

UNIVERSITY OF ALBERTA

Canadian Journal of
Educational Communication

Vol. 13 No. 1
January, 1984
ISSN 0710-4340

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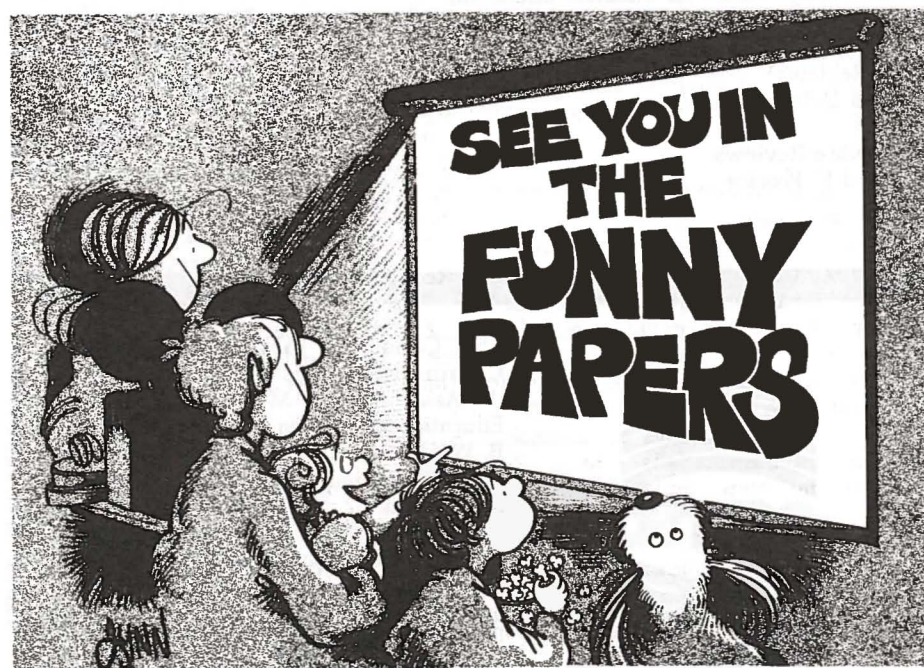
American Journal gets Canadian Editor.

The prestigious ECTJ (Educational Communications and Technology Journal) . . . the major publication of the Association for Educational Communication and Technology (AECT) . . . has selected University of Calgary professor Bill Winn as its new editor. Dr. Winn is an active AMTEC member and has often contributed to CJEC.

The Art of Television

The University of Manitoba has just concluded a successful eight week run of a short course entitled the Art of Television for 10-15 year old students as a part of that university's mini-university. The mini-university is a non-credit program for young people which provides exposure to university level subject matter coupled with career guidance information and physical education activity. The Art of Television course introduced students

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to visual literacy and television production concepts. The course was taught by Jim Braun, and developed by Terry Kolomeychuk, NFB (Winnipeg), Patricia Blackburn (Manitoba Department of Education), and CJEC editor Denis Hlynka.

AMTEC Conference set for London Ontario

London, Ontario has been selected as the conference site for AMTEC 84, hosted by SOMA, the Southern Ontario Media Association. The theme of the conference is A KALEIDOSCOPE OF MEDIA. Watch this space for more information, or contact the conference chairman, Ed Crisp at the University of Western Ontario. Conference dates are June 17-20, 1984, so mark your calendar now!

Courses in Educational Technology

The popular AMTEC publication **Courses in Educational Technology** is once again available in a new 1983 edition. Dr. Gar Fizzard, of Memorial University has once again edited this document. Forty universities and colleges across Canada are listed and their media/technology programs described.

Courses in Educational Technology is available free of charge to AMTEC members upon request. Price to non-

AMTEC members is \$5.

AMTEC members will be interested in watching for a similar booklet which will focus on computer courses in Canada. This latter project will be co-ordinated through the University of Saskatchewan.

For your copy of **Courses in Educational Technology**, write to
Gar Fizzard,
Center for Audiovisual Education
Memorial University of Newfoundland
Arts/Education Bldg.,
St. John's, Newfoundland, CANADA
A1B 3X8

Research study examines teacher attitudes to new media

A just-released study by Leonard Proctor as part of the requirements for his doctorate titled "Student teacher utilization of instructional media." presents a fascinating glimpse of how Saskatchewan teachers view media in education.

The question of media utilization by student teachers is important because of the inherent assumption that teacher-training practices will influence how teachers teach their future students. A major goal of this study was to begin to provide some base line information on what media student teachers use, how they employ learning resources to achieve their pedagogical intents and what factors are present in the school setting to influence the student teachers' selection or nonselection of media.

Data for this study were accumulated from nineteen student teachers who were completing their student teaching requirements for teacher certification in the Province of Saskatchewan during the 1981 fall term. The examination of student teacher lesson plans, in addition to the observation of student teacher taught lessons, was regarded as being important because plans for teaching represent the distilled essence, in observable form, of a student teacher's judgment and decision-making processes.

For every ten lessons taught by student teachers, six did not use any media, three used nontextbook instructional learning resources based primarily on paper based (low) technology, one lesson used media that required hardware for its presentation (intermediate technology) and no lessons were taught using any form of computer-based (high) technology. Secondly, the main perceived value of media by student teachers is as an aid to instruction. Student teachers used media primar-

COMPUTER NEWS

This column is intended to be mainly a vehicle for informing members of current happenings on the Canadian and international educational computing scene. If you have news items you would like to submit, please forward them to:

Rick Kenny
Media Services Group
Calgary Board of Education
3610 - 9th Street S.E.
Calgary, Alberta
T2G 3C5

Bionic Beaver out of the Woods with Ontario Support?

For those who may not yet have heard, the province of Ontario has helped resurrect the Canadian Educational Microcomputer Corporation or CEM Corp. (see the Computer News Column in the March 1982 EDUBUS) by entering into a contract with the corporation to purchase \$110 million of its microcomputer equipment for distribution to Ontario schools. Schools wishing to purchase these systems will receive assistance of up to 75 percent of the manufacturer's contracted price. As well, \$2 million of the funds allocated will be used to develop and test prototype systems in Ontario's schools beginning this fall. This development was originally to have occurred last year but ran aground because of CEM Corp. difficulties.

The major reason for the Ontario government supporting CEM Corp. is, ostensibly, that no other computer manufacturer has agreed to design built-in-Ontario equipment which meets the standards for an educational microcomputer established by the Ontario Ministry of Education (An extensive article about this issue appeared in the August 4, 1983 issue of **Computing Canada**).

These standards call for a "Standard Student Microcomputer", based on a 16-bit electronic architecture with 128 K or RAM that can be expanded to 256 K, and an "Advanced Student Microcomputer", based on a 32-bit architecture with 256 K of RAM, expandable to 1024K. In addition, the systems will include a control storage facility called "File server", containing a floppy and hard disk drive, with 256 K of RAM, local area network interfaces, and specified high resolution colour and monochrome video display terminals. A voice synthesizer and tone generator, a text processor, a Telidon graphics package and seven pro-

gramming languages are also specified.

Ontario will also be investing a considerable amount of money to encourage the growth of an educational software industry in the province to produce courseware compatible with the CEM Corp. microcomputer. Through the provincial Board of Industrial Leadership and Development, \$1.3 million has been provided for 1983 to set up an advisory body to identify and assign a priority to educational software needs and to initiate other activities. Funds of \$5.46 million, increasing to \$10 million in 1986, will be used to provide developmental grants to producers and to purchase licenses from producers to allow unrestricted use of materials in Ontario.

Quebec to Leap into Educational Computing

The government of Quebec recently announced a massive investment in educational computing to bring that province into the forefront of the technology. It plans to invest \$150 million over the next five years to place microcomputers in classrooms and to produce high quality software written in French. Part of the funding is to be used to provide approximately 32,450 microcomputers — 16,000 for primary schools, 9,600 for high schools, 2,850 for the CEGEPS (which are a blend of junior colleges and vocational schools) and 4,000 in universities. The province will be following a "Buy Quebec" policy and will negotiate framework contracts with hardware manufacturers already in Quebec. As well, contracts are to be let out for the development of French courseware.

Alberta Education's Task Force Report Released

Computers In Schools, the report of the Alberta Minister of Education Task Force on educational computing, was released last June. The report provides an update on the use of computers in education in Canada and the U.S., considers the state of education in Alberta and where computers fit in, and makes an extensive series of recommendations — 48 in all! Among the recommendations are:

Recommendation #3

That all students graduating from the Faculties of Education of Alberta's Universities after July, 1986, be required to have completed a computer literacy course.

Recommendation #9

That an inservice program be developed and funded by Alberta Education, local jurisdictions, and the teaching profession to offer every practising teacher and educational administrator in Alberta the opportunity to learn the fundamentals of educational computing. Further, that implementation of an inservice program begin before the end of the 1983-1984 school year.

Recommendation #15

That Alberta Education continue to operate a central courseware clearinghouse and that all endorsed courseware meet Alberta Education's established standards.

Recommendation #17

That the Government of Alberta encourage the development of a courseware industry and this encouragement be in the form of incentives, funding assistance, and shared research.

Recommendation #24

That Alberta Education develop and establish standards for the acquisition of computer hardware according to proposed application and that these standards be reviewed annually.

Recommendation #33

That Alberta Education develop a comprehensive, strategic provincial plan for educational computing, which shall be reviewed at least once per year.

Recommendation #37

That Alberta Education establish an Educational Computing Branch within the Program Development Division of the Department.

Recommendation #43

That the Government of Alberta establish an Alberta Heritage Foundation for Educational Computing to provide funding support for the recommendations of this report.

For copies of the report, write to: The Computer Technology Project, c/o Alberta Education, 11160 Jasper Avenue, Edmonton, Alberta, T5K 0L2.

Silicon Valley Systems Donations

SVS, producer of Wordhandler has increased the amount of their software donations to schools (Canadian as well as U.S.), private or public, K to college, from

Continued on page 15

Continued on page 27

Segment TV = Teacher Interest + Student Learning

By Richard F. Lewis

Despite increased evidence that television is very effective in communicating messages to students, there is still limited classroom usage of television in an instructional form. In Nova Scotia, television is not widely used, even by teachers who have videotape recorders accessible to them. There are many reasons for this lack of use. This article explores some of the reasons for lack of use and suggests a model for increasing the utilization of instructional television in the classroom.

Why teachers do not use television

Teachers do not use television for many reasons: equipment failure, equipment inaccessibility, unsuitable programming, lack of knowledge of the medium. However, often when the equipment does work and is accessible, when the programming is suitable to the subject and the teacher has some knowledge of the medium, television is underused. Why?

Perhaps part of the underlying reasons for lack of use involve the nature of television as a self-contained information source. In television, the producer, designers, cameramen and directors are in direct control of the televised show and in indirect control of the viewer. The teacher surrenders control in the television-viewer interaction.

By contrast in the classroom, the teacher, by convention at least, is in control. All classroom aids must therefore be adaptable to teacher control.

The most used resources in the classroom are probably the blackboard and the duplicating machine. These devices are used extensively because the teacher controls the content and the rate of presentation. The teacher can place information on the blackboard in small units or in large blocks. The duplicating machine allows the teacher to reproduce a very large variety of print and visual information to students. The rate of presentation and the amount of information can be precisely and easily controlled.

However, when it comes to television, the teacher has no such control. The

Richard F. Lewis is with the Department of Communication Studies at the University of Windsor and is the former editor of the Canadian Journal of Educational Communication. His research interests include the use of television in classrooms and effects of television on children.

teacher can only turn the machine on and off. If the program being viewed is an on-air program, once the television is turned off the rest of the program is lost to the teacher. The teacher then becomes locked into the rigid format of the television program and viewers watch from start-to-finish. Even videotaped programs are designed to be viewed in totality. As a result, conventions of television viewing make it difficult for a teacher to integrate teaching styles and television programs. Also, teachers use educational television as recreational television.

