PORTABLE VIDEO UTILIZATION IN POST-SECONDARY EDUCATION ON MONTREAL ISLAND

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ABSTRACT

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by

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This study reviews the literature on two areas of interest to the educational technologist, the effective use of present audio-visual technology and the promise of the video cassette. To determine to what extent students are allowed and encouraged to express themselves on videotape and to determine if plans are being made to adopt the video cassettes, a survey was made of the librarians and the media directors of thirteen post-secondary educational institutions on the Island of Montreal.

The results show that students are being allowed and encouraged to use video, that promotion of portable video emanates from subject departments and media centres and not from libraries, that libraries will supply cassette playback equipment, that most media director supervised videotaping is done on studio equipment, that plans call for more portable than studio video equipment purchasing and that five of the thirteen institutions now use a video-cassette system.

In the light of these results, it can be concluded that students in these institutions do have access to portable video-taping equipment and that this accessibility
is likely to continue and increase when the video cassettes are more available.
ACKNOWLEDGEMENTS

I wish to express my deep appreciation to my friend Jacques Desrochers for the time and energy he expended on my behalf in translating the survey questionnaire and in accompanying me to the interviews which required much more knowledge of the French language than I have.

Also, I wish to thank Miss Wendy Ball for the help she provided in the typing of the final copy.

On the professional side, I wish to thank Dr. G. A.B. Moore, formerly Director for the Centre for Instructional Technology at Sir George Williams University, for his suggestion that I bridge the gap between my interest in the video cassettes, a thing of the future, and present trends in video with this study.

Finally, I wish to thank my thesis committee of Dr. G.M. Boyd, Mr. T.S. Allan, Mr. G. Martin and Dr. G. Coldevin. Dr. Coldevin's experience and knowledge of personalities in the field proved especially helpful.
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CHAPTER ONE

STATEMENT OF THE PROBLEM WITH REFERENCE TO THE LITERATURE

INTRODUCTION

This study is motivated by curiosity arising from the ever-increasing reference to the emerging video cassette technology in the professional literature. Claims are made for this technology which are worthy of investigation. In conjunction to these claims, however, it is particularly useful to investigate the effective use of present audio-visual technology prior to surveying present trends with respect to videotaping and the video cassettes.

This chapter seeks to review the effectiveness of present audio-visual technology and the promise of the video cassette as recorded in the literature.

EFFECTIVE USE OF PRESENT TECHNOLOGY

In 1967 Unesco published The New Media: Memo To Educational Planners. This report was based on a research project under the leadership of Wilbur Schramm. In answer to the question "How effective are the new media proving to be?" the findings were:

Given a reasonably favourable situation, a pupil will learn from any medium—television, radio, programmed instruction, film, film strips, tape recordings or others. This has been demonstrated by hundreds of experiments. . . . significant differences almost never appear.1

The chapter concludes with a warning that media programs
do not necessarily work—this is determined by how they are designed and used.

Reporting on research on television effectiveness since Schramm's earlier findings in 1962, Lawson concluded that television is being used more effectively and its benefits better exploited. However, in the same year, 1970, Breitenfeld, of the Academy for Educational Development, deplored;

...the inflexibility of the American educational structure which has not yet committed itself to the full exploitation of the possibilities of instructional television.

The reasons for the failure of education technology to be successfully applied follow closely those given by Miles for the failure of innovation in education. These are: conservative reaction, inadequate planning, insufficient attention to preparing teachers for the change, lack of commitment by teachers or community, and deficiencies in resources or power.

Hoban, in his contribution in TO IMPROVE LEARNING, outlines eight reasons for the non-application of instructional technology. These have been condensed by Torkelson:

1. An overexpectation of effects from gadgets and processes adapted to instruction from some other area, such as industry.

2. The use of measurement techniques for media which are insensitive to dimensions of human response that may be of greater importance than the "behavioral objectives" they are designed to measure.

3. A scientific outlook which ignores the importance and operation of intuition in classroom
interaction and which prescribes narrow behavioral objectives.

4. Institutional inertia in change, innovation, and nonadaptability when innovation is tried.

5. An irrelevance of much of learning psychology to classroom teaching situations as they exist in reality.

6. A curriculum frequently misphased, overintellectualized, and irrelevant to individual needs and the social milieu of large numbers of students.

7. An overextended preparatory education and an underdeveloped continuing education.

8. A narrow exclusiveness in the educational establishment, including the U.S. Office of Education, ignoring activities such as educational and training programs of business and industry.

In commenting upon the low quality and the low quantity of technology in education, the Commission in To Improve Learning offers the following reasons:

1. Indifference or antipathy toward using technology in education.

2. Poor programs available via television, programmed instruction, and through other media.

3. Inadequate and inappropriate equipment.

4. Inaccessibility to instructional materials.

5. Teachers not trained in instructional technology.

6. Media specialists excluded from central planning.

Through the submissions made to it by many authorities in educational technology, the Commission's is perhaps the most knowledgeable voice calling for change.

In the literature are to be found other writers
with more specific comments on the low quality and low quantity of the technology and on the reasons for the non-application of the technology. Some say that teacher attitudes are not conducive to educational technology. Some say that teachers are not trained and helped enough. Others give their reasons why film (especially) is not applied more. Of the latter group, some of the reasons given are:

- poor design—daylight screens which need darkness
- 16 mm projectors difficult to operate
- reels of film do become unwound

- inaccessibility—a major problem. The process is annoying and time-consuming and alienates many teachers.

- advance request and low probability—complex equipment, screen, darkening, getting and setting-up a projector (or moving to the A-V room)

- obsolescence—16 mm is equal to manuscript chained to the monastery reading table and 8 mm to the book liberated and made ubiquitous.

Regarding the last comment, it should be noted that a recent survey showed that 8 mm films have failed to satisfy the need for which they were intended. In his study on teacher resistance, Van Wyck (c.f. footnote 11) logically concludes that,

Resistance is inevitable if equipment is not technically reliable, easily obtainable and relatively simply to operate.

In the light of the foregoing, one can easily agree with Bernard Trotter's finding that,

...educational technology (in the sense of various kinds of hardware applied to the production and delivery of instructional materials) has not been
fully and effectively used in universities (or any where else in the educational system for that matter)...

While it is outside the scope of this study to deliberate on whether the problems of education today are the result of technology or the result of technology not rising to the demands of the occasion—or the effect preceding the cause, as McLuhan may suggest—it is quite apparent that technology is just not getting to the learner and:

...education is in fact at the crossroads. It must put its house in order to meet current demands. It will not solve basic instructional problems with a perpetuation of the same organizational structure, curriculum, and processes that have been standard for years. The pressures from the general public and from special interest groups for instructional improvement cannot be ignored.

We are still in the process of the "profound mutation" which Rene Maheu, Director-General of Unesco, spoke of in 1967,

...education must also undergo a radical mutation on a scale which can hardly as yet be fully appreciated.

A manifestation of this mutation is a recent recommendation by the Electronics Industry Association (USA) that there be two communications networks to the home in the future. One network would carry video, telephone switching-video, facsimile, and computer reception. The other would carry broadcast TV, first class mail, educational material, local entertainment and information programs.

Another manifestation of this mutation, this author believes, is the development of the video cassette.
THE PROMISE OF THE VIDEO CASSETTE

Introduction and Description

About two hundred years ago the Scottish poet Robert Burns wished:

O wad some Pow'r the giftie gie us
To see oursel's as others see us!... 18

With videotape, the wish of Burns has been granted. We now have the means of seeing ourselves as others see us. Michael Shamberg describes this as "self-processing" and reports a positive reaction from young and old. He is of the opinion that:

Making videotape with and about yourself and your friends is first of all just plain fun. But it's also a tool for knowing who you are and combating the superstar behavioural patterns of the media. With tape, being yourself has value in itself.19

In this discussion, a standard portable videotape recorder (PVTR) and a portable videotape recorder utilizing cassetted videotape are considered to be able to serve the same function. In the former, the tape is transported "Reel-to-reel" and in the latter the tape is controlled by a cassette. The term "Encapsulated Video System" (EVS) is used in this study when reference is made to this latter system.20

Common to all EVS are encapsulated software, a machine to record on and/or replay the software and a connection to a television set or monitor. As can be seen from Table I, five different recording mediums are being developed for the EVS. These are: coded film, super 8 mm film, vinyl tape, vinul disc and magnetic tape.
<table>
<thead>
<tr>
<th>MEDIUM</th>
<th>PRODUCT NAME</th>
<th>COMPANY NAME</th>
</tr>
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<tbody>
<tr>
<td>CODED FILM</td>
<td>EVR</td>
<td>MAINICHI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MITSUBISHI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HITACHI</td>
</tr>
<tr>
<td>VINYL TAPE</td>
<td>SELECTA VISION</td>
<td>RCA</td>
</tr>
<tr>
<td>VINYL DISC</td>
<td>TELDEC VLP DISCO-VISION</td>
<td>TELEFUNKEN &amp; DECCA PHILIPS MCA RCA CBS ZENITH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>RCA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CBS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ZENITH</td>
</tr>
<tr>
<td>8mm FILM</td>
<td>COLORVISION CVR</td>
<td>NORDEMENDE VIDICORD HOLDINGS BELL AND HOWELL SYLVANIA KODAK FUJI</td>
</tr>
<tr>
<td>VIDEOTAPE</td>
<td>INSTAVIDEO CARTRIVISION VIDEOCASSETTE VCR MAGTAPE CONCORD PANASONIC WOLLENSACK IVC JVC</td>
<td>TOSHIBA AMPEX* CARTRIDGE TV INC SONY PHILIPS RCA CONCORD COMMUN. SYSTEMS MATSUSHITA 3M(3/4&quot; RCA, 1/2&quot; PHILIPS) INTERNATIONAL VIDEO CORP. VICTOR CO. OR JAPAN TELEFUNKEN GRUNDIG BOSCH THORN LENCE &amp; STUDER ZANUSSI SHIBADEN AKAI SANYO TEAC CORPORATION NEC NIPPON ELECTRIC UNITRA (WARSAW)</td>
</tr>
</tbody>
</table>

* It is reported that Ampex is abandoning Instavideo but that others will modify and market the system. 23
Of these five mediums, only one—magnetic tape—offers a record capability. The others are playback only mediums. Some of the magnetic tape systems are playback only, some will replay and record "Off air" only and others have full camera/"Off air"/replay capability.

The Struggle for the EVS Market

Table 1 gives a tentative listing of the companies and combines which are vying for the world-wide market for the EVS. At this stage, it is difficult to determine precisely which companies are not manufacturing but are having equipment produced under their name.

