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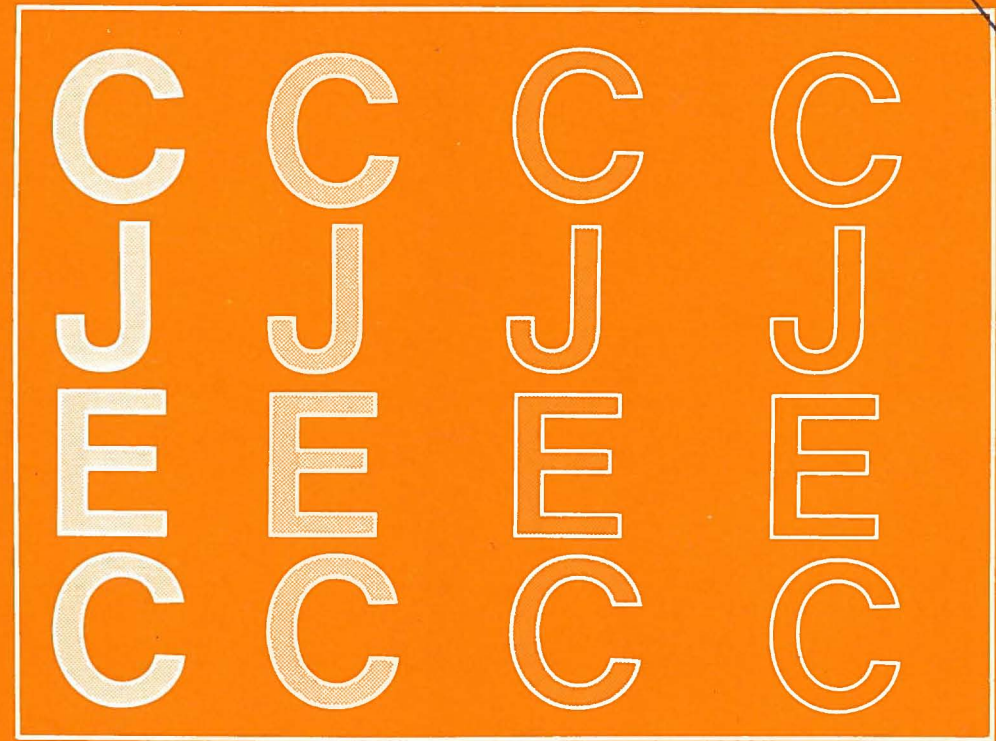
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What's In A Name?

With this issue, *Media Message* becomes the *Canadian Journal of Educational Communication*. The new name reflects our direction and content more accurately than our old name. CJEC will exhibit a new look too.

A refereed section will contain articles which have been reviewed by experts in the field. The refereed section will contain reports of experimental studies, reviews of literature and theoretical papers.

There will be a number of practical sections such as reports of media utilization, case studies, practical AV and computer programming hints. These sections will be aimed at the practitioner in our field.

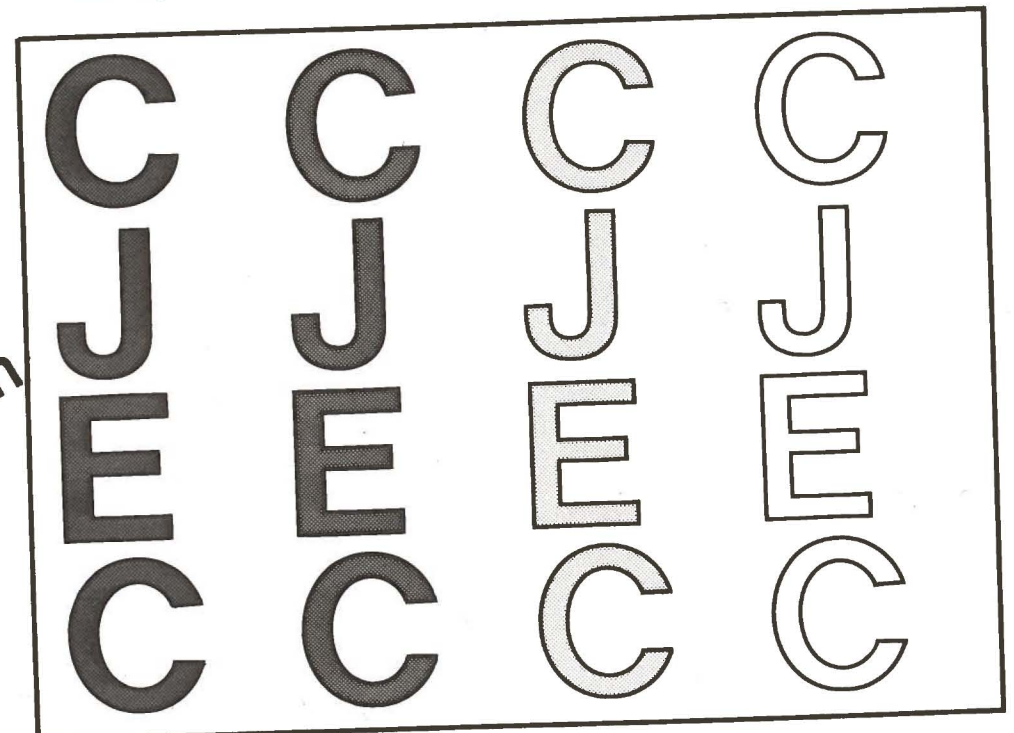
AMTEC news, announcements of conferences and special interest group news will provide useful information to the entire membership.

The reviews section is to be expanded to include a larger number of reviews and to encompass computer software as well as audio-visual and print resources.

The new journal should contain something for every AMTEC member and for others interested in our field. High quality manuscripts in any of the areas mentioned above or any area not mentioned above are welcome.

Articles, book reviews, letters to the editor, etc. for publication in the *Canadian Journal of Educational Communication* should be sent to:

Dr. Richard F. Lewis
Atlantic Institute of Education
5244 South Street
Halifax, Nova Scotia
B3J 1A4



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The *Canadian Journal for Educational Communication* (CJEC) accepts papers dealing with the field of educational technology and learning: computer assisted instruction, learning resources centres, communication, evaluation, instructional design, simulation, gaming, and other aspects of the use of technology in the learning process.

Manuscripts should be typed on 8 1/2 x 11 paper. All material must be double spaced. Include a title page stating title, full names of authors, identification of each author (position and institutional or other affiliation), and mailing addresses including postal codes for each author. References should be prepared according to the style suggested in the Publications Manual of the American Psychological Association.

Two typed copies of each paper should be

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Manuscripts will be acknowledged as they are received and reviewed for publication.

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Media, Mental Skills and Learning Tasks: The Interplay of Research and Instructional Design

Bill Winn

Bill Winn is an associate professor in the Faculty of Education at the University of Calgary.

Research in the area of educational media has gone through a number of identifiable stages which have been documented by several scholars (e.g. Levie and Dickie, 1973; Torkelson, 1977). Since it is a major purpose of research in our area to develop theory that can direct decisions made by instructional designers, the principles and practice of instructional design have followed a parallel evolution. At present, another major step in this evolution is being taken by researchers. This stems from the realization that human abilities are far more malleable than has hitherto been believed, and that many of the mental skills that were thought to remain immutable over a person's lifespan can be developed and even trained. It follows from this that certain of the problems traditionally attributed to "individual differences" can be overcome. If the past is anything to go by, this development, and others associated with it, will have profound implications for the practice of instructional design.

The purpose of this article is threefold. First, it will briefly trace the evolution of the thinking in our area about what factors influence learning. This is, in effect, the evolution of instructional design principles, because the key to instructional design is an understanding of how these factors can be controlled in a way that is beneficial to learners. Second, the question of human abilities, which lies at the heart of the matter, will be addressed. This will involve a review of research on aptitudes and an examination of some recent cognitive theory to do with training in mental skills. Finally, it will be suggested that knowledge of the learning task in interaction with a number of other factors is a powerful determinant of learning. The general thesis of the article is that cognitive psychology is beginning to reveal the great complexity of learning, and that to be effective, instructional designers must take cognizance of a wide variety of factors known to influence learning that have mostly been ignored up until now. The article focusses specifically on the design of instruction that is in some way mediated, though the discussion will of necessity sometimes have to range more widely.

Instructional Design in Retrospect

It used to be thought that the only factor

that influenced learning which was worth consideration by instructional designers was the form in which information was delivered to learners. In our area, this pretty much meant the media that were selected or created to deliver the message. This rather limited view arose from the equally confined outlook of researchers. The onset of the media age in the early fifties was stamped with an optimism based on the belief that the "new media" were superior to "traditional" forms of instruction. Researchers were charged with the responsibility of confirming this supposition. The research paradigm that this charge gave rise to is usually referred to as "media comparison", where media of all types were compared to classroom instruction, and to each other. Usually, no differences were found, and for every study that showed one medium to be better than lecture or another medium, another study would show the opposite. This much has often been acknowledged, and with hindsight is little cause for surprise. Writers often neglect to mention, though, what this implied for instructional design. The only factor that designers had any control over — the medium itself — was shown not to affect learning at all. The reaction of many designers was to go on mediating instruction anyway, producing nice-looking but ineffective materials. The legacy of this practice is still with us today.

The persistent finding of "no difference" between mediated and traditional instruction soon led to the realization that what influenced learning was not the medium per se, but specific characteristics of each medium that were particularly appropriate to various types of learning (Allen, 1967). This led to an analysis of media characteristics, and experimentation in which these characteristics were varied. For instance, researchers no longer compared film, say, to slides. Rather, they compared realistic pictures to line drawings, motion to still visuals, and color to black-and-white pictures, where realism, motion and color are characteristics of visual media generally. It was at this level that some information useful to instructional designers began to emerge. Many of the principles of design presented by Fleming and Levie (1978), and the conclusions stated by Dwyer (1972, 1978) reflect the "media char-

acteristics" approach to research and design. The conclusions that color can be used effectively to highlight important information, and that line drawings are more effective than realistic pictures in teaching certain types of identification are typical examples. They are also medium independent, since color and line drawings can be used in film, television, slides, posters, textbook illustrations, and so on.

