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Note: with this issue, Richard Ellis, reference librarian, Faculty of Education, University of Manitoba, takes over this column from Patrick Wright. Mr. Wright is taking a sabbatical in England. We sincerely thank him for his contributions to CJEC over the last six issues.

— D.H.

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WILLINGLY TO SCHOOL Motion Picture, BBC, 1978 45 min., sd., col.
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All correspondence to the editor should be addressed to
Dr. Denis Hlynka, Editor CJEC
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Education and the Impact of Computer Technology

by Tom Rich

Once again, educators find themselves at a crossroads. Current advances in technology are having a dramatic impact on schools. The educational system faces the prospect of a radical change to a system that has remained relatively constant for more than 100 years. Before assessing the situation, it is useful to briefly review what led to the current state of affairs.

In the past, education has gone through three significant changes in technology. Formal schooling began using the oral tradition, students were told what they must know or were engaged in Socratic dialogues to "discover" knowledge.

The first revolution in education was writing. It allowed information to be precisely stored, but its potential was not universally applauded. Socrates warned that "the discovery of writing will create forgetfulness in the learners' souls because they will not use their memories . . .they will trust to the external written characters and not remember themselves."

The second revolution in education was brought about by the invention of the printing press. Before the advent of mass produced books education was only available to the fortunate few who could get access to a very limited supply of books and master teachers. With easily reproducible books, information became truly portable and accessible. It should also be remembered that at the time of the invention of the printing press, all the information known to man could be stored in a small set of books.

The third revolution in education resulted from the invention of photography. This gave us the ability to capture a representation of the real on film. With the further development of motion picture photography, education, in a sense, came full circle. Originally education concerned itself with the real, what could be touched, felt or directly manipulated. The written word distanced us from the real as it forced us to deal more with the subjective and abstract. Photography brought us closer again to the real, or what appeared to be real.

Today, we are in the midst of a fourth revolution brought about by the advent of what is often called the "new information technologies" — the marriage of computers with communications. Particularly significant, of course, is the impact of microcomputers on schools. It is important to note the newness of this phenomenon. The electronic computer is only 38 years old while the microcomputer has been with us for less than 15 years and readily accessible only for 7.

The new information technologies include videodiscs, videotex, interactive television, communications satellites and other powerful communications devices, but it is only the computer that has actually penetrated the classroom to any great extent. Thus, it is helpful to look at why this has happened and the implications of this technology, particularly the computer, for education.

Impact of Computers on Schools

Although videodiscs, satellite delivery of television and other innovations have been widely experimented with, their use in education has been mainly restricted to post-secondary institutions, business and industry. This arises both from the nature of our school system and the costs of many of these new technologies. Many technological devices seem to lend themselves more to training applications where objectives, content and tasks can be precisely identified. In addition, one lesson learned from the introduction of television to education in the sixties is the importance of content. Any technological delivery device is only as good as the software (programs, if you will) it carries. The production of quality software invariably lags several years behind the production of hardware (equipment).

Why then have computers had such a dramatic impact on education? Although prices have dropped significantly in the past several years, the computer is still one of the most expensive pieces of hardware that a school can purchase and many are needed to serve a school. In addition, until quite recently there has been a serious lack of good quality educational software for computers.

Perhaps most significant, and overriding these points, is the fact that the introduction of computer technology to education has been considerably different from that of perhaps any other technology adopted by educators. This would appear to arise from four factors. First, of course, is the radical impact that computers are having on the work force. It has been variously estimated that in the next several years between 50 and 70 percent of all jobs will be computer related. Thus, there is tremendous pressure from parents and employers to ensure that education prepare students to deal with the use of this new technology in the workplace.

Second is the fact that this pressure to teach about and to use computers comes as much from outside the educational system as from within. We have probably never before seen a time when parents and the media have called upon schools to adopt a particular "machine" to use in instruction. Nor have we seen quite the sort of involvement of home and school associations and others in purchasing computers for schools as we do now.

The third factor is the reaction of students to computers. A significant number of them seem tremendously excited and involved by computers. No other machine or concept has received the publicity computers have because of their seeming ability to motivate and captivate students.

Finally, those promoting computers have stressed its potential to radically change the educational system and the way we learn. Perhaps fuelled by the obvious interest of young people in computers, this has led to a common assumption that computers can and will change the structure of education. This belief is complemented by the first factor mentioned, i.e., the obvious impact computers are having on the workplace.

All of these factors, to a greater or lesser extent, revolve around the impact that the emergence of the "information society" is having upon society. As stated by Masuda (1980), the information society is based on the belief that "the production of information values and not material values will be the driving force behind the formation and development of society" (p. 29). The framework for this society is based on computer-communications technology, which determines the fundamental nature of the new order. In the industrial society the steam engine served to amplify the physical labour of man. In the information society the computer serves to amplify the mental labour of man.

Much of business and industry, and more recently governments and parents, have apparently accepted the inevitability of these predictions and are now calling for the educational system to both make use of and teach about computer technology. The schools have responded and, in a few short years, the numbers of computers in schools have climbed from a handful to the point where at the end of the last school year more than 50% of schools in North America had at least one computer (Becker, 1983 and Rich, 1983).

Use of Computers in Schools

The fact that educators have taken the concept of the information society to heart is seen in the types of use computers are being put to in schools. In the United States, a major study of use of computers conducted by Johns Hopkins University (Becker, 1983) revealed the following use patterns. The percentages shown are the proportion of computers used for the task listed.

Secondary schools:	
Introduction to computers	85%
Programming instruction	76%
Elementary schools:	
Introduction to computers	64%
Drill and practice	59%
Programming instruction	47%
Tutoring for special needs	41%

All other uses of the computer were below 31%. It should also be pointed out that high schools were much more likely to have a computer (85%) than elementary schools (42%). A similar survey conducted in Canada by TV Ontario (Sharon, 1984) suggested much the same pattern of use and penetration although specific figures were not provided.

The "introduction of computers" use listed along with the programming instruction reflects the response of the schools to the demand to teach students something about computers. This forms the first, and by far still most common, use of computers in schools. It is based on the assumption that a high percentage of jobs will be computer related. While, on the face of it, true this is a misleading idea. As pointed out by Menosky (1984) these jobs include everything from grocery store clerks using a bar code reader to a retailer selling video game cartridges. Although U.S. estimates have suggested 30 million jobs that are computer related, the vast majority will require no formal training about computers. Rather, it appears that the actual number of jobs requiring specific "hi-technology" training will be small.

Menosky further states that of the 20 occupations generating the most new jobs, not one is in high-technology. The largest increases will come in occupations such as janitors, nurses' aides, sales clerks, waitresses and waiters, etc. In fact, there is growing evidence that the impact of computers on the workplace may result in a polarization of skills and the de-skilling of certain types of jobs. Working on an assembly line may no longer require specialized skills, only the ability to monitor a machine and push a button. There are also concerns that increasing automation and use of technology will not create as many jobs as are displaced.

Thus, the impact of computers and other uses of high technology on the workplace may be much more complex than many realize. Certainly it is altogether too simplistic to suggest that the answer to a job in the future is to know how to operate or program a computer. The need for those skills may be significantly less than anticipated by some. The ability to program, in particular, would seem to be of use to comparatively few students in the future. This is because computers are rapidly learning to program themselves and because new generations of computers require less knowledge about computers than before. This is readily evident to anyone who has had a chance to use an Apple Lisa or Macintosh computer. For the average business computer user the emphasis is on knowing how to apply the power of a computer, not how to program it.

The second significant use of computers in schools at present is in computer assisted learning (CAL). As shown in the Johns Hopkins and TV Ontario surveys, it is typically still drill and practice activity and is most common in the elementary grades. This application of computers has been severely limited by the quality of software available. Recently the major publishers have moved into the field and substantial amounts of good software are now becoming available.

The computer is being used as an extension of a teacher in CAL activities. So far the results of this type of use have been interesting but hardly revolutionary. Research has tended to indicate that, in general, the computer is "as good as" conventional instruction (Hallworth and Brebner, 1980). Much of this may reflect the software being used and the tendency to use it in a lock-step format. Although the students can progress at their own rate they are still bound by the way the computer presents the material. Most advantages seem to come from the computer's infinite patience, its ability to repeat endlessly, and its current attractiveness to students. It is likely that boredom with using the computer for learning will set in much the same way that the flashiest video game pales after too much playing.

This is not to suggest that the computer does not offer potential for improving some facets of learning/teaching. Particularly in concert with other technological presentation devices such as video tape or disk recorders, the computer may afford excellent possibilities for providing and controlling a variety of stimuli and again bringing the learner close to the "real" world. When combined with innovative software which is responsive to students' different learning needs and styles, this offers the potential for very effective presentations. As discovered in the many experiments undertaken with large computers over the past decade, having a computer manage instruction may be much more useful than having it deliver the instruction.

The third type of application of computers in schools is their use as personal learning tools. Here the emphasis is changed, with the computer becoming a tool that the student uses to explore the world and manage activities. The computer may become a tool for creativity if used as a word processor or to generate music or graphics. Or, the computer can be used to access information stored locally in the school or at remote sites and available through communications networks. This places a very powerful resource in the hands of the student and offers an exciting potential for increasing creativity.

This type of use also suggests the possibility of viewing the computer as a problem solving tool. Papert (1980) in particular maintains that this should be the principal means of using the computer. He offers the computer and the LOGO language as a tool for creative thinking and problem solving that will dramatically increase the student's reasoning ability at an early age. Unfortunately, the supposed benefits from using approaches such as LOGO are based almost entirely on anecdotal evidences or on Papert's writing. There is still no hard evidence that problem solving and thinking taught at the computer translates to other tasks. However, if this does happen, then the computer would contain the capacity to radically change the way we teach.

Thus, we find there are three main uses of computers in schools: teaching about computers, the instructional use of computers and the use of the computer as a personal learning tool. The first arises out of changes in the workplace, the second out of a desire to make teaching more efficient and the third out of a desire to pro-

Tom Rich is the director of educational services for the P.E.I. department of education and a past president of AMTEC.

vide the student with a potent personal tool for learning and problem solving. In addition, of course, there are the management and administrative uses that the computer is increasingly performing in schools.

Whatever uses of the computer we adopt it is important to ensure that our approach to using it is a rational one and based on sound educational practice, not fads. This requires a way of determining if a suggested use of the computer is appropriate. The following are generalized guidelines that should be followed in planning programs using the computer.

The use of a computer in education is appropriate if:

1. It offers a unique educational advantage;
2. Its use is financially possible;
3. Teachers who are interested and trained are available;
4. Its role in the program is planned and well defined;
5. Relevant software is available and of good quality.

Policy Issues

The application of computers to education raises a number of important issues. Some come from the nature of the changes in society attributable to the use of computers and some from their specific application in schools. The following is not an attempt to provide answers but rather to raise questions. In most cases the answers are neither simple nor readily apparent. It is only after we have more fully explored the uses of computers and observed their effect on society that the answers will become clear.

Work and school: There is no denying the pressing need to train and retrain workers and managers for the variety of new skills required in the information society. Howevr, it must be remembered that while the demand for highly trained individuals will rise, the new technologies may also cause structural unemployment, job losses, and create more low skilled jobs (Opportunities. . ., 1984 and Learning. . .,1984). As suggested by Larkin Kerwin, president of the National Research Council (Matas, 1983), it may be more important for schools to turn out graduates adaptable to change rather than ones with overly specialized skills. As a result, the need for retraining and lifelong access to education and training opportunities will assume increasing importance.

Curriculum changes: The study of computers is now becoming commonplace. However, this should not lead us to adopt an unnecessarily narrow approach to computer use. Programming, for instance, is not a skill likely to be needed by most students in the future (Matas, 1983). More important is teaching students how to apply the power of a computer to solve problems and about the potential social effects of information technology. The impact of computer studies on other subjects should also be noted. If computer study is mandatory, what is being left out of the curriculum to accommodate it? The importance of lifelong learning and the need for schools to turn out graduates adaptable to change suggests it may be necessary to rethink the purpose of vocational education and make sure that it opens possibilities and does not unnecessarily narrow the options of the student.