Companies which are known to be selling the EVS developed by another are: Admiral, Emerson, DuMont, Teledyne Packard Bell, Montgomery Ward, and Warwick Electronics (which manufactures for Sears Roebuck) all of which will sell the Cartrivision EVS and Bell and Howell, Magnavox, Westinghouse and Electrohome who will sell the RCA Magtape EVS. Also, there are other companies which are reported to be developing their own system but information on these is lacking. It seems safe to say that, with the companies listed above and on Table 1, there are no less than fifty-two international companies competing for the market in EVS.

The State of the Art-Hardware

As very few of the EVS have been released to the market as yet, it is premature to attempt an evaluation of anything connected with the EVS except the concept of the EVS. The one system which is being used locally, the Sony 3/4-Y system, has, for two of the users, proven to be tech-
nically troublesome. Equipment prices and delivery dates are presently unreliable.

The most frustrating problem which the potential purchaser has to confront is that of incompatibility. With the exception of the "The Sony group" which uses a 3/4 inch magnetic tape and "The Philips group", of fourteen European manufacturers, using a 1/2 inch magnetic tape, all of the systems are incompatible.

At present, the development of EVS may be divided into two systems, the Replay Only EVS and the Record EVS. The Replay EVS include all of the systems with the exception of those magnetic tape systems with record mode. The variety of media developed by the various companies to-date includes coded film, vinyl tape, vinyl disc, super 8mm film and videotape. A description of each medium follows:

**Coded Film**—This has been given the product name of EVR, for Electronic Video Recording. EVR was the first of the EVS to be available and is presently being marketed by three companies—see Table 1. EVR has been criticised because it has replay capability only. However, it does lend itself well to the storage of print also.

**Vinyl Tape**—Only one company to-date has produced an EVS using vinyl tape as a medium. This was produced by the RCA Victor Company under the name of SelectaVision and it projects a holographic image. Technical problems seem to be keeping this EVS off the market but the company (RCA) is proceeding with both disc and magnetic tape systems. The holographic image is especially well suited to skills train-
ing—for example, aircraft piloting.

Vinyl Disc—The disc EVS was first developed by Teldec and it was immediately apparent that this was the cheapest of the Replay EVS. Technical difficulties have delayed the Teldec system and several rivals have come forward. The latest disc systems to be demonstrated are the VLP system of the Philips Company and the Disco-Vision system of the MCA Company. It appears that from the disc systems one can expect the following features; a player price of $500 or less, over six hours of playing time with a stack of ten discs, a four second disc change, a price of two to ten dollars per disc—depending on length and content, freeze frame, digital counting, forward search at thirty million bits per second, fast forward, frame to frame forward crawl and random access possibility. The disc systems have their strongest appeal in their ease of handling, imperviousness to dirt, cheapness and ability to be included in textbooks and newspapers as kinetic information. Little is known of the other disc systems announced.

Super 8 mm Film—These systems use Super 8 mm film projected, in telecine form, through onto a television screen.

Videotape—Some companies have chosen to produce playback only machines and others will provide "off-air" recording capability and playback. The videotape EVS is attracting the greatest developer interest as can be seen from Table 1. Twenty-two of the thirty-eight companies included in the table are listed under videotape. This does not include
ten companies mentioned earlier (p. 8) so this number is, at present, thirty-two of forty-eight or sixty-seven percent. It appears that the majority of these systems will have full record capability, that is, they will record "off air", from camera and from another videotape recorder (dubbing). Editing is one of the problems associated with small format, 1/2 and 3/4 inch, videotape but recent developments indicate that this problem is being resolved. 28

The EVS may be considered important for two distinct reasons: 1) They greatly increase the chances of vicarious experience, in the best possible form—that is, in kinetic image form when it is necessary—getting to the learner and to the teacher; these machines are easy to use, the software will be cheap enough that it can be decentralized, a darkened room will not be required; and 2) The Record EVS greatly increase the capability of people expressing themselves in a form other than print.

The State of the Art—Software

The EVS are not with us yet—that is, not to the extent that a media director can say, without reservation, "This is the system we will adopt for the next five to eight years", but there are indications that the software companies will be ready to meet the requirements. High-speed duplication facilities are available for varying (videotape) formats. 29 Free loan video cassettes are available from a company which has a similar free loan service in 16 mm film. 30 A "World wide bibliography and index of video-
tapes" is being established in Current Video Abstracts. Many newly-formed companies and combines are preparing to meet the software demand.

The State of the Art--Trends and Possible Trends

The demise of print was predicted by Thoman Edison in 1913 when he felt that film would take over as the major source of learning. Today there are suggestions that both print and film may be superceded by videotape. For example, Anthony G. Oettinger questions whether underdeveloped countries need print literacy. A Delphi study in Sweden indicates that "...the print medium (for transport and storage) will be replaced by electronic media (by about 1980)." And Anthony Brock, writing on Unesco's "World inquiry into education" blames "Too much emphasis on the written word" as part of the reason for youths' rebellion against present-day education. As if to acknowledge a lowering of the level of print literacy, Bernard Trotter suggests that the universities in Ontario could require functional literacy (tests) as a condition of admission.

Film is losing markets to videotape because videotape is about one third the cost of film and it promises to be even cheaper in the future. Film requires a degree of expertise not necessary with videotape and laboratory services which result in time delays.

Two recent announcements will likely influence the greater use of videotape. 1) The cost of (1/2") videotape will "hopefully" be about $10 per hour--as opposed to $50
per hour at present—by the year 1975. 2) The discovery of "A new ultra-small magnetic particle", named Cobaloy, which will "Deliver a one hour program (in color) on a 1/4 inch tape on a 3-1/2 reel with the same quality and content that is currently contained in a 3/4 inch "U" 1200 ft. reel like those used by Sony" and which "Can reduce by four the speed currently being utilized by machines playing conventional iron oxide tapes." The development of Cobaloy could possibly be instrumental in forcing the reduction of all the videotape EVS to a 1/4 inch format—and thus, perhaps, creating a 1/4 inch standard. The EVS prototypes are ready for user testing, however, potential users are warned by EPIE (Educational Products Information Exchange) that a complete evaluation of all factors should be made before purchase and "If you have a super application, be a pioneer."

The Educational Potential of the EVS

In considering the possible benefits from this new technology, the question posed by James G. Miller is a useful criterion:

Which (present or proposed) contributes most to the individual organism in the educational system, to the group in the classroom, to the school or university as an organization, to society's educational system or to an international educational system? These queries are further elaborated by the Subcommittee on Efficiency and Innovation in Education of the Committee for Economic Development. Can the technique be effectively employed in the cultivation of an open mind? Or does it tend to
produce conformity, dogmatism, and regimentation of thought?

Is it capable of communicating and facilitating an understanding of complex concepts? Or is its usefulness limited to the management and manipulation of simple ideas?

Is it capable of cultivating sensitive insight, originality, analytical facility, and creative intellectual skills?

Can it be employed to induce and deepen artistic and moral sensitivity and appreciation?

Do the benefits gained justify the costs incurred? Is the initial cost affordable?

In the context of learner-oriented services, there are those who believe that videotape, and thence the video cassette, is the needed breakthrough and that the benefits far outweigh the costs. But, if we are to wait for scientific proof of the validity of the EVS, Miller warns;

...educational psychology and the other behavioural sciences have supplied us with few effective, reliable, and valid instruments to measure such subtle aspects of human behavior, personality, and social interactions.

At this point in time, given the present limitations of the behavioural sciences as noted by Hoban and Miller (6, 42) and the present state of educational technology, one might ask, "What is the relative usefulness of these EVS?" Miller, in his contribution to the commission towards TO IMPROVE LEARNING, gives eight primary criteria of usefulness of media.

...aids to learning are most useful if the student can:

1. carry them around
2. use them individually
3. use them anywhere
4. determine in terms of his own needs when to use them
5. control the rate of information flow and their repeated use
6. interact directly with the media
7. have the outputs from him influence the next input to him
8. receive inputs in more than one sensory modality to suit his idiosyncrasies.47

The following (Table 2) is a table compiled by Miller to compare the various media. When EVS (that is the concept of the perfected EVS) is added to this table it compares favourably against the other media. Four of Miller's eight criteria require qualification. Whether the medium can be carried around will depend on the EVS chosen. Whether it can be used at home will depend on the home and school systems being compatible. At the present stage of development, the user can interact actively only when he/she contributes to the recording of the content. Branching is as possible and as valid as it is on print—the main difference being that the user is required to stop the process (push the stop button) as opposed to starting a process (turning a page) and programming is feasible on television.48