An analysis of attitude among non-users of television found that teachers were concerned about the suitability of the segments to their classrooms. Either the materials did not cover the same program or they simply were not at the right level (Lewis and Fisher, 1977). A study by Lamerand and Tracy (1976) also supported this finding and indicated that in some cases teachers would like to have some control over the production of the television program so that they could dictate vocabulary level and content type variables. Chin and Downing (1973), noted that compatibility to existing activities and ego involvement may play a key role in the process of adopting an innovation.

Goal of the study

This study attempted to provide television programming to teachers in a different manner; one in which teachers would have more control over the content of the programs. Thus, it was hoped that the process used would encourage teachers to use television for teaching.

The preschool program *Sesame Street*, developed in the United States, has had particular success in teaching children (See Palmer, 1974, Ball and Bogatz, 1970). Since 1970, the Canadian Broadcasting Corporation has produced a number of segments each year for insertion into the CBC *Sesame Street* program. The short duration and simple messages of the segments made them an ideal choice for stimulus materials to be used in the study. Approximately three hundred of the segments were available for use in experimental situations. The segments, although all aimed at the preschool market, were thought to be useful in the later and upper elementary grades. Many of the CBC segments were presented in French. These segments were selected for use in this study.

The benefits of a segment type program

The average television program lasts ten to twelve minutes before it is interrupted by a message from your sponsor. By contrast, most educational television programs last 20-30 minutes. Most research on television, particularly second language television, indicates that students are not prepared to watch twenty minutes of programming. (Lewis and Fisher, 1977). They have been conditioned to shorter breaks while watching television so that the viewing period extends from ten to twelve minutes. A program of longer duration may have been long for them to negotiate.

By contrast, the segment technique allows breaks to occur at any time. Because segments are organized in short sequences, the teacher can stop the tape at a logical point to explain something or to replay that particular segment. The flexibility of segment television also allows segments to be interspersed with a short signal pattern or a black picture so that segments can be easily found but also so that segments can be played right through without interruption.

PROCEDURES

The program

The Canadian Broadcasting Corporation produces approximately one hundred segments a year. These segments present French material, bilingual and bicultural material and interpret the realities of the Canadian situation while attempting to achieve the curriculum goals of *Sesame Street*. The curriculum goals of *Sesame Street* deal with symbolic representation, cognitive organization, reasoning and problem solving, and the child in his world.

The Canadian segments attempt to achieve many of these goals while introducing French material into the segments. Some segments introduce simple words in French using a great deal of pictorial embellishment. Still other segments use French in a natural form. Catchy music and powerful visuals are used to communicate the message. Cartoon animation, and live action are used to convey the message of a particular segment. The segments vary in length from ten seconds to three or four minutes. In every case, a segment deals with one or two concepts.

As in the American *Sesame Street* series, there is a program of research in Canada. Each year, some of the segments

are subjected to laboratory type testing to determine their effectiveness in achieving their objectives (Bouchard, 1980a, 1980b). However, this testing has been restricted to preschool children.

At the time of the study, very little use, outside of the broadcasting situation, had been made of *Sesame Street* segments. By and large, the only time the segments had been seen was on the air as part of the regular *Sesame Street* offering by the CBC. Although there had been some experiments at McGill University in Montreal, there was very little use of the segments outside the area (Heroux and Goldberg 1980, Goldberg and Gorn, 1979). As a result, very little information regarding the effectiveness of segments with an older population was available.

The teachers

Fourteen teachers responsible for grades primary (kindergarten) to grade six participated in the study. Ten teachers taught all subjects while one teacher was a French specialist. All the teachers wanted to experiment with a new method of teaching French. Some teachers were bilingual; some spoke almost no French.

The students

The 149 students who participated in the study were enrolled in grades primary to six in four schools. Some students had not studied any French while others had one to five years of French before participation in the study.

The test population consisted of one grade primary, two grade one classes and one class from grades two, three, five and six.

Segment selection

The teachers viewed the segments produced in 1978 and 1979. They noted the grade levels in which the segments were usable and also the way in which segments could be combined. When viewing the segments, teachers seemed to be attending to factors like the vocabulary level of the segment, the content level of the segment and also the type of production technique used, whether it be cartoon animation or real life material. During the viewing procedures, it was evident that some teachers preferred the cartoon segments to other segments available.

After viewing, teachers prepared a segment list indicating which television segments should be assembled in a program. It was interesting to note that some

teachers followed a single topic approach while they put the programs together; while for other teachers, the smorgasbord approach used by *Sesame Street* was much more popular. The segments were assembled by the principal investigator and staff on three-quarter inch videotape and then dubbed to other machines.

Instruments

Before the viewing took place, all students completed a baseline questionnaire dealing with television. The pretest information determined the students' level on the content which was to be presented in several of the programs.

After viewing, students completed a post-test indicating what they had gained from the program. In many cases, the format of the testing, during both the pre and post test, had to be altered because the method in which the questions were asked was not particularly suited to the students.

While using the program, teachers were asked to keep records on what they did in the viewing session and also whether they covered other content which was similar to the viewed material. If a teacher was showing segments on body parts, she was asked to indicate what other activity she performed related to body parts was used so that the student achievement results could be related to one or the other stimulus.

RESULTS

How teachers used the segments

All teachers did not use the segments in the same manner. There was variation in the way that teachers and students prepared for viewing, viewed the segments and concluded the session. The variation in usage pattern, preparation and follow-up seemed to be related to the teacher and not to the grade level. It appeared that teachers' expectations of the segments and their objectives dictated how they used segments.

One teacher used the segments from grades one to three. Before viewing, she asked the students to look for certain kinds of stimuli in the segments. For instance, she told the students to see if they could find out what the words "aller," "arreter" and "brosse" meant. This teacher used the segments one at a time. Although the segments were placed in a program, the teacher used only one segment having the students do something before and after viewing. After the "aller/arreter" segment the students had

to pretend they were cars in the gym. They had to go on the command "aller" and stop on the command "arreter." In other cases, this teacher used blackboard games to follow the segments or counting exercises in French to follow segments in which French numbers were being taught. In all cases, this teacher always prepared the students then showed one or two segments and then followed with other activities. The teacher did not use the program as a complete unit at any time.

At grades five/six, one of the teachers had the students watch and then review the materials. In this case the students were not prepared for the viewing but were merely told to watch the program. After the program, the teacher reviewed words or other information presented. In the "Montrez moi" segment the students acted out the part of Josephine who showed her body parts and the alligator who showed his teeth.

In a grade one class it appeared that television was used as stimulus, providing the teacher with ideas for activity to follow the television viewing. After the segment on "pieds/mains", containing a clapping exercise, the teacher taught the patterns to the students. To teach colors, the teacher used workbook activities to reinforce the content of the segment.

One teacher used the program at grades one and two. She reviewed the previous material before the students watched the program. The students were encouraged to participate during the viewing by singing along or clapping in the segment. The activities seen in the television program were reinforced by classroom teachers.

The analysis of how teachers used the program yielded some very interesting information. For instance, it was thought that teachers would use the program as units simply emphasizing one or two aspects of each program. In some cases this was very true where a teacher screened one program and concentrated on the information in one of the segments. However, in other cases the teacher seemed to vary the pattern based on the activity being conducted in the classroom and also based on the students' particular need and interest. In one segment which was supposed to teach dental hygiene the teacher decided to capitalize on the making of a peanut butter sandwich. As a result, the students not only learned something about dental hygiene but also enjoyed making a peanut butter sandwich. The same teacher used a segment on fruits to teach the colors presented in

the segment.

These findings indicate that teachers wanted to use the segments in the ways that were compatible with their teaching style and the interest and needs of their students. They were glad to have a resource which could be adapted to their particular style and not one which imposed a format of usage.

Student results

All the classes involved in the study made significant gains from pre to post test on the various tests used (See Table I). Complete tests results are available in another paper (Lewis, 1981). The primary students had a pre test score of 1.17 compared to a post test score of 3.90. These students learned words such as mouth, teeth, hair, shoulders, feet, hands, ears, eyes and neck in French as a result of the program and its associated activities.

The grade one level pre test score was 2.55 while the post test score was 7.09. These students learned the French words for nose, mouth, teeth, hair, shoulders, feet, hands, ears and eyes and neck between the pre and post tests.

Another grade one sample scored 1.19 on the pre test and 5.0 on the post test. These students learned the French words for hands, feet, neck, teeth, hair and eyes between the pre and post tests.

At the grade two level students were given one test on body parts and another test on fruits and vegetables. The students did significantly better on both post tests. For fruits and vegetables, the students learned the French words for orange, banana, apple, potato, lemon, onion, grapes, carrot, tomato, pineapple, peach, and corn between the pre and post tests. In terms of body parts the students learned the words for eyes, mouth, nose, feet, hair, teeth and eyes between the pre and post tests.

At the grade three level the students also had two tests; one on body parts and one on fruits and vegetables. In both cases the post test score was significantly higher than the pre test score. The grade three students learned the words for ears, mouth, nose, hands, feet, hair, teeth, eyes and neck over the duration of the project. In terms of fruits and vegetables the students learned the words for orange, cherry, banana, apple, grape and carrot between the pre and post tests.

The grade five students had a test based on articles of clothing. On the pre test none of the students knew the words for shoes, shirt, pants and socks. However, by the end of the study between nine and sixteen of the students had learned the words for socks, shoes, shirt and pants. There were significant gains on all the articles of clothing. At the grade six level the articles of clothing test was also given. At this level some of the students knew more of the parts of clothing than the

grade fives did. Nevertheless, the post test results were still significant in terms of how much the students learned. The grade six students also learned the words for shoes, shirt, pants and socks as a result of the experiment.

Teacher use and enthusiasm

One of the most exciting aspects of the project was the enthusiasm exhibited by the participating teachers. In two cases, teachers managed to exert enough pressure on their schools and the school board to purchase additional videotape units. During the project itself, teachers continually demonstrated their interest and enthusiasm in the project and what it was doing for their schools. Often, the teachers had to make more than the normal effort required to teach a class using the videotape units in the classroom. During the project, there was no need to encourage teachers to do the tasks required of them. They seemed to have a great deal of interest in performing their required work. In all cases, the teachers wanted more information and more of the program segments than could possibly be provided during the year.

Curriculum integration

One of the strengths of the project was that the programs themselves did not have to completely focus on learning and teaching of French. It was just as easy to include a segment dealing with social studies, health or personal development along with segments on French. During the study, teachers included segments to reinforce areas of interest. As a result, French was integrated into other classroom activities.

In this matter, television probably became another one of the learning aids

available to the teachers and students as opposed to merely a tool for teaching and learning French. As the program continues to develop, it is possible that a number of different approaches and subjects could be merged into a single program. As a result, students and teachers could have a wide range of subject matters and content styles included in one program. Although testing would be much more difficult, it is thus possible to see a wider range of materials used.

Implications

The study demonstrated that teachers enjoyed the process of planning programs which were directly suited to their needs. However, the available segments still did not meet the precise needs of teachers. Long term success of the segment approach for television means that a wide range of segments need to be made accessible to teachers. Most provincial departments of education now make copies of television programs they have produced available to all teachers in the province usually for the price of a blank cassette. Segments of these television programs could easily be integrated into the type of program described in the study.

To extend the teacher control even further, it would be possible for groups of teachers to produce short television segments on particular aspects of their teaching. These segments could then be exchanged by teachers similar topics so that a bank of segments could be built up. The teacher resource centre of the Halifax city schools has proposed a system to teach teachers to produce one minute teaching segments which could then be housed in the library and used as the need arises. This development means that there could be a wide range of segments

available.

In addition, students could be taught to produce short instructional segments thus teaching them the skills of visual literacy while at the same time providing instructional material for the classroom.

The segment approach has proven its usefulness in children's television programs. With the success of *Sesame Street*, *The Electric Company* followed. *Passe Partout*, a French language program for francophones uses the segment technique to communicate its information to the students. It is possible then that the segment technique is widely applicable in the education system.

The segment technique will also be enhanced when videodiscs become available. Videodisc technology will allow a teacher to access any segment in a program quickly and easily. As a result, replay and immediate access will be available.