Instructional uses: The use of any technology must be judged to ensure its appropriateness. The same critical evaluation that is applied to other educational materials is needed to guarantee that computer software is suitable, free of bias and of high quality. By the same token, the use of the computer should encourage student growth and individuality and not simply be based on rigid performance objectives (Smith, 1983). Care must also be taken to ensure that skills being learned at the computer are or can be generalized to other areas.

Equality of access: Strong evidence is already available that sex biases in the use of computers arise early (Kolata, 1984 and Fisher, 1984). In many instances this seems to result from an unconscious reinforcement of male uses of the computer and from software that emphasizes games and rewards of a nature more appealing to male students. There is also a growing concern that children from economically disadvantaged families may not have access to computers, either in the home or the school. It is important to make certain that they, as well as female students, are given equal opportunities to learn to use computers and other technological devices. The use of computers in education should not result in an elite whether it be because of the cost of the technology or the type of student that we encourage to use it.

Teacher training: While our schools are being asked to train students to deal with the new technologies, the teachers, by and large, were trained before many of the technologies even existed. Probably the most critical factor in the use of a technology in education is teachers trained and comfortable with that technology. Computers are currently being used by teh committed few; widespread use in schools will not take place until the majority of teachers have had training in the use of computers in education. It is important to remember that changes based on science or technology originate in one subculture and, to be accepted, must be made intelligible and given values in terms of another subculture (Wolcott, 1981). We see the effects of this in the school where some students may know more about the computer than their teachers. This presents a particular problem for mounting good staff development programs. Other factors to be considered include fear of technology, resistance to change, anxiety over possible job loss and the increasing average age of teachers.

Costs of technology: The costs of introducing new technology to the classroom should not be underestimated. Most recommendations place a desirable goal of computer time available to students at one half hour per day. To do so at present costs would require at least 2% of a school district's total educational budget or about $50 per student per year (Moursund, 1984). This may not seem like very much until one considers that the expenditures on all instructional supplies used in education — books, films, etc. — amount to only 2.5% of the total budget (Education Statistics, 1982). There is already evidence that expenditures on computers and computer software are diverting funds from traditional materials. This would not be so worrying if these were one time expenditures; however, the rapid developments in computer technology and the need for new computer software would suggest they are not.

Social impacts: Finally, the social impacts of the new information technology should not be overlooked. They are already being felt in the workplace. For instance, "In Short Supply", the report of the Economic Council of Canada (1982), suggested that the use of computer technology could result in an unemployment rate of up to 35% for female clerical workers by 1990. Some of this could be offset by the demand for technical and professional workers but few of the displaced workers have access to the training necessary to fill the positions. It is readily apparent that changing skill requirements will place more importance on lifelong learning opportunities. Other special issues to be addressed include privacy, the potential for regimentation, and the effect of increased leisure time due to reduced hours of work (Masuda, 1980).

Conclusions:

The central questions facing us are how the educational system will make use of the new information technologies and what is their best use. Information itself is now a basic resource that supplements the natural resources of matter and energy. We are in the midst of a tremendous experiment based on exploring new ways of storing, sharing and using information through computers, information networking, satellites and other communications devices. There is no doubt that the rapidly expanding new communications technologies have helped bring about an information revolution worldwide. What is important, however, is that these new technologies not be viewed in isolation from other resources already at our disposal in schools. There is a danger in an over-reliance on any one medium. There is simply too much information in too much variety to select only one source of transfer.

It is also important that we not forget the importance of real, direct experience. Both research and experience have proven that learning is enhanced when the learner is directly involved with the actual object of consideration. The computer is not a substitute for physical manipulation of objects. Nor can it accommodate the diverse learning styles of each individual.

The classroom and the school should be resource centres, not just computer centres. In order to provide for different learning styles and interests, our schools must continue to provide a full range of resources, including books, periodicals, media materials such as filmstrips and television and, where appropriate, computers. We must enhance learning by providing opportunities for student expression through plays and arts, motivate and reinforce through field trips and bring the outside into the classroom. In short, resources, both technological and non-technological, both human and physical, should permeate education.

The computer undoubtedly has a role to play but it cannot do the job alone. We must find the appropriate uses for the computer and help prepare our students not just for a job but for the prospect of lifelong learning. Computers in the school may be used to change the way we learn and they may become personal learning tools for students, but it is still too early to tell for certain. The challenge for us is to learn whether or not the marriage between the new technologies and the schools is one which will endure and make a better system. Indications are that it will, but that many of the details still remain to be worked out.

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Educational Communications Personnel : The New Internationalists

by Arthur Shears

INTRODUCTION

People who work in the area of educational communications go by many names — producer, researcher, lecturer, media specialist, educational technologist and so on. Something all these people had in common was their mobility, one year working perhaps as a media producer in a medical school in Halifax, the next year acting as a consultant in media for the Calgary School Board. However, today the ability to move around is becoming more restricted. Budget cuts and back to basics movements threaten areas which are seen as extras, media and communications included.

So what does an educational technologist (producer, researcher, media specialist . . .) do when one becomes redundant or simply needs a change? Usually, it means searching the papers for a job in Thunder Bay, Winnipeg or wherever. Some daring few might even check things out in Labrador City or Yellowknife. But are these the only alternatives? Why not Macao, Singapore, Botswana, Kenya, Jamaica or Papua New Guinea?

You might be surprised, but in the last few years all of these countries have advertised for people in the area of educational communications and technology.

WHY WORK OVERSEAS?

A person can have various reasons for seeking a job abroad, even if one is available to him in Canada. One reason might be simply to have a change.

Learning resource center managers will find differences in equipment, personnel, and attitudes. For example, most member countries of the Commonwealth, whether in Africa, the West Indies or the Far East operate on a 220/240V electrical system. A manager will still find Sony, JVC, and Philips equipment but in different models and standards. Nigeria, as an example, uses the British type PAL-B standard for television.

Media producers will find work very challenging in a number of respects. They will often have to program for people whose mother tongue is not English. Another aspect is production variables. What can one say about visually illiterate students? Will they be confused by a fade from a wide shot of an instructor doing a chemistry experiment to a close up showing at table full of test tubes and flasks? This is an interesting point, which illustrates the need for researchers to test a lot of the accepted production practices used in the Western World. In fact, the possibilities for research overseas seem endless.

Most professionals need to feel that their work is having an impact. Although it is not always the case, many people working in educational communications are breaking new ground on their jobs overseas. How often does one get the opportunity to get in at the ground floor of a new "Open University" style college, for example, the Open College — Macau? What about being in charge of a Learning Resources and Communication Unit that uses Video, Audio and Satellite to reach some 5,000 students scattered around eleven countries in the South Pacific? In situations like these, is the chance to help develop thousands of people who otherwise might not get the chance for higher or sometimes even basic education.

WHAT SORT OF WORK?

As might be expected from the Canadian experience, there are a range of posts overseas in the area of educational communications and technology. Although the following list is by no means exhastive, it is representative of typical posts advertised in recent years:

- University/Post-Secondary level Academic Posts
- Administration of Media production/ Educational Technology Units
- Media Production
- Distance Learning
- Program Development Officers (Learning Packages)
- Research and Development

Academic Posts are usually in departments of education, educational technology or mass communications. The following description was for a job at a College in Botswana:

> "Emphasis is on management of personnel and media; servicing of AV equipment; micro-teaching experience; preparation and use of teaching resources, reprographic services and TV studio. The appointee will be required to participate in teaching practice and supervision and to teach AVAC courses in the Department".

Another description for a lecturer at the University of Sierra Leone reads as follows:

> "Applicants must have post-graduate degree with specialization in Educational Technology and working experience in the production and use of adaptive visual aids at all levels of education. Apointee will be required to design and teach theories of audio-visual perception and application to educational objectives in Sierra Leone. Administrative responsibility for supervision and upgrading the production staff operating in the printing, graphics, photographs and projection section".[1]

Two points are raised in this latter description: these are required experience and qualifications. Virtually all academic posts require at least a Master's degree and many require a Ph.D. Apart from teaching and research experience, employers also often seek relevant in-country experience or at least experience in another developing country.

Purely teaching and research posts without responsibility for in-house AV Centres are aslo available.

Administrative posts generally are associated with larger institutions. The Nanyang Technical Institute, Singapore, recently advertised for a head of their education technology unit:

> "The candidate should have at least ten years experience in educational technology in a tertiary institution. He will take charge of audio-visual material and equipment that are used to assist or improve both the teaching and the learning processes in the Institute. He will also be responsible for the planning and development of the Unit in relation to the overall development of the Institute in the next five years. This is a senior appointment which carries a salary scale of Associate Professor".

Media Production Personnel are often classified as lecturers for want of a better title. The School of Education, at the University of the West Indies were seeking a lecturer to do the following:

> . . . prepare audio visual programmes and materials for use in the school of Education, and facilitate their use in the Teacher's Colleges of the Western Carribean; train students in the School of Education in the use of Audio Visual materials, eventually to establish and operate an effective Learning Resource Centre in the School of Education."

Also CUSO, a large Canadian development agency, often has openings in the area. They are particularly interested in people who can prepare simple learning materials for literacy, numeracy and adult education. Requests have come to them from locations as far apart as the Sudan, Gambia, and Nicaragua.

Distance Learning, often following the Open University model, is becoming more popular in the Third World as a way of reaching the thousands, even millions, demanding formal education.

Nigeria has plans in the works for establishing its own Open University but due to some legislative and financial roadblocks this has not yet taken off.

One institution that is getting off the ground is the Open College, Macau, which began to fill some of its first posts by June, 1982.

> "Appointments will be made in each of the main schools of the College — Arts, Business, Education, Mathematics, Sciences and Technology — and, initially, no restriction is placed upon the specialization within which appointments will be made".

Applicants are expected to have experience and a lively interest in distance education at the university level.

The Learning Resources and Communication Section mentioned earlier is operating in the South Pacific and is part of the University of the South Pacific — Extension Division. The division has 38 senior and 44 support staff, located at the Laucala Campus (Fiji) and at ten regional centres. One of their activities is running an experimental teleconferencing network by satellite. The University recently advertised for a director of extension services.

Programme Development in the form of learning packages is an ongoing activity of the Hong Kong Polytechnic. Recently, the institution was looking for people with

> "wide experience or qualifications in instructional development to initiate, stimulate and co-ordinate the production of learning packages for utilization or the Polytechnic's wide range of evening courses".

They went on to say:

> "The successful candidates should be able to conduct a needs assessment, learner analysis, task analysis, content review, media design, selection and evaluation. The material referred to will be produced by the subject specialists, in cooperation with the Progamme Development Officers, on a commissioned basis and copyright and royalty agreements will be determined for each package".

Research and Development of learning materials are not restricted to polytechnics or universities. Many developing countries are now trying to provide education that not only assists the individual but also improves the community. In 1978, the Papua New Guinea Department of Education started a four year pilot project called the "Secondary Schools Community Extension Project" (SSCEP). They are attempting to innovate secondary education in five schools so that it is more practical in orientation without a decline in standards. It is hoped that graduates will as a result have skills and attitudes more appropriate to village development.

Four individuals were required: a coordinator, and experts in curriculum, education measurement, and educational psychology. The expert positions were particularly challenging since:

> "In each case the expert will be required to travel widely within Papua New Guinea visiting schools, convening workshops, and generally ensuring SSCEP aims are being implemented at all levels. This travel may include visits to remote outstations where the quality of accommodation cannot be guaranteed".

The quality of accommodation and other house-keeping matters, terms of service, salary, gratuities etc. are all important considerations for anyone considering overseas work. Though not mentioned in any depth in this article, they should be given careful thought since many contracts are for two or three years.