Further, Gabor49 believes that EVS will do away with the limitations of curriculum, time and space and that the concept of selective, individual study recognises that each student learns differently.
<table>
<thead>
<tr>
<th>Instructional Medium</th>
<th>Can user carry it around?</th>
<th>Can user use it individually at school or college?</th>
<th>Can user use it individually at home?</th>
<th>Can user determine when it is to be used?</th>
<th>Can user control rate of information flow &amp; repeat if not understood?</th>
<th>Can user interact actively with input?</th>
<th>Is individual &quot;branching&quot; possible?</th>
<th>Can signals be sent on electronic network?</th>
<th>Cost/1000 hours (in dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class lecture</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Rarely</td>
<td>Yes, unless another user has it</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Vision &amp; Audition</td>
</tr>
<tr>
<td>Small discussion group</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Rarely</td>
<td>Yes, unless another user has it</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Vision &amp; Audition</td>
</tr>
<tr>
<td>Books &amp; Journals</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes, unless another user has it</td>
<td>Yes, unless another user has it</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Vision &amp; Audition</td>
</tr>
<tr>
<td>Instruction</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes, unless another user has it</td>
<td>Yes, unless another user has it</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Vision &amp; Audition</td>
</tr>
<tr>
<td>Computerized programmed instruction</td>
<td>No</td>
<td>Yes</td>
<td>Rarely</td>
<td>Yes, unless another user has it</td>
<td>Yes, unless another user has it</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Vision &amp; Audition</td>
</tr>
<tr>
<td>On-line computer aids to learning &amp; scholarship</td>
<td>No</td>
<td>Yes</td>
<td>Rarely</td>
<td>Yes, unless another user has it</td>
<td>Yes, unless another user has it</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Vision &amp; Audition</td>
</tr>
<tr>
<td>Closed-circuit lectures on public address system</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No, unless another user has it</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Vision &amp; Audition</td>
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<tr>
<td>Educational radio</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No, unless another user has it</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Vision &amp; Audition</td>
</tr>
<tr>
<td>Dial-access audio tape recordings</td>
<td>No</td>
<td>Yes</td>
<td>Rarely</td>
<td>Yes, unless another user has it</td>
<td>Yes, unless another user has it</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Vision &amp; Audition</td>
</tr>
<tr>
<td>Broadcast live instructional TV</td>
<td>No</td>
<td>Yes</td>
<td>Rarely</td>
<td>Yes, unless another user has it</td>
<td>Yes, unless another user has it</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Vision &amp; Audition</td>
</tr>
<tr>
<td>Closed-circuit live instructional TV</td>
<td>No</td>
<td>Yes</td>
<td>Rarely</td>
<td>Yes, unless another user has it</td>
<td>Yes, unless another user has it</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Vision &amp; Audition</td>
</tr>
<tr>
<td>Broadcast tape-recorded instructional TV</td>
<td>No</td>
<td>Yes</td>
<td>Rarely</td>
<td>Yes, unless another user has it</td>
<td>Yes, unless another user has it</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Vision &amp; Audition</td>
</tr>
<tr>
<td>Closed-circuit tape-recorded instructional TV</td>
<td>No</td>
<td>Yes</td>
<td>Rarely</td>
<td>Yes, unless another user has it</td>
<td>Yes, unless another user has it</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Vision &amp; Audition</td>
</tr>
<tr>
<td>Dial-access instructional TV</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes, unless another user has it</td>
<td>Yes, unless another user has it</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Vision &amp; Audition</td>
</tr>
<tr>
<td>Facsimile transmission of documents by electronic circuits</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes, unless another user has it</td>
<td>Yes, unless another user has it</td>
<td>Yes, unless another user has it</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Vision &amp; Audition</td>
</tr>
<tr>
<td>Automated storage &amp; retrieval of written &amp; graphic materials</td>
<td>Yes</td>
<td>Rarely</td>
<td>Yes</td>
<td>Yes, unless another user has it</td>
<td>Yes, unless another user has it</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Vision &amp; Audition</td>
</tr>
<tr>
<td>Other standard audiovisual aids</td>
<td>Usually</td>
<td>Yes</td>
<td>Rarely</td>
<td>Yes, unless another user has it</td>
<td>Yes, unless another user has it</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Vision &amp; Audition</td>
</tr>
</tbody>
</table>

Table 2: Media Comparison Table

Notes on Item 18:
1. If home system is compatible.
2. Only when student contributes to the content.
3. Just as with printed programmed instruction.

Source: James G. Miller, *Deciding Whether ...* p9. (Item 18 added by author)
The possibility of individualized learning seems to be one of the major advantages of the EVS. Individualized learning has been defined by Weisgerber as "...the degree that the learner believes that his education is personalized to meet his needs and facilitates and encourages his independent progress." In giving testimony relating to the "Educational Technology Act of 1971 (HR 4916, U.S.A.)" W.F. Jensen of the 3M Company stated with regard to the EVS:

It is clear...that video cassette equipment is going to expand the utility of education's existing commitment in closed circuit (tv) facilities; that it is going to revolutionize early childhood education; that it is going to make television practical, for the first time, as a vehicle for individual instruction at all levels of learning; and that it is going to bring enormous new lesson resources under the control of the teacher.

Discussing the need to fill the information gap between young viewers and the "vast available store of knowledge in our world", William Hanna, of Hanna-Barbera Productions, believes that the video cassette might be the most important tool in the program. He further states that we are undergoing "...The biggest information explosion in the history of Western Civilization since the Renaissance."

In the light of the foregoing, the EVS promises to be a significant advancement in communications technology. Commercial interests, some of which are listed in Table 1, expect to sell 8,000 EVS hardware units per week from 1974 onwards, with a monetary value of between one and two billion dollars. The Sony Company alone expects to sell about 75,000 units in the U.S.A. in one year. The same
source, Al Markim and Bruce Lang of Télétronic Interna-
tional, states that "It will probably take no more than eight
or ten years to saturate the country with videoplayers."

There are indications the business interests will
readily adopt the EVS. Some reported users are; the Ford
Motor Company, with 4,000 units; the Nissan Motor Company,
with 1,000 units planned for; Coca Cola; Pepsi Cola; I.B.M.;
and the seventeen "top" advertising agencies in the U.S.A. Videotape is being used also for auditioning, career place-
ment interviewing and pre-recorded trial evidence.

One missing link between the old and the new video
technology is that the EVS are not equipped to dub from
PVTR. However, as Shamberg points out:

As soon as one machine is available to Guerrilla
Television, ..., plans for plugging-in to a cas-
sette machine will be circulating around the world.
The EVS announce the liberation of video. Until now, video-
tape was handled in a reel-to-reel situation which, with
film, confused would-be lay users who found difficulty in
remembering how to thread the machine. The EVS will re-
sult in videotaping becoming much cheaper and more readily
accessible. It is not at all difficult to foresee the mark-
eting of EVS software in the corner-stores of North America,
if not the world. Now the end-user can purchase video di-
rectly, as the print reader can purchase the inexpensive
paperback.

The EVS in themselves will not solve all the problems
of education. They do seem to offer a much-needed means of
making learning more individualized and more relevant. There is enough evidence that educators are aware of the need to individualize the learning process. In its report to Unesco, the International Commission on the Development of Education produced twenty-one recommendations on the directions of tomorrow's educational strategies. Four of these recommendations are especially pertinent to this study. These are:

Lifelong education presupposes a complete re-structuration of education. Education must cease being confined within school walls. Education should become a true mass movement. (No. 2)

Aids to self-education, including language laboratories, libraries, data banks, and audio-visual equipment, should be integrated into all educational systems. (No. 14)

Education systems should be conceived and planned in terms of possibilities offered by new educational techniques. (No. 15)

Contrary to traditional practice, teaching should adapt itself to the learner. The student should have greater freedom to decide for himself what he wants to learn and how and where to learn it. (No. 20)

The EVS may be seen as a vital component of these educational strategies.

This study examines, in part, the local educational institutions in this transitional stage, between the traditional educational practices and the freer learning situation which will hopefully come with the maturity of the EVS. It further examines whether contemporary students are being allowed to use portable videotaping as a means of expression and whether plans are being made to adopt the EVS.
CHAPTER TWO

THE STUDY

The Objectives of the Study

The prime objective of this study is to discover to what extent post-secondary students in the Montreal area are allowed and encouraged to use portable videotape recorders within the context of credit courses.

This prime objective is motivated from several sources. It is motivated by the author's interest in the video cassette technology and his belief that video technology can bring needed vicarious experience to the learner much cheaper, faster and in a more convenient form than any other available technology. This objective is further motivated by statements uncovered during the search of the literature. These statements are made by Elizabeth Prinn, Assistant Editor of Access.

Most Videographe projects to date are being produced by students. They value the easy access to equipment, the professional coaching, the absence of a studio and the responsibility to an audience. Aren't the community colleges teaching the art and technique of video?60

by Shamborg, author of Guerrilla Television.

Educational television is probably the biggest hype that educators have ever put over on American kids. Even though TV has replaced print (that is, in the home), I know of no school where the kids are encouraged to make their own TV as a primary mode of expression. Yet at home the kids are gobbling up TV. The result is that growing up in America on television is like learning how to read but being denied the chance to write.61

by William A. Young, Director, New Learning Media Division, Association of Universities and Colleges of Canada:
One phenomenon that doesn't appear in your article
is the rapidly increasing use of light, inexpensive
videotape recorders.... I suspect that as videotape
recorders become more and more common in various
faculties there will be a swing of the pendulum
towards decentralization.62

and by G.A.B. Moore, then Director, Centre for Instruct-
tional technology, Sir George Williams University:

To provide further insight into the innovative
use of Educational Technology it is recommended
that:

a study should be undertaken to document the
creative use of Educational Technology in
Canadian universities and to identify the
sources of initiative.63

The Study will have four minor objectives, as follows:

1. to identify the sources of innovative use
   of PVTR by students (that is, library, media
center, faculty or other).

2. to determine if there is any indication that
   libraries are sponsoring or intend to sponsor
   innovative use of PVTR by students.

3. to inquire into the optimum conditions for
   student access to PVTR equipment.

4. to discover to what extent EVS have been pro-
cured by these post-secondary institutions.

The first three of these minor objectives were, on a local
scale, a follow-up to the study done by Moore and were in-
cluded at his suggestion. The fourth was intended to re-
cord the progress of the EVS in this area.

Hypotheses

The following hypotheses were established as guides
to the objectives of the status survey:

1. There exists at present little opportunity
   for students to express themselves individu-
   ually through the use of PVTR.

2. Any promotion of student use of PVTR eman—
ates from the Media Centre and not from the various faculties and libraries.

3. Libraries do not intend to supply the means of playing-back a video cassette.

4. The majority of the videotaping which is done in these institutions is done in studios with non-portable equipment.

5. The trend of future video equipment purchasing will be towards PVTR.

Importance of the Study

This study is important in that it identifies and documents, for the benefit of media directors, librarians and others, present innovative use of PVTR, as well as the innovative agents, in post-secondary education in this area. It documents the plans of librarians with respect to stacking of videotape and cassettes and with respect to plans to provide video-playback machines. It suggests guide-lines for lending PVTR equipment to students and documents the progress of the EVS at this time of uncertainty as to standardization in critical features.

Definitions

The following terms are used throughout the study and require definition.

Educational Technology

...the development, application and evaluation of systems, techniques and aids to improve the progress of human learning. Implicit in this definition is a concern that learning objectives should be carefully considered at the outset, along with the means of assessing whether these objectives have been attained. Educational Technology is thus concerned as much with the needs of the learner as with those of the teacher or trainer. In interpreting this broad view of educational technology the Council (British National Council for Educational Technology) includes the search
for improved productivity in education and training. In addition to giving attention to greater effectiveness where the learning process is concerned, it considered as equally important the securing of great efficiency in the management of this process. The Council therefore has a direct interest also in the inter-relationship of finance, planning and administration. All these considerations imply a carefully-planned use of the resources available, taking 'resources' and the widest sense to include human, material, architectural, financial and other elements in the design of learning systems for educational and training purposes.64

The above definition, by the British National Council for Educational Technology and used as guide in the graduate program in Educational Technology at Sir George Williams University, will be used since it is comprehensive and not biased in favour of a 'hardware' approach.

In the North American context, the profession is still having trouble defining the term Educational Technology.65 There does, however, seem to be a concensus on a two-parted concept of the tangibles of hardware and software and the systems. This is the approach taken in To Improve Learning: A Report to the President and the Congress of the United States by the Commission on Instructional Technology.66

**Synonyms:** Instructional Technology; Instructional Aids; Instructional Communications; Audio-visual Media; the New Media; and combinations of these terms.