Yet still expected results sometimes did not occur. Another factor was brought into consideration to account for this. This was the suspicion that the different media characteristics that were varied by designers might impinge on different learners in different ways (Snow and Salomon, 1968). The research paradigm shifted once again, and now took account of the learners' abilities to learn from different types of mediated materials. This approach is generally known as "Aptitude treatment interaction" (ATI), and is dealt with in detail by Cronbach and Snow (1977). The general thesis of the ATI approach is that, while line drawings, for instance, might prove to be more effective than realistic pictures for low ability learners, the reverse might be true for more able ones. This "interaction" between learner ability and treatment factors led instructional designers to design different forms of materials (and instruction in general) for learners of different ability. This often proved difficult to do, and was not always cost-effective. A further difficulty arose from the fact that the number of learner-aptitude media-characteristic and subject-matter permutations is enormous. So while some generalizations from the research are possible, most of them are little more than statements of the obvious (see Allen, 1975).

Recently, certain other limitations of the ATI paradigm have become apparent. This is leading to a reconceptualization of media research and instructional design.

Beyond Aptitude Treatment Interaction

It is best to illustrate the fundamental problem with ATI research by means of an example. In a study of the effect of diagrammatic organization of content on learners' ability to structure a conceptual domain to do with biological food chains (Winn, 1980),

it was expected that verbal ability would interact with diagrammatic and textual treatments in such a way that the diagrams would help low-verbals. The rationale for this assumption was consistent with Salomon's "supplantation" hypothesis (Salomon, 1979), which states that instruction that supplants mental skills in which learners are weak will help them learn. In other words adding structural diagrams to text would help low-verbals, because the content is expressed in a form with which they will have less difficulty. The results showed the opposite to be true. It was found that high-verbals who had seen the diagram did better than high-verbals who had seen the text, while there was no difference for low-verbals. The ATI was the reverse of what was expected. This phenomenon has subsequently been found in two other studies (Winn, 1981a; Winn, in press).

A viable explanation of these results is found in Salomon's alternative "activation" hypothesis (1979), which proposes a different role for materials. In this case, they activate skills in which learners are adept rather than supplanting those in which they are weak. In our case, the diagrammatic treatment would have activated mental processes that the high-verbal subjects possessed, but which were lacking in the low-verbals. There are two things to consider that arise from this. The first is that presenting information in non-verbal form will not necessarily help low-verbals learn better. There are several possible reasons for this, the most likely being that, in the studies mentioned above, the diagrammatic treatments tended to be more information-dense and redundant which would take away from low-verbals any advantages granted by the non-verbal presentation. Second is the puzzle created by the fact that verbal ability predicted learning from non-verbal materials. This is a more complex question which has been addressed by several researchers.

If the results reported in these studies are to be believed, it seems that the test used to measure verbal ability in fact measured something else. This is, of course, a question of the construct validity of the verbal test. And it is precisely the construct validity of aptitude tests that has recently come into question. There is plenty of evidence, a lot of

it summarized by Cronbach and Snow (1977, chapter 9), that many of the aptitude tests commonly used by media specialists in diagnosis of learner ability, or in making design decisions, do not measure what they claim to. Let us return to the verbal ability for an example. It has been shown convincingly (Hunt, 1978; Frost and Lunneborg, 1973; Hunt, Lunneborg and Lewis, 1975) that certain verbal ability measure general cognitive ability, particularly speed. In the experiments of Hunt and his colleagues, verbal ability was found to be positively correlated to the speed at which subjects were able to make accurate judgements about the content of statements describing simple displays (e.g. "the cross is above the star").

If aptitude tests do not measure what they claim to, how are researchers and designers to proceed? This is a question that has been attempted to identify what Snow (1980), Weinstein (1978), Weinstein et al. (1979), and Dansereau et al. (1979) called "aptitude processes". These are general aptitudes. Cognitive speed is one of these. These fundamental processes can be identified from what is known about the processes from what is known about the abilities aptitude tests do measure (Cronbach, 1976); and by studying test-taking behavior in order to deduce what cognitive processes those who do well employ (Lohman, 1978; Snow, 1980). Whichever method is used, what emerges is a description of mental skills that people need to perform various learning tasks. These skills are described in terms of cognitive processes and not general aptitudes and abilities.

Reducing aptitudes to more fundamental constituents has had some quite remarkable advantages for research and design, in terms of the cognitive processes learners need to overcome the problem of the validity of aptitude tests. Not only among these is the matter of training learners in the mental skills they need in order to learn a particular task. Aptitudes have been thought of as being pretty stable a person's lifetime, and therefore unchangeable. However, the processes that underlie aptitudes are not as stable, and are not so resistant to attempts to train learners in them. A good example of this appears in a study

by Thorndyke and Stasz (1980) on map learning. In a first experiment, these researchers had subjects learn the information presented on a map of a fictitious country until they obtained perfect scores. Subjects then described in detail the mental strategies they used in order to learn the information. By comparing the mental strategies to the number of trials each subject needed in order to reach the criterion, the most useful verbal ability measure general cognitive ability, particularly speed. In the experiments of Hunt and his colleagues, verbal ability was found to be positively correlated to the speed at which subjects were able to make accurate judgements about the content of statements describing simple displays (e.g. "the cross is above the star").

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beginning of this article: What factors controlled by instructional designers influence learning? We have seen the fallacy of believing that only the type of medium influences learning. We have seen how certain characteristics of media influence learning directly, or in interaction with the learner aptitudes. We have also seen how the basic mental skills that underlie these aptitudes influence learning. In addition to these factors (the form of the medium, media characteristics, learner aptitude, and specific mental skills), there is another important factor that has not yet been mentioned. This is knowledge of the learning task by the learners.

The logic of giving knowledge of task prominence in our list of factors that influence learning stems from the reasoning that the appropriate media characteristics cannot be attended to, nor can the right mental skills be brought to bear, unless the learner knows in advance what is to be done with the information that is presented. This has been borne out in two recent experiments (Winn, 1981b), which studied the roles of knowledge of task, instructions to use certain mental skills, and the form the materials in learning patterns and sequences made up of lines and letters. Subjects were shown either lines or letters one at a time at various locations on a screen, and had either to recreate the figure or pattern that the lines or letters created, or to remember the sequence in which the lines and letters appeared. They were told whether to recall patterns or sequences either before or after the lines or letters had been presented. In addition, some subjects received instructions to form images, while others were instructed how to chain one element to the next. Results showed that subjects who had been cued to the task before presentation outperformed those who had been cued afterwards, and also that instructions on how to process the information helped subjects learn. It was also found that sequences were easier to recall than patterns if the elements in them were letters, but that the reverse was true if the subjects were shown lines. Various interactions occurred among the three factors, which suggested that the form of the materials and instructions to process the information in a particular way was before they saw the materials. In other words,

without knowledge of task, learners were not influenced by factors that would otherwise be important for designers to manipulate.

These two experiments are just the beginning of what is hoped to be a fairly lengthy and detailed study of how these, and other factors (e.g. mental ability) interact and affect learning. What is important, though, is that already it appears that the form of the materials is a factor second in importance to knowledge of task, and maybe even to processing instructions. What this means is that instructional designers must not under any circumstances confine their decisions to considerations of what form materials should take. Of more importance is making clear to learners what is expected of them, and giving them instructions on how to go about processing the information that they are given. Instruction should therefore include guidance on how to learn as well as content to be learned. On the other hand, the designer's task is made somewhat less difficult by the knowledge that learners are often cognitively flexible enough to be trained in the mental skills they need. It is quite likely that, in many situations, taking the time to train skills will be more cost-effective than taking time to develop several alternative forms of instruction for learners of different ability. This latter suggestion has yet to be confirmed empirically. However, intuitively there appears to be truth to it.

In sum, the great complexity of learning that research is slowly uncovering reveals the learner to be more intellectually flexible than was once believed. This has certain advantages for the instructional designer, who can adapt the learner to suit the instruction rather than adapt the instruction to suit the learner. That is not to say that individualization is not recommended. It says, rather, that there may be circumstances that make it easier for the designer, and for the learner, if the new alternative is tried. The repertoire of the designer is increased in this way, to include the "task first" as well as the traditional "learner first" approaches. Maybe research will reveal situations where a "medium first" approach is the best, though this seems unlikely. In any event, our increasing knowledge of learning is beginning to offer designers a choice of instructional strategies that can be used to attune instructional

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tion more appropriately to tasks and to learners. This can only be to the good of designers and learners alike.

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Planning
Instructional
Change
Marvin E. Duncan and
Ronald K. Bass

Change, whether planned or unplanned, usually brings with it confusion and discomfort. Planned change, however, results in less confusion and less discomfort while providing more efficiency and more productivity than unplanned change. In planned change, the initiator of the change idea has a thorough knowledge of the situation to be changed. The "real" problem and not simply symptoms of the problem are analyzed and clearly identified before attempts to change the problem situation are begun. Proposed changes must be developed and implemented, and an evaluation of these changes must be made in order to determine whether the organization functions more effectively and more efficiently than it functioned prior to the implementation of changes. The content of this paper is intended to be a guide to planning instructional change rather than a universal prescription for all change. It is the purpose of this paper to assist the reader in bringing about desired instructional changes by utilizing a systematic approach for making a smooth transition from the existing situation to the desired situation.

Identifying a Problem

It is paramount that the change agent ask and respond to two pertinent questions before attempting to bring about change. Both questions may be answered before a thorough identification of the problem is made, depending upon the knowledge the change initiator has of the client system. However, answers to both questions usually come about after problem identification. The first question which must be answered is, "Do I as change agent have some influence as to whether or not the situation will be changed?" If you have no influence in the situation, forget it! Continuation will bring only internal discomfort, mental frustration and anguish, or possibly dismissal. The sec-

ond question is, "Am I concerned to the extent that I am willing to put forth the time and effort to bring the change idea into fruition?" If the answer to the latter question is yes, proceed. If the answer is no, stop fooling yourself since you are not committed to the proposed idea.