Another example of a recent job in R & D was for a research and evaluation officer at the Botswana Extension College. Candidates needed relevant experience preferably in adult education or community developments in a developing society.

> "Duties of the post include: research on adult education needs pertaining to work planning at the College, evaluation of all BEC courses in co-operation with Course Development Officers and the Course Editor, analysing the cost benefit of courses, field-testing of instructional materials and illustrations, training and supervision of junior staff and preparation of progress reports on student participation".

For individuals who would like to feel their work has an impact at the grass roots level, projects similar to those just mentioned can be recommended.

WHERE TO GET MORE INFORMATION

If one happens to be a UK citizen, the British Council offers a large number of posts in a variety of countries. Most of their positions are in various aspects of English Language training. For those who fall into this category, use this address:

Overseas Educational Appointments Dept.,
The British Council,
65, Davies Street,
London W1Y 2AA. England.

Another British establishment that does recruitment is Crown Agents:

Crown Agents,
Recruitment Division,
4 Millbank,
London SW1P 3JD. England.

For those of us who are Canadian, there do not seem to be any similar organizations. The closet thing is perhaps the Canadian International Development Agency. However, as recently as last year they had a very low priority for education type projects; technical education is the exception.

Individuals who prefer to do a two year "volunteer" assignment to get a taste of overseas life and gain that often essential overseas experience can write to an organization called CUSO. This route is definitely not for money-seekers but generally one is given enough to maintain a simple but reasonable standard of living. CUSO return volunteers are fond of saying their experience will last a life time.

CUSO,
151 Slater Street,
Ottawa, Ontario,
Canada, K1P 5H5

For those who prefer to try an overseas posting "cold", there are often advertisements in the major Canadian

(Continued on page 27)

Arthur Shears has an M.A. in Educational Technology from Concordia University and hails from the heart of the Maritimes — Cape Breton. He has held volunteer and staff positions with CUSO in West Africa. His last job in Canada was as Media Specialist at Holland College, Charlottetown.

He is currently Senior Adviser in Learning Resources at the World Bank sponsored Agricultural and Rural Management Training Institute, Ilorin, Nigeria.

The Long Slow Road to Technical Standards

by Raymond Wyman

Standards mean many things to many people. We have some special needs for technical standards in educational technology, or audiovisual education as we once called our field of work.

Our needs and solutions can be illustrated with a little history of the wax candle industry. When one person ***made*** candles, ***made*** candle holders, and ***used*** the combination for his own safe, dependable and efficient lighting, there was no need for any standards. But when one person made candles, another made holders, and a third needed to choose, purchase and use the combination at a remote location, then major problems of fit, safety, and light output versus cost resulted. And each vendor made claims for a superior and more useful product in terms that were often clouded in meaning.

Through many years, standards for candles were gradually and cooperatively developed so that a standard diameter candle would fit a standard size holder in a safe, easy, reliable and inexpensive way. And the grease spot photometer was invented and perfected in order to compare the brightness or light output of any two candles in an objective fashion. A standard or reference candle was also cooperatively developed with an exact description of materials, sizes, rate of burning, etc. to produce exactly one candle power, by definition, for rating any candle on the market. A person could now buy light instead of candles.

It would seem that the obvious success of this humble beginning in technical standards work many years ago would have assured a complete and appropriate set of standards for all of our needs today. Such is not the case.

Technical sandards for a variety of acoustic, optical, magnetic, electronic and mechanical machines and materials to use with them are needed for twelve purposes:

1. Fit or compatibility. The film, tape or slide in its reel, cassette, cartridge or mount must interface or mate with the machine that is needed. An impossible variety of formats now exist to confuse everyone and drastically reduce media use.

2. System interconnection. Much media use involves connecting one device to another. The variety of connectors, impendances and voltages now require much more technical sophistication and adaptors than should be needed.

3. Function or performance. The device must produce a visual and/or acoustic output of a level and quality that can be specified and compared with other devices for a specific setting and purpose.

4. Safety. The device must not be a hazard to operator, audience or materials under any expected conditions of use.

5. Vocabulary. The terms used to describe the device must have the same meanings for everyone.

6. Symbols and labels. The limited space on containers, controls and rating plates make symbols and abbreviations necessary. There is no space for several languages.

7. Rating plates. With many different electrical supplies and possible interconnections, a quick and clear indication of machine requirements is essential.

8. Life testing. How long a machine or a part such as a projection lamp will last must be measured under specific test conditions.

9. Efficiency. How well the device makes use of power and how much it costs to purchase and for replacement parts such as lamps for a given output should be known.

10. Control layout. Ergonomics has entered our vocabularies and area of concern. Moving from one model to another should not result in confusion or errors.

11. Reference standards. Similar to the standard candle, we need tapes, slides, films or even machines of known characteristics or quality for comparison purposes.

12. Acceptability. There are usually minimum standards of performances that will be considered acceptable for a specific setting or use. They make use of standard performance tests. They often also include standards for safety.

In the audiovisual or educational technology field we have had some outstanding success stories with technical standards:

1. 16mm motion pictures. For fifty years we have had standard images and sound on all 16mm films and standard reels so that any film could be used on any projector in the world without any difficulty. A succession of manual, automatic and slot loading machines were adapted to the standard materials without difficulty.

2. Audio cassettes. A tape container for audio dictation was accepted by many machine makers and a long succession of better and better audio devices were perfected without making any of them obsolete. Improvements to a product rather than substituting a new product have usually proved most helpful to us.

3. 50 x 50 mm slides. The slides that we call 2 x 2 have had standard outside dimensions for fifty years so that they can be used on any machine throughout the world. However, many different trays or holders have been developed so that it may be necessary to change slides. Apparently, the Kodak Carousel tray is rapidly becoming an international standard container for holding and projecting these slides.

4. Slides plus sound plus automatic advance. After many non-compatible systems, a single 50 Hertz system for filmstrips and a single 1000 Hertz system for slides along with the audio cassette have been standardized and accepted throughout the world.

5. Measuring and reporting optical characteristics. The image brightness and fidelity of a variety of projectors can be objectively measured, reported and compared. Screen characteristics can also be objectively measured.

6. Measuring and reporting electrical characteristics. Electrical requirements can be accurately reported on the rating plate. Amplifier output level and fidelity can be objectively measured, reported and compared.

7. Projection lamp code and life testing. The three letter lamp code guarantees interchangeability of lamps among all manufacturers, and labels on projectors even permit replacing a missing lamp. Lamp life now has a definite technical meaning.

We also have some major failures and frustrations in technical standards for educational technology:

1. Eight millimeter films. Some years ago we had a major revolution in motion pictures waiting for an incident called standardization. Because we could not standardize on a sound track and film container, many single purpose projectors were developed and no one ever was able to gain much popularity. Due to lack of standardization, 8mm is practically dead.

2. Connectors. Every media person has a strange collection of adaptors and patch cords that only serve to compensate for our lack of effort in the standardization field. Some progress is being made in America and in Europe, but in different directions.

3. Television tapes. Most attempts to use TV tapes in a distant place without actually taking the appropriate machine seem to result in failure. The various widths, formats, cassettes and speeds within formats have caused enormous confusion. Broadcasters seem to be standardizing on SMPTE Type C. No single non-broadcast standard seems to be in sight. Three videodisc formats have likewise inhibited our interest in this potentially tremendous medium.

4. One standard for projector safety. Projector makers hestitate to change models in any way because it means that nearly every country must destroy a sample to prove that it is safe for use in that country. There may also be different standards for use in homes, schools, industry and the military. The International Electrotechnical Commission has set up a special committee #61G to attempt to make one safety standard for all projectors and all uses.

5. Measuring and reporting sound output. At least half of the value of audiovisual education comes from the sound produced by loudspeakers, and most of the interference comes from the noise and the machines generate. We have so far been unable to devise and agree on a method for measuring and reporting either one.

6. Multiplicity of projection lamps. We have no control over the rapid development of many expensive lamps with marginal advantages. We need major advances such as tungsten-halogen and proximity reflectors, but much smaller numbers of standard lamps would be very helpful.

7. Standard secondary voltage. There is no hope of converting North America to 230 volts or of converting Europe to 120 volts. But all audiovisual equipment needs a much lower value than either main voltage for effective and safe lamps and amplifiers. A single secondary standard such as twenty-four volts would seem to have tremendous advantages.

8. Computer interface. Our latest problems come from lack of standards for computer interface so that one computer can at least be connected to another. Language standardization is another major and emerging problem.

There are some lessons to be learned from our long experience with standards for audiovisual technology:

1. It takes a long time to make good standards.

(Continued on page 27)

Raymond Wyman is a professor at the University of Massachusetts, Amkerst, Massachusetts.

Towards a Woolly Objective

by G. Robert McNutt
University of New Brunswick

Consider the lion and the lamb.

Let us postulate a lying down together of the two conceptual unities.

Being biologically unsuited to the task, the lamb is not in the least interested in eating the lion. Thus, we must assume, that the lion to the lamb can be considered as a windbreak, a source of heat or a protection against things that eat lambs and are wary of lions.

On the other hand, the lamb to the lion is not a protection, only a minimal heat source and not much of a windbreak at best. Simply put, the lion can be considered as being programmed to eat the lamb, whereas the reverse is clearly not true.

Let us assume that our goal, be it ethical, moral or vegetarian, is to insure the survival of the lamb. In this case, technology offers a solution. It is only necessary to adapt existing military weaponry so that the lamb can interact operationally with the situation and enact its own survival by wasting the lion on the spot. Thus we have a solution achieved through modification of existing resources and implementation of a training programme.

Conversely, let us assume that our goal is to insure the survival of the lion. In this case we need only avert our sensitive eyes. The lion can optimize its own solution by engaging in goal seeking activities comprising both bits and bites. Here we have a solution achieved through conforming to the "what is" design, thus maintaining the status quo.

What, however, can we do if our goal is to insure the survival of both lamb and lion?

Let us create a life size model. A two tier construct would seem both logical and spatially economic. The lighter lamb can be placed on top of a platform which has bars set too close together for the lion to enter. The lamb can lie down in the top storey and the lion can lie underneath. Both lion and lamb are thus lying down together in safety. Here we have a solution achieved by individualizing two tracks to a common goal.

There is, at this point, a bug in the program.

As soon as the inputs of hunger and thirst force the lamb to squeeze out of its survival matrix, the lion will pounce.

The moral, gentle reader, is plain.
It matters not how well you plan.
Nor how oft you test design.
The soul of good technology
Is the role of the bottom line.

Children's Media Workshop — A Television Literacy Curriculum for Children

By Dr. Lois J. Baron

What better support for a curriculum than a teacher's reporting that "it made the students' year"? Not only was Children's Media Workshop praised by parents and the children who participated in the 10-week session, but its curriculum has also been evaluated, and has proven to be a springboard for further media-oriented activity.

The last five years have seen increased interest in projects whose main goal has been to raise children's understanding about the medium of television. While some projects have emphasized a uses and gratifications approach (that is, giving children insight into why and how they use television), this particular curriculum project emphasized the more technological side with the belief that if students understand the form of the medium, they will in turn develop better understanding of both the content and their own interaction with the tube. In other words, knowing how T.V. works lends insight into the language, the "magic" of the medium and how it affects you the receiver.

This curriculum was based on a "hands-on" approach to television education, the basic premise being to make children active participants rather than passive consumers of T.V. fare. In designing the curriculum, efforts were made to include language arts, science, and art activities. This was done in support of the idea that television education or media literacy projects must not stand alone, but must be integrated into other curricula areas. In fact, as a secondary outcome of the project and in support of the media literacy curriculum reinforcing other subject areas, the teacher reported significant improvement in the children's art projects and other class work as a result of their experience in the Children's Media Workshop.