**Media Centre.** A department within an institution—in this context an educational institution—which provides professional and technical services in the field of educational technology.

**Synonyms:** Instructional Materials Centre, Centre
for Instructional Technology; Audio-visual Centre; Communication Services Centre; and combinations of these.

**Media Director.** The person who is in charge of the media services of an institution. This person would be expected to have had experience and graduate training in the field.

**EVS (ENCAPSULATED VIDEO SYSTEM)** This term and its abbreviation are not offered here as being standards. The author believes that this term adequately covers the various mediums and formats involved. Thus, the term EVS covers vinyl tape and discs, film ('coded' and Super 8mm) and magnetic tape in the various sizes being offered—presently 1/2", 3/4", and 1". The EVS refer to the various systems which are designed to project information onto a television screen from packaged or encapsulated software. The capsule is called a cassette, cartridge or disc and, with the exception of the disc—which carries the message itself—contains the tape or film medium. A battery operated Record EVS is also a PVTR.

**Video Cassette:** Used in this study, video cassette or cassette refers to the capsule of an EVS.

**PVTR:** (Portable Videotape Recorder) This is a videotape recorder which is portable to the extent that it can be carried and operated by one person. It operates on battery power.

**Innovative:** This word is used throughout the study in the context of "Innovative use of PVTR". Since it has not been common practice to allow, let alone encourage, students to
report the results of their studies (outside of courses specifically dealing with television) on videotape, it is hereby considered innovative to allow and/or encourage this practice.

Kinetic information: In the context of this study, the term kinetic information is used as a synonym for "moving picture", or "moving information"—as opposed to static information, such as is seen on still film slides and print.

Kinetic counterpart: This term is used in the study when comparing the paperback book—which is cheap and available to the masses—with the video cassette—which will be cheap, available, cheaply copied, uncensored and has the advantage of being able to be shared with a group or absorbed individually.

Limitations of the Study

1. The study is confined to post-secondary public educational institutions on the Island of Montreal—that is, the CEGEP's (Colleges d'enseignement general et professionnel) and the universities. Loyola College is included since it has been granting degrees through the University of Montreal and is presently negotiating for union with Sir George Williams University.

2. The study is limited to media officers and librarians on the assumption that they, between them, are aware of information retrieval patterns and media usage.

3. The technical feasibility of the EVS is accepted, with recognition of the lack of standardization at present.
4. A selective, rather than an exhaustive, review of the literature is made.

The Survey Method

A questionnaire was designed with the intention of attempting a mailed survey. Because of the timing involved— and the expected delay in the mail due to the Christmas rush—and the possibility of language and ethnic difficulties, a decision was made to interview the respondents rather than ask them to complete a questionnaire. The questionnaire was translated into French and the translator accompanied the author to the interviews in the French-speaking institutions.

In two of the eleven interviews conducted in French-speaking institutions the translator reported a distinct resentment which he considered to be due to the language barrier. In the other institutions we were well received and a high level of interest was declared for the present study.

After explaining the nature of the study to the interviewees, the questions were put and the response was recorded by either the author or the translator.

A cassette audio-recorder was taken to the interviews but this was not required since it was found to be more economical to write any comments. Also taken to the interviews were samples of EVR (Electronic Video Recording) film, a vinyl disc (audio), vinyl tape (RCA, SelectaVision) and a Sony video cassette. A copy of the survey is included as Appendix "B".
The Survey Population

The survey population consisted of the chief librarians and the media directors of fourteen post-secondary public educational institutions on the Island of Montreal. However, since McGill University has a media centre in its Faculty of Education, the total number of possible respondents was twenty-nine.

In two of the CEGEPS, one person answered on behalf of both librarian and media director functions—thus the possible total of respondents was twenty-seven.

The potential respondents in one of the French-speaking CEGEPS could not be persuaded to see the translator and the author, nor would they agree to a telephone interview or complete the delivered questionnaire. Thus, the number of actual respondents was twenty-five of the twenty-seven possible—or approximately 93%.

Of the twenty-five responses, fourteen were from media directors and eleven were from chief librarians. Eight of the institutions were French-speaking—i.e., two universities and six CEGEPS. Six of the institutions were English-speaking—i.e., three universities and three CEGEPS. Loyola College, included here with the universities, is and has been a degree-granting institution.

The list of institutions surveyed is to be found in the appendix "A".
CHAPTER THREE

THE SURVEY RESULTS

This chapter is devoted to a statement of the results of the survey where they relate directly to the hypotheses which were formulated as guides towards the achievement of the stated objectives and to a statement on the achievement of these objectives. The actual responses to the survey are to be found in Appendix "C". Tests of significance where appropriate are generated through Chi square tests.

THE VALIDITY OF THE HYPOTHESES

Hypothesis 1

These exists at present little opportunity for students to express themselves individually through the use of PVTR

This hypothesis appears to be invalid. As shown in Table 3, the response indicates that all of the fourteen media directors and four of the eleven librarians consider that students are being encouraged to use PVTR as a means of expression. Almost all of the people who thus answered pointed out that students will use videotape as well as print to express themselves—not necessarily instead of print. This response correlates with the response to the question on "What faculties, departments or programs are promoting this use?" where thirteen media directors and two librarians knew where the use of video was being promoted. In both these questions, it is clear that the media directors appear more innovative and knowledgeable regarding
institutional activity than librarians.

**TABLE 3**

Opportunity to Use PVTR Equipment.

<table>
<thead>
<tr>
<th></th>
<th>students are encouraged</th>
<th>not encouraged</th>
</tr>
</thead>
<tbody>
<tr>
<td>Media Directors</td>
<td>14</td>
<td>0</td>
</tr>
<tr>
<td>Librarians</td>
<td>4</td>
<td>7</td>
</tr>
</tbody>
</table>

\[ df = 1 \quad x^2 = 9.419 \quad p \leq 0.01 \]

**Hypothesis 2**

Any promotion of student use of PVTR emanates from the Media Centre and not from the various faculties and libraries.

This hypothesis appears to be valid with regard to librarians (Table 4). While only one of the eleven librarians are involved in the lending of PVTR equipment, as opposed to eleven of the fourteen media directors, the responses, as shown in Tables 5 and 6, indicate that the use of PVTR is being encouraged over a wide range of disciplines. The promotion of student use of PVTR, however, emanates primarily from the media centres and from the various subject departments and faculties.

**TABLE 4**

PVTR Lending from Media Centres and Libraries

<table>
<thead>
<tr>
<th></th>
<th>do lend</th>
<th>do not lend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Media Centres</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>Libraries</td>
<td>1</td>
<td>10</td>
</tr>
</tbody>
</table>

\[ df = 1 \quad x^2 = 9.293 \quad p \leq 0.01 \]
TABLE 5

Academic Levels Promoting Student Use of PVTR

<table>
<thead>
<tr>
<th>Faculty</th>
<th>commerce (2), engineering (2), science (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department and Subject</td>
<td>philosophy (3), athletics (2), theatre (2)</td>
</tr>
<tr>
<td></td>
<td>biology (3), chemistry (3), radiology (3),</td>
</tr>
<tr>
<td></td>
<td>dental surgery (2), applied social science (4), humanities (6), management training (2), physics (2), nursing (3), English (7), poetry (2), linguistics (4), occupational therapy (2), psychology (2), physiology (2), communication arts (2), cinema (3), education (3), physical education (1)</td>
</tr>
<tr>
<td>Program</td>
<td>Quebec Study (1), Kaleidoscope Canada (1)</td>
</tr>
</tbody>
</table>

The numbers represent the number of institutions reporting PVTR activity in these areas.

TABLE 6

Academic Levels Lending PVTR Equipment to Students

<table>
<thead>
<tr>
<th>Faculty</th>
<th>engineering (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department</td>
<td>English (2), physics (1), guidance (1), psychology (1), sociology (1), criminology (1), education (1) communications (1)</td>
</tr>
</tbody>
</table>

See note under Table 5

Hypothesis 3

Libraries do not intend to supply the means of playing-back a video cassette.

This hypothesis appears to be invalid. Of the eleven librarians, nine plan to stack the EVS software and eight plan to provide playback equipment. Four of these librarians presently stack videotape recordings and have playback facilities for them. Table 7 shows the intentions of librarians and media directors to provide EVS playback facilities both inside and outside of the institutions.
TABLE 7

The Intention to Provide EVS Playback Facilities

| Will provide these facilities | Librarians | yes | no | df = 1 | \( x^2 = .661 \)
|------------------------------|------------|-----|----|-------|------------------
| Media Directors             | 13         |     | 1  |       | N.S.D.           |

| Would allow playback equipment out of the institution | Librarians | yes | no | df = 1 | \( x^2 = .776 \)
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Media Directors</td>
<td>6</td>
<td></td>
<td>8</td>
<td></td>
<td>N.S.D.</td>
</tr>
</tbody>
</table>

Hypothesis 4

The majority of the videotaping which is done in these institutions is done in studios with non-portable equipment.

This hypothesis appears to be valid. As shown in Table 8, eight of the fourteen media directors estimated that over 50% of their videotaping was done on studio equipment. Five of the fourteen media directors estimated that over 50% of their videotaping was done on portable equipment.

TABLE 8

Percentage of Studio and Portable Videotaping

<table>
<thead>
<tr>
<th></th>
<th>75-100%</th>
<th>50-74%</th>
<th>10-49%</th>
<th>0%</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studio</td>
<td>6</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>Portable</td>
<td>3</td>
<td>2</td>
<td>6</td>
<td>3</td>
<td>14</td>
</tr>
</tbody>
</table>

Hypothesis 5

The trend of future video equipment purchasing will be towards PVTR.

This hypothesis appears to be valid. Most of the
media directors mentioned that one could buy much more video-taping potential with portable equipment than with studio equipment for a given amount of money. Considering this fact, nine of the fourteen media directors expect to purchase more portable than studio videotaping potential in the future (Table 9). The reasons which were given for this trend are provided in the responses to Question 6, Part C (Appendix C).

<table>
<thead>
<tr>
<th></th>
<th>100%</th>
<th>75-99%</th>
<th>51-74%</th>
<th>50%</th>
<th>1-49%</th>
<th>0%</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studio</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>Portable</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>0</td>
<td>14</td>
</tr>
</tbody>
</table>

STATEMENT ON THE ACHIEVEMENT OF THE OBJECTIVES

The prime objective, "To discover to what extent post-secondary students are allowed and encouraged to use portable videotape recorders within the context of credit courses," was met. As indicated by the responses to Questions 4a, 4b, 5a and 5b, of Part B, and as shown in Tables 3, 4, 5 and 6, students are being allowed and encouraged to use portable video to express themselves in a wide variety of subject departments and faculties. In the discussions which the author and the translator had with the interviewees, it was mentioned by many that more portable videotaping would
be done if budgets would allow for the purchase of more equipment.