Ronald G. Havelock (1970, p. 12) writes that a successful change agent needs to develop a viable relationship with the client system prior to attempts at identifying the problem. A detailed description of the entire problem situation is not needed at this point. Rather, establishing a wholesome working relationship with those for whom the change is intended and with those who make decisions relative to the proposed change is a necessity. After the above has been accomplished proceed with identification of the problem. Care should be taken to avoid "finding a solution." This will more than likely result in the change agent reacting to symptoms rather than to the problem. The problem appears obvious in many situations. Usually, as Havelock (1970, p. 60) points out, the obvious is merely a symptom of the problem. Perhaps the most successful method of identifying the problem is by asking questions about the situation until common patterns among symptoms are recognized. Once the problem has been identified, determine the cause of the problem. Eliminating the cause means eliminating the problem. Consider the example below:

Your office mate comes into the office with wet clothing. The problem appears obvious. It is raining. However, the rain may not be the real problem. It may not be raining. Your office mate could have gotten wet by:

- 1) walking under a sprinkler system.
- 2) walking too closely to a vehicle using water to clean the streets or
- 3) being doused with water by an individual

using a water hose to wash a car. By asking questions as to "Why are you wet?" You may soon eliminate points one, two and three as possible causes. You may find that it is really raining. Right? ... Wrong!! Again the observer is not accurate. In this situation, wet clothing is "a problem" but not the "real problem." The rain made the clothing wet. The question is "Why did the rain penetrate the clothing?" The problem is that your office mate was outside while it was raining without an umbrella or adequate protection from the rain, and therefore got wet.

To eliminate this problem in the future, your office mate should have an umbrella or other protection when outside in the rain.

Problem Situation

After identifying the problem, the next task is to study the environment in which the problem is lodged. This suggests a careful study of the organization, including the possible constraints imposed by the organization and the positive aspects of the organization. There may be factors or forces which surround the problem which need to be considered if the problem is to be resolved. Watson and Glaser (1965, p. 36) assert that whoever provides the leadership for change, whether the person is inside or outside the organization, should be aware of the complex forces working for and against change. These forces, as Lippitt (1969, pp. 158+) notes, are referred to as driving forces, restraining forces and neutral forces. Driving forces are those forces which facilitate change or which enable change to occur with minimal difficulty, providing they are of sufficient strength and intensity. Restraining forces are those which hinder change. Neutral forces are those which neither foster or impede change but which could, if altered, serve as either driving or restraining forces depending

upon the direction of the alteration.

You may wish to make a list of the forces (i.e., driving, restraining and neutral) as you perceive them. Reduce the list to those forces you consider relevant. The reduced list may point out two or three driving forces and perhaps two or three restraining forces which are distinct and prominent. Decide which forces you can change and list possible actions you can take which would reduce or completely eliminate the restraining forces, i.e., the dominant ones. List possible actions which can increase the effects of the driving forces and change neutral forces into driving forces.

Develop

The change agent must consider the magnitude of the proposed change. Magnitude relates directly to the level of financial and other administrative support required as well as to whether or not the proposed changes are within the purview of the change initiator. Altering a unit in a college course does not require the level of support required for revising an entire course. The decision to revise an entire course is seldom, if ever, left solely to the teacher. Adding a course to a curriculum is usually a decision made by the head of the administrative unit rather than the person who is to teach the course. Consider the following:

Department X at School Y is undergoing curriculum revisions. Program A in the department has gained more publicity than other programs within the department. The strategy to be employed by the department in solving instructional problems is the concept of mastery learning. The director of Program A and his staff worked diligently to rewrite course outlines to include explicit objectives, practice exercises, diagnostic quizzes, feedback, and criterion measures for assessment purposes. They also matched media

with course objectives. The director of Program A and his staff recommended to the chairman of the department during the academic year that:

- 1) A learning center be set up to house print and nonprint materials.
- 2) A full-time person be employed to direct the learning center.
- 3) A variety of media be procured based on their matching of media with objectives.
- 4) One staff member be given release time to continue revision efforts after implementation.

Two months have passed since the recommendations were made. The director concluded that since the chairman of the department has not responded to the recommendations, he is against the change idea. The director decides to visit central administration (by-passing the chairman) for support. The director informs the administration that he has little if any support from the chairman.

The director of Program A and his staff, although having a clear perception of what to be done with respect to curriculum revision, may have their efforts thwarted for a variety of reasons, among which may be:

- 1) Inadequate and ineffective communication about the revisions at the departmental level may have hindered progress. This communication should re-emphasize advantages, cost and needed personnel. In written form, it should be written in a prospectus. This is a "feeler stage" which the director is seeking to overcome the chairman's initial reactions.
- 2) In his efforts to increase the driving force, the director may have actually reduced the effects of the driving forces since he by-passed the chairman (violated the "chain of command").
- 3) Curriculum revision of such magnitude

requires both vertical and horizontal support. Horizontal support may be evidenced by the staff's apparent willingness to cooperate. Vertical support, i.e., chairman and central administration, become increasingly important as the size of the development effort grows.

Timing is an important factor. It should be remembered that change must be instituted in the right place, at the right time, and proper dosage. The director should have received a response from the chairman after two months, at least to the extent of acknowledging receipt of the prospectus outlining the proposed changes. However, it may be unreasonable to expect funds for full scale implementation within a period of two months. Although the recommendations were made during the academic year, funds for a fiscal year are usually allocated and earmarked for disbursement prior to the year in which major expenditures are made. Even when recommendations are approved during a given academic year, funds for full scale implementation still may not be available the next year. An alternative approach should this happen would be to institute the changes one at a time until the change idea has been fully implemented.

The director's perception of forces within the organization may be accurate. However, his course of action is not recommended. Sometimes efforts to strengthen driving forces actually neutralize or change these forces into restraining forces. This may also strengthen the restraining forces such that the proposed change becomes almost impossible to implement.

Evaluation

The proposed changes cannot be evalu-

ated at this time since the changes have not been implemented. However, evaluation should point out the difference between "what was" and "what is." In evaluating the proposed changes, the director and his staff may:

- 1) Compare revised course outlines with course outlines prior to revisions to determine if objectives are included and if they are explicit.
- 2) Ascertain if content materials relate directly to performances specified in the objectives.
- 3) Determine if appropriate learning exercises have been included.
- 4) Check to see if diagnostic quizzes and feedback have been incorporated into the revision.
- 5) Resolve if media are appropriately selected and used.
- 6) Review test items to see if they relate directly to performances specified in course objectives.
- 7) Monitor work of staff person who was given released time to determine if development efforts are continued.
- 8) Ascertain if students are having less difficulty in mastering course materials after revisions than before revisions; gather statistical data in support of learner outcome.
- 9) Determine the extent to which the resources in the Learning Centre facilitate learning, i.e., accessibility, proximity, relevancy.

Commentary

Planned change is the process of altering an organization from its present state to an idealistic or futuristic state. It is a most difficult process. Change will occur, however, whether planned or unplanned. Our responsibility as educators is to plan for change in the direction of more efficient and more per-

manent learning. The suggestions and examples included here are to be considered only as a guide. There is no recipe for planned change which can be used to guarantee success in every situation. It is recommended that when planning change, a pattern of open communication be established and maintained; and that trust be developed between and among members of the organization in order to create an open atmosphere of shared responsibility.

There is more to planning instructional change than presented here. We have simply presented some of the intricacies of the planning process. However, we are aware, as Haney and Ullmer observed that to say what something is about is not necessarily to say all there is to be said about it.

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AMTEC BOARD REPORTS

Past President Reports

Kenneth L. Bowers

The Past-President Kenneth L. Bowers carried on the ongoing project of revising the AMTEC constitution and by-laws. In this process it became evident that the old version is more realistic, reflecting more nearly how AMTEC operates, recognizing the constraints of finances, membership and geography. The new version was carried through further revisions, and now awaits further approval by the AMTEC Board in line with the requirements of the Department of Consumer and Corporate Affairs. June Landsburg, AMTEC Board Member-at-Large in Ottawa, has facilitated the constitutional revision's acceptance by the Department, as well as having it screened for legal problems by her contacts at Carleton University. It is hoped that in the coming year the new constitution can be ratified by the membership.

The Past-President attended three AMTEC Board meetings, one in Edmonton and two in Toronto.

As Chairman of the Nominations Committee, the Past-President appointed four other members, representing the Maritimes (Gar Fizzard), Quebec (Bill Hillgartner), the Toronto area (Gord Jarrell) and the west coast (Bruce MacLean). By correspondence and telephone this committee nominated two candidates for each of the two offices requiring filling this year. Ballots were sent out about March 1, with a return deadline of May 1. The winners of this annual election were announced at the Annual General Meeting in Truro in June.

It has been an interesting and challenging three years since election to Board. I extend thanks and congratulations to the membership for an increasingly vital and effective professional organization, and to the Board for courage and perception in providing new vision and new solutions to old and new challenges.

Kenneth L. Bowers
Past-President

New President Reports

Lou Wise

With the other members of the Board the President-elect (or Vice-President) must attend meetings on several occasions to consider and deal with the business of AMTEC. These meetings occur on three separate occasions at the annual conference, plus two days in meetings in October and two days in February. With few exceptions the October and February meetings are held in Toronto. This simplifies the travel arrangements since Board members and committee chairmen come from both east and west.

As the affairs of AMTEC have become more varied and extensive these meetings have been increasingly demanding of each person involved.

In addition to the general business discussed and decided upon by the Board, there are many special projects which become the responsibility of individuals to see through to completion. As President-elect, I undertook some of these.

You will read and hear elsewhere about a major undertaking in the form of conference guidelines and a conference handbook. Most of that has been very well looked after by Board member June Landsburg. The section on the Media Festival, however, was seen as a special requirement that might benefit if organized by someone who had previously been closely involved in managing a Media Festival. That's

where I came in. In 1978, I managed the Media Festival for the Regina Conference. In 1979, 1980 and for AMTEC '81, I continued to be involved as liaison between the Board and the Media Festival Chairman for Ottawa, Edmonton and Truro. All of that made it feasible for me to undertake the task of writing the Media Festival Guideline. It is now done, has been approved by the Board and has become part of the Conference Guidelines. All of this will provide a great deal of guidance for future conference and festival planners.

For several years Mal Binks, one of the Past-Presidents has continued to be involved as Chairman of the AMTEC Awards Committee. Over the years it became obvious that a system of awards had evolved. But no attempt had been made to pull together all the assorted bits of information from board members. I undertook the job of working with Mal Binks to originate such a document. It is now finished and as with the conference and media festival guidelines will serve to keep future directors informed about the criteria for the presentation of various awards (Media Festival and others) presented by AMTEC.