The curriculum described below is by no means a panacea in the area of media literacy. It is however a tried and tested curriculum designed and implemented by a teacher in conjunction with an educational researcher.[1] In developing the curriculum, a review of student-produced television projects was made, and those activities best-suited to meet the needs of the grade 5 class in which the curriculum was implemented was designed.

Two teachers and one technician introduced the 10-week curriculum to one-half of the class at a time each half participating in 1½ hour weekly sessions during the Fall of 1981. This particular class could be considered "average" — there is no reason to believe that they were particularly gifted or more suited to being involved in a special project like Children's Media Workshop.

The curriculum taught students certain skills of production whereby units were hierarchically arranged leading up to final production skills. However any or all of the units could be introduced to a class and in any particular order. Activities could be carried out during periods of time allotted for art or science activities.

The activities outlined below are suggestions that have proven to be successful over time when implemented in an experimental program. Teachers can choose those activities that best suit the needs of their class and grade level. Although a portable video camera and monitor would be a bonus, little equipment is necessary. In fact, most activities can be carried out with basic art supplies and a little ingenuity on the part of the teacher.

The curriculum outlined below is not described in "cookbook" fashion. References and materials are given for activities, and a curriculum bibliography in which more detailed descriptions of the activities can be found is included.

Children's Media Workshop provided children with activities they could relate to that also motivated them to build on their experiences. Feedback from the children, teachers, and parents proved that Children's Media Workshop was a positive and truly exciting learning experience.[2] By sharing this experience with other educators, it is hoped that more children will also benefit.

Acknowledgements: The author wishes to thank the following people for their assistance in the Children's Media Workshop project. Thank you to Sandra Mavrias for her work on and implementation of the curriculum as the professional associate on the project. Thanks to Nancy Tolchinsky, Howard Goldberg, Steve Skitt, Frank Antonsen, Nanette Jessop, and the kids of Children's Media Workshop without whom this project would never have been the success it was. "Toda" (thanks) to Pnina Golan, School of Education, Hebrew University of Jerusalem, for her thoughtful comments on the manuscript. (A videotape describing the project is available. Should you be interested in a copy, please contact the author).

Dr. Lois J. Baron is an
Associate Professor of Education at the Concordia University,
1455 de Maisonneuve West
Montreal, Canada

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REFERENCES NOTES

[1]Baron, L. **Television Literacy Pro-**

(Continued on page 27)

SESSION 1: INTRODUCTION TO COMMUNICATION AN INSIDE LOOK AT TELEVISION PRODUCTION

Objective: The students will learn that communication consists of sending and receiving messages.

Activities:
1. Discussion of the purpose of the course
—objectives
—introduction and explanation of technician and taping

Objective: The students will learn that communication may contain visual, auditory and emotional stimuli.

Activities:
1. Discussion of communication theory (**Non-verbal Communication,** Eisenberg and Smith, ch. 2).
—game of broken telephone
2. Introduction of logbooks

Objective: The students will learn and be able to explain the principle of the transmission and reception of television signals.

Activities:
1. Showing the film "The Electronic Rainbow"
2. Game: simulation of the vidicon camera — **Behind the Third Eye,** Moriarty and Livesley, p.32.

Objective: The students will learn to operate the portapak unit by simple taping of activities.

Activities:
1. Introduction of the portapak — **Behind the Third Eye,** Moriarty and Livesley, pp5-15.
2. Making a viewfinder (**Video in the Classroom,** Kaplan, p. 27).
3. Explorations with the portapak
—simple taping in dyads; who are you? (**Hands On,** Taylor, p. 75).
—role-playing: video art (**Doing the Media,** Laybourne and Ciancolo, ch. 12).
—abstract machines (**Video in the Classroom,** p. 66).

SESSION 2: A VISIT TO A CABLE TELEVISION STUDIO

Objective: The student will understand the functions of a television production studio through the experience of a guided tour of a studio.

Activities:
1. Preparatory discussion of various equipment and roles of personnel (**Picture This,** Zuckernick and Raices, p. 122).
2. Guided tour.
3. Evaluative discussion with highlights.

SESSION 3: LISTENING

Objective: The students will learn and be able to demonstrate the difference between hearing and listening.

Activities:
1. Discussion of the selectivity of listening
—difference between hearing and listening
—figure-ground of sound
—techniques of active listening (**Looking Out, Looking In,** Alder and Towne, p. 179).
—difference between sound and noise (**Doing the Media,** Laybourne and Ciancolo, p. 127).
2. Running a movie with sound only, no image (**Sound Ideas,** Rice).

Objective: The students will enhance their listening skills through various activities with sound.

Activities:
1. Sound games
—Sound Symphony; Interviews (**Sound Ideas,** Rice).
—Words for Sounds (**Communication Arts Guide Two-Radio,** Byrd, Emery, O'Donnell, & Thomas).
—Simultaneous Conversation; Find Your Partner; Silent Passing
—Feeling Words Game (**Hands On,** Taylor).
2. Nonsense Words (**Jabberwocky** by Lewis Carroll)
—illustrate the words (**Visual Literacy,** Collins et al., p. 82).

Objective: The student will learn to produce sound montages of everyday activities.

Activities:
1. Sound Sculptures (**Sound Ideas,** Rice)

Objective: The student will be able to identify most of the sounds that their classmates recorded on their sound montages.

Activities:
1. Finding Sounds (**Hands On,** Taylor, p.39).

SESSION 4: NON-VERBAL COMMUNICATION

Objective: The student will learn the principles of non-verbal communication.

Activities:
1. Discussion of aspects of non-verbal communication (**Non-verbal Communication,** Eisenberg & Smith).
2. Non-verbal games
—watching television without sound (**Visual Literacy,** Collins et al., p. 9, #15 — television monitor).
—tape recording nonsense syllables with different emotions (**Non-Verbal Communication,** Eisenberg & Smith, p. 36
—organism exercise (**Video in the Classroom,** Kaplan, p. 91).
—speechmaking exercise (**Visual Literacy,** Collins et al., p. 11, #18).
—dialogue in darkness; tough and tell (**Non-Verbal Communication,** Eisenberg & Smith, p. 112).

Objective: The student will be able to demonstrate non-verbal communication, communicating simple messages to each other non-verbally.

Activities:
1. Communicative Hands (**Video in the Classroom,** Kaplan, p. 132).
2. Trust Walk (one student leads a blindfolded student around the classroom or school).

Objective: The students will be able to produce simple stories non-verbally, using mime, music and dance.

Activities:
1. The guessing game (**Visual Literacy,** Collins et al., p. 3, #10).
2. Non-verbal gaming (**Doing the Media,** Laybourne & Ciancolo, p. 104).
3. Improvisational games (**Video in the Classroom,** Kaplan, p. 62).
4. The Mime Show (**Media and Kids,** Morrow & Suid, p. 35).

SESSION 5: STILL PHOTOGRAPHY

Objective: The students will be able to demonstrate the use of figure-ground persective in photographs.

Activities:
1. Discussion of figure-ground perception (**The City as Classroom,** McLuhan, Hutchon, McLuhan, pp. 8-14).
—figure-ground activities.

Objective: The students will learn the principles of photographic communication.

Activities:
1. pre-camera warm-ups (**Doing the Media,** Laybourne & Ciancolo, p. 32).
2. Looking at pictures
—analyzing magazine photos (**Hands On,** Taylor, p. 8).
—light; black & white versus colour; point of view (**Visual Literacy,** Collins et al., pp. 91-111).

Objective: The student will be able to produce photographs communicating simple messages.

Activities:
1. Picture taking (**Visual Literacy,** Collins et al., p. 121.
2. Portraiture (**Doing the Media,** Laybourne & Ciancolo, p. 33, #8, #10; **Media and Kids,** Morrow & Suid, p. 85).

Objective: The students will be able to identify the fine details of a photograph which enhance its stated purpose.

Activities:
1. Reading a photograph (**Video in the Classroom,** Kaplan, p. 43)
2. Making a framing device (**Hands On,** Taylor, p. 12).
3. Reflections (**Visual Literacy,** Collins et al., p. 92).

SESSION 6: GRAPHICS

Objective: The students will learn and be able to describe the basic principles of graphic design.

Objective:
1. Discussion of the principles of graphic design; examination of examples of successful television graphics (**Video in the Classroom,** Kaplan, ch. 4; **Graphic Design in Educational Television,** Clarke; **Television Graphics,** Hurrell).
2. Making universal symbols (The Third Eye, Moriarty, p. 114).
3. "Limp lines" (**Media & Kids,** Morrow & Suid, p. 56).
4. Extending words (**Hands On,** Taylor, p.44).

Objective: The students will be able to produce a graphic design which conveys a simple message.

Activities:
1. Video art activities (**Video in the Classroom,** Kaplan, Appendix A).
2. Television Graphics (**Doing the Media,** Laybourne & Ciancolo, p. 114).
3. Making a logo for Children' Media Workshop

SESSION 7: CINEMA

Objective: The students will learn and be able to explain the "trompe a l'oeil" principle of cinematography.

Activities:
1. Viewing and discussing film shorts
—"Danced Squared" Rene Jodin
—"Neighbours" Norman McLaren
2. Discussion of "trompe a l'oeil" with examples (**Hands On,** Taylor, p. 90).
3. Making flip-books (**Doing the Media,** Laybourne & Ciancolo, pp. 83-4).
4. Working with the zoetrope (**Hands On,** p. 93

Objectives: The students will learn to produce at least two examples of film animation.

Activities:
1. "Scratch and Doodle" movies (**Doing the Media,** Laybourne & Ciancolo, p. 75).
2. Experiments with pixillation (**Doing the Media,** Laybourne & Ciancolo, p. 81).
3. Plasticene animation and cut-out animation (**Hands On,** Taylor, pp. 102-103).

Objective: The students will be able to describe at least five differences and five similarities between film and videotape.

Activities:
1. Discussion and demonstration of the differences between film and videotape (**Video in the Classroom,** Kaplan, pp. 16-17; **Media and Kids,** Morrow & Suid, p. 122).

SESSION 8: STORYBOARDING

Objective: The students will learn to present ideas clearly and in sequence using storyboards.

Activities:
1. Discusssion of storyboarding (**Hands On,** Taylor, p. 9; **Video in the Classroom,** Kaplan, p. 47).
2. Analyzing and making comic strips (**Doing the Media,** Laybourne & Ciancolo, p. 160).

Objective: The students will demonstrate their ability to apply the principles learned in still photography and graphics.

Activities:
Exercises in storyboarding (**Visual Literacy,** Collins et al., p. 105, #7).
—producing a narrative storyboard and a group thematic storyboarding (**Hands On.** Taylor, p. 9, 109).
—a design storyboad (**Doing the Media,** Laybourne & Ciancolo, p. 66).

SESSION 9: SCRIPTWRITING

Objective: The students will learn to use their storyboards to write scripts complete with dialogue, action directions and scene descriptions.

Activities:
1. Discussion of scripting principles and formats (**Video in the Classroom,** Kaplan, pp. 44, 70-1).
2. Developing script ideas (**Picture This, Zuckernick & Racies, p. 12.**
3. Screenplays, scenarios and shooting scripts (Doing the Media, Laybourne & Ciancolo, p. 70).
4. Alternative scripting (**Doing the Media,** Laybourne & Ciancolo, p. 92).

SESSION 10: SET DESIGN AND COSTUMING

Objective: The students will learn the basic principles of architectural design and costume design by producing examples of sets and constumes.

Activities:
1. Discussing of basic design principles (**Architecture,** Hamlin; **Designing and Making Stage Costumes,** Motley).
3. Fantasy costume design
4. Integrating set, and costume, into video planning (**Video in the Classroom,** Kaplan, p. 33; **Doing the Media,** pp. 113-4).

BOOKS

Food and Nutrition Posters
Nutrition and Fitness Manual
Resources on Food, Nutrition and Culture
Nutrition Information Service
Ryerson Polytechnical Institute.
Reviewed by Barbara Nelson.