Minor Objective #1

To identify the sources of innovative use of PVTR by students (that is, library, media centre, faculty or other).

Reading from Tables 3, 4, 5 and 6, it is seen that libraries are not sources of innovative use of PVTR by students. The active sources are the media centres and the various subject departments and faculties.

Minor Objective #2

To determine if there is any indication that libraries are sponsoring, or intend to sponsor, innovative use of PVTR by students.

As noted above, libraries are not now sponsoring innovative use of PVTR. The response to Question 3, Part C, as seen in Table 10, shows that six of the eleven librarians, approximately 50 per cent, plan to lend PVTR equipment to students in the future.

**TABLE 10**

Future Lending of PVTR Equipment and Blank Tapes

<table>
<thead>
<tr>
<th>Librarians</th>
<th>plan to lend</th>
<th>do not plan to lend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Librarians</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Media Directors</td>
<td>13</td>
<td>1</td>
</tr>
</tbody>
</table>

\[
df = 1, \quad x^2 = 3.079, \quad p = .07
\]

Minor Objective #3

To inquire into the optimum conditions for student access to PVTR equipment.
The medium for this inquiry was Part D of the Questionnaire. Insurance. The majority of the people interviewed stated that they could not get effective insurance. The institutions had a blanket type of insurance but with such a high deductible that a machine or two stolen could not be claimed. Also, the type of insurance in effect covered the equipment while it was on the premises only. As can be seen in Table 11, the eleven negative responses recorded for question 1, Part D, indicate that the equipment is not now insured. The general feeling was that the equipment should be insured if a type of insurance can be designed to meet the requirements. There was no general consensus as to who should pay for any such insurance. Most thought that, if insurance could be designed to meet the requirements, the cost should be shared by individual students, student bodies and the institution.

**TABLE 11**

Insurance on PVT C Equipment on Loan

<table>
<thead>
<tr>
<th>Media Directors</th>
<th>Those presently lending</th>
<th>Those not lending</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>insured</td>
<td>not insured</td>
<td>would insure</td>
</tr>
<tr>
<td>Media Directors</td>
<td>2</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>Librarians</td>
<td>2</td>
<td>0</td>
<td>8</td>
</tr>
</tbody>
</table>

*This person was doubtful

Training in the use of the equipment prior to borrowing. All those interviewed feel that it is essential that students be trained in the use of the equipment. Seven of the twenty-five people suggested that students be made aware of the full potential of video as a means of expression.
Identifying students who wish to borrow PVTR equipment.

As seen in Table 12, Media Directors prefer both faculty clearance and a student identity card. Librarians prefer a student identity card only. None of the twenty-five would accept faculty clearance only. Reasons given for this were that faculty are too lax in issuing notes and that notes are too easily forged.

<table>
<thead>
<tr>
<th>TABLE 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifying Students for PVTR Lending</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Student's card with photo. only</th>
<th>Media Directors</th>
<th>yes</th>
<th>no</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Librarians</td>
<td></td>
<td>8</td>
<td>3</td>
<td>11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Clearance (note) from a faculty member only</th>
<th>m.d.</th>
<th>yes</th>
<th>no</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lib.</td>
<td>0</td>
<td>14</td>
<td>14</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Both of the above</th>
<th>m.d.</th>
<th>yes</th>
<th>no</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lib.</td>
<td>3</td>
<td>8</td>
<td>11</td>
<td></td>
</tr>
</tbody>
</table>

Keeping records. All but two of the twenty-five people would keep careful record of all equipment loaned and of all equipment breakdown problems.

The maximum lending period for PVTR equipment. There was no general consensus in the responses to this question.

Ten of the fourteen media directors think that three or less days are sufficient. These results are shown in Table 13.
TABLE 13
Maximum Lending Period for PVTR Equipment

<table>
<thead>
<tr>
<th></th>
<th>Days</th>
<th>individual decision</th>
<th>supply and demand</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Media Directors</td>
<td>3 3 4 1 0 0 0</td>
<td>3</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>Librarians</td>
<td>2 1 2 1 1 0 1</td>
<td>2</td>
<td>1</td>
<td>11</td>
</tr>
</tbody>
</table>

Minor objective #4

To discover to what extent EVS have been procured by these post-secondary institutions.

Of the fourteen media directors surveyed four had procured a video cassette system and of the eleven librarians polled one had procured a video cassette system. All five systems are Sony Corporation, 3/4 inch, magnetic tape. One media director had had a Sony video cassette unit and had returned it because of technical problems in the equipment. These results are shown in Table 14.

TABLE 14
Institutions Presently Using EVS

<table>
<thead>
<tr>
<th></th>
<th>CESEPs (N=8)</th>
<th>Universities (N=5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Libraries</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Media Centres</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

Additional Results from the Survey

The following discussion relates to questions in the survey which sought information not required specifically for the stated objectives. These questions and the responses to them are found in Appendix C.
Part A-3. Do you feel that the EVS will revolutionize information flow in the future?

Eighteen of the twenty-five people said "yes" with seven of these being a qualified "yes". These results are shown in Table 15. Interestingly, no significant differences between media directors and librarians were detected on this issue (collapsed data to 2 x 2 table yielded $x^2 = 1.524$, $p = .20$). The justifications given for these responses are to be found in Appendix C.

<table>
<thead>
<tr>
<th>EVS will revolutionize information flow</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>qualified yes</td>
<td></td>
</tr>
<tr>
<td>no</td>
<td></td>
</tr>
<tr>
<td>don’t know</td>
<td></td>
</tr>
<tr>
<td>Media Directors</td>
<td></td>
</tr>
<tr>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Librarians</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td></td>
</tr>
</tbody>
</table>

Part B-7. Do students have access to editing equipment for 1/2" videotape?

All of the institutions have equipment to edit 1/2" videotape but three of the fourteen media directors do no allow students access to it.

Part B-9. Comparing student use of video with student use of 8 mm sound film. As can be seen in Table 16, none of the fourteen media directors thought that students would prefer 8 mm sound film over video to express their ideas.
TABLE 16
Video versus Film
(Media directors opinions on student preference)

<table>
<thead>
<tr>
<th>Prefer to work with</th>
<th>don't know</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Film</td>
<td>Video</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>13</td>
<td>1</td>
</tr>
</tbody>
</table>

Some reasons given for the choice of video were; that video was much more economical than film, that students could "retake" a scene immediately since they could discover at the time whether or not they had taped what they wanted to tape and the tape could be erased and reused, and that sound was recorded at the same time as sight was recorded.
CHAPTER FOUR

CONCLUSIONS, RECOMMENDATIONS AND SUMMARY

Conclusions

It can be concluded that the response to the prime question of the study, that of whether or not students were being allowed and encouraged to use videotape to express themselves within the context of credit courses, is yes. Seventy-two per cent of the respondents answered positively.

The promotion of student use of PVTR emanates from the media centres and from the various subject department and faculties and not from the libraries. As seen in Table 10 (cf. p.34), more librarians do plan to lend PVTR equipment in the future. One would suspect the promotion of videotaping would be a minor role for the media centres and assistance a major role.

Librarians do intend to stack the video cassettes and to provide EVS playback facilities. The majority of librarians and media directors will retain these EVS playback facilities within the institution. Most of the librarians talked of having a media resource centre physically and organisationally connected to the library.

The majority of the videotaping which is done under the authority of media directors is done on studio equipment. This seems to be because faculty will request the type of programming which lends itself to studio production and, presumably, will have students do any portable videotaping that is called for or do it themselves.
The bulk of future video equipment purchases will be in portable equipment. However, it can be more strongly stated the majority of future videotaping will be on portable equipment. Media directors were quick to point out that a 50% dollar purchase each of studio and portable equipment could mean that about 80% of the videotaping capability lies with the portable equipment. Most media directors were interested in getting students "Out into the community" with videotaping equipment.

The encapsulated video systems have reached five of the thirteen institutions investigated. In all cases, the equipment being used is the Sony 3/4"-U. One institution had had this same equipment and had retired it because of technical inadequacy. It should be noted, however, that this same equipment is that ordered by the Ford Motor Company and other large businesses. It is, as far as can be determined, the first Record/Replay EVS on the market and has yet to meet its competition.

Generally speaking, most of the respondents feel that the encapsulated video system will revolutionize information flow. It must be noted that the question dealt with the concept of the EVS only. As can be seen from the responses to question #2, Part A (cf. Appendix C, p.55), only nine of the fourteen media directors and none of the eleven librarians knew of more than two of the medium materials used in these systems. Editing equipment is available in all of the institutions surveyed. Some of the media
Directors do not allow students access to the 1/2" editing equipment but this is available to them elsewhere—at Videografhe, for instance. Video is definitely preferred over film as a means of expression, according to the response of thirteen of the fourteen media directors. The fourteenth did not care to speculate and responded neutrally.

Finally, the question posed by Elizabeth Prinn (60) and the statement made by William A. Young (62) can be responded to positively. Some CEGEPs are teaching the art and techniques of video, and, there is a swing of the pendulum towards decentralization (of videotaping capacity).

**Conclusions on the optimum conditions for lending PVTR equipment**

None of the institutions have effective insurance on the equipment which they lend to students. Most have an insurance which gives blanket coverage to the institution but which has a large enough deductible that a Porta Pak ($1,500 approx.) cannot be reclaimed and/or equipment is only insured while it is on the premises. Most institutions take a chance on the students returning the equipment but some retain the identity card of the student—thus perhaps infringing on the freedom of the student. The author considers the insurance problem one which requires high priority if portable videotaping equipment is to be widespread.

The above discussion of insurance in considered in the following list of optimum conditions for lending PVTR equipment to students.
The equipment should be insured (When effective insurance is obtainable)

Students should be instructed in the operation of the equipment and be made aware of the potential of video.

(This is being successfully done in some institutions with videotaped programs)

If possible, a technician should check the equipment when it is returned.

Students should be identified with an identity card with the student's photograph on it. (Clearance notes from faculty are suspect)

Records should be kept of equipment and all accessories loaned and of problems which the students encounter with the equipment.

The maximum lending period for the equipment should be conditional on the amount of available equipment to meet the demand, with special consideration being given for special circumstances.

Another possible condition is that students provide their own videotape (See the comments to the questionnaire, Part D, #9, Appendix "D" and footnote 39).