Lou Wise
President-elect

President Reports

Anne Davidson

The first meeting of the Board of Directors for 1980-81 was held in Edmonton, June 19, 1980; the two-day sessions took place in Toronto, October 23 and 24, 1980 and February 12, 13, 1981.

Problems or needs have always been dealt with as they arose and sound decisions have been made in the past. Now, however, with several years of information on file it has become necessary to organize that data so that access is facilitated. Further work on certain documents has been identified and ex-

ecuted. It has, therefore been both challenging and demanding in time. Substantial progress has been made relating to the *Constitution*, *Letters Patent* and the *Conference Handbook* (including Media Festival Guidelines).

The Board recognizes that as soon as information is compiled it can be subject to scrutiny. We are continuing to seek from the membership, or else as perceived necessary, assistance in reaching desirable or required standards in administration (Legal requirements within the *Constitution* are an example).

Throughout this term I have been consistently impressed with the perseverance of my colleagues as they tackle their responsibilities with a view to rendering the best possible service to our membership. Because of the need to be concise, individual reports may not at first glance convey the enormous amount of work continued this year. Please ponder and appreciate these contributions. And let us acknowledge the time and effort of those who through their articles for *Media Message* have sustained reader interest and done so much to enhance the image of AMTEC. I would also place on record, appreciation of the response to calls for sponsorship of conferences 1982 through 1985. An early assessment of the designated liaison role for a member of the Board with the various conference planners is favourable.

Liaise has also continued with the Canadian School Library Association and with the Educational Media Producers and Distributors Association of Canada. No formal conversations have been held with the Council of Ministers of Education although contact was initiated (or restated) by AMTEC in 1979. The outcome of the AMTEC '81 session on funding may precipitate dialogue with this group.

I believe that, like all previous Boards, we can claim to have made some progress. I suspect we are not the first Board to experience an impatience for development in professional spheres. However, we should be greatly encouraged by the trends displayed in the Special Interest Group activities and in the recent and present AMTEC conference programs which have accommodated Special Interest Group

participation. Perhaps more intensive Board involvement will be possible once we are free of some administration.

Such emancipation will take place only through the hiring of a salaried executive director. This entails substantial infusion of funds, not necessarily higher membership fees. Every effort must be made to increase our numbers. A membership campaign has already been discussed. Surely we cannot continue indefinitely to rely heavily on charitable support such as free stenographic, telephone and mailing services.

The cooperation of all Board members, Association members and friends in numerous undertakings for the well-being of AMTEC is most gratefully acknowledged.

Member-at-Large Reports

Bill Hanson

This has been an interesting term for your member-at-large on the Board of Directors. I assumed the duties of an AMTEC Board member with equal amounts of apprehension and enthusiasm. I still remain enthusiastic! I discovered, however, that attempting to run an association in a country 5500 kms. across is a very complex business.

As far as my activities related to the business of AMTEC are concerned, I have the following to report. I prepared for and participated in the two Board Meetings held this year and provided my thoughts, opinions, and decisions on the issues under consideration. I operated as AMTEC liaison with the Canadian School Library Association at their fall Board Meeting in Calgary. AMTEC and CSLA have much in common and at the very least the two organizations must establish and main-

tain communications at the Board level.

I was appointed the liaison officer for the 1982 Winnipeg Conference planning group and the 1984 Vancouver Conference planning group. Gerald Brown and his committee in Winnipeg are so well on the way to the 1982 conference that they could probably hold the conference next week! The Vancouver group, headed by Wayne Groutage and Bruce MacLean have considerably more time. However, the selection of a conference site is of some urgency. 1984 will be a busy year in Vancouver. Wayne Groutage and I reviewed the options recently in Vancouver and a final decision was made in June.

I initiated and submitted the agenda item referring to the EMPDAC funding survey presented by Les Modolo.

Member-At-Large Reports

Tom Rich

At present, four Special Interest Groups have formal status under the guidelines adopted by the Board of Directors. Those four are: Instructional Developers (ID), Utilization Consultants, Media Teachers and Media Managers. The first three have been quite active. The Media Managers, although

active in the past, have been going through a transition period. They did not have a chairman during 1979-80 but Gerry Brown volunteered to act as one this year and it appears that the Media Managers will once again be taking an active role in the organization.

Annual reports covering 1979-80

The survey presents the frightening predicament of the media software producers and distributors in Canada and proposes the beginnings of a plan for action. Mr. Modolo's presentation was discussed and it was a topic for a session for the Annual Conference in Truro as well as the focus of an article in the *Media Message*.

Finally, I volunteered to author and produce in consultation with Pat and Richard Lewis in Nova Scotia, an information package designed to solicit to a much greater extent, advertising for the *Media Message*. I did not make the progress that was hoped for, however, the package is currently in draft form and should be completed for distribution this fall.

It has been an interesting year for your rookie member-at-large and I look forward to the next two.

were received from the ID, Utilization Consultant and Media Teachers groups. Each group lists in excess of 20 members. The ID and Media Teacher groups have been particularly busy, each holding several sessions at the Edmonton conference and carrying out a number of mailings during the year. It was noted in the annual reports

that there were still difficulties in arranging times at the annual conference. In light of this, the Special Interest Group sessions for the annual conference in Truro were spread through the agenda so that all did not happen at once. A separate time for business/organizational meetings apart from the concurrent sessions was scheduled. Every effort was made to schedule the sessions so that ones likely to attract the same audiences were at different times.

In addition to organizing conference sessions the groups were active in different ways. During the year the Media Teacher and ID groups conducted surveys of their membership on items of interest to their respective groups and circulated materials. The Media Manager and Instructional Developer groups also conducted surveys of their membership soliciting information on the types of sessions desired at the AMTEC '81 conference.

Two groups of members are interested in starting new Special Interest Groups and have requested time for organizational meetings at this year's

conference. The areas are Computers and Education, and Television, Youth and Society. If it looks like there is enough interest these two groups may forward formal requests to the Board of Directors after the conference.

Although not a SIG, it seems appropriate to include a mention of the AV Users group in this report. This is a working group that was established by the Board of Directors after a request by Mr. Al Powell, chairman of subcommittee SC60C (educational equipment and systems) of the Standards Council of Canada. After a presentation at the Edmonton conference and a notice in the AMTEC Newsletter, 18 people volunteered to provide users' comments on proposed international AV equipment and operations standards.

During the year a number of proposed standards were circulated for comment to this group. The response has been very useful to the SC60C subcommittee and, according to Mr. Powell, has proved most helpful in preparing Canada's submissions to the International Electrotechnical Commission. The AV User group is also

holding a session at the AMTEC 81 conference and will continue to provide comments to the Standards Council.

The Special Interest Groups will again be reminded to forward a report to the Board of Directors covering the year's activities. It should be noted that the submission date for that has been changed to September 1 so that the report more realistically covers one year's activity culminating in the meetings at the annual conference. SIGs are also to be reminded that they can apply to the Board for funding to cover the costs of mailings, etc. A budget request for those funds must be submitted to the Board by September 1.

The chairman of the SIGs for the past year were:

- Instructional Developers — June Landsburg
 - Utilization Consultants — Ray Schmidt
 - Media Teachers — Ed Crisp
 - Media Managers — Gerald Brown
- A special note of thanks should go to these people for their work in organizing activating and distributing information on behalf of the SIGs.

Member-at-Large Reports

June R. Landsburg

In my 1980-81 Report I outlined the production of a package of materials to help in planning and operating an AMTEC conference. This package, consisting of:

AMTEC Conference Application, together with Conditions of Application by a Local Planning Group to Host the Annual Conference;

Conference Guidelines; a document designed to assist groups considering hosting an AMTEC conference by indicating the group, specifying the requirements and expectations of the Board, and providing detailed suggestions and recommendations to help in planning and operating the conference;

Conference Handbook, developed as a flexible guide based on the experience of past conference organizers offers guidelines for the implementation of a national AMTEC conference and includes sections on location and dates, housing, promotion and publicity, exhibits, registration, program, and on through to a post-conference evaluation.

This package was sent, in January, to AMTEC conference organizers for the years 1981-85 with the request that their groups go over the material and provide me with suggestions for improvement. When this information has been received in September, final revisions will be made and the conference package printed, and made available for future conference planning groups.

During the year I have been in regular contact with Consumer and Corporate Affairs, Canada, concerning revisions to AMTEC's constitution and by-laws and changes to our Letters Patent. In February our amended constitution and by-laws were submitted to its Incorporation Division for assent prior to submission to our membership for approval. At that time we found that further changes were required to meet current government regulations. In addition, it was necessary for the Association to bring its reporting information up-to-date and to purchase a corporate

seal. The necessary changes have now been made. Following approval by our Board, the revised documents were forwarded to Consumer and Corporate Affairs for assent, following which approval will be solicited from the membership.

During the current year with the help of Bruce MacLean and Ab Moore a questionnaire and wants assessment was designed and sent out to our Instructional Development Special Interest Group. The results of this information has assisted us in planning the ID Special Interest Group session during AMTEC '81 and also reflects the interests and concerns of the group.

1980-81 has been a demanding year for your Board. Considerable time and effort has been expended to develop a working structure and systems for the Association so that in future we can function as a viable professional organization. I have indeed enjoyed the opportunity of participating in the deliberations and decision-making matters of the Association.

Treasurer Reports

The following Interim Financial Statement, as indicated, is for the period of September 1, 1980 to April 30, 1981. The year end for AMTEC is August 31, 1981. The Membership Fees, as indicated, began on July 1, 1980 and for the year ending August 31, 1981 will be exaggerated. The AMTEC '80 receipt includes the \$1000. of seed money.

No revenue has been shown for *Media Message* at the present time, as the final report and accounting for *Media Message* will occur in August.

Because of the unusually high interest rates this year, we have been able to obtain more in interest than in any past

year. Also, because of the high interest rates, an old EMAC account was discovered and the money was transferred to AMTEC. As you know, EMAC was one of the founding groups when AMTEC was formed. The cost of *Media Message* and the *Newsletter* represents three issues.

The Board expenses are not a true reflection of the actual Board costs, because some members are able to attend the Board meetings in conjunction with other business they may have in Toronto.