The Nutrition Information Services of the Ryerson Polytechnical Institute Learning Resources Center has produced a number of publications summarizing available references and resource materials in the subject matter areas relating nutrition to food, culture and health. The materials are produced on a non-profit basis. Three of those publications are:

1) **Food and Nutrition Posters: A Guide to Sources** by Roxane Buckle, Rosemary Berardi and Donna MacDonald, 1983. Cost — $5.95 ($5.00 prepaid)

Any educator has heard the saying, "A picture is worth a thousand words". This publication provides a listing of posters which are available for reinforcing visually the presentation of a variety of nutrition topics, e.g. basic food groups, breakfast energy, breast milk is best, bridging world wide cultures. It includes the sources and costs. Teachers of home economics and health classes would find this reference extremely useful in selecting support materials for lessons and in enhancing the physical appearance of the classroom and the school while presenting an educational message.

2) **Nutrition and Fitness Manual: A Summary of Research and Resources** by Donna MacDonald, Roxane Buckle and Rosemary Berardi, 1983. Available separately, cost — $6.95 ($6.00 prepaid) or as a part of Nutrition and Fitness Kit. Cost — $9.95 ($9.00 prepaid)

This publication provides an introductory reference to the role played by nutrition and fitness in the achievement of a better health status, covering topics ranging from curriculum guides for elementary school children to dietary regimes used by professional athletes. A summary of current knowledge and recommended background references (including curriuclum guides, teaching aids and audiovisuals, periodicals and organizations) will aid educators involved in teaching this topic to acquire current research summaries and resources which have been scrutinized and recommended by experts in the field of nutrition.

3) **Resources on Food, Nutrition and Culture** complied by Donna MacDonald, 1983. Cost = $4.95 ($4.00 prepaid).

A comprehensive listing of references for the topics of Food Customs and Culture, General Nutrition and Ethnic Cuisine, developed to accompany a slide-tape presentation aimed at immigrant women, entitled "Eating Right". (script is included in publication). The material should be useful in planning foods and nutrition programs for individuals and groups from other countries, and in high school home economics and social studies classes which study theories of the interrelationships of food, nutrition and culture.

Other titles of publications may be received by correspondence with:
Library Publications Office
Room L284
Ryerson Polytechnical Institute
50 Gould Street
Toronto, Ontario M5B 1E8

Robert Nisbet
History of the Idea of Progress
Basic Books, New York, 1980.
Reviewed by Peter Osted.

. . . "the idea of progress holds that mankind has advanced in the past — from some aboriginal condition of primitiveness, barbarism, or even nullity — is now advancing, and will continue to advance through the foreseeable future."

This very readable book deals with the philosophic idea of progress as it has manifested itself through the ages. As educational technology normally assumes "progress" as a given, it is useful to explore the concept, as does Nisbet, in some depth.

The first part of the "history" traces the topic from Hesiod (8th century BC) to the Enlightenment of the 18th century. Nisbet liberally quotes philosphers and thinkers of Greek, Medieval, Renassiance, and Reformation periods, to substantiate his arguments. The result is a kind of Bartlett's familiar quotations about progress.

In the second part of the book, Nisbet describes the blossoming of the idea of progress during the enlightenment of the 18th century and the industrialization of the 19th century. He covers writings and concepts of many well known philosophers, thinkers and revolutionaries of the period, following standard historical chronology. The final chapter deals with the present and presents a bleak scenario for the future, based on 20th century developments in philosophy and especially the decline of faith and religion.

Nisbet's use of innumerable quotations makes his book seem very authorative and useful. On the other hand, there are no references given for any of the quotations. These appear throughout the text, often just barely introduced by the author, and are not further indentified. One needs to be very familiar with all of the authors, often mentioned only by name, in order to identify or further examine Nisbet's sources.

Nisbet rereads or interprets mainly to fit the ancient philosophers into the mold of the linear idea of progress. He wants to show progress, or the idea of progress, to be a linear progession, and the alternative view of the ancients of a cyclic or circular model is manipulated to fit into the linear model. Nisbet goes to some lengths to justify this manipulation, and admittedly through the use of liberal quotations, manages a very convincing argument.

When dealing with Christian era writers, and, contemporary writers, the linear model of progress becomes much easier to justify. In the latter parts of the book, the flow of argument is much smoother and more agreeable. Here he deals with progress in the context of Freedom, Power, the persistence of progress, and finally with what he perceives as the slowdown of, and disbelief in, progress.

The epilogue, which is perhaps of most interest to educational technologists, is concerned with the future, which Nisbet sees as very bleak, unless there is a resurgence in faith and hope for the future. This, he feels may already be starting.

For educational technologists, the book is most valuable for its detailed analysis of the concept of progress through the ages. Too often, we tend ot view technology as inevitably progressing from achievement to achievement. Nisbet forces us to question this inevitability of progress. Is Telidon an obvious progressive step beyond the home computer? Is the half inch videocassette a progressive step from the half inch reel-to-reel video? In short, is this year's model better than last year's model?

Barbara Nelson is an associate professor of curriculum, U. of Man.

Peter Osted is a school teacher in Hay River, NWT.

REVIEWS

Learning at a Distance and the New Technology. Robin H. Ruggles et al. Educational Research Institute of British Columbia (ERIBC), Vancouver, 1982.
Reviewed by Boniface N. Etuk

Learning at a distance and the new technology is valuable and timely because it supplies useful information at the time new technologies in communication have aroused great interest amongst educators.

The interest and concerns have generated much literature in the field. Publications abound. This publicaton is one of such summarizing the state of the art, focussing on the new information technologies used in distance education. Published by ERIBC, it centers on the situation in British Columbia, but with a survey of major applications round the world.

Issues included are: The historical background of each technology discussed, present and future trends, opportunities related to communications technologies, and ways in which various current technological developments affect learning at a distance. There are eight chapters, each prefaced by a useful abstract. The first three serve as an introduction. The next four discuss educational issues related to communication satellites, videodiscs, videotex and microcomputers. The eighth chapter focusses on "relevant issues for educators" regarding these technologies. The book concludes with a summary, a comprehensive bibliography and an index.

Each chapter is presented progressively from introduction (background) to current situations and applications, followed by recent developments, limitations, and future trends. Different approaches to distance education in many situations from occupational/craft school to post secondary/university level are presented.

The book is appropriately non-technical, and very readable. It presents useful information for those interested in distance learning with application at technical, secondary and post-secondary levels of education and in other educational institutions.

The authors define learning at a distance in terms of Keegan's (1980) six characteristics. Specifically:

1. The separation of teacher and learner which distinguishes it from face-to-face lecturing.
2. The influence of an educational organization which distinguishes it from private study.
3. The use of technical media, usually print, to unite teacher and learner and carry the educational content.
4. The provision of two-way communication so that the student may benefit from and even initiate dialogue.
5. The possibility of occasional meetings for both didactic and socialization purposes.
6. The participation in an industrialized form of education which, if accepted, contains the genus of radical separation of distance education from other forms.

Following the definitions of terminology is a development of a general framework used to consider communications and computer technologies as delivery methods for learning at a distance. Major institutions discussed include the British Open University, Athabaska University, University of Mid America (UMA), National University Consortium (NUC).

Communications technologies currently used in learning at a distance programs are examined in depth. Learning at a distance is a concept viewed in different ways, implemented in various forms, in many countries, with different institutions relying on various media. These media include print media, radio, radio cassette, telephone, and television. Recent developments now include QUBE (Columbus, Ohio), interactive television, the Japanese Hi-Ovis, and ACCESS in Alberta. Telecourses, Slow-Scan Television, Videotape and Teleconferencing are discussed. "Media in Perspective" examines different media and concludes that no single one media is the best because of the differences of the instructional strengths, students' needs, cultural and situational content, and resource availability.

An overview of learning at a distance in B.C. discusses demographic features, and historical background which dates back to 1919 in the province. Information is provided on the principal post-secondary institutions involved in activities for learning at a distance.

In chapter four the text gives an overview of satellite communications systems: developments; principal organizations associated with satellite systems (TELESAT CANADA, INTELSAT, ITV, and ESA); types and components; implications of the space shuttle; and advantages and short-comings of the systems. Pilot projects in the world are outlined. Canadian satellite applications in education touch on the role of department of communications (DOC), and demonstration projects in B.C., Quebec, Newfoundland, and Ontario. The impact of Hermes and Anik B satellites is discussed, concluding that with the trend towards increased home satellite reception, the public will receive a wide variety of educational programming, both national and international.

On videodiscs, information is provided regarding the technology, production of videodiscs and potential educational applications. Some discussion on the components, the types and comparison is included.

The differences between videotex and teletext are discussed from a historical background, to the development of the technologies, and an overview of the current field trials. Described are general videotex systems and the Telidon information network. An examination of major educational applications is provided, with reference to British PRESTEL, French ANTIOPE, Canadian TELIDON, and the Japanese CAPTAIN systems. A sample tree structure is provided, and a comment on the future growth of videotex. The highlights on pilot projects provide opportunities for educators to establish bases for evaluations which may yield useful information for decision making.

The text also reviews early developments in computer technology, describes the systems and defines basic computer terms.

A number of issues of concern to educators is examined. These issues include sociological conditions, control of knowledge, ideology, culture, ethics and economics. These concerns provide food for thought to potential users of new information technologies for distance education purposes. These users are many, each utilising one or more information systems to serve particular purposes. And ERIBC has been timely to examine these approaches for the interest of educators, institutions, and concerned individuals.

The book is a valuable addition to the growing library of materials dealing with the new information technologies. Although the major focus is narrowly provincial, the discussion tends to be general, and should therefore interest educators across the country.

B. Etuk, from Nigeria, is a graduate student at the U. of Man.

MEDIA NEWS

NEXT ISSUE: VOL. 14 #1

DISTANCE EDUCATION AND EDUCATIONAL TECHNOLOGY
Guest Editor: Robert Barnard, Concordia.

IN UPCOMING ISSUES

Duncan
PREPARING PERSONNEL FOR SCHOOL MEDIA AND LIBRARY SERVICE POSITIONS

Laucht
MICROCOMPUTER ACQUISITION CONSIDERATIONS

Robertson et al
A CONSORTIUM FOR EDUCATIONAL AUDIO TELECONFERENCING

Bennett
RESULTS OF A STUDY TO IDENTIFY MAJOR FIELD TECHNIQUES AND UTILIZATION LEVELS BY CANADIAN INSTRUCTIONAL DEVELOPERS

PAPERS RECEIVED

MICROCOMPUTERS AND COGNITIVE DEVELOPMENT: THE NEED FOR RESEARCH.

AN ANALYSIS OF THE COMPUTER RELATED CURRICULUM IN THE EDUCATIONAL TECHNOLOGY PROGRAM AT CONCORDIA

MICROCOMPUTERS AND EDUCATION

BLUE SKIES, GREY CLOUDS, OR FALSE DAWN: EDUCATIONAL APPLICATIONS OF COMMUNICATIONS SATELLITES AND THE PROSPECTS FOR DISTANCE EDUCATION IN AUSTRALIA

STONY MOUNTAIN DISTANCE EDUCATION PROJECT

FACTS ABOUT UNLICENCED USE OF ½" VIDEO CASSETTE PRODUCTIONS IN THE CLASSROOM □

AECT Links with NICEM

The National Information Center for Educational Media (NICEM), the world's largest database for instructional technology will move its government relations and sales offices to Washington, DC. NICEM's offices will be located at the headquarters of the Association for Educational Communications and Technology (AECT).

According to Dr. Lyn Gubser, AECT executive director, NICEM has been acquired in a joint venture by AECT and Access Innovations, Inc., a database management company located in Albuquerque, New Mexico. AECT will serve as the primary contact for NICEM's continuing program of government relations with various federal agencies, while at the same time coordinating sales of such highly respected NICEM publications as the recently released **Eighth Index of 16mm Educational Films.** "This index is the most comprehensive (2,908 pages) directory of the world's educational films ever published," said Gubser.

