computer personnel of the Waterloo County Board. Labels were ordered, an INWATS telephone arranged for to accommodate ordering, and tests were run and analysed. Problems did crop up, but were identified, and corrected.

Ordering procedures started on September 1, 1983. There was some excitement as nervous school liaisons called booking clerks who had been no more than introduced to the newly installed telephone handset and mike! Keeping in the background, I could sense an easing of tension as explanations were made in conversational tones. A great feeling of accomplishment came with the printing of shipping labels and packing slips for the next courier run.

An important part of the process had to be the establishment of film expediting routines. The two staff who share the booking and refurbishing tasks have been heavily involved in decisions in this regard. All of us are committed to an ongoing dialogue about routines and incidental problems, making revisions and adjustments as required. Informal feedback to-date from schools suggests a positive reception by both teachers and liaisons.

The process has been most rewarding and I would recommend such a collective approach when addressing media management problems at any time, but especially when one's own resources seem so limited. The saving of dollars is most obvious but probably the expanding of human resources and ideas, bringing in backgrounds and skills not available within the organization, is the greatest benefit. □



The system generates needed labels and packing slips in numerical order by school, greatly facilitating routines of pulling and packing films for shipment.

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functions be identified and evaluated in commercially-produced packages, and ways in which they could be effectively applied. Included is a list of about 75 packages for converting a microcomputer into a smart terminal. This is a 1983 publication of CLASS, a San Jose (CA) firm. The booklet is also available in the ERIC Documents collection as ED 234 740.

Videotex in Education: current developments in screen design, data structure and access control, by Stephen T. Kerr. Another paper presented to the American Educational Research Association's Montreal meeting, this addresses human design requirements for the development of videotex. Such topics as display design, information storage methods, typography, privacy and educational applications are discussed. The author also summarizes the history of videotex development and the outlook for development in the future. The document is available in the ERIC Document collection as ED 234 739.

The Information Technologies: Telidon and education perspectives and possibilities for a new information technology and its impact on education, by Joan McLaren. Telidon, its technology and what it has to offer education and society, is the topic of this paper. An explanation of Telidon technology is here illuminated by some useful diagrams. The possible relationships between Telidon and other technologies are also discussed. A notable selective bibliography concludes this document, which may be found in the ERIC Document collection as ED 234 770. The paper was prepared in 1983 at the Manitoba Department of Education Instructional Media Services office in Winnipeg.

Dictionary of Library and Educational Technology, by Kenyon C. Rosenberg. This dictionary converts a wide range of terms relating to hardware and software in the audiovisual, microcomputing and electronics fields. More than 800 terms are listed. In addition, a bibliography on educational technology is included, as well as a discussion of criteria used in the selection of equipment for schools and libraries. The dictionary is the 2nd edition of **Media Equipment: a guide and dictionary**, and may be purchased from the publisher, Libraries Unlimited, P.O. Box 263, Littleton, CO 80160.

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New Software Evaluation Instrument

The National Science Teachers Association (NSTA) has published a new Microcomputer Software Evaluation Instrument. Prepared by the NSTA Task Force on Assessing Computer-Augmented Science Instructional Materials the new instrument is designed to be used primarily in school-level or district-level evaluations of science instructional software packages.

The eight-page instrument appears in the January 1984 issues of NSTA's periodicals, *The Science Teacher*, *Science and Children* and *the Journal of College Science Teaching*. Copies may also be obtained from NSTA, 1742 Connecticut Avenue NW, Washington, DC 20009.

For more information, contact Leopold

E. Klopfer, Prof. of Educ., Chair, NSTA Task Force, Univ. of Pittsburgh, LRDC Bldg., 3939 O'Hara St., Pittsburgh, PA 15260. 412/624-4821.

Free Access to On-Line Software Library Offered by Searchmart

Searchmart Corp., a South Florida firm specializing in database development and information retrieval systems, is offering a Free Access Software Library that lists, describes and demonstrates tens of thousands of individual applications and systems software packages online.