The study has demonstrated the need for wider testing of the concept of segment type television programs. Expansion will allow many more questions regarding the use of segments in educational applications to be discussed.

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AMTEC ideas booklet in the works

AMTEC is in the process of organizing a series of *Ideas* booklets. The booklets are to be practical in nature and will focus upon using media in instruction. It is envisioned that each booklet will be written from a personal point of view, with emphasis placed on the practical rather than the theoretical.

Anyone interested in sharing their ideas should send manuscripts covering the how, when, where, why and what of specific educational media. Length is to be from 1-10 pages.

Manuscripts and/or inquiries should be addressed to John Morrow

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Table I

Pre and Post Test Means for all Grades

Grade	Test	Pre Test	Post Test	T-Score	df
		Mean	Mean		
Primary	Body Parts	1.17	3.90	6.34*	29
Grade One (1)	Body Parts	2.55	7.09	7.29*	21
Grade One (2)	Body Parts	1.19	5.00	8.46*	20
Grade Two	Body Parts	2.88	5.44	5.45*	24
	Fruits & Vegetables	1.36	6.80	11.50*	24
Grade Three	Body Parts	1.19	6.75	7.50*	15
	Fruits & Vegetables	0.13	4.19	6.83*	15
Grade Five	Clothing	0.00	2.50	8.50*	17
Grade Six	Clothing	0.59	2.65	6.80*	16

*p > .05

Can Technology Revive This Classroom Simulation Update: Seldom Used Instructional Technique?

By Walt Buehning & Erv Schieman

Development of the Current Project

The Learning Technology Unit in the Faculty of Education at the University of Calgary, over an eight year period, has been actively involved in designing and

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developing a variety of experimental instructional simulators. As well, varying designs for software formats and configurations have been tried with the materials experiencing a wide range of effectiveness. While many problems still exist, the experimenters have gained a great deal of experience and have developed expertise in an instructional technique which has yet to be exploited in education and training. Through all the many trials utilizing the experimental simulation packages, the intent of the investigators has been to demonstrate that

simulation can be a powerful vehicle for training teachers, and other professionals, in the area of inter-personal communication and problem solving strategies. When targeted for teacher training programmes, these materials, wisely designed, can provide instruction in the most problematic area in schools today, namely classroom management.

In the current project, a design team, including content specialists, production personnel, design/development specialists and evaluators has developed three prototype instructional packages intended

for use in methodology courses. This current project seeks to not only develop materials but also to test the efficacy of the overall design strategy and the updated hardware configuration.

By means of the microcomputer, which permits the accessing of any one of a number of segments of videotape, visual representations of classroom activities can be presented in any sequence to students. The participants in the simulation can react and respond to occurrences which require decisions and see probable follow-up consequences of their decisions. In the prototypes which have been developed, the following events typically occur.

1. A videotaped incident, usually a commonly occurring yet important classroom event, is presented. The videotape stops at a critical decision-making point, leaving the student in a position where some action must be forthcoming.
2. Up to five alternative action choices are presented on the CRT. These choices usually reflect typical courses of action open to the teacher.
3. The student makes his/her decision and enters it into the microcomputer through the keyboard. The appropriate follow-up sequence is located and presented. The response ideally depicts a rational outcome and may also lead to further critical incidents.

The three simulation packages developed and tested by the members of the team were Counselling Procedures, Classroom Communications and a Musical Critical Incident Simulation.

The Counselling Procedures Simulation was intended to train the student to deal with the following issues:

1. coping with the silent client
2. facilitating client self-disclosure
3. coping with the reluctant client
4. using open-ended questions
5. dealing with the identification and expression of affect.

Dr. S. Mandaglio, content specialist for the Counselling Procedures Simulation, observed that the simulator technology had two advantages over other available curricular aids. The first advantage of the system is that the student/counsellor is an active participant who is confronted with problems demanding some decision, and immediately sees the probable consequence of his choice. The second advantage is that the student becomes painfully aware that a client's behavior in the ongoing interview is strongly affected by the counsellor's actions and response. Other currently available aids lack these important advantages.

The Classroom Communications Simulation, the second of the projects, demonstrated and reinforced classroom procedures that helped the participant with

student control. The objectives for these simulations are to show:

1. leadership stances, e.g. positioning, standing, sitting, moving
2. presenting strategies, e.g. voice, non-verbal support, questioning
3. controlling strategies such as eye contact
4. maintenance of routine learning conditions such as procedures for distributing materials, grouping, etc.
5. verbal interaction, e.g. recognizing, reinforcing, accepting ideas and feelings.
6. varied teaching strategies.

The content specialist for the Classroom Communications Stimulation, Dr. G. Miller, observed that a major benefit of this type of simulation is in diagnosing and altering response behavior development. Another benefit appears to be the potential of simulation to assist future teachers to internalize a more dynamic and realistic concept of the teacher's leadership role in the classroom.

The Music Education Simulation, the third part of the project with content specialist, Dr. W. Buehning, could have been titled the Critical Incident Simulation since that became the focus of the materials. As used in this study, the incident is a common problem that teachers deem critical to the success of the teacher candidate. This aspect of teacher education was pursued because of the following assumptions:

1. Incidents in teaching are critical to a teacher's success are not usually encountered in regular practicum experiences.
2. It is impossible to provide certain experiences in a classroom without disrupting the progress of the class.
3. Video simulation provides an opportunity for a future teacher to vicariously interact in a conflict situation without negative consequences to a relationship.
4. Future teachers can be given a dramatic warning of likely incidents and an opportunity to reflect on their reactions through the use of video simulations.
5. Reactions to potential problems can and should be practiced in a safe environment such as video simulation.
6. Classroom management and control in music courses are different than in other subject areas because the activities and responsibilities are different.
7. Performance and academically oriented music classes make different demands on both student and teacher, (Schieman, 1982).

It is possible to justify subjecting the students to common classroom problems by stating that "forewarned is forearmed" and to assume that having considered the causes of the incident and the possible

consequences, the student would be less likely to make unreasoned responses in a real teaching role. The aims of the critical incident simulation are:

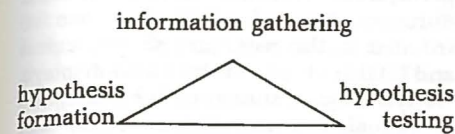
1. Students will experience incidents that have been deemed critical from a survey of teachers.
2. Students will reflect on their vicarious experiences and develop a range of alternative responses.
3. Students will practice alternate responses to the critical incidents, at least within the range included in each simulation.
4. Students will discuss factors which make some responses to an incident preferable to others.
5. The student's future teaching will be enhanced by the poise and respect gained because of his increased ability to make acceptable responses to serious and urgent problems.
6. More acceptable response will in the future lower the anxiety of the teacher's classroom and free time and energy for facilitating learning, (Schieman, 1982).

At present the students in the Music Education Simulation are instructed to study the book *T.E.T. Teacher Effectiveness Training* by Dr. Thomas Gordon. A problem is dealt with differently if considered a teacher's problem than if it is strictly a student problem. The latter is approached in a non-directive way, attempting to show empathy and to allow the student to develop to his own solution. After discussing traditional ineffective confrontations and the improvement of the environment, Dr. Gordon presents a six step directive problem-solving process for resolving conflicts when they become so disruptive that they are what he calls teacher owned. In the University of Calgary classes, some mini-lectures and discussions over the book occur during the regular classes but the University students are expected to demonstrate their understanding of the principles in the classroom simulator and teaching practicum programme held on the campus one evening a week.

Thus far the T.E.T. approach seems to be an improvement over the previous, less directive problem-solving procedure. If the interaction with the video materials is at all effective, and it seems to be, then the materials must be psychologically sound and carefully tested before being used for the large scale preparation for student teaching.

The designers in all three components of the simulation could not ignore the question of how the student's responses could be improved through the experience. The first participants were given a simple problem-solving model to guide their thought processes. The model is a triangle with the points representing information gathering, hypothesis forma-

tion and hypothesis testing. When attempting to solve a problem, a person moves from one point to either of the others. There is no definite sequence or restriction in the number of moves. Further discussion of the conceptual framework can be found in Buehning's dissertation, (Buehning, 1971).



Rationale

The ability to work with people cooperatively is not unique to the field of education, but it is one of the most important skills a teacher must acquire. For university professors whose responsibility it is to prepare educational practitioners, it remains an important challenge. Too often this aspect of a student's education has been left to chance or to the cooperating teacher to teach during the formal practicum experience. In listening to young teachers discuss what they learned during their first two years as a regular teacher, it is apparent that the skill of working with other students, parents and administrators is often ineffectively taught at the university. Knowing about human interaction does not necessarily provide the teacher with the ability to perform in a satisfactory manner. This may be one of the reasons so many young teachers abandon their chosen career. A team of instructors at the University of Calgary under the leadership of Dr. Erv Schieman decided that something unique could and should be done about this obvious deficiency.

Though a simulation facility existed on campus, it was outdated. Several recent changes in this facility have made it technologically current, therefore it was one of the most promising alternatives considered for the project. Unfortunately the results of the early research utilizing the classroom simulator was not too encouraging. A study of the materials used in that early research provided some clues. "The original theoretical basis for the technique was based on the operant conditioning model", (Twelker, 1967). The materials were developed in the belief that behavior was controlled by the environment and reflected this psychological orientation. Although later accepting the model of "the teacher as an information processing system which receives information, evaluates, makes decisions, encodes messages for the student, and transmits the message using appropriate communication channels" (Twelker, 1967), the materials were not changed to reflect this revised view of the role of the

teacher. In addition the filmed sequences were so long that the student working on the simulator was limited in the number and frequency of responses, detracting from both realism and learning opportunities.

The effect of the classroom simulator operator was important as well. This interaction between the student and the operator resembled a tutorial and the judgements of the operator had an influence on the research results, perhaps explaining why "no significant difference" findings were so common. In spite of the weakness, one study found that the simulation experience was "at least as valuable as the first two weeks of student teaching", (Cruikshank and Broadbent, 1968). "Principles which can be used in solving classroom problems can be developed through classroom simulator experience prior to the teacher-trainee's student teaching experience" (Vlcek, 1965), and that these principles do transfer to the student teaching experience. Vlcek also found that "teacher-trainee confidence in ability to teach is increased through classroom simulator experience", (Vlcek, 1965).

Instructional Objectives

Improved instructional effectiveness in the area of classroom management is the over-all objective of the use of simulation in instructing student teachers. Additional project objectives include:

- the field testing of the prototype simulation materials to determine the effectiveness in increasing the student's awareness to crisis management in the classroom.
- to assess the potential of this instructional strategy in the area of interpersonal communication skills, especially those dealing with teacher-student relationships.
- field test the simulator with a different computer/video player interface which has greater search accuracy but has additional computer programming requirements.

Equipment

The newly developed simulator being field tested at the present time includes an Apple II Plus 48K microcomputer with two disc drives and colour monitor, a Sony SLO-320 Betamax video recorder/player play combination. A variation of this basic configuration includes a high resolution black and white video monitor for displaying computer text and a large screen video projector for more life-like visuals. The system has the capability of fully-branching programmes limited only by the available space on the videotape and floppy disc.

The Apple II Plus microcomputer was selected because of its wide-spread

availability and its outstanding track record in similar applications. Also, the high level programming language, Apple-soft Basic, which closely resembles written English, was a factor for its selection. The computer programming had to be developed with three major concerns in mind. First, it was intended that the learner be an active participant in the simulation experience. Second, the delivery system had to supply the capability for the learner to randomly access the various sequences of the learning materials with a precise degree of reliability. Finally, the requirement for evaluation of both content and the delivery system had to be addressed. The impact of the content and the delivery system could only be measured with the delivery system possessing the capability to recognize and retain learner responses and elapsed time in making decisions, which could then be retrieved at the discretion of the evaluators.

Methodology

A series of trials were initiated in the spring and fall of 1981 to check the reliability of the then unproven interface and also to check the simulation logic along with the appropriateness of video segments in context with the computer text. As well, the various measurement instruments and user's guides were validated during these trials. Post-simulation questionnaires were designed to collect the subjective reactions of participants to the programme materials. Of interest to the investigators were such aspects as reaction to the delivery system, appropriateness of critical incidents used, interest and motivation of the participants and the scope of the behaviors included in the software.