The conference finances for AMTEC '81 and '82 should be recouped when each conference completes its financial report and returns.

Though the balance sheet indicates a reasonably good picture, in reality, AMTEC is not funding itself through its membership dues and *Media Message* advertising. The past two conferences, AMTEC '79 and AMTEC '80 have been profitable and, therefore, has allowed the organization to operate in the black. This could be wiped out with one or two unprofitable conferences. We will be faced, in the next year or two, with the prospect of increasing our membership fees.

Guy Leger
Secretary-Treasurer

AMTEC Interim Financial Statement Sept. 1, 1980-Apr. 30, 1981

B.O.H. — Sept. 1, 1980 — Bank
— Term Deposits

	\$10,425.00*	
	7,129.13	
	0.00	
	943.91	
	281.74	
	703.06**	
	\$19,482.84	19,482.84
		\$28,850.64

- * This includes \$1780.00 of 1979-80 Membership Fees.
- ** This includes \$634.82 from an old EMAC account.

	\$ 6,700.00	
	1,500.00	
	4,071.48	
	43.64	
	567.77	
	1,000.00	
	1,000.00	
	352.50	
	\$15,235.39	15,235.39
		15,000.00
		\$30,235.39
		-1,384.75
		\$28,850.64

B.O.H. Apr. 30, 1981
Less O/S cheques

1,739.32
3,124.07

AMTEC Awards

Malcom Binks

During the last several years, AMTEC awards have been established in a variety of areas. These guidelines are intended to promote consistency year to year and to define the criteria for selecting recipients for the awards.

1. Leadership Award

1.1 The Leadership Award is in the form of an engraved AMTEC Medallion.

1.2 The award may be presented to not more than two recipients in any one year.

1.3 The award is presented in recognition of outstanding service in the field of educational media.

1.4 A recipient must be (or have been) active in educational media for ten years or more.

1.5 An award may be presented to one who is active, retired or deceased.

1.6 The recipients contribution in the field of educational media may have been at the local, regional, national or international level.

1.7 Attempts will be made to maintain a reasonable balance of recipients across Canada.

1.8 The awards committee will consist of three persons including the immediate past president, the previous past president and a member from the Toronto area (committee chairman) in order to facilitate arrangements for striking the medallions.

1.9 Nominations may be made by any member of AMTEC.

1.10 The nomination will include a brief biographical sketch of the nominee as well as any other information which will be useful in decision making by the committee. This should include the educational background and the reasons why the nominator feels the award should be made.

1.11 The Fall issue of Media Message and the Newsletter will carry a notice in the form of a request for nominations in order that the Awards Committee will receive nominations in time for their recommendations to be considered for approval at the February meeting of the Board. It will be the responsibility of the Awards Committee Chairman to submit the notice to the Media Message Editor. The notice must include an address to which nominations are to be sent.

1.12 The presentation(s) will be made at the AMTEC Annual Conference Awards Function.

1.13 If a recipient is unable to be present, suitable arrangements for the presentation will be made by the incoming president following the Conference.

1.14 In addition to the Leadership Award Medallion, a citation will be presented to each recipient.

1.15 The first issue of Media Message following the Conference will carry the names of the recipients and their biographical sketches.

2. Media Festival Awards

Note: The Media Festival Guidelines describe in detail all aspects of the Festival including the presentation of the Awards. This resumé refers only to the Awards.

2.1 There will be a maximum of three awards in any given category by class.

2.2 Award of Excellence: not more than one Award of Excellence will be presented in any category by class. The festival judges may decide not to present this award in any given year.

2.3 The Award of Excellence will be in the form of an engraved

plaque. The "Coyger" crest is to be used with the AMTEC Logo in gold as the basis of the plaque.

2.4 Award of Merit: if an Award of Excellence is presented in any category by class, there will then be not more than two Awards of Merit in the same category by class. If no Award of Excellence is presented in any category by class, then Awards of Merit up to a maximum of three may be presented. The festival judges may decide not to present this award in any given year.

2.5 The Award of Merit will be in the form of a certificate and will include the AMTEC Logo.

2.6 A supply of plaques and certificates will be sent to the Media Festival Chairman well in advance of the Conference.

2.7 Other awards — in any year, the Board of Directors may decide to accept a special award from an organization or company for presentation in a particular category, if in their view it will advance the idea of the Media Festival. Such an award may be for one year only or it may be on a continuing basis. As with the Award of Excellence, the judges may decide not to present such a special award in any given year if in their view, no production merits such singling out.

2.8 A report on the Media Festival at the previous Conference shall be submitted to the Board in advance of the October meetings and is to include (a) the number of submissions by category and class; (b) the list of awards made; (c) a summary of the judging forms; (d) comments and suggestions for future directions and any other information the Media Festival Committee may feel to be of

value to the AMTEC Board.

2.9 All award winners, whether an individual or institution, will be notified by letter immediately following the Conference.

2.10 In the case of an award winning co-operative production involving several institutions, duplicate copies of the award will be presented.

2.11 For purposes of judging, materials submitted will be grouped according to category and class. This will ensure that material in a particular category and class will compete *only* with other material in that category and class except in the case of special awards.

2.12 Awards Presentations: The Media Festival awards will be presented at the same function when other AMTEC Awards are being presented. The occasion may be an Awards Luncheon or an Awards Banquet. It is further suggested that there be no other major undertaking at the same func-

tion, such as a keynote or major address. It may be decided by the Festival Committee and the Conference Committee together to limit the amount of time spent in the presentation of awards, but generally it is recommended that all awards be presented, including the Awards of Merit, at the Awards function. It should be decided by the Festival Committee whether to screen brief excerpts from any or all of the winning productions at this time. The decision will usually need to be dependent on time requirements.

3. AMTEC Pins

3.1 President's Pin: at the time of taking office, the incoming President will receive the President's Pin from the outgoing President. The President's Pin is passed on from President to President.

3.2 Past President's Pin: at the time of relinquishing the presidency, the immediate Past President will

receive the Past President's Pin from the incoming President. This pin is permanently retained by the Past President.

3.3 Members of the Board of Directors will receive an AMTEC Pin on retiring from office.

3.4 Committee Chairmen of the Conference Planning Committee will receive AMTEC Pins at the Annual Conference.

3.5 From time to time, the Board may present an AMTEC pin in recognition of outstanding service.

4. Honorary Life Membership

4.1 At the time of relinquishing the office, the outgoing President will receive an Honorary Life Membership.

4.2 From time to time, the Board may decide to present an Honorary Life Membership to a member who has made a significant contribution to AMTEC over an extended period of time.

Editor Reports

Richard F. Lewis

Media Message was published quarterly during 1980-1981 and continually reviewed and evaluated.

Articles

Submissions were reviewed by the editors. Submissions which were not acceptable were returned to authors for modification.

Special Interest Groups were to be allotted a section of the journal. Only one SIG showed any interest in publication. The Instructional Developers SIG had one column written and one article presented. This was a most disappointing situation for the editors. We hope that the Board encourages SIG's to contribute more material to the journal in the future.

Dr. Lois Baron, Mr. Tom Bennett and Dr. Richard Schwier, the associate editors, reviewed articles and solicited materials from authors. The associate editors were most helpful in providing constructive comments regarding articles to authors. New associate editors will be chosen for the coming year. Many AMTEC members offered

their services as members of the editorial advisory committee. This committee will meet at the conference to provide guidance to the editors on the content and presentation of the journal.

All journals and newsletters were mailed by first class mail. It is hoped that our appeal for second class privileges will be accepted in time for Volume Eleven.

The deadlines for *Media Message* 1981-1982 are August 1, November 1, February 1 and May 1. These dates will allow for a more balanced publication schedule. Mailing dates will be approximately two months from the deadline date.

Advertising declined again this year. Board members and members-at-large will have to assist in soliciting advertisements for *Media Message*.

Media Message and *Newsletter* cost \$7480.53 for Volume 10 of the journal and Volume 6 of the *Newsletter*.

A New Name

It was proposed that the name of the

journal be changed to the *Canadian Journal of Educational Communication*. Since most of the material published in the journal deals with the communication of information we felt that the name reflects the content of the journal and the interests of members.

New Sections

The look of the journal is to be changed too. The following sections are to be included in each issue: refereed articles, case studies, equipment evaluations, increased reviews, computer software evaluations, sample computer programs, notes of interest on any topic, news of AMTEC members, association communications, conference announcements, Canadian thesis research round-up and Canadian research reports.

The changes in the journal's content should make it easier for authors to consider submitting material since a wide range of content and formats will be acceptable. The journal will cost \$8644.00 this year.

Color Microfiche: An Attractive Alternative for Use in Independent Study Systems

G.A.B. Moore

The traditional method of providing audiovisual study materials for independent study systems has been the two-by-two inch slide with each student study carrel equipped with a slide projector and cassette tape recorder.

With the advent of videodisc technology, interest has been expressed in using this as a medium for storage, retrieval and display. Brown, Stolurow, Fowler and Sustik (1979) at the University of Iowa have proposed the videodisc be considered seriously as an "intelligent" display when coupled with a micro-computer. The advantages advanced for this system include the extensive capacity for the storage of visual frames (54,000 still images per side) and its ability to present in random order any of these frames or a combination of still and moving pictures. The simplicity of one stand-alone unit could facilitate student use. A number of investigators recognize the limitations of such a system which include the role of the teacher in courseware preparation, cost of equipment and cost of courseware, system reliability, size of the project and amount of material required.

A third possibility has existed for some time but has not been exploited widely except in isolated applications. This is the use of color micrographics or microfiche as the visual medium for stills. Several years ago Philips introduced a combination still and

motion picture programmable device with sound using cassette motion picture technology and currently Revox have available programmable audiovisual microfiche viewer. The University of Florida Dental School has adopted this approach for audiotutorial programs (Dills and Baer, 1980).

NRC has considered the possibility of color microfiche as an audiovisual peripheral for its CAI project; however, it discarded the idea because of the lack of "in-house" film production capability.

The University of Guelph has developed an in-house color microfiche production unit and, while the specifications are proprietary information at the present, this microfiche has been produced at Guelph at a cost of \$28 per master and \$2.35 per duplicate. A commercial service is available from Rochester for \$200 per master and delivery scheduled to reduce its attractiveness.