The NICEM database itself will move from its original home at the University of Southern California to the offices of Access Innovations, Inc., in Albuquerque, which Gubser described as "one of the nation's leading new database management companies. The database will undergo growth and radical change," he added, "with new indexes of instructional computer software, videodiscs, and commercially distributed training materials presently being developed."

AECT Seminar on Instructional Technology

The Association for Educational Communications & Technology held a Summer Conference on Educational Media, July 9-13, 1984 at Utah State University, Logan. Keeping up-to-date with knowledge and skills relating to instuctional technology has become extremely difficult for the modern professional. AECT, in offering an advanced seminar on instructional technology is attempting to provide assistance to those who need to stay current in the field.

An impressive array of speakers included Mike DeBloois, Learning Link, Inc., "Videodisc Design;" Marjorie Hlava, "National Information Center for Educational Media & AECT;" Allen Hofmeister, Systems Impact, Inc., "CBS Videodisc Project;" Richard Hough, Bonneville Satellite International, "Satellite Technology Today;" Joseph Lipson, Wicat, Inc., "Training Systems;" Harvey Long, IBM, "Role and Interest of Major Corporations in the Market;" Randy Moon, Utah Governor's Advisor, "Information Technology;" Roger Olsen, Skaggs Telecommunications, "State of the Art in Video;" Terri Panik, Evans & Southland, Inc., "Computer Graphics;" R. Rallison, Dichromate, Inc., "Holography;" James Russell, Videodisc Systems, "Digital Recording Technology;" Steve Soulier, "Latest Developments in Microcomputers;" Brad Warnick, EQIVAR Project, "Featuring ARTRONICS 200 Graphics Computer" Robert Woodley, Alpin Company, "Interactive Videodiscs at EPCOT Center."

New Literature

Among technology-oriented papers to emerge from the American Educational Research Association's annual meeting of April 1984 in New Orleans, is **An examination of instructional stategies used with two-way television.** In this study by Jon Denton (and others), seven professors at the College of Medicine at Texas A & M University were studied while providing lectures in two different modes. The professors presented some classes in person and some at a distance over television. Analysis of instructional events showed that the professors used the same instructional strategies in both modes. Furthermore, their students registered similar achievement scores regardless of the mode in which they received instruction.

This paper is ED 238 407 in the ERIC document collection. A copy may be ordered for US $12.65 (plus $2.36 for shipping) from the ERIC Document Reproduction Service, P.O. Box 190, Arlington VA 22210, U.S.A.

Choosing educational software: A buyer's guide, by Carol Truett and Lori Gillespie is a 1984 publication which will provide for many educators some perspectives and directions in the vast jungle of the software market. The book first reviews some basic aspects of educational computing and the terminology involved. Next, methods for evaluating software are discussed, and sample evaluation forms used by various institutions are reproduced. Rather than simply listing available software, this book provides reviews of the major software directories and catalogues, as well as sources of free software. Tips provided on ordering and previewing are also helpful. Lists of software review sources, software consortia and user groups, and recommended readings round off this book. The lists are all annotated. **Choosing educational software** costs $23.57 (Canadian), and is published by Libraries Unlimited, P.O. Box 263, Littleton CO 80160, U.S.A.

In the many studies current on the quality of education, technology seems to be a major area of concern. **The role of new technologies in schools: Collected papers** is a recent example. These papers were assembled by UCLA's Center for the Study of Evaluation for a 1983 meeting called **Paths to Excellence: Testing and Technology Conference.** In these studies, the state of the art of educational technology is reviewed. Future directions and barriers to development in these directions are considered and implications for educational research, practice and policy-making are identified. This is another ERIC document, ED 238 941. a copy from the ERIC Document Reproduction Service will cost US 12.65 (plus $2.36 for shipping).

Still on the topic of quality of education, a Science Council of Canada publication entitled **Science for every student: educating Canadians for tomorrow's world,** promises to be one of the most influential of Canadian educational documents of 1984. This report calls for eight major improvements in education focused upon science, but obviously carrying great implications for the whole curriculum. Recommendations include increased exposure to science education for elementary school students, promotion of science to females of all ages, advanced science programs for better students, more emphasis on the practice of science as well as on social and historical aspects, introduction of Technology into the secondary curriculum, and improvement of student evaluation.

The report (or a summary report) may be purchased for $5.25 from the Canadian Government Publishing Centre, Supply and Services Canada, Hull, Quebec K1A 0J9. Complimentary copies have already been sent to many institutions, so check your local library or resource centre.

On the heels of **Science for every student,** the Science Council of Canada has also prepared a background report which surveys the state of science education in Canada. The study proclaims that "Excellence in science and technology is essential for Canada's successful participation in the information age." In three volumes, this study, called **Science education in Canadian schools,** covers 1) an introduction and analysis of the curriculum, 2) a statistical database for Canadian science education and 3) case studies of science teaching. Also available from the Canadian Government Publishing Centre, the volumes cost $8.00, $5.50 and $10.95, respectively.

Send news items for this column to:
Joe Connor
News Editor, CJEC
c/o D. Hlynka
University of Manitoba
R3T 2N2

Federal Assistance for Co-operative Education

A new federal program called Co-operative Education will be launched in September, 1984.

Aimed at helping school boards, colleges and universities cover the additional administrative costs of creating new projects or expansion of existing work/study projects, Employment & Immigration Canada will contribute 85% of such costs in the first year and 75%, 55% and 35% over the subsequent three years for approved projects.

How successfully young people make the transition from school to work depends on their cognitive skills, knowledge, abilities to seek out and pursue job opportunities, and on the demand for such competencies in the labour market.

Employment experience, it is reasoned, may lead to a practical understanding of principles learned in a classroom. This experience may provide a wider knowledge of career alternatives, an opportunity to test occupational inclinations, personal maturation and perhaps an income which many young people need in order to remain in school.

Co-operative education has proven to be an effective process in preparing secondary and post-secondary students for the eventual entry into the labour force. It formally integrates academic learning and on-the-job related work experience thereby increasing the graduate's chances of obtaining satisfying employment. Employers are strong supporters of work/study programs. Canada needs to increase the number of these programs so that more students may participate.

Interested school boards, colleges and universities may obtain additional information by calling the Co-op Application Control Centre (819) 994-4699 or by writing to Employment and Immigration Canada, Co-operative Education Program, 140 Promendade du Portage, Phase IV, Room H-502, Ottawa-Hull, K1A 0J9.

Application forms will be available by mid-September, 1984. The closing date for the submission of applications is December 30, 1984.

TVO Study Now Available

A series of 17 research papers on "New Technologies in Canadian Education" is now available from TVOntario in Toronto. The series provides a complete view of the extent and nature of technological implementation by educational institutions in all Canadian provinces and territories. Prepared in conjunction with the Canadian Commission to UNESCO, "New Technologies in Canadian Education" is a comprehensive report of the current uses of communications and information technologies at all levels of education.

Some of the papers in the series focus on the technologies themselves, defining what they are, how they work, and how they are used by educational institutions across Canada. Others examine technological innovation at every level of education in Canada, i.e. elementary and secondary schools, colleges, universities, health, distance education, and native education. Three of the papers discuss the producers and distributors of educational hardware and software, focussing on their structure, priorities, and services. The final paper in the series is an in-depth discussion of the issues and concerns surrounding the implementation of new technologies in the teaching/learning process.

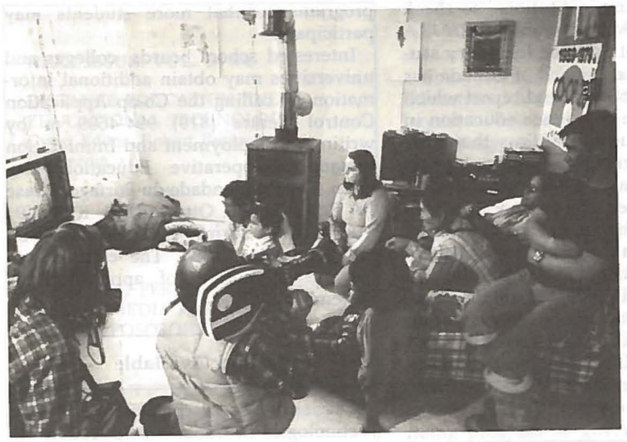
The papers may be purchased individually or as a set, and are available from TVOntario, Customer Services, Box 200, Station "Q", Toronto, Ontario M4T 2T1. (416) 284-2600, extension 2612)

Grierson Documentary Seminar

November 11-16, 1984
Brockville, Ontario

The Ontario Film Association is now selecting films and video-tapes for the

(Continued on page 27)



MAGIC IN THE SKY
16mm. Film
Reviewed by Terry Kolomeychuk

"Societies are shaped more by the nature of the media by which men communicate than by the content of communication."
Marshall McLuhan

Magic in the Sky is a documentary film investigating the impact of U.S. and Canadian Television on the Inuit people of the Canadian Arctic. Since its inception in the north, television or "Magic in the Sky", as the Hudson's Bay Company chose to publicize their newest consumer toy, has had a dramatic impact on the previously isolated Inuit Communities.

The film is developed through a series of interviews, and live situations that create for the viewer a sense of identity with the Inuit. A combination of voice over narration and English subtitles carries the film along at a sustained pace.

The film looks at the consequences of modern communication technologies on the north. The film, though, is really a metaphor. It examines the extraordinary introduction of television into the Canadian north and the launch of the Anik B satellite, all *before* the Inuit people or anyone up north is ready for television or understands television or its capabilities. The film is useful to the Inuit people in their own self examination, in their struggle to hang on to their culture and their language. It also helps Canadians understand the enormous and influential American television machine and how much it has and will continue to affect the Canadians in the south.

The Inuit have gone from a hunting and gathering people right into the modern electronic age in the last 100 years, thereby missing years of cultural evolution. They see television as a medium to understand themselves and understand the world through their control of the medium.

In dealing with this new technology, the Inuit Tapirisat of Canada, the Eskimo Brotherhood, established Canada's first Inuit language television network. The network called Inukshuk began broadcasting to Inuit communities utilizing the Anik B satellite. Following a small group of Inuit TV producers as they work to establish Inukshuk, we see the Inuit grappling with the implications of the powerful medium on their culture and language. The film follows 3 of these Inuit producers to New York City to study the production process of 'southern' television, with visits to the studios of "Hockey Night in Canada' and the 'Edge of Night', the north's most popular programs.

Through the investigation of the impact of television on these Arctic communities, the film reveals and makes us understand how television has changed us all. The struggle of the Inuit people to create their own indigenous television network mirrors the crisis of any culture trying to preserve its identity.

Directed by Peter Raymont
Produced by the National Film Board
Winner of Red Ribbon, American Film Festival □

MICROWARE

By Leonard F. Proctor

If you have suggestions or contributions that you would like to make to this column, please forward them to: Dr. L.F. (Len.) Proctor, Dept. of Educational Communications, College of Education, University of Saskatchewan, Saskatoon, Sask. S7N 0W0.

PFS: The Personal Filing System

The term "database management" refers to the process of how we go about looking after "collections" of information. In simple terms, database management activities include making decisions about what kind of information should be included in the database, how the information should be organized, stored and updated, and in what way the stored information can be retrieved in order to serve the needs of the user.

In general, the principles of database management in learning resource centers are approximately the same whether the enteries contain bibliographical records, inventory records, repairs records or records of overdue accounts.

The key to the successful implementation of any database management system lies in the very careful and considered planning of two major elements. First, how should each screen or "page" of information look? Second, what purpose will each of the reports, which are to be generated, serve?