Recommendations

Media directors. It is recommended that media directors maintain close contact with the developments in encapsulated video systems and intensify that close contact when the time to purchase approaches. As suggested, with the development of Coloroll (40) little effort is required to change the present tentative technical position of the various encapsulated video systems.

It is recommended that media directors study the social and educational implications of the EVS and plan for their embrace.

It is recommended that media directors keep on record
the following information which will guide their staff, librarians and faculty in their dealings with the EVS.

The system being used (or to be used)—including such information as medium, format, manufacturer, model(s), size, standards, etc.

What servicing procedures are to be followed.

Where and under what conditions outside servicing is to be arranged for.

What lending procedures are to be followed.

Librarians. It is recommended that librarians establish a clear policy on the lending of EVS hardware and software. Regarding hardware, it is recommended that they arrange for lending through a servicing centre (Media Centre) because of the various technical considerations. Regarding software, it is recommended that they consider handling this through monitors in study carrels. One should note that the software will be vulnerable to theft, as is the audio cassette, especially if the cassette is only 3 1/2" in diameter, as it could be if Cobaloy is successful.

It is recommended that the librarians view the video cassette as possibly the kinetic counterpart to the paperback book and keep abreast with its social and educational impact, to better meet any demands on the library service. Further, it is recommended that they consult with the media director prior to the purchase of any EVS software or hardware, lest there be an incompatibility problem.

Faculty. It is recommended that faculty accept the trend towards non-print reporting (evident with social change groups) and establish guidelines for their students, to aid
and encourage them in their use of video in reporting.

It is recommended that faculty research into the media resources available to provide the vicarious experiences desired for students. "Non-Establishment" resources which should not be overlooked are listed in Approaches. It may be necessary for faculty and administration to discuss viewing facilities and time allowance for faculty to view student video presentations.

Research recommendations.--The following recommendations are intended as possible topics for graduate research by students of educational technology.

1. As a follow-up to this study, it is recommended that:

   an investigation be made of the problems faced by students and by faculty with respect to student reporting by means of portable video in the context of credit courses.

2. In anticipation of the availability of the EVS to educators and to individuals, it is recommended that:

   studies be conducted to document sources of EVS software, sources of evaluation of this software, and available services for transferring from one format to another.

3. In consideration of the evidence that effective insurance is not available on loaned equipment, it is recommended that:

   an investigation be made of possible ways of insuring articles of equipment to be loaned by institutions to students.

4. In consideration of the dissatisfaction with traditional education and the apparent trend toward an electronic resource centre approach, it is recommended that:
initial work be done on isolating and document-
ing the social and economic factors which would
be affected by a shift from traditional public
schooling to the community resource centre approach
to learning.

The video cassette cannot be claimed as a panacea
for all the ills of education. It is a refinement in two
important spheres of learning, the sphere of individual
experimentation, documenting and reporting, and the sphere
of vicarious learning—whence it is of great value to the
learner and to the teacher. It is a much needed link in
the chain of technological developments leading to national
and international random access retrieval capability and
thus greater freedom of access to information (learning)
for the individual.

SUMMARY

The study considers two of the areas of interest to
the student of educational technology; the effectiveness of
present audio-visual technology and the promise of the video
cassette.

In pursuit of the latter interest, a study was made
to determine: 1) whether students are being allowed and
encouraged to communicate with video in the context of
credit courses; 2) to what extent EVS are being utilized
at present; 3) what plans librarians and media directors
have for adopting the EVS; 4) what are the sources of in-
novative use of portable videotape recording (PVTR); and 5)
how much videotaping is done on studio equipment as opposed
to portable equipment.
The librarians and the media directors of thirteen post-secondary educational institutions on the Island of Montreal were surveyed. Where required, a translator accompanied the researcher and the interview was conducted in French. Ninety-three per cent of the survey population responded.

The results of the study suggest: 1) that students are being allowed and encouraged to use videotape to communicate within the context of credit courses; 2) that subject department, faculties and media centres are promoting this use of videotaping and not the libraries; 3) that librarians plan to supply the means of playback for the EVS; 4) that the majority of videotaping done under media directors is done on studio facilities and not on portable facilities; 5) that the future trend of video equipment purchasing will be toward portable equipment and not studio equipment and 6) that five of the thirteen institutions presently have an EVS in use.

Further research is recommended in the areas of faculty/administration, faculty/student problems in reporting on videotape, software resources, insurance of equipment and the factors affected by a shift from traditional to electronic learning.
APPENDIX A

The Survey Population
THE SURVEY POPULATION

Universities

McGill UNIVERSITY
805 SHERBROOKE STREET WEST
MONTRÉAL 110, P.Q.

SIR GEORGE WILLIAMS UNIVERSITY
1435 DRUMMOND STREET
MONTRÉAL 107, P.Q.

LOYOLA OF MONTRÉAL*
7141 SHERBROOKE STREET WEST
MONTRÉAL P.Q.

UNIVERSITÉ DU QUÉBEC A MONTRÉAL
CASE POSTALE 8888
MONTRÉAL P.Q.

UNIVERSITÉ DE MONTRÉAL
CASE POSTALE 6128
MONTRÉAL 101, P.Q.

* LOYOLA, PRESENTLY A COLLEGE WITHOUT DEGREE GRANTING STATUS, IS INCLUDED IN THIS STUDY FOR TWO REASONS - IT IS CURRENTLY NEGOTIATING WITH SIR GEORGE WILLIAMS UNIVERSITY FOR SOME KIND OF UNION WITH SIR GEORGE, AND LOYOLA HAS FOR MANY YEARS OFFERED COURSES IN COMMUNICATIONS ARTS.
COLLÈGE AHUNTSIC
9155 RUE ST. HUBERT
MONTREAL 353, P.Q.

DAWSON COLLEGE
350 SELBY STREET
WESTMOUNT 215, P.Q.

COLLEGE DE MAISONNEUVE
2800 est, rue Sherbrooke
MONTREAL 406, P.Q.

COLLEGE DE SAINT-LAURENT
625 boul. Sainte-Croix
MONTREAL 379, P.Q.

COLLEGE DU VIEUX-MONTREAL
200 ouest, rue Sherbrooke
P.O. Box 444, Station N
MONTREAL 129, P.Q.

VANIER COLLEGE
821 Boul.Sainte-Croix
MONTREAL 379, P.Q.

JOHN ABBOTT COLLEGE
POST OFFICE BOX 2000
STE ANNE-DE-BELLEVUE, P.Q.

COLLEGE DE ROSEMONT #
6400 16e Avenue
MONTREAL 408, P.Q.

COLLEGE DE BOIS-DE-BOLOGNE
10555 avenue des
Bois-de-Boulogne
MONTREAL 355, P.Q.

* The community colleges of the Province of Quebec are called
Colleges d'enseignement general et professionnel, and are
abbreviated CEGEP's

# The author and the translator were unable to enlist the
cooperation of the media director and the librarian in
this institution.
APPENDIX B

The Questionnaire
PART A

1. Are you familiar with the concept of the Encapsulated Video Systems (EVS)?
   - [yes] ______  [no] ______
   - [proceed] ______  [turn to page 2] ______

2. Can you name four materials which will be used with the EVS?
   ____________  ____________
   ____________  ____________

3. Do you feel that the EVS will revolutionize information flow in the future?
   - [yes] ______  [no] ______
   - [proceed] ______  [turn to page 2] ______

4. In what ways do you feel that EVS will revolutionize information flow in the future?
PART B

1 - Does your library/media centre hold videotape recordings which are available for loan to individual students?

[ ] yes  [ ] no

proceed  go to 3a

2 a - In what form are these recordings? - reel to reel ____

- cassette ____

- both of these ____

b - Do you have playback facilities available in the media centre/library?

[ ] yes  [ ] no


c - Can students use these recordings;

- only in the centre/library? ____

- only in the institution? ____

- only out of the institution? ____

- where they please? ____

3 a - Have you obtained (by purchase, rent or other means) EVS for your institution?

[ ] yes  [ ] no

proceed  turn to page 3

b - What system(s) are you using?

______________________________

______________________________

4 a - Are the students in your institution encouraged to use PVTR, instead of print, as a means of expression?

[ ] yes  [ ] no

proceed  go to 5a
b - What faculties, departments and programs are promoting this use?

| Faculties | Departments | Programs |

5 a - Can individual students borrow PVTR equipment from your media centre/library?

yes ___   no __

b - What other faculties, departments or programs loan PVTR equipment to students?

None ___

| Faculties | Departments | Programs |

MEDIA DIRECTORS ONLY

6 - Of all the videotaping which is done under your charge, in your estimation, approximately:

a - what percentage of this videotaping is done on studio equipment (including equipment on trolleys)? ________

b - what percentage of this videotaping is done on portable (Porta Pak type) equipment? ________

7 - Do students have access to editing equipment for 1/2" videotape?

yes ___   no __

8 - What equipment does the institution have for editing 1/2" videotape?

None ___

9 - Comparing student use of video with student use of 8mm sound film;
a - do you have commercially prepared 8mm sound films available for individual student use?
  yes ___ no ___

b - are students encouraged to use 8mm sound film instead of print, to express their ideas?
  yes ___ no ___

c - do students seek to use commercially prepared 8mm sound film in individual learning?
  yes ___ 8mm sound film ___

d - faced with the availability of both PVTR and facilities for producing 8mm sound film, which of these, in your experience, is preferred by students?
  video ___ 8mm sound film ___

PART C

1 - Does your media centre/library have a plan to stack EVS software in the future?
  yes ___ no ___

2 a - Does your media centre/library have a plan for future provision of videotape playback equipment for student use

   - in the media centre/library? yes ___ no ___

   - outside the institution? yes ___ no ___

2 b - Does your media centre/library have a plan for future provision of 8mm sound film playback equipment for student use

   - in the media centre/library? yes ___ no ___

   - outside the institution? yes ___ no ___

3 - Does your media centre/library have a plan to loan-out PVTR equipment and blank tapes (available to all students) in the future?
  yes ___ no ___
4 - In your opinion,

a - should videotape playback and PVTR equipment be available on external loan to students?
   yes [ ] no [ ]
   proceed go to 5

b - who should lend this equipment?
   library [ ] media centre [ ] faculty office [ ]
   other (please specify) ____________________________

MEDIA DIRECTORS ONLY

5 - In planning future video purchases, what percentage of these would be in;
   studio equipment? ______%, portable equipment ______%

6 - What is your justification for these percentage allotments?
   studio equipment. ____________________________
   portable equipment. ____________________________

PART D - In this part of the survey the author would like to determine what you consider to be the optimum conditions for lending PVTR equipment to students.

If you are presently lending PVTR equipment to students you are asked to respond to the questions by stating "yes or no" in the column on the left of the page.