The remainder of this paper will examine the possibility of color microfiche as an audiotutorial medium and compare it with color slides. In addition the prospect of using it as an alternative to the videodisc in an intelligent terminal will be considered.

Color Slides and Color Microfiche

The first advantage presented by color microfiche is economy in storage. A car-

rel slide tray holds 80 slides, whereas in the same storage area can be stored 39,200 images on a four-by-six inch microfiche, using 98 images per fiche.

Retrieval is simplified with indexing but since in audiotutorial applications one is dealing with an organized sequence of images, the task becomes one of selecting the correct sequence.

The slide has the advantage of ease of editing in that each frame can be changed without interfering with the other slides in the sequence. This advantage is lost in microfiche since any change requires creating a new master and duplicates. However, since audiotutorial materials are carefully structured, there is less tendency for random revisions. It is important to provide for some revision on a recurring basis and for the purpose of illustrating the comparisons, an annual allowance of 25 percent has been considered for necessary revisions.

Table 1 compares the cost of each system for a 30-position audiotutorial installation using 20 instructional units per academic year.

In Table 2 a comparison of the equipment costs is shown for the two systems using manually operated microfiche readers. If programmed or automated systems are required the equipment considerations change markedly. A caramate-type slide viewer, with sound and programmed sync pulses, costs in the range of \$525.00 whereas a programmable fiche display unit costs in the order of \$3,000.00 including sound.

Figure 1 combines the equipment and courseware costs for different size classes. The data here are based on a four-year course cycle allowing an annual replacement of all fiche and a 25 percent annual revision of the slide material. In both cases it is assumed all equipment is written off and due for replacement.

Summary

In this discussion color microfiche has been shown to have substantial cost savings over conventional slides for audiotutorial or independent study programs where high quality display of color visuals is required. In addition the ability of microfiche to compact a large quantity of visual images in a small space gives it decided advantages where storage space is a consideration.

Automated Display Systems

With the growing availability of computer based learning systems interest has recently focussed on display devices that have substantial capacity for random retrieval of high quality visual images.

The random access slide unit faces significant limitations in the number of visual images which can be conveniently left up on the system. In contrast the videodisc has a surfeit of capacity with 54,000 individual frames per disc side (Whillans, 1980). While

Table 2 Equipment Cost Comparisons Slide vs Fiche

	Slide	Fiche
Equipment cost		
30 units @ 200	\$6,000	
@ 250		7,500
Annualized cost over 4 years	1,500	1,875
Cost per student per year	\$ 2.50	\$ 3.125

Table 1 Courseware Cost Comparisons Color Slide vs Color Fiche

	Color Slide (80)	Color Fiche (40)
Master copy	\$ 36.00	\$ 30.00
Duplicates	1,260.00	70.50
Unit total initial cost	\$ 1,302.00	100.50
Revisions		
slide — 25% per x 3 years	976.50	301.50
fiche — annual remake x 3 years		
Total course cost per unit	2,278.50	402.00
x 20 units per course	45,570.00	8,040.00
Annual courseware cost on 4-year cycle	11,392.50	2,101.00
ratio	5.67	1
Annual courseware cost per student		
assuming 20 students per station or 600 per course	\$ 18.99	\$ 3.35

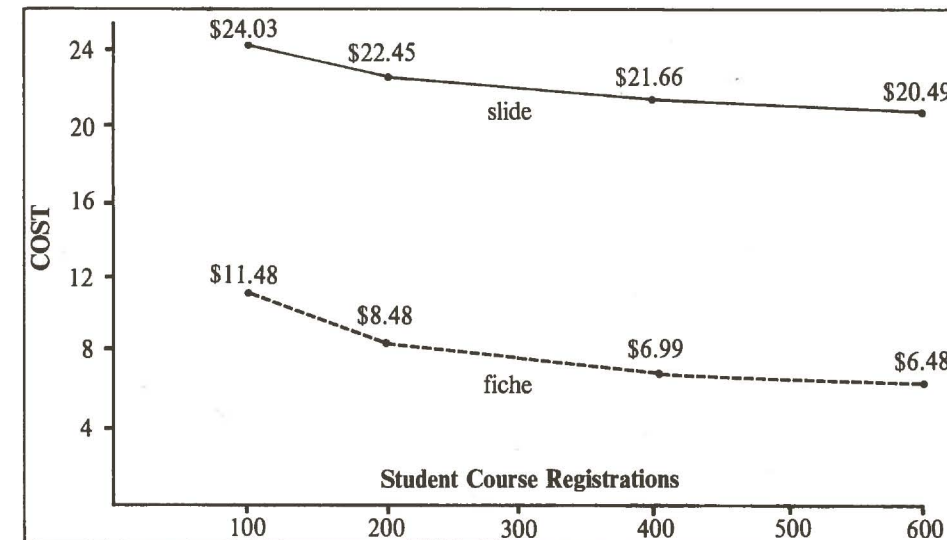


Figure 1 Annual cost differential including equipment and courseware between color slide and color microfiche in a twenty-week independent study course based on per student costs.

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its storage capacity can be readily accessed by a microprocessor its color quality and resolution are limited to television quality. Furthermore, a major drawback would appear to be the cost of and inconvenience of courseware manufacture. While revision in the programming of existing frames is readily achievable it is not possible to add new material without pressing a new disc. In applications where it is essential to update material the videodisc would appear to have serious limitations for instructional application.

A third alternative to be considered is color micrographics. Sutcliffe (1979) suggests that microforms be considered, Computer Assisted Retrieval (CAR), because of the "unmatched storage density". He points to the sudden merger of computer and micrographic technologies which until recently have been viewed as competing opponents.

Dills and Bass (1980) report that at the Department of Dental Education, University of Florida, they have successfully employed a Revox microfiche-tape unit using a digitized encoder to present randomly selected visual frames in a branching or programmed learning application. Our investigation of a similar device indicates that while it will achieve this with a high quality image it is limited to 60 frames per four by six inch fiche and each fiche must be inserted separately.

A system available from I.M. Bruning International provides for random access of up to 3,000 frames. A cartridge system holds 30 fiche and any frame can be retrieved within three seconds. The system has been upgraded so that it can be controlled by a microprocessor giving extensive flexibility in programming of visual material. The ease of fiche loading in the cartridge coupled with the in-house fiche production capability, developed at Guelph, puts the preparation and programming of audiovisual courseware within the reach of educational and training institutions.

Other applications of this approach would seem to be indicated in art, medical and architectural libraries where reference to slide materials is presently cumbersome and time consuming. An automated index system with microfiche display of color slide images would eliminate some of the current costly

storage and time aspects of search and retrieval.

Conclusion

This paper has suggested that a transfer of color slide material to color microfiche has significant potential for savings in courseware and storage costs. Currently available hardware makes this approach attractive for student operated audiotutorial systems, computer controlled learning systems and visual retrieval systems in libraries with large slide collections.

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HUMAN FACE OF CHINA

Five powerful films just completed last year break through the myth of the "monolithic giant" to present the People's Republic of China on a human scale. By concentrating on the lives of ordinary people, they paint a rich portrait of diversity and social change. Each film focuses on a single province. Together, they cover the length and breadth of China. The series is ideal for courses in Asian Studies, History, Political Science and Geography at the high school level. Discussion guides for each film are included.

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The Question of Display: Folk Festivals
 Doris Hasell and Wanda Young

An increasing number of cities across Canada have ethnic groups making multicultural presentations to the public. The authors, a design and housing professor, and a communication and education professor were requested to give a workshop on display techniques to an ethnic group planning a three-day folk festival. Questions about display were received in advance, as well as at the workshop. The purpose of this paper is to present this case, identifying the questions and offering some possible solutions.

Why Display?

Ethnic groups planning a folk festival may have four basic reasons for including display as a part of the festival: educational, artistic, social or commercial.

Educational

An ethnic group has information which may be shared. A purpose for the ethnic group is to develop interest and understanding in the cultural background of their group. This is based on the assumption that others want to learn about their culture. A display of artifacts from the country of origin can hone the curiosity of the viewers to come again, to travel, and to ask questions. Within the ethnic group, the more knowledgeable members may wish to promote standards for others. Good displays start people thinking and discussing the things that are different and the things they like. Therefore, a good display will help to summarize ideas or to clarify those that are abstract. The area where the display is placed may have several areas, so attention-getting displays can remind visitors to go to another section. Comparisons may be made, for example, comparisons of the ethnic populations in Canada, with the population in the homeland. A display could present this information visually to the visitors.

Artistic

Many of the community buildings used for ethnic displays are open structures. For the folk festival, displays may be used to give beauty to the surroundings. An atmosphere similar to the homeland may be created. The color, shape, and design of artifacts and costumes will create a happy, fun-filled mood. Those who set up the displays will develop their creative skills. Appreciation for patterns, materials, and colors will be fostered for those who come to the festival.

Social

Participation implies socialization. A

"hands on" display where the visitors touch, taste, or try making an ethnic item will involve the visitors in the culture. Those who manage the event will find a folk festival provides these management opportunities: to plan and to cooperate with other ethnic groups; to set up the display, to man it, and "to strike the set" when the festival is over. Throughout the preparation and implementation of a folk festival, relationships will be built and ideas shared.

Commercial

Finally, a folk festival is a business. Souvenirs, food, drink, and entertainment may be marketed. A good display will move the goods toward the buyer and motivate visitors to spend money to take a bit of the festival home. Sales of ethnic foods will be clinched if samples and recipes are displayed.

These are some of the answers to "why display?". If a folk festival group decides to include a display, the next question is . . .

What is a Good Display?

Many criteria distinguish a display. To be effective the display needs to attract and to hold attention long enough so that the total message is recognized. Emphasis is probably the most important facet of a display. The other criteria which comprise a good display such as simplicity, contrast, visibility, stability, meaningful lettering, available resources, and strategic location support this goal.

Emphasis

If a display is eye-catching, emphasis will be achieved. Emphasis means that some part of the display is attention-getting because it is different or unique. Emphasis could be obtained by having movement of parts within the display as in the use of turntables, mobiles, or changing pictures. The use of spot lighting to focus attention on one or more facets of the display can be a means of attracting attention. Using appropriate background music is another way interest in the display and in the country of origin can be created. The use of bright, warm colors such as red, yellow, or orange achieves emphasis. Enlargements, blow-ups, or mirrors incorporated as display background materials can unify a theme and substantiate the message, thereby achieving emphasis.