This library of systems and applications software will be updated daily and categorized by manufacturer, publisher or vendor, operating systems compatibility, protocol requirements, program classification, features, price and ordering information.

The unique feature is the free on-line access to the software database. "There

are several services with software databases," states Searchmart's president, Victor Gruneau, "but they charge substantial fees for making searches and they are not available on-line to software shoppers who want to search the files on home or office terminals at their convenience."

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Software manufacturers and vendors will describe their products and companies on "pages," each page a 40-character by 20-line CRT screen. "They'll have the opportunity to give the software shopper as much information as they want — even demonstrations — and at a very modest cost per page."

For more information, contact Mary K. Hamm, Marketing Services Director, Searchman Corporation, 636 U.S. Highway 1, Suite 210, North Palm Beach, FL 33408. Or Call 305/845-2996. □

FORMATIVE RESEARCH

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mance statistics were not compiled. Further, the system did not allow the direct entry of text or numeric responses to a question posed in a sequence: the user could only enter page numbers through a numeric key pad. Of course, these problems are not endemic to Telidon, whose graphic system can be adapted to different host computing facilities and technical configurations. However, they alert the developers of Telidon systems to the need to ensure that any computer-assisted instruction sequences are sufficiently flexible in design and powerful in computing ability to compete with other available systems.

3.5 Learning Impact

A preliminary evaluation of one computer-assisted instructional sequence suggested that certain Telidon sequences may be effective for some students and ineffective for others. In this study more advanced students learned as well from Telidon as from a traditional teacher presentation. However, students in general-level classes who learned from Telidon tended to score less well on learning tests than students taught by a teacher. The sequence studied covered a small portion of the grade 9 mathematics curriculum and allowed students to go through the material without teacher assistance. Though this study could not employ complete controls on all related variables, these findings indicate that educational sequences must be designed with careful consideration of how and with whom they will be used.

3.6 Designing Sequences

Findings on the role of graphics and the possible differential impact of sequences

were combined with sequence creators' comments to provide suggestions for development of effective sequences. For instance, teamwork in creation, such as matching educators with graphic designers, may be one way to keep sequences properly targeted and avoid an overemphasis on any aspect of a sequence. Pre-testing sequences with target users would also be effective in sharpening the design and avoiding possible misuse of a sequence. In order to maximize the use of the database, some form of need assessment should also precede the creation of sequences.

FORMATIVE EVALUATION AND THE TELIDON FIELD TRIAL

A substantial body of research is finally emerging in the wake of the enthusiasm for educational applications of the new videotex technologies. Researchers are beginning to examine the antecedents, applications, and effects of these new systems. One important type of research is applied formative research, which can affect planning and development directly.

The field trial explored the potentials of Telidon technology as an educational tool. It also provided the opportunity for the formative research to be conducted. We hope that the findings and recommendations will be useful for researchers and practitioners working with Telidon and other innovative educational technology.

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LOVE'S LABOUR'S LOST

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companions come out to meet the ladies outdoors. Negotiation and bargaining follows, but some essential papers have apparently not arrived, so the princess and her ladies must stay the night. The negotiations are firm, but towards the end it is obvious that the king is quite taken by the Princess.

Act III. Don Armando is in love . . . with the dairy maid. He asks his page to sing for him. A verbal duel between Moth and Don Armando discusses love, and the dairymaid's probable virtue. Finally Don Armando, desperately in love, determines to release Costard from his custody, so that Costard will deliver a message to his love.

Enter Biron. He too, apparently is in love, (Isn't everybody?) and he gives Costard another letter, destined for Rosaline. Thus Shakespeare contrasts the physical passion on the one hand, with true, honest love, on the other. And Costard now has two letters to deliver.

Act IV. There are three scenes in this act. The princess and her ladies are going shooting in the forest, when they are interrupted by Costard carrying the love letter meant for Rosaline. The princess asks that the letter be read aloud. It is full of pomposity. And, it is, of course, the wrong letter.