The assumption here is that organized information can be of value in making decisions. Random collection of unrelated facts have little if any value in this process. For example, if the maintenance records on a particular brand of hardware follow a pattern which seems to indicate a manufacturing flaw, scarce repair funds may often be preserved by switching to a competative brand which does not have this problem. On the other hand if the maintenance records have either not been kept or been poorly kept, then when the time comes to replace worn-out equipment, this kind of information cannot be brought to bare on the decision-making process.

Managing any kind of information is hard work. It takes a lot of effort and attention to detail. The first-time user of a database management system will find the PFS (Personal Filing System) by the Software Publishing Corp. in Mountain View, California, a very helpful and easy to use tool because, along with being menu driven, it has a tutorial style manual which is both well written and well illustrated.

PFS operates on the principle that information is kept in "forms". The forms can take on as much structure or as little structure as the user requires. By definition, a "form" contains one screen's worth of information. To layout or design the form, the user simply positions the cursor in the desired screen location and types in the required labels. The form is then stored on the disk.

To enter data, the user simply recalls the previously created form and fills in the blanks. PFS looks after the process of storing each record safely away.

To correct errors which often creep into the system when entering the records into the file or "library" of information, PFS provides a "search/update" utility. After locating the error, simply place the cursor over the information to be changed, type in the corrected version, and continue on to the next task. PFS automatically stores the changes and updates the record in the file. In addition to updating, new records can be added to the file at any time through the use of the "add" function.

The records in the database can, in whole or in part, be printed out on paper through the use of the "print" function. For the user, this ability to search the entire file for the required information and sort it, on the basis of specifically defined criteria, is where the time, energy and money invested in the creation of the database begins to pay off. The ability of the user to organize and reorganize the data to answer specific questions without having to go through the manual drugery of doing so, will be instantly appreciated by both new and the seasoned user.

PFS does have some limitations. First, it requires the commitment of one disk to each file. Thus, for small collections of data, diskettes may be wasted. On the other hand, users who require the storage of more than about a 1000 forms will have to use a second diskette. Second, the program will not check for obvious errors in data entry. For example, text can be entered where a numberic data such as a telephone number may be required. Third, when adding to or changing the contents of a form, characters cannot be inserted or deleted. They must be typed over. While this is no great disadvantage in the data entry phase, adding this function to the revision process would make it more convenient to use.

In summary, PFS permits the user to: design and modify the layout of forms on the screen; add, update or delete records from the file; search for specific information in the file; and, print sorted reports based on the whole record or the search strategy. These capabilities plus its user-friendly approach and the ability to communicate with other graphics and word processing programs sold by the same publishing corporation make the features of PFS compare favorably with most of the available database managers in the microcomputer field.

To use PFS, you need:
* an Apple II with 48K of memory
* a video monitor or TV set
* a disk drive
* the PFS program disk
* additional blank disks for data storage
* a printer, if paper copy is required □

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EQUIPMENT INVENTORY

ITEM:        16MM MOVIE PROJECTOR
SERIAL NO.:  416542
VENDOR:      HORIZON EQUIPMENT
MODEL:       BELL AND HOWELL
BULB CODE:   EKS
COST:        980.00
REPAIR RECORD: REWIND MECHANISM, 83/11/06
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From the Media Periodicals

by Richard Ellis

BRITISH JOURNAL OF EDUCATIONAL TECHNOLOGY, 15:2, May 1984

Barker, P.G. and R. Singh, "As practical introduction to authoring for computer assisted instruction. Part 3: Microtext"
Peruniak, Geoffrey S., "The seminar as an instructional strategy in distance education"

EDUCATIONAL TECHNOLOGY, 24:5, May 1984

Chiarelott, Leigh, "Cognition and the mediated curriculum: Effects of growing up in an electronic environment"
Bozeman, William C., "Strategic planning for computer-based educational technology"

EDUCATIONAL TECHNOLOGY, 24:6, June 1984

Laurillard, Diana M., "Interactive video and the control of learning"
Morris, John M., "Documenting computer-based systems for industrial training"
Telem, Moshe., "Must computerization fail in schools? Training needed"
Wedman, John F. and Greg P. Stefanich, "Guidelines for computer-based testing of student learning of concepts, principles, and procedures"
Collins, Rosann Webb and Kathy B. White, "The computer camp approach to introducing children to computers"

EDUCATIONAL TECHNOLOGY, 24:7, July 1984

Smith Particia L. and Barbara Ann Boyce, "Instructional design considerations in the development of computer-assisted instruction"
Fahy, Patrick J., "Learning about computerized instruction with adults: One school's trials, errors, and successes"
Splittgerber, Fredric L. and Norbert A. Stirzaker, "A comprehensive master plan for computer utilization in public school districts"
Stuart, John A. and Richard W. Burns, "The thinking process: a proposed instructional objectives classifaction scheme."
Eggers, John R. and John F. Wedman, "The growing obsolenscence of computers in education"
Bretz, Rudy., "Slow-scan television: its nature and uses"

INSTRUCTIONAL INNOVATOR, 29:3, March 1984

Ebner, Donald G., "Current issues in interactive video-disc and computer-based instruction"

JOURNAL OF COMPUTER-BASED INSTRUCTION, 11:2, Spring 1984

Scandura, Joseph M., "Cognitive instructional psychology: system requirements and research methodology"
Ross, Steven M., "Matching the lesson to the student: alternative adaptive designs for individualized learning systems"
Merrill, M. David and Larry E. Wood, "Computer guided instructional design"
Frose, Lawrence T., "Knowledge, information, and action: requirements for automated wiring instruction"

MEDIA & METHODS, 20:7, March 1984

Hunter, C. Bruce, Jr. and Allen L. Wold, "Computer peripherals or What computers hath wrought"
Watson, Wendell, "Don't hide when the lights go out"

MEDIA & METHODS, 20:8, April 1984

Loewen, John., "Try something and learn"
Salvadore, Maria B., "Filmstrips: The stalwart medium"
Vekteris, Terese., "Photography — or Whatever happened to . . .

MEDIA AND METHODS, 20:9, May/June 1984

Hunter, C. Bruce and Allen L. Wold, "The not quite twenty-year history of educational software"
Howe, Samuel F., "Chossing a computer for your school"

MEDIA IN EDUCATION AND DEVELOPMENT, 17:2, June 1984

Grattan, Don., "This moment in time"
Moss, Robin, "The arrow and the song"
Willis, Norman E., "Technology: agent of change"
Brace, Judy., "The coming of age of development communication"
Edington, Sandy., "No more revolutions, please!"
Hancock, Allan., "Convergence"
McCann, Robert J., "The Educational Television Association"
Butler, Tim., "Broadcasting from the backyard"
Goldsmind, Barbara., "English by radio and television"
Neilson, Bob., "More than one way to shoot a teacher"
Chandiram, Jai and Eileen Wahab, "Media: the challenge for women in the Asia-Pacific"

PROGRAMMED LEARNING AND EDUCATIONAL TECHNOLOGY, 21:1, February 1984

Sasscer, Monica Flynn and David M. Moore, "A study of the relationship between learner-control patterns and course completion in computer-assisted instruction"
Burleton, B.J., "Distance learning — Who benefits? Who pays?"

PROGRAMMED LEARNING AND EDUCATIONAL TECHNOLOGY, 21:2, May 1984

Milne, J.A. and J.S.A. Anderson, "The microelectronics education programme-dissemination and diffusion of microelectronics technology in education"
Lloyd, G., "A model for the development by industry and commerce of multimedia resource packs for use in education"
Wilkie, W.D., "Information management in education" □

Mediography

Media on Meetings and Presentations

by Nancy Lane

Educators are usually called upon to participate in meetings, public events, etc. There is a wealth of media available on the subject. Listed below are some of the programs.

APPLAUSE Motion Picture CCCD/ITF 26 min., sd., col., 1977
The seven steps from self-consciousness to self confidence in speaking are the subject in this program.

COMMUNICATING FROM THE LECTURN Motion Picture M—IV/Marlin 6 min. ea., sd., col., 1975
A series of eight short films on public speaking — each film dealing with one topic.

COMMUNICATING SUCCESSFULLY SERIES Motion Picture Timlif/Marlin 24 min. ea., sd., col., 1973
The titles in this series are:
— How to Make a More Effective Speech
— How to Give a More Persuasive Presentation
— How to Conduct a More Productive Meeting

COMMUNICATION SKILLS FOR MANAGERS Videorecording Timlif/Marlin 30 min. ea., sd., col., 1980
This series of six programs deals with preparation, speaking, listening, and managing meetings and presentations.

EFFECTIVE SPEAKING Motion Picture Rank/ITF 24 min., sd., col., 1983
The basic rules of speaking effectively in public are the subject.

FLOOR IS YOURS Motion Picture BNA/ITF 1972 26 min., sd., col.
A public speaking film which focuses on setting objectives, planning presentations, preparing materials, rehearsals, and practices.

HOW TO CONDUCT A MEETING Motion Picture CENTRO/Coronet 18 min., sd., col., 1979 (revised)
Using parliamentary procedure, the film demonstrates a well run orderly meeting.

HOW TO HOLD A MEETING Motion Picture CreatMedia/ITF 25 min., sd., col., 1976
In this film a practical approach to effective meetings is outlined and demonstrated.

MAKING YOUR CASE Motion Picture VA/ITF 28 min., sd., col. 1983
In this film the focus is on research and presentation techniques.

MEETING IN PROGRESS Motion Picture RTBL/ITF 43 min., sd., col., 1969
A problem solving conference meeting with emphasis on Group relations and Task functions.

MEETING LEADING SERIES Motion Picture PD/ITF 34 min, ea., sd., col., 1976
Designed to aid leaders in conducting productive meetings. The titles are:
— Planning for Impact
— Conducting and Managing the Meeting

MEETINGS Videorecording Co-op Col/ITF 22 min., sd., col. 1976
Productive meetings from the viewpoint of the chairperson is the topic of this presentation.

MEETINGS BLOODY MEETINGS Motion Picture VA/ITF 30 min., sd., col., 1979
With John Cleese — points out disciplines and techniques which make meetings productive and satisfying.

MEETINGS: ISN'T THERE A BETTER WAY Motion Picture VIS/ITF 32 min., sd., col., 1980
Based on the book by Michael Doyle and David Straus, this film demonstrates meeting skills.

MORE BLOODY MEETINGS Motion Picture VA/ITF 30 min., sd., col., 1984
With John Cleese — a sequel to the film "Meetings Bloody Meetings".

OUR FEATURED SPEAKER Videorecording GM/Marlin 34 min., sd., col., 1979
Effective public presentations are featured in this award winning program.

SPEAKING EFFECTIVELY TO ONE OR ONE THOUSAND Motion Picture MGHT 21 min., sd., col., 1979
With Christopher Hegarty, of Toastmasters. The program deals with conversations and speeches.

TAKE THE CHAIR Motion Picture BNA/ITF 21 min., sd., col., 1973
The details and actions which determine the success or failure of a meeting are the subject here.

VERBAL COMMUNICATION: THE POWER OF WORDS Motion Picture MGHT 30 min., sd., col., 1981
Verbal exchange is examined with an emphasis on the role of the speaker, the language used, the atmosphere, and the listener.

WHO ME MAKE A PRESENTATION! Motion Picture EFM/ITF 15 min., sid., col., 1976
Fear of public speaking is a common problem. The film is designed to help overcome the fear and enable a speaker to present ideas comfortably and naturally. □

AMTEC '84 ...A Kaleidoscope of Media

by Bob Graham

The annual AMETC '84 Media Festival was successful in attracting 53 entries. Each of the entries was judged in its appropriate category and the winning entries, and their producers, were honoured at the Festival Awards ceremony.

Our thanks to all of the participants and our congratulations to each of the producers who won an award.