Using a piece of furniture such as a chair or chest within the display adds to the three-dimensional quality and provides a support for displaying items such as pillows and linens. For best effects, the furniture should be from the same ethnic origin as the re-

mainder of the display items. The use of mats, frames, or both around artifacts or explanation cards relates parts of the display to the whole. The effect can be most dramatic if mats are the same color, shape and material. Having a title that is conspicuous in terms of its size, placement, and appropriateness can focus attention on the message. Backdrops of real plants help to humanize a display, increasing the eye-appeal. The plants should play a minor role in size and shape from that of the artifacts.

Undesirable emphasis should be minimized. Soiled artifacts, unpressed backdrops, irregular fringed edges, spills, glue marks, and the like are attention getting devices which detract from the message. A display is one in which care in workmanship increases the quality of the display.

Simplicity

A display with simplicity is more apt to attract attention than one that is cluttered. By eliminating detail a display appears more organized. To achieve simplicity, selection of display items needs to be done carefully. When selecting appropriate display materials use only that which relates to the theme. Establishing one central theme is paramount in achieving a unified character within a display. The use of one color scheme throughout the display also assists the achievement of simplicity and harmony. By limiting the number of colors used, the components of the display relate together, making a total impact.

Contrast

Contrast within is necessary for an effective display. A display that has strong contrast between the artifacts, the labelling, and the background is clearly understood. A transition of color and texture is needed between the objects being displayed and the background. If the artifacts are intricate in detail and color, a neutral backdrop of white, grey, or black would offer contrast.

Visibility

A display has visibility. The display should be located where there is a high level of illumination. If the display must be placed in a dark corner, additional spot lights should be added to ensure that all parts of the display are visible. For safety reasons, lighting should be securely attached with the cords out of sight of viewers and out of reach of the traffic flow. The main parts of the display should be positioned near eye level. Displays placed on the floor or using high ceilings may not be readily visible.

Stability

A display has stability in that it is strong, sturdy, and secure. The display supports should not easily be knocked over or fall apart. This is important for the safety and well being of the display personnel and for the viewers. A sturdy display support system means that the artifacts are less likely to be damaged. Valuable artifacts on display need to be controlled by the display system to ensure security. Besides having the display physically stable, it should appear to be visually balanced. Aesthetically, the display should appear neither top heavy nor bottom heavy. The parts of the display should appear to balance in the same way as a seesaw.

Lettering

Easy to read, meaningful lettering that is appropriately placed makes a display. The lettering should be accurate and be kept to a minimum. For legibility, the lettering should be large enough to be read and it should be in bold contrast to the background.

Utilizing Available Resources

Utilizing available resources helps to ensure a display. The budget will determine the scope and method of the display. Allocation of some of the finances as a contingency fund will help to cover unforeseen expenses. By taking a realistic view of available manpower, noting their individual expertise, then developing a time plan much grief can be avoided.

Location

A display should be strategically located in relationship to the premises. A display position in an alcove will not draw many viewers. However, a display located opposite the main doors or a stairway will attract attention. If a conspicuous location is not possible for the display, it may be necessary to make and hang directional signs.

Ease of Handling

A display is easy to assemble and dismantle. The support systems as well as the artifacts should be of a size that will fit into the transporting vehicle; the doors, hallways, stairways, and elevators of the display premises; as well as the storage location.

A display does not happen; it requires planning and selection at all stages. Many types of display and materials may be used.

What Kinds of Display May be Used?

Displays may be categorized according to the visual effect; according to location, situ-

ation, and materials used; and according to content.

Visual Effect

The visual effect may be measured by the dimension used. Some displays are two dimensional, others are three dimensional, and these may be combined to form complex displays. The visual effect usually increases as the dimensions increase.

Two dimensional displays seem flat and simple. Typical examples of two-dimensional displays are posters, such as those from travel agencies; photographs of the homeland and original paintings and drawings. To develop two-dimensional displays, materials could be used in a variety of ways. Cartoons from ethnic periodicals could be mounted to form a humor corner. Charts and graphs showing the names of different parts of the ethnic costume, or giving statistical information could be placed on panels. Various boards can be used for support: bulletin, flannel, magnetic and burlap. Advertising for the folk festival, whether by poster or in the press or on billboards is an application of two-dimensional display. Diagrams may be used. Duplicated sheets and programs handed out at the entrance, exit or at displays apply two-dimensional principles.

Three-dimensional displays include realia models, and samples. Realia may be displayed on dress forms. Samples of household linens or special processes, such as batik, embroidery, or ethnic foods may be available to examine or taste. A diorama showing scenes from the home country may provide background for a display. Mobiles make good use of space.

Complex displays include the folk festival itself. Booths may be set up. For example, the Norwegians might provide a small "hut" from which cookies are sold. Exhibits are a major part of all displays. Fashion shows of ethnic costumes, displays of folk dances, and typical athletic activities are all complex exhibits.

Location and Materials

When considering situation and materials used for display one thinks of bulletin boards and panels which utilize the walls. Glass display cases, with glass in one or more sides, are valuable and historic treasures. Floor space may be utilized for display, but this may lose visibility when crowds come to visit. Tables are very useful. They may be free standing, arranged so that visitors can see the artifacts from all directions, as in a stable. Tables may be placed against a wall for the added dimension of height. More

than one table may be used, but if this is done, unity should be achieved through matching table covers. Tables may be stacked to give more space and bring artifacts to eye level. Shelves may add more space, but they should not be crowded. A standard mat for labels would unify shelf displays. If stables are enclosed, with holes cut to expose the display inside, the mystery of a peep show will attract visitors. Mobiles add atmosphere through movement. Panels and screens may be used. If cloth panels are suspended they should have weights in the hems to pull the fabric taut. Screens may be constructed of bars, from which linens and scarves could be hung. They may be woven panels through which items may be drawn or upon which hangers may be hung. Hinges make screens easily portable and provide versatility in arranging backdrop.

Content

Content is the final way in which displays are categorized. Household furnishings; food products; farm, sports, or industrial artifacts; clothing, shoes, jewelry and accessories; or books, photographs, and papers may provide ethnic content.

Clothing is of special concern to this group. Human models should not be used to display historic costume as wearing the clothes may cause strain, but human models are very suitable for modern adaptations. Mannequins may be borrowed from stores, but they are expensive and may distract attention from the display materials. Dressmaker forms may be available or they may be constructed by fitting chicken wire over a person or a model. Unbleached cotton might be fitted closely to a model, then covered with papier mache or strips of glued paper.

When firm they are cut off and placed on a support stand. These methods might be better for shoulder forms which extend only to the waist line or hip. Discs cut from styrofoam may be suspended as a mobile, and used to support skirts or slacks. If these are colored a water base paint should be used. Hangers may be used, but they do not give sufficient shape to show garments to advantage. A flat treatment is useful for small items. If possible, a slant will show flat items to better advantage. Pinning a garment to a wall or surface, or hanging garments from nails is not recommended. Harris (1977) has written a useful resource which includes detailed instructions for making padded display forms.

Regardless of the type of display, some written supplement may be needed to identify some aspect of the display. Next to be

considered is the question of labelling.

What Controls are Needed When Labelling Displays?

In order to strengthen the message in an ethnic display, labelling controls are needed. The message should be simple and brief in content. The message should be thought of in terms of a hierarchy of three types of information: title, sub-titles, and content or "body". Each should be accurate in terms of dates, geography and names. Credibility is diminished if errors, such as incorrect spelling and punctuation are evident. There should be no crowding of spaces between words and lines within the message. The title should have the dominant role within the labelling which means it should be the largest in size and be placed in a conspicuous position. Sub-titles are subordinate to the role of title and to be effective in this role they must be smaller in size and be placed in a position of secondary importance. The actual content lettering would be the smallest in size and stroke, still maintaining legibility. Lettering within each hierarchy should be consistent in style, color, size and stroke width. For legibility there should be consistency in positioning of cross bars, circle forms, spacing between letters, words and lines. Vertical margins should align on the right side as well as the left. Lines of lettering should appear parallel, both horizontally and vertically. Guidelines should be used. Because reading occurs from left to right, lettering should be positioned to promote this happening, as in Figure 1.

Nothing should interfere with the accurate interpretation of the message. This means that coffee spills, water marks, incomplete erasures, or dog-eared label cards should be

avoided. To increase legibility in lettering, the width of the stroke should be about one-eleventh its height. Besides using pen and ink or felt pens there are many lettering aids, including: the typewritten message using bold-face type on cards; cut-out letters in paper, fabric, or wood; dry transfer systems such as Letraset; use of lettering instruments such as the Hope of Leroy; purchased "pin-type letters" in plastic; and iron on letters. Lettering controls can enhance the message within the ethnic display and decrease the need for manning the exhibit.

Conclusion

Communication experts, designers, and home economists may be asked to assist ethnic and multicultural groups prepare displays for folk festivals. Good displays should satisfy the following criteria: emphasis, simplicity, contrast, visibility, stability, meaningful lettering, utilizing available resources and a strategic location. The message of an ethnic display is substantiated by incorporating labelling controls.

Problems may be encountered but through application of the design principles and the creative use of resources these problems can be solved. A folk festival can look good, be stimulating, provide fun and help people from many backgrounds understand each other and work in harmony.