Following the initial trials a formative evaluation process was begun to assess whether subjects developed a repertoire of strategies in dealing with the problem situations and a certain flexibility in applying these strategies to simulated incidents. Again, it was of interest to the investigators whether the subjects had a positive attitude towards these simulations upon completion of the programme.

Results

The analysis yielded information indicating that the simulations were well-accepted, realistic and easy to use. There appeared to be some evidence that familiarity with technological instruction systems improved attitudes to the simulation system generally. It is felt that those participants less "literate" will not necessarily react negatively to simulations of this type but this factor will certainly be scrutinized as the use of the materials continues. Any perceived threat

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Children's Preception, Retention and Preference of Asymmetrical Composition in Pictures

By Nikos Metallinos, Ph.D.

Abstract

This study examines the asymmetry of the field theory insofar as young viewers' preception, retention and preference for still visual images are concerned. The purpose of this experimental investigation is to determine whether or not the specific shapes, colors and placement of visuals within the picture frame effect young viewers' (aged 9-11) abilities to preceive, describe and retain them, and whether or not such an asymmetrical composition is preferred.

It was found that (a) the children's ability to perceive and readily describe certain visuals within the left or right side of the visual field is greatly dependent on the shapes and colors of such visuals; (b) the retention and recall of such visuals is more accurate when such visuals are unique in their shapes, outstanding in their colors, and probably when placed within the left visual field; and (c) the children's preference for the total compositional structure of still images is affected by the asymmetrical placement of the visual elements on the left-hand side of the visual field rather than the right.

INTRODUCTION

The ability of children to understand and enjoy dynamic structures in visual images has often been underrated. Depending upon their age and development, elementary school children have a greater level of comprehension of visual display (due primarily to their constant exposure to television) than we realize. Just because their responses are not in accordance with the established pictorial codes and compositional guidelines drawn by adults, does not mean that

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children cannot appreciate and learn from a dynamic and more complex composition. We often simplify the visual images used for class instruction to such an extent that children loose interest and the learning task is jeopardized. This oversimplification in developing visual aids for instructional purposes (drawings, photographs, slides TV and film programs, etc.) has delayed the development of visual literacy in children. I suspect that the rules of picture composition that underline the aesthetic function of pictorial media apply equally when constructing visual messages for elementary school children. Furthermore, I am in total agreement with the advocates of hemispheric lateralization who suggest construction of visual images on the bases of the asymmetrical functions of the human brain (Ragan, 1977, p. 3).

There are extensive empirical investigations on the dynamics of speech delivery, speaker credibility, persuasion techniques, etc. (McCroskey, et al., 1971). There are also studies dealing with pictorial factors in visual education (Cochran, 1980, Levie, 1978). However, studies concerning the dynamic structure of the visual image in instructional materials in education, such as asymmetrical placement of visual elements within the visual field, balance, framing, spacing, image size, form, color, etc., are scarce (Metallinos, 1980). Studies on the importance of the distinct functions of the human brain (in processing visual cues) have only just begun to emerge (Anderson, et al., 1981).

In their study on the effects of the left vs. right placement of visual images in regular newscasts, Metallinos and Tiemens (1977) suggest that color, shape or form, size and directional lines (vectors) of pictorial cues are contributing factors affecting viewer perception, recognition and retention of visual images. The recognition of these pictorial cues as factors affecting the total composition of a visual display by elementary school children depends on two factors: (1) their level of cognitive development, and (2) the visual codes or production elements which are used in the visual message (Acker and Tiemens, 1981). The perceptual and cognitive skills of children in elementary school (aged 9-11) are well developed, at least insofar as image size, color and shape or form are concerned (Piaget, 1974).

This study examines how children are influenced by (1) idiosyncratic shapes, (2) distinct colors, and (3) dynamic composition or asymmetric placement within the confines of a still photograph. In other

words, placement of visual elements within the left or right side of the visual field will differentially affect children's perception, retention and preference. Furthermore, such distinctions are attributed to the particular shapes, colors and total synthesis of the visual displays.

Psychological studies on the perception of visual images (Heber, 1968) and neurological studies on the distinct functions of the left and right hemispheres of the human brain (Ornstein, 1973) have contributed greatly towards our understanding of the composition of images. Scientific evidences provided by such psychological and neurophysiological studies, have shown that viewers discriminate in their preferences of placement of visual materials within the visual field. Trotter's (1976, pp. 218-223) study on the hemisphere. Ragan's (1977, p. 10) argument for a taxonomy of right brain visual literacy outcomes is very important because of the pictorial factors of shape, size, color of visuals, etc., are considered serious hemispheric lateralization research variables. Herbener's et al. (1979) investigation of the precise placement of visual elements within the frame, and Niekamp's (1981) study of the factors affecting visual balance have produced inconclusive results. However, both are key studies in the development of visual literacy. Further investigation in this area is warranted.

Psychologists have observed how viewers perceive and recognize shapes, forms or patterns, starting with simple geometric figures (such as rectangles, circles, triangles, squares, etc.) and progress to more advanced, complex and ambiguous ones such as multisided figures, three-dimensional objects, reversible figures, etc. (Murch, 1973, pp. 122-149). Depending on such key factors as (a) duration of presentation, (b) the development of the perceiving individual and (c) the individual's familiarity with the pattern (shape or form), the order of preference and recognition is triangle, circle, square, parallelogram, rectangle, etc. (Murch, 1973, p. 123). This empirical evidence has been observed and stated by Taylor (1964, p. 19), a renowned analyst of the visual arts, and Hochberg (1978, pp. 131-149), a perceptual psychologist, who both maintain that the simpler and more stable the pattern, the more readily it is perceived and recognized. This implies that the extent to which a viewer perceives, retains and accepts the total synthesis of visuals within the field depends on the degree of simplicity of the particular visual.

The concern of this study, however, is whether or not similar patterns (shapes or forms) are preceived and/or recognized more readily when they are placed on the left visual field rather than the right, as long as the rest of the visuals within the frame remain constant. Trotter's (1976, p. 219) list of hemispheric specialization, and Ragan's (1977, p. 10) taxonomy of right brain visual stimuli suggest that the perception of abstract patterns and recognition of complex figures (both of which are functions of the right hemisphere of the brain), are left field specializations. Can we infer, however, that such specialization and preference could be said for the left visual field or still pictures? This hypothesis needs to be tested.

Empirical studies on viewer perception, retention and total synthesis of colored images are also extensive (Birren, 1961 and 1962, and Hurvich and Jameson, 1966). Closely related to this investigation is Alexander and Shansky's (1976) experimental study on the influence of the three color attributes (hue, saturation and brightness) on viewer perception of the weight of colors. According to these authors (Alexander and Shansky, 1976, p. 72):

In addition to its information content, color is known to have certain affective qualities. We have investigated the assertion that colors have different apparent weights using a magnitude estimation technique. We find that the apparent heaviness of colors is an increasing function of chroma or saturation and a decreasing function of value or lightness. Hue has little influence on the apparent weight of color.

The "darkness" and "lightness" of colors have been found to be contributing factors in viewer perception of hues (Pinkerton and Humphrey, 1974). Thus, blues appear to be lighter than yellows and yellows are lighter than reds. Is the apparent weight of color at all correlated with its preferred placement within the left and right visual field? An interesting observation has been made by Arnheim (1969, p. 323) who concludes that:

Since shape and color can be distinguished from each other, they can be also compared. Both fulfill the two most characteristic functions of vision. They convey expression, and they allow us to obtain information through the identification of objects and happenings.

This relationship is also observed by Bloomer (1976, p. 109) who states that:

Context is the most influential frame of reference for color perception. A single swatch of color will seem brighter, duller, darker, or changed in hue by changing only the context in which the color is seen.

In evaluating the empirical findings on the subject of color preference, Arnheim (1969, p. 334) concludes that color preferences are related to complex social and highly personal factors, which observe the experimentation and bias the results. He suggests that "... it might be preferable not to experiment with colors 'as such', but to relate them to specific objects as is done in the field of market research" (Arnheim, 1969, p. 334). The perception of colors, their retention, and their preference, have not been reliably determined. Consequently, viewer perception, retention and preference for colors due to their placement within the visual field requires further testing. Numerous experiments conducted by such interest groups as physicists, paint manufacturers, artists, interior decorators, neurologists and, of course, psychologists, have been done (Kling and Riggs, 1971, pp. 395-474), and these seemingly superfluous attempts by researchers have been summarized by Boynton (1971, p. 315) as follows:

Unfortunately, data from many studies, where global judgements of color preference have been obtained, seem meaningless. In the first place, because color is perceptually attached to objects we do not necessarily have a favorite color that transcends all circumstances; red may be fine for fire engines, but not for the living room wall. Second, colors typically exist in more than one part of visual space at a time. The appearance of a color depends upon its surroundings and so do color preferences.

Important differences in viewer perception, retention and preference of colors due to their left or right placement within the visual field were expected, and a hypothesis and a treatment testing such probable differences was deemed necessary in this study.

Comparing the effects of (1) full-background still visuals on the TV screen, versus no background visuals at all, and (2) corner screen location of visuals (opposite a live newscaster), as opposed to no visuals at all, Coldevin's studies (1978, pp. 17-18 and 1978, pp. 158-159) on television newscast strategy and Baggaley and Duck's (1974, pp. 1-4) studies on the effects of adding background, have

revealed some very important conclusions focusing on the variables involving the present investigation. According to Coldevin (1978, p. 159), "When location establishment static visuals are used to enhance a speaker's delivery (when he is positioned centrally), a full screen is more effective background display strategy." Furthermore, these studies suggest that "when symbolic presentations are used to enhance a news reader's delivery, a corner screen location is the more compelling background display strategy" (Coldevin, 1978, p. 159). These studies did not, however, concern themselves with the asymmetrical placement of such still visuals and their preferred placement (left or right) within the visual field which is a major concern of this study.

Although the review of literature suggests that the left visual field is more appropriate for the presentation of visual information, there is a disagreement among constructors of visual messages regarding the asymmetry of the visual field.

The following hypotheses were used to test the effects of placement within the visual field of still TV pictures on viewers perception:

1. Placement of visual elements on the right or left side of the visual field (still TV pictures) does not significantly affect children's ability to perceive and to readily describe their shapes (forms or patterns).
2. Placement of visual elements on the right or left side of the visual field (still TV pictures) does not significantly affect children's ability to perceive and to readily describe their color.
3. Placement of visual elements on the right or left side of the visual field (still TV pictures) does not significantly affect the retention of visual content.
4. Placement of visual elements on the right or left side of the visual field (still TV pictures) does not significantly affect children's preference of their general composition.

METHOD

Experimental Materials

The stimulus materials utilized to test the four null-hypotheses were 20 slides made from an original videotape containing news stories. The ten slides which were used to test Hypothesis #1 (shapes of visuals), Hypothesis #2 (color of visuals) and Hypothesis #4 (preference of total synthesis of visuals) captured the newscaster in a medium close-up facing the camera. His image occupied either the left or right side of the visual field. The

other side of the slide, opposite the newscaster, was proportionally balanced with the placement of a specially designed visual to illustrate the content of the news story. The illustrations were 10 different visuals, simple pictures, faces, drawings, objects, that formed several geometric figures such as circles, rectangles, triangles, etc., alternately placed on the left and right side of the visual field. The subjects were briefly instructed as to the content of each slide, i.e. slide #1 "the population explosion," slide #2 "world wide inflation," slide #3 "world peace," slide #4 "the energy crisis," slide #5 "American political parties," slide #6 "overtaxation," slide #7 "the energy crisis in Utah," slide #8 "Utah's rising cost of living," slide #9 "public transportation costs," and slide #10 "world wide pollution problems". Variables such as duration of visual exposure, viewing distance, etc., which could have distracted the children were kept constant.