If you are not presently lending PVTR equipment to students, you are asked to consider these questions as a poll of your opinion and to respond to the questions by stating "yes or no" in the column on the right of the page.

Please feel free to comment in the available space or on the reverse of this page.

PRESENTLY USING ____________________________ OPINION

yes no 1 - Do (would) you insure the equipment? yes no
2 - Is (would) this insurance purchased by:
   yes no  a - the student or the students' union? yes no
   yes no  b - the institution? yes no

3 - Do (would) you find it essential that a competent technician be on hand, to instruct the students in the use of the equipment, at the time of issue? yes no

4 - Do (would) you find it essential that the equipment be tested by a competent technician at the time it is returned? yes no

5 - What do (would) you consider essential for student identification;
   yes no  a - an identity card with the student's photograph? yes no
   yes no  b - clearance from a faculty member? yes no
   yes no  c - both of the above? yes no
   yes no  d - other (specify) __________________

6 - Do (would) you make a careful record of all the accessories and videotape loaned with the equipment? yes no

7 - Do (would) you make a careful record of equipment breakdown and equipment problems experienced by students? yes no

8 - What is (should be) the maximum lending period?
   1 / 2 / 4 / 7 / ____ days

9 - Are there any additional comments that you would like to make concerning the optimum conditions for lending PVTR equipment to students?
APPENDIX C

Responses to the Questionnaire
RESPONSES TO THE QUESTIONNAIRE

The following are the actual figures obtained from the interviews with the eleven librarians and the fourteen media directors. For convenience these results are totaled under the pertinent questions. The abbreviations "lib." and "m.d." are used throughout for librarian and media director respectively.

PART A

1 - Are you familiar with the concept of the Encapsulated Video Systems (EVS)?

<table>
<thead>
<tr>
<th></th>
<th>yes</th>
<th>no</th>
</tr>
</thead>
<tbody>
<tr>
<td>m.d.</td>
<td>14</td>
<td>0</td>
</tr>
<tr>
<td>lib.</td>
<td>8</td>
<td>3</td>
</tr>
</tbody>
</table>

2 - Can you name four materials which will be used with the EVS?

<table>
<thead>
<tr>
<th></th>
<th>4/4</th>
<th>3/4</th>
<th>2/4</th>
<th>1/4</th>
<th>0/4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>m.d.</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>lib.</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>7</td>
<td>11</td>
</tr>
</tbody>
</table>

3 - Do you feel that the EVS will revolutionize information flow in the future?

<table>
<thead>
<tr>
<th></th>
<th>yes</th>
<th>no</th>
</tr>
</thead>
<tbody>
<tr>
<td>m.d.</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>lib.</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>yes</th>
<th>yes (qualified)</th>
<th>no</th>
<th>know</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>m.d.</td>
<td>7</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>lib.</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>11</td>
</tr>
</tbody>
</table>

- 55 -
4 - In what ways do you feel that EVS will revolutionize information flow in the future?

Response: Those who answered yes did not all offer concrete reasons for their positive answer. Some of the "feelings" are as follows:

"They will revolutionize for culture, not news"

"Availability will be easy and cheap for universal individual use"

"Will be used as an encyclopedia in homes"

"The mode of expression will change. Traditional sources will be changed by the medium (portable video)."

"The image is more direct and concrete. Education will be democratized by it"

"Portable video is now a revolution - the video cassette is ten years away"

"Individual purchase will change the nature of (network) programing. Individual study will benefit. Resources will be decentralized"

"It will be less costly than closed circuit television and will provide individual or 'canned' learning"

"It will be beneficial for learning specific skills - like nursing"

PART B

1 - Does your library/media centre hold videotape recordings which are available for loan to individual students?

<table>
<thead>
<tr>
<th></th>
<th>yes</th>
<th>no</th>
</tr>
</thead>
<tbody>
<tr>
<td>m.d.</td>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td>lib.</td>
<td>4</td>
<td>7</td>
</tr>
</tbody>
</table>

Response: yes no
2a - In what form are these recording? - reel to reel _____
- cassette _____
- both of these _____

<table>
<thead>
<tr>
<th>Response</th>
<th>reel-reel</th>
<th>cassette</th>
<th>both</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>m.d.</td>
<td>11</td>
<td>2</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>lib.</td>
<td>3</td>
<td>0</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

2b - Do you have playback facilities available in the media centre/library?

  yes _____  no _____

<table>
<thead>
<tr>
<th>Response</th>
<th>yes</th>
<th>no</th>
</tr>
</thead>
<tbody>
<tr>
<td>m.d.</td>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td>lib.</td>
<td>4</td>
<td>7</td>
</tr>
</tbody>
</table>

2c - Can students use these recordings:
- only in the centre/library?
- only in the institution?
- only out of the institution?
- where they please?

<table>
<thead>
<tr>
<th>Response</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>m.d.</td>
<td>6</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>lib.</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

3a - Have you obtained (by purchase, rent or other means) EVS for your institution?

  yes _____  no _____

<table>
<thead>
<tr>
<th>Response</th>
<th>yes</th>
<th>no</th>
</tr>
</thead>
<tbody>
<tr>
<td>m.d.</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>lib.</td>
<td>1</td>
<td>10</td>
</tr>
</tbody>
</table>
3b - What system(s) are you using?

Response: All five of these are using the Sony 3/4" video cassette.

4a - Are the students in your institution encouraged to use DVTRs, instead of print, as a means of expression?

Response: Yes

Yes

No

m.d. 14

lib. 4

4b - What faculties, departments and programs are promoting this use?

Faculties

Departments

Programs

Response: Thirteen of the fourteen media directors and two of the eleven librarians knew where the use of video was being promoted.

The various levels promoting video use are:

Faculty: Commerce, engineering, education

Department: Philosophy, athletics, theatre, biology/chemistry, radiology, dental surgery, applied social science, humanities, management training, physics, nursing, English, poetry, linguistics, occupational therapy, psychology, physiology, communication arts.

Programs: Quebec Study, Kaleidoscope Canada.
5a - Can individual students borrow PVTR equipment from your media centre/library?  

<table>
<thead>
<tr>
<th></th>
<th>yes</th>
<th>no</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>___</td>
<td>___</td>
</tr>
</tbody>
</table>

Response: yes no

m.d. 11 3
lib. 1 10

5b - What other faculties, departments or programs loan PVTR equipment to students?

None

<table>
<thead>
<tr>
<th>Faculties</th>
<th>Departments</th>
<th>Programs</th>
</tr>
</thead>
</table>

Response: Five media directors and one librarian knew of other sources of PVTR loan to students - these are:

Faculty: engineering, education

Department: English, physics, guidance, psychology, sociology, criminology

MEDIA DIRECTORS ONLY.

6 - Of all the videotaping which is done under your charge, in your estimation, approximately:

a - what percentage of this videotaping is done on studio equipment (including equipment on trolleys)? ___%

b - what percentage of this videotaping is done on portable (Porta Pak type) equipment? ___%

Response

<table>
<thead>
<tr>
<th></th>
<th>75-100%</th>
<th>50-74%</th>
<th>10-49%</th>
<th>0%</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) studio</td>
<td>6</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>b) portable</td>
<td>3</td>
<td>2</td>
<td>6</td>
<td>3</td>
<td>14</td>
</tr>
</tbody>
</table>

7 - Do students have access to editing equipment for 1/2" videotape?

<table>
<thead>
<tr>
<th></th>
<th>yes</th>
<th>no</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>___</td>
<td>___</td>
</tr>
</tbody>
</table>
Response

8. What equipment does the institution have for editing 1/2" videotape?

Response. Although, as shown above, students in all of the institutions do not have access to editing equipment, all of the institutions surveyed (thirteen of fourteen) do have editing equipment for 1/2" videotape.

Eleven of the centres have Sony equipment and six of these eleven augment their facilities with other custom-built or commercial equipment.

Two centres use Panasonic equipment exclusively.

One centre uses IVC equipment.

9. Comparing student use of video with student use of 8mm sound film:

a - do you have commercially prepared 8mm sound films available for individual student use?

   yes ___  no ___

b - are students encouraged to use 8mm sound film instead of print, to express their ideas?

   yes ___  no ___

c - do students seek to use commercially prepared 8mm sound film in individual learning?

   yes ___  no ___

d - faced with the availability of both PVTR and facilities for producing 8mm sound film, which of these, in your experience, is preferred by students?

   video ___  8mm sound film ___
### Response

<table>
<thead>
<tr>
<th></th>
<th>yes</th>
<th>no</th>
</tr>
</thead>
<tbody>
<tr>
<td>a)</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>b)</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>c)</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>d)</td>
<td>Video 13, Film 0, Don't know</td>
<td></td>
</tr>
</tbody>
</table>

#### PART C

1. **Does your media centre/library have a plan to stack EVS software in the future?**

   - yes  
   - no

<table>
<thead>
<tr>
<th></th>
<th>yes</th>
<th>no</th>
</tr>
</thead>
<tbody>
<tr>
<td>m.d.</td>
<td>11</td>
<td>3</td>
</tr>
<tr>
<td>lib.</td>
<td>9</td>
<td>2</td>
</tr>
</tbody>
</table>

2a. **Does your media centre/library have a plan for future provision of videotape playback equipment for student use?**

   - in the media centre/library?  yes  no
   - outside the institution?  yes  no

<table>
<thead>
<tr>
<th></th>
<th>Inside yes</th>
<th>no</th>
</tr>
</thead>
<tbody>
<tr>
<td>m.d.</td>
<td>13</td>
<td>1</td>
</tr>
<tr>
<td>lib.</td>
<td>8</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Outside yes</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>m.d.</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>lib.</td>
<td>2</td>
<td>9</td>
</tr>
</tbody>
</table>

2b. **Does your media centre/library have a plan for future provision of 8mm sound film playback equipment for student use?**

   - in the media centre/library?  yes  no
   - outside the institution?  yes  no

<table>
<thead>
<tr>
<th></th>
<th>yes</th>
<th>no</th>
</tr>
</thead>
<tbody>
<tr>
<td>m.d.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>lib.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Response

| Inside | yes | no |
|----------------|
| m.d. | 12 | 2 |
| lib. | 7 | 4 |

Outside

| m.d. | 5 | 9 |
| lib. | 4 | 7 |

3. Does your media centre/library have a plan to loan-out PVTR equipment and blank tapes (available to all students) in the future?

yes _____ no _____

4. In your opinion:
   a. should videotape playback and PVTR equipment be available on external loan to students?

   yes _____ no _____

4. In your opinion:
   b. who should lend this equipment?
### MEDIA DIRECTORS ONLY

5 - In planning future video purchases, what percentage of these would be in:

- studio equipment? __% - portable equipment __%

<table>
<thead>
<tr>
<th>Response</th>
<th>100%</th>
<th>75-99%</th>
<th>51-74%</th>
<th>50%</th>
<th>1-49%</th>
<th>0%</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>studio</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>portable</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>0</td>
<td>14</td>
</tr>
</tbody>
</table>

6 - What is your justification for these percentage allotments?