The second scene introduces two new characters, the school teacher and the curate. Jacquenetta enters with her letter. Since she is illiterate, she asks the curate to read it for her, which he does, and which the school teacher is able to promptly criticize. Again it is the wrong letter, which the characters note, and so they send Jaquenetta to the king!

Scene three. Biron is ridiculed by the King, Longaville, and Dumain who see that Biron is the first to break his oath. In a quick philosophic flourish, Biron explains that the only real books are the eyes of the ladies! argument is enthusiastically accepted, and the four determine to go off and study what should be studied!

"For women's eyes this doctrine I derive:

They are the books, the arts, the academes,

That show, contain, and nourish all the world."

Act V. More fun is made of jargon and pedantry as the schoolmaster, the curate, the constable, and Don Armando go at each other full tilt. Moth epitomizes the jargonistic humor in which all indulge, saying that "They have been at a great feast of languages, and stolen the scraps." But it is Costard who ultimately produces the longest word of them all, probably good enough to enter the *Guinness Book of*

Records . . . Honorificabilitudinitatibus.

The final scene returns us to the princess and her ladies. All have received gifts from their admirers. Upon hearing from their page that the men are about to make an appearance dressed in Muscovite costume, the ladies determine to disguise themselves. Indeed, the "Muscovites" woo the wrong girls! The humorous Page of the Nine Worthies follows as entertainment. Suddenly the merriment is broken as Don Armando is accused of getting Jacquenetta pregnant. And more bad news arrives. The King of France is dead. The princess resolves to return home immediately. The men all proclaim their intentions but the ladies decide to make their lovers wait a full year before they will marry them. Even Don Armando will have to prove himself . . . he will spend three years trying to be a farmer! And so, as the play comes to an end, love has been proclaimed, but, at least a year must pass before any marriages will take place. Indeed, for the moment at least, love's labour had been lost.

We began our discussion with a look at the art/science dichotomy so often cropping up in educational technology of the 1980's. We have concluded with Shakespeare's metaphoric analysis in terms of love and study. Who wins? Shakespeare is predictably ambiguous. Perhaps we should be the same. Educational technology is more than a concept; it is a state of mind. And educational technologists will appreciate that in *Love's Labour's Lost*, the master playwright is . . . just possibly . . . speaking to us.

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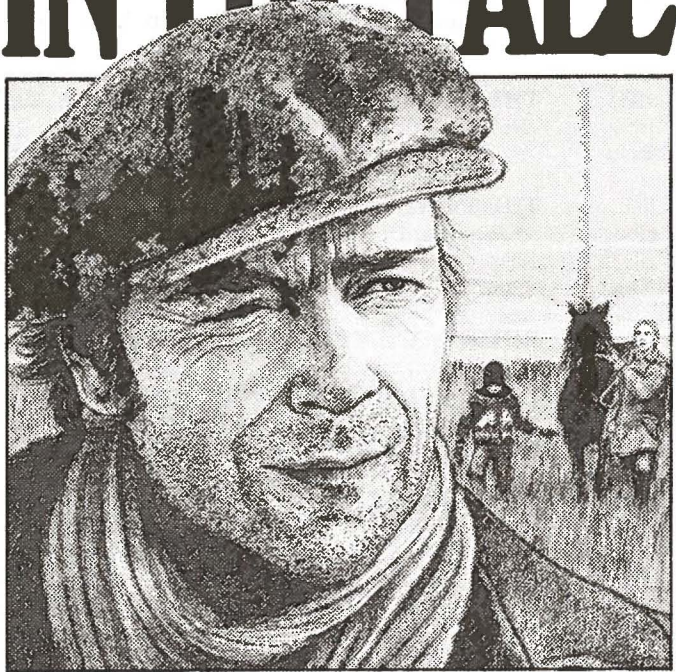
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Multimedia for Manitoba?

An association for multi-image in Manitoba is in the process of being established. Those interested, or those in other provinces belonging to similar associations with ideas which might help the fledgeling organization, are invited to contact Cliff Kehler, c/o Inland AV, 1645 St. James St., Winnipeg, R3H 0X1. □

A FILM DIRECTED BY ALLAN KROEKER

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