The stimulus materials (test items) used to test Hypothesis #3 (viewer retention of the visual stimuli) consisted of 10 slides. Each slide contained five visuals, the visual originally used to symbolize the content of the news story shown in the other tests, and four additional ones which were similar to the original. They depicted the same story or concept and were randomly presented.



3. World Peace



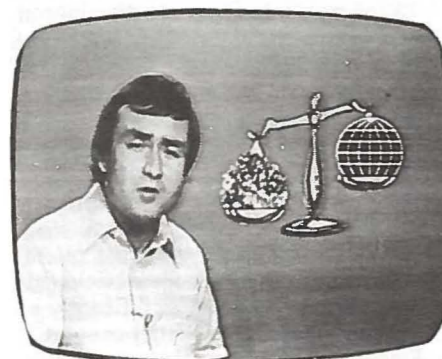
7. Energy Crisis in Utah



4. Energy Crisis



8. Utah's Rising Cost of Living



1. Population Explosion



5. American Political Parties



9. Public Transportation Costs



2. World Wide Inflation



6. Uncle Sam's Overtaxation



10. World Wide Pollution Problems

Subjects and Procedures

Four tests were prepared and administered to a total of 48 elementary school children (aged 9-11) from a normal suburban elementary school in Montreal. Tests were administered successively to groups of 12 subjects at a time in one single session which lasted 20 minutes. An ordinary classroom was prepared to meet the prerequisites in projection, viewing distance, angle of observation, image size, timing of visual display, etc. (Wilkinson, 1970 and Mayer, 1973).

The test for Hypothesis #1 (preception of predominate/outstanding shapes and forms) was multiple choice. It consisted of ten items constructed from responses gathered through pre testing of the shapes, forms, or patterns contained in the visuals of the ten slides. The image of the newscaster remained constant. Each slide was projected for 10 seconds with an interval of 15 seconds blank light to allow the subjects to mark their choices. The subjects were informed that they would see 10 slides with a picture of a person (newscaster) with a drawing beside him. They were asked to mark the shape in the drawing that they thought was visually the most important, regardless of content.

The test for Hypothesis #2 (viewer perception of predominant/outstanding colors) was also multiple choice, consisting of a total of nine possible items constructed from responses gathered by pre testing of all possible colors contained in the visuals of the 10 slides. The pre test was done by showing the slides to a group of college students and asking them to define the predominant or outstanding color(s) of each slide. The 9 item test was constructed based on the results of this test. The colors of the background and the image of the newscaster was excluded. Since the same visual stimuli were used for the two tests (Hypothesis #1 and Hypothesis #2), the subjects were instructed to choose the predominant colors immediately after marking the predominant shape. Thus, the duration of the visual display remained constant, and first impressions were maintained.

The test for Hypothesis #3 (viewer retention of visual stimuli) provided five choices in each slide, one of which was the correct one. Each slide was randomly shown on the screen for 10 seconds with a 15 second interval of blank light during which the subjects marked their choices on a five item choice test.

The test for Hypothesis #4 (viewer general preference for the total composition of the original 10 slides) consisted of a five step preference scale ranging from "don't like at all" to "like very much." The testing procedure used previously was also applied here.

Analysis

A t ratio for related measures (Bruning

and Kintz, 1964, pp. 12-15) was used to test for significant differences between viewer perception, retention and preference of visuals placed on the right side of the visual field and those placed on the left. The degrees of freedom (df) were 47, and the level of confidence for rejecting the null-hypotheses was set at .01. (TABLE I)

RESULTS AND DISCUSSION

The t (47) ratio result of 4.51 obtained from the first test was significant beyond the .01 level of confidence. Consequently, the hypothesis that the children's ability to readily perceive shapes (forms or patterns) is influenced by their particular position within the visual field, supported the theory of asymmetry of the visual field. Table I shows the survey of the

scores obtained from each test, while Table II shows the total scores for each slide placed on the left and right side within the visual field.

A closer look at the results of this test, as shown in Table II below, raises the following points. First, the children's ability to perceive the visual content of a picture seems to be closely related to and dependent on the asymmetrical placement (left or right) of the visual regardless of the specific shape of the visual. This is explained by the uneven distribution of the total scores of left or right, although the visuals were consistently alternated within the visual field. Second, the simpler the visual display, the more readily it was perceived and recorded by the subjects. Circles were more readily perceived than rectangles (see test items

TABLE I

Summary of All Scores Obtained From Each of the Four Hypotheses

Tests	n	df	Left Placement			Right Placement			t
			Total	M	sd	Total	M	sd	
1. Perception of Shapes	48	47	107	2.23	1.39	64	1.33	1.39	4.51*
2. Perception of Colors	48	47	77	1.60	1.08	60	1.25	1.08	2.24
3. Retention of Visuals	48	47	247	5.15	1.04	167	3.48	1.04	11.13*
4. Preference of Total Synthesis	48	47	929	19.35	4.77	569	11.85	4.77	10.87*

*p < .01

TABLE II

Comparisons of the Scores of Left vs. Right Placement of Visuals

Test Items	Placement of Visuals	# 1 Predominant Shapes, Forms		# 2 Predominant Colors		# 3 Visual Retention Shapes/Colors		# 4 Preference of Total Syntax of Visuals	
		TOTALS	TOTALS	TOTALS	TOTALS	TOTALS	TOTALS		
1	R	Circle	27	A Mix/Yellow	13	Rectangle/Brown	R 41	Circles/A Mix	143
2	L	Circle	13	Black/A Mix	8	Circle/A Mix	L 44	Circle/Black	165
3	L	Circle	12	A Mix/White	5	Circle/Blue	L 46	Circle/A Mix	146
4	L	Circle	16	A Mix/Black/White	9	Other Shapes/A Mix	R 40	Circle/A Mix	118
5	L	Other Shapes	18	A Mix/Yellow	24	Rectangle/Green/Yellow	R 45	Other Shapes/A Mix	151
6	R	Other Shapes	10	A Mix/Yellow	16	Other Shapes/A Mix	L 39	Other Shapes/A Mix	167
7	R	Rectangle	9	Green/Yellow	26	Circle/A Mix	L 38	Rectangle/Green/Yellow	126
8	R	Rectangle	18	Brown/A Mix	5	Rectangle/Yellow/Green	L 43	Rectangle/Green	133
9	L	Rectangle	13	Yellow/Green	26	Circle/A Mix	R 41	Rectangle/Yellow	154
10	L	Circle	35	Blue/A Mix	5	Circle/A Mix	L 37	Circle/Blue	195

#1 and #10), etc. Third, the degree to which visual stimuli are perceived and recognized greatly depends, perhaps, on the viewer's previous exposure and knowledge of such visuals, as demonstrated with the high scores of tests #1, #5, and #10.

The $t(47)$ ratio result of 2.24 obtained from the second test was not significant. Consequently, whether or not children are able to perceive certain colors more readily and distinctively due to their placement (right or left) within the visual field, is yet to be determined. Table I shows the survey of scores obtained from the second test. One can attribute the results of this test to any of the following factors. First, the background color of the slides (which were made from a TV newscast was predominantly blue. Blue, as a base color, might have had a direct influence on the viewers' ability to differentiate the various foreground colors of the slides. Second, one or two clearly distinctive colors such as yellow and green, rather than a mixture of hazy and unclear colors, such as brown and orange, were more readily perceived by the children as the high scores of test items #5, #7 and #9 in Table II illustrate. Third, the unknown content of the visual display probably has a direct effect on the viewers' ability to accurately perceive the exact colors as test items #2 and #8 illustrate.

The $t(47)$ ratio result of 11.13 obtained from the third test was significant beyond the .01 level of confidence. It supported the hypothesis that children aged 9-11 are able to retain the visuals that are placed on the left side of the picture more readily than those placed on the right. Table I shows the summary of scores obtained from the third test.

Retention and recall, however, of visual stimuli are complex processes, and, for the most part, hidden. Most of our recall and retention are due to some mechanism of the unconscious of which viewers are not always aware and responsible (Shevrin, 1980, p. 11). The more complicated the visual display, the more complex is the process of its retention. The results of this test raise the following points. First, regardless of left or right placement within the visual field, those shapes and forms which are peculiar, unusual, and dynamic seem to be more easily recalled and recognized as the high scores of test items #2, #3, and #5 illustrate. Second, not only the shapes, but also the colors of the above items were more dynamic, which might be the reason for their high scores. Third, the overall high scores in all items of the retention test (see Table II) illustrate that the change of the context in which the visuals reappeared had very little bearing on the children's ability to identify them.

The $t(47)$ ratio result of 10.87 obtained

from the fourth test was also significant beyond the .01 level of confidence. It supports the notion that children aged 9-11 prefer an asymmetrical visual display. But no statement can be made as to which side of the visual field is preferred, although the data in Table II shows that visuals placed on the left (L) scored considerably higher than those placed on the right (R). It is probable that other factors such as clarity of visuals, previous knowledge, etc., affected the viewers' preference. Further investigation on this matter is warranted.

CONCLUSIONS

The arguments presented in this study regarding children's perception, retention and preference of asymmetrical composition in pictures can be summarized as follows:

1. Children's perception of certain shapes, forms or patterns of visual stimuli is affected by their asymmetrical placement within the left or right side of the visual field, along with the degree of the visuals clarity and simplicity. However, since this study did not use a control group, it cannot be determined which side is preferred.
2. Children's perception of certain colors of visual stimuli does not seem to be determined by their asymmetrical placement within the left or right side of the visual field. Further studies on this issue are needed.
3. Viewers' ability to retain the shape and colors of visual stimuli could be attributed to their outstanding shapes or colors as well as to their placement within the field. Further studies are needed to determine such asymmetrical preference.
4. Children's preference for the total compositional structure of still images is positively affected by the asymmetrical placement of visual elements on the left or right side of the visual field. However, this study can not determine with confidence which side of the visual field is preferred most by the young viewers.

There are some limitations to this study that warrant further investigation and research. First, the stimulus materials (10 slides) made to test Hypothesis #1 (shape, form), Hypotheses #2 (color), and Hypothesis #4 (total synthesis) could have been more distinctive, clear and of greater diversity. Also, live action would be better than stills. Second, a control group to compare effects of the opposite placement of visual materials within the field could be employed. Third, greater control and measurement of the visual in terms of their particular geometric figures must be applied. Fourth, biometric, rather than formative research techniques would have produced more accurate and generalizable results.

The findings of this study show strong implications for establishing a unified policy regarding visual literacy in children. Such a policy would underline those carefully studied and empirically tested variables (visual media factors) which will comprise the language of visual communication media.

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MEDIA NEWS

Continued from page 2

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being taught and to vary their own teaching methodology. Finally, if media were not used to teach a lesson, it was because

of attitudinally based reasons rather than a perceived barrier or lack of the appropriate knowledge of how to use media.

Calgary Teacher Wins National Award



The Association for Media and Technology in Education in Canada (AMTEC) has awarded its first Achievement Award to Mr. Lonnie Springer, Media Coordinator at Bishop Carroll High School in Calgary.

The award, sponsored by the Educational Media and Producers & Distributors Association of Canada (EMPDAC), is made in recognition of outstanding ability in the use and creative development of audio visual materials in the classroom in the kindergarten, elementary, secondary, post secondary and training environments.

Mr. Springer's work is developing individual learning units at his high school has been an essential ingredient to Bishop Carroll's success as a truly individualized instruction school. His expertise in facility design, media production and student utilization has allowed his school to individualize major elements of many subject areas to the benefit of thousands of Bishop Carroll graduates.

Mr. Allan Meyer of the National Geographic Society presented the award to Mr. Springer on behalf of EMPDAC at the AMTEC National Conference in Montreal.

Following is an excerpt from an article written by Mr. Springer about the development and use of audio visual materials at Bishop Carroll.

If all media programs and equipment in your school were suddenly to disappear, would anyone actually miss them?

Here at Bishop Carroll High School, media have become such an integral part of the school's curriculum that the disappearance of even one media program would immediately affect the progress of many students. This is partly because our students proceed individually through their courses, and partly because we have found that audiovisual teaching methods are powerful and popular with students

— regardless of how the school curriculum works.