Response: The justifications given for these percentages were:

- **studio:** "Studio equipment is much more costly than portable equipment"
  
  "A decision has been made to obtain colour recording equipment"

  "Equipment is required to edit videotape from portable recorders"

  "There are too many problems with using portable equipment. The weather is too cold or the sun is too bright or it is raining or one can't find the proper background"

  "The editing time for portable equipment is too long"

  "There is teacher demand for production"

- **portable:** "There is little call for production (from teachers)"

  "We will borrow studio time from another institution if we need it"
"The studio is already established"
"The trend is 'out to the community'"
"There is a need for 'on location' taping"
"Portable equipment is much more useful"

PART D

In this part of the survey the author would like to determine what you consider to be the optimum conditions for lending PVTR equipment to students.

If you are presently lending PVTR equipment to students you are asked to respond to the questions by stating "yes or no" in the column on the left of the page.

If you are not presently lending PVTR equipment to students, you are asked to consider these questions as a poll of your opinion and to respond to the questions by stating "yes or no" in the column on the right of the page.

Please feel free to comment in the available space or on the reverse of this page.

PRESENTLY USING

1 - Do (would) you insure the equipment?
   yes ___ no ___

Response presently using opinion
   yes no yes no Total
   m.d. 2 11 1 0 14
   lib. 2 0 8 1* 11

(*) This person was doubtful

2 - Is (would) this insurance purchased by:
   yes no a - the student or the students' union? yes no
   yes no b - the institution? yes no
<table>
<thead>
<tr>
<th>Response</th>
<th>presently using</th>
<th>opinion</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>yes</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>a) m.d.</td>
<td>2</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>lib.</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>(*) One person was doubtful</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Response</th>
<th>presently using</th>
<th>opinion</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>yes</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>b) m.d.</td>
<td>4</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>lib.</td>
<td>2</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>(*) One person was doubtful</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Do (would) you find it essential that a competent technician be on hand, to instruct the students in the use of the equipment, at the time of issue?

<table>
<thead>
<tr>
<th>Response</th>
<th>presently using</th>
<th>opinion</th>
<th>yes</th>
<th>no</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>yes</td>
<td>no</td>
<td>yes</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>m.d.</td>
<td>13</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>lib.</td>
<td>2</td>
<td>0</td>
<td>9</td>
<td>0</td>
<td>11</td>
</tr>
</tbody>
</table>

4. Do (would) you find it essential that the equipment be tested by a competent technician at the time it is returned?

<table>
<thead>
<tr>
<th>Response</th>
<th>presently using</th>
<th>opinion</th>
<th>yes</th>
<th>no</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>yes</td>
<td>no</td>
<td>yes</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>m.d.</td>
<td>11</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>lib.</td>
<td>2</td>
<td>0</td>
<td>9</td>
<td>0</td>
<td>11</td>
</tr>
</tbody>
</table>
5 - What do (would) you consider essential for student identification:
   a - an identity card with the student's photograph:
      yes  no  yes  no
   b - clearance from a faculty member?
      yes  no  yes  no
   c - both of the above?
      yes  no  yes  no
   d - other (specify) ____________________________

<table>
<thead>
<tr>
<th>Response</th>
<th>presently using</th>
<th>opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>yes  no</td>
<td>yes  no</td>
</tr>
<tr>
<td>a) m.d.</td>
<td>4   9</td>
<td>0   1</td>
</tr>
<tr>
<td>lib.</td>
<td>2   0</td>
<td>6   3</td>
</tr>
<tr>
<td>b) m.d.</td>
<td>0   13</td>
<td>0    1</td>
</tr>
<tr>
<td>lib.</td>
<td>0   2</td>
<td>0   9</td>
</tr>
<tr>
<td>c) m.d.</td>
<td>9   4</td>
<td>1    0</td>
</tr>
<tr>
<td>lib.</td>
<td>0   2</td>
<td>3   6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6 - Do (would) you make a record of all the accessories and videotape loaned with the equipment?</th>
</tr>
</thead>
</table>
| yes  no

<table>
<thead>
<tr>
<th>Response</th>
<th>presently using</th>
<th>opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>yes  no</td>
<td>yes  no</td>
</tr>
<tr>
<td>m.d.</td>
<td>13   0</td>
<td>1    0</td>
</tr>
<tr>
<td>lib.</td>
<td>2    0</td>
<td>9    0</td>
</tr>
</tbody>
</table>
7 - Do (would) you make a careful record of equipment breakdown and equipment problems experience by students?

yes no

Response presently using opinion

<table>
<thead>
<tr>
<th></th>
<th>yes</th>
<th>no</th>
<th>yes</th>
<th>no</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>m.d.</td>
<td>11</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>lib.</td>
<td>2</td>
<td>0</td>
<td>9</td>
<td>0</td>
<td>11</td>
</tr>
</tbody>
</table>

8 - What is (should be) the maximum lending period?

1 / 2 / 4 / 7 / _______ days.

Response individual & supply

days 1 2 3 4 5 6 7 decision demand Total

<table>
<thead>
<tr>
<th></th>
<th>m.d.</th>
<th></th>
<th>lib.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
<td>3 4 1 0 0 0 3</td>
<td>2 1 2 1 1 0 2</td>
<td>11 14</td>
</tr>
</tbody>
</table>

9 - Are there any additional comments that you would like to make concerning the optimum conditions for lending PVTR equipment to students?

Response

Seven of the people interviewed felt that students should be made aware of the full potential of video and should be trained in the use of video as a medium of expression.

One media director posed the question of "Who should be held responsible for broken equipment?" and suggested that students be required to supply their own videotape, since it is often necessary for them to hold the borrowed tape for a long time while they edit it.
APPENDIX D

Footnotes
FOOTNOTES


8. -----------, p.88.


   University of Sussex, *Educational Television and Radio in Britain, Present Provisions and Future Possibilities*,
Papers prepared for a national conference organized jointly by the BBC and the University of Sussex (Chelwood Gate, Sussex, May 13-17, 1966) ERIC ED 022 371


11. To Improve Learning: A Report to the President and the Congress of the United States by the Commission on Instructional Technology, (Washington, DC, August, 1969), p. 164-166. ERIC ED 034 905


Leon W. Wells, "Random Selection and Branching in the Motion Picture, Audio-Visual Field" SMPTE Journal; LXXIX, No.11, (1970), pp. 983-990


15. Torkelson, p.91

16. Rene Maheu in the Foreword to New Media: Memo to Educational Planners.


20. The term "Encapsulated video system(s)", abbreviated EVS, is coined here for convenience and clarity. With thirty and more different manufacturers of EVS it is not unexpected that the terminology varies. Thus, there is reference to cassettes, capsules, cartridges and discs. The term EVS will serve here to cover all the different software formats and the hardware systems to record on and replay the software. The term is not offered as a standard abbreviation. It should be noted that the machinery is not encapsulated, only the software.


Some of these other companies are: videotape - Norton Simon, Inc., film - Eumig; disc - Akai and Matsushita.


24. One of the local CEGEPS had Sony EVS equipment and were not satisfied with the stability of the picture and the quality of the colour.

Videographe has had two machines since April 1972. They both worked well for two months and have been "down" most of the time since—despite "good servicing" by the Sony Company representatives.

Robert Forget, Director of Videographe, Interview, July, 1972. Videographe is a video resource and consulting centre sponsored by the Challenge for Change/Society Nouvelle service of the National Film Board and seven other Federal Government departments. Videographe is located at 1604 St. Denis Street in Montreal. Citizens can obtain free access to the video equipment and to services of the team of six people at the centre.


VideoPlayer, (December, 1972), pp. 44-47.


A new circuit attachment to the editing deck was developed and the NFB has applied for a patent on it. "Plans will be available to any group that would like them" Challenge for Change, No. 8, (Spring, 1972), p. 22.


A recommended standard cartridge for 1" videotape was established by the Electronic Industries of Japan. The cartridge is adaptable to existing reel-to-reel VTRS and the case can be opened for editing.


VideoPlayer, (December, 1972), pp. 8-10.


32. Some of these companies and combines are: Video Programs International Ltd., Polymedia, Readers' Digest, Videorecord/McGraw-Hill, Harper and Row/Hanna-Barbera, Videothek Programm GmbH, Crown Cassette Communications Ltd., International Publishers Audiovisuals Association,
Cassettes International S.A., A.S. Bookman, Ulstein AV and most of the EVS-developing companies.


37. Trotter, p. 11.

38. Shamburp, pp. 7-8, 32.


41. EPIE, pp. 39-44.


44. Kaiser Aluminim News, XXVII, No. 1.

Guerrilla Television.

Radical Software.


45. At the rate of increase of technological developments, can we afford to wait until a body of scientific evidence on the effectiveness of the EVS is amassed?

46. James G. Miller, p. 5.


To Improve Learning, 11, p. 1011.


57. Shamberg, p. 71.

58. Please refer to the text, pp. 4-5.


60. Elizabeth Prinn, "Vive le Videographe," Challenge for Change Newsletter, no. 8, (Spring, 1972), pp. 18-22.

61. Shamberg, p. 21.


64. Sir George Williams University, Master of Arts in Educational Technology course announcement, circa 1971.


66. To Improve Learning, ...., I, 7.

67. The only 1/2 inch EVS that the author has seen mentioned in the literature is that by Akai. The development of "Cobaloy" videotape may induce others to produce 1/2 inch EVS.

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________. "Our Corner." II (October, 1970).


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Young, William A. A letter to G. A. B. Moore, Director, Centre for Instructional Technology, Sir George Williams University. April 21, 1972.

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NEWSPAPERS


PROCEEDINGS


REPORTS


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Weisgerber, Robert A. "Trends, issues and activities in individualized learning", Stanford University, ERIC Clearing House on Media and Technology, February, 1972. (mimeograph)


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ibid., (April, 1972)

Hauschildt, Ken. "Video Cassette" ETRAC Newsletter (Fall, 1972).

Moore, George A.B. The Development of Educational Technology in Canadian Universities. (Doctoral dissertation, Syracuse University, November 1971).

McIntosh, Don. "Video Cassette in Instruction." ETRAC Newsletter, (Fall, 1972).