The winning entries were as follows:

MICROCOMPUTER CAI/CAL/CML PROGRAMS

Post-Secondary

The Puzzler Team — AWARD OF MERIT
THE PUZZLER
Queen's University

MICROCOMPUTER UTILITY/APPLICATION PROGRAMS

Individual School

Polyvalente Louis-Mailloux — AWARD OF MERIT
REGISTRE DU PROF
Polyvalente Louis-Mailloux

Post Secondary

John K. Olson — AWARD OF MERIT
FLAME LIFE
Queen's University

SOUND FILMSTRIP

Government Media Agency

Education Media Services,
N.S. Dept. of Ed. — AWARD OF MERIT
PROVINCIAL GOVERNMENT
Education Media Services, N.S. Dept. of Ed.

Department of Education, P.E.I. — AWARD OF MERIT
CAREERS IN AGRICULTURE
Department of Education, P.E.I.

Saskatchewan Department of Education — AWARD OF EXCELLENCE
SASKATCHEWAN PAST AND PRESENT
Saskatchewan Department of Education

SOUND/SLIDE

School System

Toronto Board of Education — AWARD OF MERIT
APPRAISAL FOR BETTER CURRICULUM
Solig Studios-Toronto Board of Education

Government Media Agency

Secretary of State/National
Film Board of Canada — AWARD OF MERIT
NOT SO DIFFERENT
National Film Board of Canada

Other

John Geeza — AWARD OF MERIT
REHAB X 3
Constance-Lethbridge Rehabilitation Centre

Post-Secondary

A/V Services & Information Services — AWARD OF MERIT
SHERIDAN COLLEGE FUNDRAISER FOR NEW ATHLETICS COMPLEX
Sheridan College

Janice Picard — AWARD OF EXCELLENCE
THE ALTERNATIVE
Athabasca University

16MM FILMS

Post-Secondary

T.O. Productions — Humber College — AWARD OF MERIT
WILD CARD
Humber College of AAT

Government Media Agency

Tom Dodd — AWARD OF MERIT
TRANSITIONS
Alberta Agriculture

Commercial Producer

National Geographic Society — AWARD OF EXCELLENCE
SPRING—From the FOUR SEASONS Series
Robert Bocking Productions Ltd./National Geographic Society

VIDEOTAPES

School System

The Waterloo County
Board of Education — AWARD OF MERIT
I'M GONNA WIN
PANASONIC EDUCATIONAL AWARD

Post-Secondary

TV Centre Applied &
Creative Arts Division — AWARD OF MERIT
YOU AND YOUR MOTORCYCLE-PART II
Humber CAAT

Drs. Togas Tulandi and Irwin Haberman
ASSESS'T OF FOLLICULAR DEVELOPMENT IN SPONTANEOUS & INDUCED CYCLES
Royal Victoria Hospital — AWARD OF MERIT

Kathy Bevan and Lawrie Edison — AWARD OF MERIT
WHO CARES? PANASONIC INSTITUTIONAL AWARD
The University of Calgary

Government Media Agency

N.B. Department of Education,
A/V Services — AWARD OF MERIT
EISTEDDFOD — JOURNEY TO THE LAND OF SONG
N.B. Department of Education

Provincial Educational Media Centre — AWARD OF MERIT
EXPRESSIONS — SAM BLACK: SURFACE FLOW
PANASONIC PROFESSIONAL AWARD
Provincial Educational Media Centre, Ministry of Ed., B.C.

Business/Industry

Drs. Rex Peterson
and Irwin Haberman — AWARD OF MERIT
BREAST AUGMENTATION
— AUXILLARY SUBPECTORAL APPROACH
International Society of Aesthetic Plastic Surgeons

Other

College of Nursing,
University of Sask. — AWARD OF EXCELLENCE
LEOPOLD'S MANEUVERS AND AUSCULTATION OF FETAL HEART TONES
College of Nursing, Saskatoon □

1985 AECT Annual Conference
&
COMMTEX International Exposition
January 17-22, 1985
Anaheim, California

John Naisbitt, bestselling author of *Megatrends* and nationally known social forecaster, will kick-off the 1985 Annual Conference of the Association for Educational Communications & Technology. Speaking on "The Future of Communications and Technology," he will provide attendees with his forecasts on the industry. His company in Washington DC, The Naisbitt Group, advises U.S. and multinational companies on changing trends and how companies can adapt them to their benefit. His keynote address is scheduled for Friday, 1:30 p.m., January 18 in the Anaheim Convention Center.

Naisbitt's thoughts will introduce this year's theme, **"Focus on Tomorrow: Guiding Change,"** as conference sessions concentrate on the balance between predicting the future of educational technology and creating it. More than 150 sessions and workshops have been designed for professionals in education and training.

This outstanding list of information-packed learning sessions includes an impressive list of **Presidential Sessions** brought together for this conference by AECT President Frank Dwyer and the Program Planning Committee. Included are Charles Dill and Charles Reigiluth speaking on "The Future Role of Instructional Design and Development in Guiding Change," Thomas Linehan on "Computer Graphics and Animation," Homer Kearns with a frank look at the role of library/media specialists in "An Endangered Species," Ron Hunt taking "A Look at the Future of Educational Technology," Lawrence Arcarese, Louis Fenwick, Robert Holloway and Alan Magazine discussing "Business and Education: Partners in Change," and Eva Baker, Richard Clark and M. David Merril addressing "The Status of Instructional Technology: Research and Evaluation Emphases for the Future."

Exhibitors will fill the Anaheim Convention Center and 12,000 people are expected to pass through the aisles in search of the latest equipment and software available in the communications industry at the **COMMTEX International Exposition.** COMMTEX is cosponsored by AECT and ICIA, the International Communications Industries Association. ICIA will, in turn, hold their annual convention with its theme, "Touching Tomorrow Today." ICIA is the trade organization of the communications industry, representing audiovisual/computer/video dealers, commissioned agents, manufacturers, producers, nontheatrical entertainment and religious film distributors and education and trade publications.

Registration for the 1985 AECT Annual Conference and COMMTEX International Exposition will be as follows:

	AECT Member	Non member
Preregistration	$ 85	$105
Onsite Registration	$120	$135

At additional charge, participants may attend workshops, tours and limited-attendance events.

Headquarters for the AECT Conference is the magnificent **Disneyland Hotel.** Special room rates for AECT delegates are $60 single, $70 double and $76 triple or quad. Conference registration and hotel reservation forms will be available in September in the Advance Program and Registration Kit. It will include more information on sessions, workshops, tours, sites and entertainment. Call or write AECT for Registration forms, 1126 16th Street, NW Washington DC 20036, 202/466/4780. □

Canadian Journal of Educational Communications
Index to Volume 13, 1983 - 1984

Compiled by David Thirlwall

TITLE INDEX

AUTHOR INDEX

New Internationalists
Continued from page 7

newspapers: The Association of Universities and Colleges of Canada (AUCC) puts out a monthly newspaper which contains advertisements from foreign universities. Departmental bulletin boards in universities and colleges also sometime contain letters from overseas' faculties seeking new staff or staff exchanges.

Another good source is foreign newspapers, particularly British ones. Recommended are the Observer, the Guardian and especially the Times Higher Educational Supplement. Most Canadian Universities and larger Colleges house these newspapers and others in their periodical section.

The above are only a few suggestions. One final idea is to seek out somebody who has been overseas in order to "tap his brain". Such individuals often have useful information or even personal contacts abroad.

SUMMARY

Professionals in the field of educational communications and technology have the chance to contribute to development in many overseas and third world countries. The opportunities are many and range from academic posts to grass-roots research and development of local curriuclum and materials. For the right people, these are tremendous possibilities for personal and professional growth.

[1].All quotations are taken from advertisements in the weekly **Times Higher Educational Supplement;** from the years 1979 and 1981. □

Media News
Continued from page 17

10th Annual Grierson Documentary Seminar. Recent documentaries on any subject as well as docudramas will be considered.

The Seminar is named after John Grierson, the founder of the British documentary and the National Film Board of Canada. His interest in the medium's potential for social change has shaped the direction of much Canadian and world documentary production.

The Seminar provides film — and video-makers with a forum to debate Grierson's influence as directors are invtied to present their work for screening and to engage in critical discussions about contemporary and historical documentary practice with their peers, media educators, writers and programmers. (Since the effect of these discussions is cumulative, all guests are required to attend the Seminar for the entire week.)

For further information contact:
Bart Tesa,
Innis College,
University of Toronto,
2 Sussex Avenue,
Toronto, Ont. M5S 1J5
(416) 978-8574/7023 □

Media Workshop
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gram in Action—A Longterm Study. Unpublished Manuscript, 1983.
[2]Baron, L. **Research and Development of a Cable Distribution System to Involve Children in the Learning of Concepts of Communication and Accompanying Skills.** Montreal: Concordia University, Education Department, June, 1982. □

LETTER TO THE EDITOR

Dear Denis:

Canadian Data has just applied for a corporate membership of A.M.T.E.C. following our most successful representation in London, Ontario. We were very impressed with the response to our product "M.R.C.S. — Media Reservation and Catalogue System", that we would like to insert a regular monthly advertisement in "CJEC".

Sincerely yours,
Trevor Barnett
Marketing Manager

Technical Standards
Continued from page 9

2. Standards must be made by consensus between manufacturers and consumers.
3. Standards must be international.
4. Consumers must somehow be supported for standards work. Participation is expensive.
5. Developing countries are in paticular need of standards, and they do not yet participate.
6. The separate international standards organizations known as IEC and ISO must be combined.
7. CSA and UL should combine and/or coordinate their work to avoid duplication and differences.
8. Consumers will not get any more standards than they demand and are willing to work for.
9. Standards must not hinder the development of new and better products.

This paper was presented at the 1983 AMTEC conference in Montreal. □

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NOTES FOR THE GUIDANCE OF AUTHOR

The Editor is always pleased to receive for consideration articles on aspects of educational technology, media use and research likely to be of interest to readers. Topics of interest include: computer assisted instruction, learning resources centres, communication, evaluation, instructional design, simulation, gaming, and other aspects of the use of technology in the learning process. Two primary forms of contributions are welcomed: refereed articles, and notes and non-refereed articles. It is important that contributions conform to the notes below.

Notes and Non-Refereed Articles

1. Contributions for this category are welcomed from all members. Writers are encouraged to use a familiar, casual style. Jargon should be avoided.
2. Contributors to this section surrender to the editor the responsibility of final copy edit. Articles will not be returned for author approval prior to publication.
3. Contributions to this section do not require additional notes or references. If these are included they must adhere to the style guidelines for refereed articles.
4. Include your name, position, institution and mailing address.
5. Type contributions on 8 1/2 x 11 paper using a 60 stroke line, and double-spaced. Do not break words at the end of a line.
6. Non-refereed articles should be from one to five pages in length. Notes of upcoming events or other news should be one paragraph in length.

Refereed Papers

1. Manuscripts should be 5-20 double spaced, typed pages.
2. Include an abstract of about 100 to 150 words.
3. The author's name, position, institution, and mailing address should be on a separate page.
4. Authors should send three copies.
5. Contributions are accepted on condition that the material is original and the copyright vests in the Association for Media and Technology in Education in Canada. Contributors must obtain all necessary permissions and pay any fees for the use of materials already subject to copyright.
6. Type contributions on 8 1/2 x 11 paper, using a 60-stroke line. Do not break words at the end of a line.
7. **Main headings** should be centered and typed in upper case. **Secondary headings** should be typed at the left-hand margin, using upper and lower case underlined.
8. All tables, diagrams, figures, or photographs should be submitted in camera ready format. Diagrams, tables, and figures should be provided on separate sheets of paper. The position of each item in the text should be indicated as follows:

   Table 1 about here.

9. References in the text should employ the author/date format (eg: Kowal, 1982). All references should be listed at the end of the paper in alphabetical order. The American Psychological Association Style Manual (2nd edition) should be referred to by all authors to ensure consistent reference style.
10. Spelling should conform to the Merriam-Webster **Third New International Dictionary.**

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