Media Use is Up

The school's philosophy of individualized instruction is ideally suited for such media as slide-tape programs, videotapes, filmstrips, 8 mm films, and audiotapes. As media coordinator, I have worked with the teachers to select and integrate media into their units. I first worked directly with a few teachers who had expressed an interest in using media, and from each teacher's subject area we chose for revision specific learning units in which we felt audiovisual materials would be effective.

After the students had used these units for a while and we were satisfied with the results, we held workshops for the rest of the faculty, to show the advantages of using media in the individualized learning units. As a result, teachers have dramatically increased their use of media, and media centre records reflect that increase: in September 1980, for example, 3,295 students used 2,430 media programs in the centre, as compared with 1,541 students' use of 1,002 programs in September 1978.

We find ourselves producing more and more of our own media programs — ranging from simple overhead transparencies to complex videotape programs that we film in our own studio. The teachers are involved, of course, as the subject specialists and as television teachers in producing instructional videotapes. Students perform as members of the television production crew, and the media technician prepares the graphics for all productions.

We're Adding Print Materials

Recently, the school's reference library was moved into a large resource centre adjacent to the media centre, and the wall separating the two areas was removed. Where many schools face the task of converting the school library into a media centre, the challenge that we're now facing is to integrate print reference materials into what has been an exclusively audiovisual centre!

The future "media library" will represent more than a simple name change. At Bishop Carroll, the media library will offer students and teachers a wide range of print and audiovisual media and a variety of work spaces, all in a comfortable, friendly, and inviting atmosphere.

From the Media Periodicals

By Patrick Wright

BRITISH JOURNAL OF EDUCATIONAL TECHNOLOGY, 14:2, May 1983

Reid, Fraser J.M. & Champness, Brian C., "Wisconsin Educational Telephone Network: how to run educational teleconferencing successfully"

Harris, N.D.C. & Tarrant, R.D., "Teleconferencing and distance learning"

McConnell, David & Sharples, Mike, "Distance teaching by Cyclops: an educational evaluation of the Open University's telewriting system"

Choat, Ernest, "A strategy for reviewing the role of educational television in infants' schools"

Dechastel, P. & Steve, M., "Instructional goals: determination and specification"

Collier, K.G., "Learning technology departments and institutional management policy"

THE COMPUTER TEACHER, 11:1, August 1983

Stronge, James H., "Finding computer-related technology in the public schools"

Schwartz, Helen J., "But what do I write? — literary analysis made easier"

Stiehl, Ruth E. & Anderson, Edwin, "Media center builds media packages to teach basic microcomputer skills"

Ryba, K.A. & Chapman, J.W., "Toward improving learning strategies and personal adjustment with computers"

Upitis, Rena, "The synthesizer: a bridge from reality to ideals in music education"

THE COMPUTING TEACHER, 11:2, September 1983

Levin, Will, "Interactive video: the state-of-the-art teaching machine"

Stiehl, Ruth & Streit, Les, "You can develop packages which teach computer skills"

Kundert, K.R., "An Apple a day — computers?"

Traberman, Tama, "Using interactive computer techniques develop global understanding."

EDUCATIONAL COMMUNICATION AND TECHNOLOGY, 31:2, Summer 1983

Cassidy, Michael F. & Knowlton, James Q., "Visual literacy: a failed metaphor?"

Bruning, Iva L., "An information processing approach to a theory of instruction"

Hannafin, Michael J., "The effects of instructional stimulus loading on the recall of abstract and concrete prose"

EDUCATIONAL TECHNOLOGY, 23:8, August 1983

Some thoughts on the improvement of American public education: an interview with Ralph W. Tyler"

Wright, Elizabeth E. & Pyatte, J.A., "Organized Content Technique (OCT): a method for presenting information in education and training"

Rampy, Leah (et al.), "Computers in the schools: 21 critical issues for policy decisions"

EDUCATIONAL TECHNOLOGY, 23:9, September 1983

Rothe, J. Peter, "Critical evaluation of educational software from a social perspective: uncovering some hidden assumptions"

Grossnickle, Donald R. (et al.), "Profile of change in education: microcomputer adoption status report"

McMeen, George R., "Toward the development of rhetoric and context in the communication of meaningful verbal information in multimedia instructional materials"

Sherman, Thomas M., "Is schooling an unnatural act?"

INSTRUCTIONAL INNOVATOR, 28:6, September 1983

Guber, Lyn, "AECT's response to the Report of the National Commission on Excellence in Education"

Wilkinson, Gene, "Using media to make instruction more effective"

Hansen, Viggo P., "Using media to teach math"

Sigda, Robert B., "Using media to teach science"

Beebe, Thomas H., "How to write your own instruction using a computer authoring system"

MEDIA AND METHODS, 20:2, September 1983

Hunter, C. Bruce, "A guide to selecting educational software"

Livo, Norma J., "Storytelling: an art for all ages"

OPEN CAMPUS, No. 8, 1983 (Occasional papers published by the Distance Education Unit, Deakin University, Victoria 3217, Australia) Special Canadian issue.

Shobe, Charles R., "Telecommunication technologies and distance education: a report on recent Canadian initiatives"

Mugridge, Ian, "Consortia in distance education: some Canadian ventures"

Murphy, Peter J., "The Orion Project: an innovation before its time"

Shale, Douglas G., "The Office of Institutional Studies at Athabasca University"

PROGRAMMED LEARNING AND EDUCATIONAL TECHNOLOGY, 20:1 February 1983

Morrison, W. & Cunningham, R., "Diagnostic assessment — a teacher's view"

McCall, J., Bryce, T.G.K., & Robertson, I., "Assessing foundation science practical skills in the classroom"

Mortimer, C.G., "The application of diagnostic assessment to the teaching of historical skills"

Perfect, Hugh & Robinson, Jannet, "An approach to diagnostic testing in the Scottish O Grade biology course"

Simpson, Mary & Arnold, Brian, "Diagnostic test and criterion-referenced assessments: their contribution to the resolution of pupil learning difficulties"

Parkinson, B.L., Mitchell, R.F., & Johnstone, R.M., "Mastery learning in modern languages — a case study"

Drever, Eric, "Curriculum objectives as assessment criteria — some problems of validity"

Black, H.D., "Introducing diagnostic assessment"

Brown, George & Daines, John, "Creating a course on lecturing and explaining"

PROGRAMMED LEARNING AND EDUCATIONAL TECHNOLOGY, 20:2, May 1983

Brian, Robert, "Sequencing instruction: a cognitive science perspective"

Davis, B. (et al.), "A comparison of the effects of film and videotape presentation on student recall"

Webb, Graham, "The tutorial method, learning strategies and student participation in tutorials: some problems and some suggested solutions"

Duchastel, Philippe C., "Independent study strategies: reactions to study guide components"

Mediography

Media on Distance Education

By Nancy Lane

More and more educators and institutions are becoming involved in Distance Education. The following is a listing of media relevant to the topic.

CABLE OF THE IMMEDIATE FUTURE Motion Picture, Cable TV Info. Ctr/Washington, 1976 11 min., sd., col.

This program explores the history and future of cable telecommunications.

COMMUNICATING THROUGH COMPUTERS Videorecording, Univ. of Wisc., 1980 10 min., sd., col.

The focus of this program is computer conferencing and computer mailing.

COMMUNICATION Videorecording, TVO, 1978 15 min., sd., col.

From "The Fast Forward Series", the program deals with the movement of communication and the technology which makes it possible — satellites, fibre optics, digital switching systems.

DESIGNING INSTRUCTIONAL TELEVISION PROGRAMS Videorecording, NAVC, 1975 13 min., sd., col.

The basic elements all outlined — assessing the need; determining the audience and instruction problem; developing the objective and script; and evaluating the program.

ELECTRONIC MEETINGS Videorecording, Univ. of Wisc., 1980 10 min., sd., col.

Audio, video and computer conferencing are the subject of this program.

THE FOURTH NETWORK Videorecording, Gt. Pl. Inst. TV, 1972 20 min., sd., col.

An examination and exploration of the role of educational television. The focus is on current activities and future potential.

INDIAN SATELLITE ITV EXPERIMENT Videorecording, Gt. Pl. Inst. TV, 1978 28 min., sd., col.

A documentation of the Indian Satellite ITV Experiment, this program examines the objectives, records the experiment, shows the research and evaluates the results.

Winer, Laura R. & de la Mothe, John R., "Computers, education and the 'dead shark syndrome'"

PROGRAMMED LEARNING AND EDUCATIONAL TECHNOLOGY, 20:3, August 1983 Special Canadian issue

Daniel, John S., "Independence and interaction in distance education: new technologies for home study"

Forsythe, Kathleen, "The human interface: teachers in the new age"

Rich, Tom, "The impact of computers on Canadian schools"

Jean, J., Bélanger, R., & Sapp, R.D., "Project U-TRAIN/CAL: NATAL as an authoring language"

Carl, Diana R., "Creating a duet: using video and videoconferencing to meet the needs of the community"

FOR YOUR INFORMATION

ITV UTILIZATION Videorecording Netteh, 1970 4 - 30 min. videocassettes, sd., col.

The topics are: The Television Perspective, Instructional Design, Developing a Plan, and Implementing a Plan.

NO PLACE FOR LONE RANGERS Videorecording, Univ. of Wisc., 1980 12 min., sd., col.

This program presents basic elements of a successful teleconference.

TELECOURSES Videorecording, Magic Lantern, 1980-83

This is a collection of credit and non-credit courses which combine 26 half hour videocassettes with texts, study guides, and faculty manuals. Courses range from studies in cultural anthropology to business management to computer literacy.

12 INTERACTIVE TECHNIQUES Videorecording, Univ. of Wisc., 1980 4 videorecordings approximately 10 min. ea., sd., col.

This is a training set for teleconferencing. It focuses on practical tips and guidelines.

TELE-EDUCATION IN CANADA Slides, Telecom Canada, 1982

These slides are part of a marketing package which promotes tele-conferencing in Education, Medicine and Industry. Contact: Terry Fredrick or Monica Jordanoff (1-800-267-7400)

TELIDON Videorecording, Can. Dept. of Communication, 1981 15 min., sd., col.

Produced by the National Film Board, with Dr. David Suzuki, this presentation shows the Telidon information retrieval system.

VIDEO COURSES FOR TRAINING AND HUMAN RESOURCES DEVELOPMENT Marlin, 1979-83

Produced by Time-Life, these courses come complete with printed materials, workbooks, and leader manuals. The courses offered include Writing Skills, and Management Development.

WHERE THE ACTION IS Videorecording, Univ. of Wisc., 1980 10 min., sd., col.

An overview and a discussion of teleconferencing.

Lewis, Richard F., "Using Canadian Sesame Street segments in elementary classrooms to teach French"

Lamy, Thérèse and Henri, France, "Télé-Université: ten years of distance education in Quebec"

Vázquez-Abad, Jesús & Mitchell, P. David, "A systems approach to planning a tele-education system"

BOOKS

Paul Audley
Canada's Cultural Industries
 James Lorimer & Company, Publishers
 1982

Reviewed by Patricia Dolan Lewis

For once we have a book on the Canadian media with usage statistics, history, and advertising data.

Canada's Cultural Industries is an up-to-date analysis of the broadcasting, publishing, record and film industry. It integrates the latest information with overall policy statements. Quite frankly, the book manages to combine a lot of disparate facts into a cohesive statement — one that is very necessary to understanding mass communication in Canada.

Building from the premise that Canada must develop policies to strengthen cultural industries, Audley repeatedly highlights foreign control as a major problem confronting the communications industry. In a sector-by-sector analysis, he illustrates that Canadians rely on American media to present a vision of news events, contemporary music, literary masterpieces, artistic films, etc. American domination of distribution systems, production facilities, and news gathering apparatus, forces Canadians into secondary positions — secondary positions within their own national boundaries.

Charts illustrate the relationship between Canadian and foreign ownership in all areas of cultural expressions. These charts give specific dollar figures of production units, or ownership statistics which support the book's fundamental premise.

After outlining the severity of the problem within each industry, the book then explains current government policy. It explains weaknesses and strengths in the present system and suggests policy alternatives for the future.