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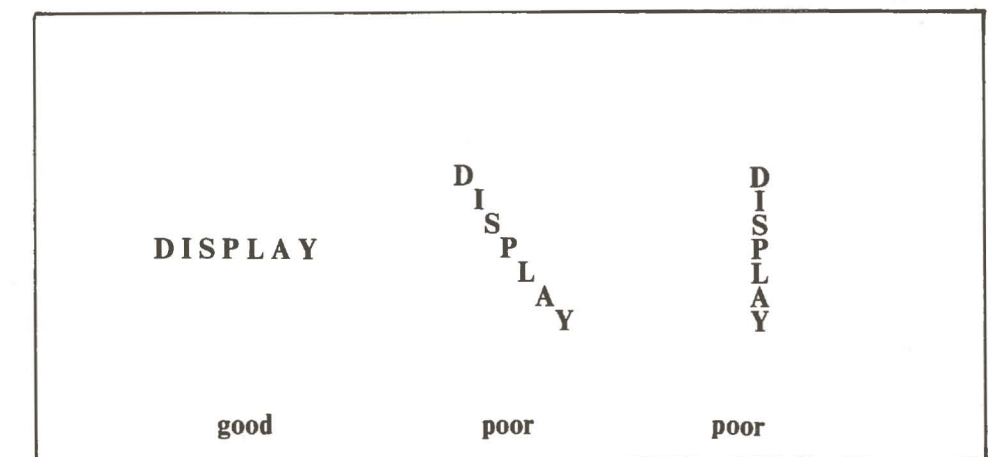


Figure 1. Alternative Label Positions

Format — Who Sets the Pace?

Michael G. Jeffrey

My formal affiliation with video began about ten years ago with the Sony "CV" series of videotape recorders. I totally bypassed the maze of "old" one-inch videotape formats. Half-inch video then was about as wild with formats as half-inch cassettes are today, but all that changed with the introduction of EIAJ standard format half-inch open-reel VTRs. Soon, video-cassettes arrived and, in spite of a few renegades, a U-Matic format emerged across brand names: with some degree of success, tapes copied on one brand could be played back on another brand of videotape recorder. More recently, the manufacturers of the "new" one-inch VTRs agreed upon the "type-C" format, after much prodding from Society of Motion Picture and Television Engineers. Again, reason came to video.

However, like Mount St. Helen's which laid idle for several years, the video volcano erupted again. First came Betamax and later VHS — but, surely we could cope with only two more choices. Then (and I am not really sure which event came first) VHS subdivided into standard play and long-play formats which are not interchangeable with each other. Sony fueled the fire with Beta-II and Beta-III, and a half-speed, something I call Beta-IV and Beta VI. At AMTEC '81, we were shown a quarter-inch VCR, and soon to follow are the self-contained camera/VTR packages. Some will argue that these are only "consumer" formats, but low price and availability make consumer formats very attractive to schools and training institutions. (Incidentally, the original "CV" series VTR stood for consumer video.)

Perhaps there would be hope with that new creation, videodisc. Quite the contrary, disc is at least as bad as tape: there are two laser configurations (reflective and refractive) and two mechanical formats (capacitive groove and capacitive grooveless). Moreover there are several potentially incompatible approaches to each of these four formats. Who will bring reason to this chaos?

Large companies like General Motors, Ford or Chrysler have large distribution networks under their control. In each case, a head office decision selects a format and then identical units are bought at bargain prices to supply to every point in the network. Many video producers and distributors are not so fortunate. My department supplies programming to a large number of independent school boards and training institutions, each of which ultimately makes its own independent purchasing decisions. As a

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result, we supply programs in half-inch open-reel (color, black and white), three-quarter inch U-Matic, Beta-I and VHS-standard play formats. We have "narrowed" the field to these formats, but the diversity limits the interchange of programs among schools and results in needless duplication of tape holdings.

Videotape is not the only villain. At AMTEC '81, many presentations and equipment displays featured the variety of micro-computer formats which are not easily made compatible. In business education courses we witness the confusion of audio cassette and dictation-format tapes. In individualized learning programs, manufacturers have prepared total packages of software and hardware which are restricted to that company's product line.

This issue of incompatibility was raised at the Manufacturers Panel of Video Equipment Canada last September. One individual from the audience blithely suggested that the number of available products was so great and confusing that future growth (in change) should be stopped — that is not so radical, but short-sighted. The suggestion that the manufacturers themselves have responsibility to standardize their development efforts was unanimously rejected by the panel which represented Hitachi, Panasonic, JVC and Sony. Their suggestion was that we, the "consumers" should define standards as a result of, or by the lack of, equipment purchases. Clearly, we are not succeeding very well.

My first glimpse of the range of format problems was at a conference in Truro, Nova Scotia in 1972. At AMTEC '81 (also in Truro), Pierre Perusse challenged Canadian media agencies to get together, possibly through AMTEC, to share software, production capability and to minimize the problems caused by equipment format. To take liberties with Pierre's comments, I recommend that AMTEC begin to anticipate specific software and hardware needs so that our input is accepted early in the manufacturer's industry's research and development.

How about it? Are you content to be what "they" offer to us? Surely, with AMTEC, we have sufficient foresight and technical initiative to define reasonable standards. The manufacturers could minimize their overhead by concentrating on more limited product lines and we would benefit from simplified distribution networks and more vigorous competitive bidding response to tenders. Surely, both sides could be ultimately winners.

Shirley Murray

THE RED DRESS / producers, Roman Kroitor and Dieter Nachtigall, 1978. National Film Board of Canada (distributor). 27:47 min. : sd., col.; 16mm. \$380.

"The Red Dress," written by Maria Campbell, author of *Halfbreed* is a wonderful, but in some ways, terrible film. It's authentically native, obviously imbued through and through with the life and loves of Maria Campbell. Therein lie its strengths and weaknesses.

Kelly, a Metis, his teenaged daughter Theresa, and his mother, the traditional Kookum, live together on the edge of a national park. Kelly is unemployed, refusing to sell himself out to the White Man for money, and provides for his family by poaching in the park (a rather risky livelihood).

Theresa has seen a red dress in a store window and desperately wants it. In fact, she has even placed a deposit on it. It won't be a dress to be worn anywhere, but will be a symbol of strength for her, she says, like the bearclaw was to her locally-famous grandfather. Kelly tries to explain about their lack of money, but Theresa is adamant that this dress is important to her identity.

Kelly can all too readily sympathize with her need for a symbol of her identity, for he is definitely a middleman victim, torn between two societies, Indian and White. He is offered the security of a government job of questionable content, something to do with "getting a good deal for Indians who don't want help from the Government." In accepting the job, despite the good it will do his family, Kelly is conceding to the stereotypically bigotted White bureaucrat. He then goes all the way by selling his jacket, handmade by his mother, for fifty dollars to the most obnoxious of his new co-workers. The Kookum just utters a knowing "tsk" when he informs her that she'll have to start sewing again.

With the money, Theresa buys her red dress. When she models it for Kelly, he insists she wear it to the dance that night. Despite her protests that it's a symbol and not to be worn, he pushes her into a truck which conveniently arrives, deus-ex-machina fashion, and whisks her off to the dance. She flees from the dance early, and as she's walking home, is stopped by the man who bought Kelly's jacket. She's lured into his car and is offered beer and passion which he erroneously believes to be the aspirations of all young Native women. She refuses, escapes from his clutches and car while he curses, fumes and

appears most disgruntled. In the process, the red dress and Theresa's pride are devastated. When she finally stumbles home in the morning, she is met by a frantic Kelly who slaps her and ironically accuses her of drinking and carousing. She falls on the Kookum for consolation and then runs off. Kelly immediately realizes the error of his ways but the damage is already done and he has lost his daughter. The Kookum agrees with him but wisely notes that although he can say this, the words are not from the heart. He must go and smoke his pipe and get back in touch with the spirits.

The story is truly from the heart, but this presents problems in translation onto film.

Much of the film is blatantly contrived; there isn't the verisimilitude of events that one has come to expect in films. All White-men are insensitive boors still flaunting the rape-and-plunder-everything-within-reach mentality. However, this is rather a propos stereotype reversal after years of viewing monosyllabic Indians in blankets and feathers.

While the plight of this film is universal, the specifics of the story are not, and the film's biggest problem is its lack of background information necessary for everyone to fully comprehend the story. For example, understanding all aspects of what is implied in the differentiation between status and non-status Indians is paramount, but is only given the slightest lip service in the film. Knowledge of Indian spirituality is also important for appreciating the otherwise flat and meaningless ending.

If the viewers are sensitive to the culture, the film is meaningful and wonderful. If not, it doesn't make much sense. There is in it, the potential for expanding the horizons of non-Natives if they are willing to expend some energy in looking beyond their cultural identities. And, in doing so, they will be richer, for this film offers an insight into Native life — complete with its inimitable humor — that is rarely accessible by non-Natives.

If "The Red Dress" is to be used in the classroom, it would be most suitable for sophisticated grade nine or older students in English or social studies. The film works particularly well if used in conjunction with *Halfbreed*. Its readers will readily identify the situation from which the film evolved. "The Great Spirit," another National Film Board film is helpful in understanding the spiritual aspects of "The Red Dress."

Shirley Murray is a teacher-therapist at the Roy Wilson Centre, Sedley, Saskatchewan.

THE GREAT SPIRIT / Canadian Broadcasting Corporation, directed and produced by Sig Gerber, 1975. National Film Board of Canada (distributor). 27:50 min. : sd., col.; \$380.

While this is not a very recent film, its importance transcends its date. In Saskatchewan settings of great religious importance for Indians, Roy Bonisteel talks with Ernest Tootoosis, spiritual leader of the Crees.

Tootoosis describes the basic beliefs of the Cree and explains some of the rituals. He compares Manitou, the god of the Cree to the Christian god and elaborates upon the reverence of the elements — sun, wind, water and fire. While there are similarities between the beliefs of the Christians and Cree, the Cree did not have an Adam and Eve. So, in 1492 when the Whiteman ar-

rived, the Cree were still living in paradise. Man was humble and recognized he was merely a part of the environment, no greater or more important than the smallest stone. There was no need to conquer nature. Manitou provided everything the Cree needed. Since that time, the Cree have adopted Whiteman's ways and no longer live in harmony with nature. Nature is responding to this disrespect by such phenomena as polluted streams. Tootoosis feels that the only hope for Indians today is to get back in touch with their spirituality and re-establish the harmony with nature.

The information in this film is bountifully cogently presented and offers a rare insight important for understanding Natives. In many respects, it surpasses most other films on the same theme which are available now.



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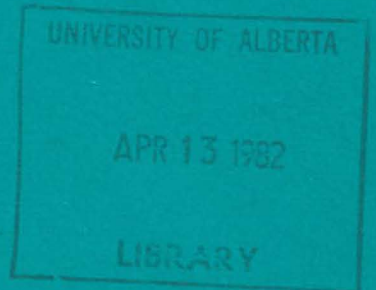
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