Although the book presents masses of specific data relevant to Canada, it does not provide an overview of the communication function. It assumes that readers understand the *raison d'être* for a national cultural network and merely outlines a procedure for developing this network. As a result, if the book is used in a mass communication course, some supporting background theory would be necessary.

On Newspapers

The newspaper publishing section con-

denses the Kent Commission's multi-volume report into a comprehensive 42-page summary. It identifies the main themes from this Royal Commission and puts the latest data into perspective by referring to past government reports: specifically the Davey Report and the O'Leary Report.

The policy issues and solutions reflect the recommendations of the Kent Commission, eg. the Press Rights Panel, the Canada Newspaper Act, the surtax proposal.

Magazines

Although 78 percent of all Canadians read some magazines, most Canadian circulation concentrates on adaptations of U.S. magazines; *Time*, *T.V. Guide*, *Reader's Digest*. There is little national data on Canadian magazines.

The second chapter provides a concise explanation of Bill C-58 which made advertising in non-Canadian magazines taxable. This section illustrates the problems of Canadian magazines competing against large wealthy American publications. It clearly explains the cost of producing, researching, writing, and distributing magazines to a small widely distributed population. It contrasts these problems with the American procedure of merely printing more issues of the same product and expanding the distribution system. The particular problem of news stand exposure is discussed in this chapter. Also the problems of indirect government subsidies to foreign publications are noted.

Indirect subsidies will be noted throughout the book as a continuing weakness in government policy. Providing subsidized postal rates for foreign materials — records, books, magazines, etc. can only stifle the growth of Canadian products. The recommendations in each chapter remain the same regardless of the product; namely redefine more strictly foreign ownership and eliminate indirect government subsidies to foreign products.

Books

The book industry is in desperate need of a cooperative federal-provincial policy — yet none has been developed. To support this premise, the book outlines the different types of books on the market: trade books, text books, and professional or technical books.

The problems confronting the book industry are similar to those in the magazine sector, but magnified by the ad-

New Microware Column

During a recent meeting of the AMTEC board of directors, it was noted that CJEC contains both book reviews and film reviews, but no microware reviews. The intent of this column is to change that situation. We now have a column dedicated to highlighting commercially available microcomputer applications software which is likely to be of interest to our particular user group.

Microcomputers can help us be more effective educational planners, writers, composers, designers and analysts. In addition, microcomputers can also function as tools to help us gain access to and retrieve or store information from both local and distant sources. Unfortunately, because of our ever increasing workloads, the burgeoning number of publications appearing in the market place and the proliferation of new systems, it is difficult for each individual user to keep informed of what is available, let alone the unique or special merits of a particular applications package.

Through this column and others like it, the sharing of information about particularly successful (or unsuccessful) implementations of microcomputer applications programs can help us keep abreast of the new developments in this area of our field. 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.

ditional expense of producing a book.

Again like the magazine industry, the distribution network for Canadian books is weak. Very often chain stores dominate in the book industry so fewer specialized books are available. Indirect government subsidies are also a problem. Sales tax exemptions are available for all books, rather than just for Canadian books. The tariff on American books was reduced in 1979, resulting in an influx of foreign titles. The postal subsidy is available for all books regardless of authorship of a publication.

Sound

The average Canadian spends 19.4 hours a week listening to radio. In addition he listens to records and tapes. However, the majority of music broad-

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MICROWARE

By Leonard F. Proctor

The Gutenberg WORD PROCESSOR

Gutenberg is one word-processing program that fully exploits the inherent capabilities of both the Apple microcomputer and a matching printer. This program will be of particular interest to anyone who is working in the media field and has the need to create hardcopy documents which either contain scientific notation or are written in non-english languages.

Most of the currently available word-processing programs do a capable job of performing the routine revision tasks associated with the creative writing process. But, when the user is faced with the problem of printing complex combinations of subscripts, superscripts, letterheads, titles, diagrams or specialized symbols, these conventional packages often fail.

Gutenberg succeeds where other word-processing programs fail because of three unusual features. First, in addition to the Greek and Cyrillic alphabet being available as standard character sets, provision has been made for the creation of user definable fonts. Second, the user can insert a high resolution graphics image anywhere on the printed page. And third, the text can be printed in two or more columns. In other words, when Gutenberg is under the direction of a skillful user, it has capacity to make the Apple function as an electronic cut and paste page make-up system.

The documentation which accompanies this program is a good illustration of the case in point. It contains numerous examples of diagrams, illustrations, and changes in font

size or style. Yet, the original pages for the entire manual were produced by the Gutenberg word-processor program.

The microcomputer hardware requirements needed to run the Gutenberg word-processing program are minimal. The standard 48K Apple II plus with a shift key modification (or the Apple IIe) and one disk drive are quite sufficient. However, the program is printer and interface card specific. Only the Apple DMP or workalikes, Centronics 737 and 739, Epsoms, and Qume Sprint 5/45 and 9/45 printers are supported.

In conjunction with the selection of a printer, an appropriate Apple, Epson, Mountain Hardware CPS, Orange Grappler, JPS M. Systems, PKaso or Sak cards must also be selected. The selection of a daisy wheel printer, it must be remembered, precludes the use the program's high resolution graphics features.

The primary reason that this program is printer/interface card specific is that the program contains one of the most com-

plex sets of formatting commands available in any of the commercial Apple word-processing program currently on the market. While the flexibility of printer control greatly enhances the versatility of any word processing program, it also greatly increases the amount of learning time required by a user to feel "at home" when using the program. For Gutenberg, simply remembering the mnemonics for over one hundred format commands and the multitude of editing and file handling commands is a major memory task in itself.



BOOKS

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cast or sold on record or tape is produced in another country. Sound faces problems with producing, recording, and distributing Canadian music. The CRTC's content policy which forces radio to play at least 30 percent Canadian music has encouraged original productions, but the definition of Canadian content is weak.

The chapter concludes with specific suggestions for encouraging this industry: tax incentives, government assisted loans, higher duty on imported tapes, diversified distribution networks.

GUTENBERG

Continued from page 19

While a good attempt has been made to simplify this process through the use of tutorials and extensive written documentation, additional aids are required to reduce the frustration level of even the experienced microcomputer user, when they start to use this program. While one of the great joys in using this program is watching the output come off the printer; one of the great sorrows is the amount of time that it takes to learn how to successfully make changes in the program's formatting statements. Perhaps more examples with line by line, cross referenced explanation of an actual functioning "print" program, could facilitate the learning process.

Finally, the Gutenberg boot disk is a locked, copy protected disk. This feature prevents the program from being used with either a pseudo-disk or a hard disk storage system. Also, Gutenberg text files are not readable by the normal Apple disk operating system. To compensate for this feature, a Gutenberg utility program has been provided. The use of this program permits the user to convert text files, previously created with other word processing programs, to Gutenberg text files and vice versa.

In summary then, the Gutenberg word-processing program has been designed to perform all of the functions associated with small scale typesetting. Its primary weakness is that it is a complex and difficult program to learn how to use. On the other hand, its primary strength is that, when combined with the qualities of a good dot matrix printer, its capabilities exceed the capabilities of any word-processing program currently on the market. In this reviewer's opinion, anyone who is working in a media related environment which requires the routine use of non-English languages or the regular use of specialized symbols, will find that Gutenberg's strengths far outweigh Gutenberg's weaknesses.

Radio

The chapter opens with a concise history of Canadian radio and the establishment of the CBC radio network.

Many of the problems outlined in the radio section are intimately connected with production problems in the Canadian recording industry. Specific details on radio audience, listening patterns and programming characteristics are given. These facts help us to understand the radio industry in Canada and provide some specific suggestions for improvement.

Moving Images

Movies and the NFB are integrally linked in Canada because for years the NFB was the only film production establishment in the country. Obviously the basic information on the NFB is explained, but it is supplemented by facts on the commercial distribution network. The goals of the Canadian Film Development Corporation are also critically reviewed.

Television

The television industry concludes the review of cultural industries. Like other

sections, it reviews the development of T.V. in this country and highlights the problems of producing top quality Canadian programming on a CBC budget.

Pay T.V. and the feature film industry are discussed. The chapter identifies as the key issue the definition of Canadian material.

The book concludes with a strong discussion of the financial impact of the communication industry on society. Consumer expenditure on the cultural products has increased dramatically in the last 10 years. The market for cultural products and programs is expected to increase more rapidly than the economy as a whole. The obvious problem becomes one of supply. Domestic involvement in Canadian news, current affairs, sports and talk shows is high. In comparison Canadian books, records, films, entertainment programs have a very limited market share.

This market share is the fundamental problem outlined in Audley's book. He makes specific suggestions for changing policy and the suggestions are intimately connected with the nature of the industry.

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Applications will be received until January 15, 1984.

ALLIGATOR

By James Michener

Editor's Introduction

Fiction can not only entertain, it can also instruct. Such was the philosophy stated in the first issue of CJEC (vol. 12) when we reprinted the classic Canadian short story "The Movies Come to Gull Point," as the first in a series of fiction specially relevant to the field of educational media. In this issue we continue our exploration in "Alligator", one of the short stories from James Michener's classic work TALES OF THE SOUTH PACIFIC.

First, a word of caution. "Alligator" has nothing whatsoever to do with educational media. It has nothing to do with educational technology. BUT this story of the American attack on Kurelai is the epitome of the systems approach in action. That systematic approach has since become the hallmark of contemporary educational technology with its define-develop-evaluate paradigm.

The origins of the systematic approach are often traced to the US military activities of World War II. But how much educational technology and instructional development actually owe to the military training experience is unrecorded. James Michener's short story which follows helps to set the record straight. As you read, you will find it nothing short of remarkable, how all of our ID concepts were pre-applied in a non instructional activity. The following provides a brief analysis of "Alligator" as a prototype of the systems approach and as a metaphor for educational technology:

Identify Problem

Not only does the author begin with a clear deliniation of the problem, he goes back one step further and begins where few systems models follow, namely identification of the problem "area". The problem area is the war in the South Pacific. The specific problem is "to take Kurelai". Two constraints are immediately imposed at the outset. First, the attack is to be secret, even from those who will participate, until the last moment. And second, to attack the island is a known impossibility. In Michener's words, "It was a preposterous decision."

Analyze Setting

With the problem clearly identified, the next step in a systems analysis is to analyze the setting. And this is precisely what is described next by the author. Several kinds of analyses are made. The

physical characteristics of the island to be attacked are considered. Lack of accurate maps necessitates sending out reconnaissance parties to collect relevant data to redraw the maps. The disposition of the natives is studied and categorized. The weather conditions are considered:

At this time of year, no hurricanes are to be expected. There is however, record of one that struck three hundred and eighty miles southwest of Kurelai in 1897. Assuming that a hurricane does strike, it will be certain to travel from . . .

Food is studied, and participants are guided by a general heuristic that "if something looks good, smells good, and tastes good, eat it." Like all heuristics, this one leaves something to be desired.

Particular attention is given to the very detailed analysis provided by the medical corps before planning and providing for medical assistance. For example:

They made a study of all amphibious landings of which there was any history. Landings by a large force, by a small force. Landings with a ground swell, and in calm water. Landings with air cover and without. Landings with fierce air opposition and with moderate. Landings with no air opposition. Landings in the tropics, in the arctic, and in temperate climate. Landings with hospital ships available and with hospital ships sunk. In fact, where no experience was available to draw upon, the doctors spent hours imagining what might conceivably happen. Slowly and with much revision, they proceeded to draw up tables.

Organize Management

Management personnel are selected according to their special areas of expertise — ranging from top ranking officers stationed in Washington, to the rank and file soldier on reconnaissance patrol. Each has clearly defined responsibilities which become subsystems of the overall system. The larger system is given the code name of "Alligator". Among the subsystems discussed in depth are the mapmakers, the destroyers, and the medical corps.

Specify Objectives

The development stage begins at this point. The terminal objective is of course, "to take Kurelai". Enabling objectives abound in the story, and indeed can be found in nearly every paragraph.

In fact, the very multiplicity of enabling objectives assists in keeping the mission a secret, mainly because almost no one is aware of what the enabling objectives are leading towards! Rather like an instructional situation often is, one suspects, although this time with reason!

Identify Methods of Procedure

These are clearly specified, always with alternate choices. At the extreme, "The admiral in charge of providing the necessary number of destroyers for the operation studied eighteen or twenty contingencies."

Construct Prototype

The master plan is developed using a team of developers, combined with resource persons. The result is a sort of multi-media kit consisting of a 612 page text and six accompanying maps of the area.

Consider the Human Element

System experts are constantly being reminded that with all their science, the human factor is still of primary consideration, perhaps even, the overriding factor. Mitchener too recognized this critical element:

Admiral Kester closed the book. Alligator, it said on the brown stiff paper cover. At that moment similar Alligators were being studied by men responsible for submarine patrols, aircraft operations, battleship dispositions, and supply. Each of the men — and it is easy to understand why — said, as he closed the book after his first cursory study of it, "Well, now it's up to me."

Implement and Evaluate

Finally the strike is on! Where the planning is accurate, success follows. Where weakness occurs, likewise so does disaster, tragedy, and death. Although the story stops here, one feels that weaknesses will be carefully examined and corrected the next time round, and that successful elements will be repeated when applicable.

Re-cycle

And so the cycle continues. But not only on the battlefield, and in the systems analysts' "front office", but even in the field of literature. For it is in this re-cycling into a new set of input data, that someone somewhere has remarked, "And thereby hangs a tale". As Mitchener has discovered, not only does all of this make good systems, it also makes a good short story.

— D.H.

One day in November, 1942, a group of admirals met in the Navy Building, in Washington. They discussed the limited victory at Coral Sea. They estimated our chances on Guadalcanal. They progressed to other considerations, and toward the end of the meeting the officer who was serving as improvised chairman said, "We will take Kuralei!"

It was a preposterous decision. Our forces at that moment were more than a thousand enemy-held miles from Kuralei. We barely had enough planes in the Pacific to protect the Marines on Guadalcanal. Our ability to hold what we had grabbed and to digest what we held was uncertain. The outcome in the Pacific was undecided when the men in Washington agreed that next they would take Kuralei.

Equally fantastic men in Russia made equally fantastic decisions. They forgot that Von Paulus was at the gates of Stalingrad. They were saying, "And when we have captured Warsaw, we will sweep on directly to Posnan. If necessary, we will bypass that city and strike for the Oder. That is what we will do."

And in London, Americans and British ignored Rommel at the threshold of Alexandria and reasoned calmly, "When we drive Rommel out of Tunisia, and when you Americans succeed in your African venture, we will land upon Sicily in this manner."

That each of these three grandiose dreams came true is a miracle of our age. I happened to see why the Kuralei adventure succeeded. It was because of Alligator. I doubt if anything that I shall ever participate in again will have quite the same meaning to me. Alligator was a triumph of mind, first, and then of muscle. It was a rousing victory of the spirit, consummated in the flesh. It was to me, who saw it imperfectly and in part, a lasting proof that democratic men will ever be the equals of those who deride the system; for it was an average group of hard-working Americans who devised Alligator.

First the admirals in Washington conveyed their decision to their subordinates. "We will take Kuralei!" One of the subordinates told me that his head felt like a basket of lead when the words were spoken. "Take Kuralei!" he laughed in retrospect. "It was as silly as suggesting that we sail right in and take Rabaul, or Truk, or Palau. At that time it was a preposterous imagination."

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But he and perhaps sixty other high-ranking officers set out to take Kuralei. Specialists of all branches of the service studied Kuralei day and night, to the exclusion of all else. Map-makers were called in to make complete maps of Kuralei . . . and four other islands so that no one could say for sure, "Kuralei is next." It was soon discovered that there were no maps of the island that could be trusted. Months later, lonely aircraft stole over Kuralei at great speed, and unarmed. They photographed the island . . . and four other islands, and some were never seen again. A submarine one night put six men ashore to reconnoiter a Kuralei beach. They returned. The men who crept ashore on another island did not return, but even in the moments of their darkest torture those men could not imperil the operation, for they knew nothing. In five months the first maps of Kuralei were drawn. They proved to be sixty percent accurate. Hundreds of lives paid for each error in those maps; hundreds more live today because the maps contained so much accurate information.

The admiral in charge of providing the necessary number of destroyers for the operation studied eighteen or twenty contingencies. *If* the submarine menace abates within four months; *if* we could draw twelve destroyers from the Aleutians; *if* we had only eight carriers to protect; *if* we can insist upon using only those transports that make sixteen knots; *if* we can rely upon complete outfitting in Brisbane; *if* Camden and Seattle can finish outfitting the cruisers we need; *if* the job between here and Ascension can be turned over to destroyer escorts; *if* the African experiment needs all the destroyers allocated to it; *if* we could draw heavily upon MacArthur's fleet for the time being; *if* reports from Korea four weeks previous to D-day continue favorable as to the disposition of the Jap fleet; *if* we decide to knock out most of the shore batteries by aerial bombardment; *if* we have a margin of safety at Midway; *if* we have an air cover as powerful as we plan; *if* we can suspend all convoys south of Pearl Harbor, and so on until a truly perplexing number of possibilities had been considered. But when a man whose life has been planned to the sea, whose whole purpose for living is meeting an emergency like this, spends four months on the problem of destroyers at Kuralei, one has a right to expect a judicious decision.

The medical corps attacked their problem somewhat differently. They made a study of all amphibious landings of which there was any history. Landings by a large force, by a small force. Landings with a ground swell and in calm water. Landings with air cover and without. Landings with fierce air opposition and with moderate. Landings with no air opposi-

tion. Landings in the tropics, in the arctic, and in temperate climate. Landings with hospital ships available and with hospital ships sunk. In fact, where no experience was available to draw upon, the doctors spent hours imagining what might conceivably happen. Slowly and with much revision, they proceeded to draw up tables. "Against a beach protected by a coral reef, with a landing made at high tide against effective, but harassed enemy opposition, casualties may be expected as follows . . ." Specialists went to work upon the tentative assumptions. "Of any 100 casualties suffered in this operation, it is safe to predict that the following distribution by type will be encountered." Next research doctors computed the probable percentages of leg wounds, stomach wounds, head wounds, arms shattered, faces blown away, testicles destroyed, eyes lost forever, and feet shot off. Then the hospital men took over. "It can be seen from the accompanying table that xx hospital ships with xx beds must be provided for this operation. Of the xx beds, no less than xx percent must be adjustable beds to care for wounds in categories k through r." Next the number of surgeons required was determined, the number of corpsmen, the number of nurses and their desired distribution according to rank, the number of enterologists, head specialists, eye men, and genito-urinary consultants. The number of operating tables available was determined, as were all items of equipment. A survey was made of every available hospital and medical facility from Pearl Harbor to Perth. "By the time this operation commences, it is reasonable to assume that we shall have naval hospitals on Guadalcanal, the Russell's, Munda; that we shall have increased facilities in the New Hebrides and Noumea; and that projects already under way in New Zealand and Australia will be completed. This means that at the minimum, we shall have . . ." Four medical warehouses were completely checked to see that adequate supplies of all medicines, plasma, bandages, instruments, and every conceivable medical device would be available. "If, as is reasonable to suppose, we have by that time secured an effective airstrip, say at some point like Konora, we will have available fourteen hospital planes which should be able to evacuate critically wounded men at the rate of . . ." At this point a senior naval doctor interrupted all proceedings.

"Let us now assume," he said, "that this operation is a fiasco. Let us imagine for the moment that we have twenty-five percent casualties. That our schedule for operations is doubled. That head wounds are increased two hundred percent. What will we do then?" So the doctors revised their tables and studied new shreds of

past experience. About this time a doctor who had commanded a medical unit for the Marines on Guadalcanal returned to Washington. Eagerly, his fellow physicians shot questions at him for three days. Then they revised their estimates. A British doctor who was passing through Washington on a medical commission that would shortly go to Russia was queried for two days. He had been on Crete. Slowly, with infinite pains, ever cautiously, but with hope, the doctors built up their tables of expectancy. Long before the first ship set sail for Kuralei, almost before the long-range bombers started softening it up, the medical history of the battle was written. Like all such predictions, it was bloody and cruel and remorseless. Insofar as our casualties fell short of the doctors' fearful expectations, we would achieve a great victory. And if our losses amounted to only one half or one third of the predictions, hundreds upon hundreds of homes in the United States would know less tragedy than now they could expect to know. In such an event Admiral Kester would be able to report on the battle in those magic words: "Our losses were unexpectedly light." It was strange. The men who would make up the difference between the expected dead and the actual dead would never know that they were the lucky ones. But all the world would be richer for their having lived.

About this time it was necessary to take more and more men into the secret of Kuralei. Seven months had passed. An inspiring whisper was sweeping the Navy: "A big strike is on." Everyone heard the whisper. Stewards' mates in Australia, serving aboard some harbor tug, knew "something was up." Little Japanese boys who shined shoes in Pearl Harbor knew it, and so did the French girls who waited store in Noumea. But *where* was the strike directed? *When* it was timed to hit? More than half a year had passed since the decision had been reached. Evidences of the decision were everywhere, but the ultimate secret was still protected. A manner of referring to the secret without betraying it was now needed.

Alligator was the code word decided upon. It was the Alligator operation. Now the actual printing of schedules could proceed. Wherever possible, names were omitted. Phrases such as this appeared: "Alligator can be depended upon to suck the Japanese fleet . . ." "Alligator will need not less than twenty personnel planes during the period . . ." "Two weeks before Alligator D-day, hospitals in the area south of . . ." The compilation of specific instructions had begun. Mimeograph machines were working, and over certain offices an armed guard watched night and day. Alligator was committed.

The day upon which the Kuralei opera-

tion was named, Captain Samuel Kelley, SC, USN, left Washington for the island of Efate, in the New Hebrides. He was instructed to assume full command of all supply facilities in that area and to be prepared to service a major strike. "Nothing," he was told, "must interfere with the effective handling of this job. Our entire position in the Pacific depends upon the operation."

At the same time a captain close to Admiral King was dispatched with verbal instructions to Admiral Kester, to the top-flight officers at Pearl Harbor, and to General MacArthur. This captain did not know of Captain Kelley's commission, and the two men flew out to the South Pacific in the same plane, each wondering what the other was going to do there.

Meanwhile, in Washington plans had gone as far as they could. In minutely guarded parcels they were flown to Pearl Harbor, where Admiral Nimitz and his staff continued the work and transmuted it into their own.

No commitments had been made as to when D-day should be, but by the time the project was turned over to Admiral Nimitz, it did not look half so foolish as when it was hatched in Washington. By the time I heard of it much later, it seemed like a logical and almost inevitable move. The subtle difference is that when I saw how reasonable it was, the plan was already so far progressed that only a major catastrophe could have disrupted it. I think that therein lies the secret of modern amphibious warfare.

In Pearl Harbor the mimeograph machines worked harder and longer than they had in Washington. Day by day new chapters were revised or destroyed, and yet there was no printed hint as to where Alligator would strike. All that could be told for certain was that a tremendous number of ships was involved. The super-secret opening sections of Alligator had not yet been printed, nor would they be until the last few weeks before the inevitable day.

At this stage of developments I was sent to Pearl Harbor on uncertain orders. I had a suspicion that I might be travelling there in some connection or other with the impending strike. I thought it was going to be against some small island near Bougainville. For a few electric moments I thought it might even be against Kavieng. Kuralei never entered my head.

I landed at the airfield and went directly to Ford Island, where I bunked with an old friend, a Lt. English. Sometime later Tony Fry flew up on business, and the two of us lay in the sun, swapped scuttlebutt, and waited in one dreary office after another. Since I was a qualified messenger and had nothing to do, I was sent out to Midway with some papers connected with Alligator. The island made no impression on me. It was merely

a handful of sand and rock in the dreary wastes of the Pacific. I have since thought that millions of Americans now and in the future will look upon Guadalcanal, New Georgia, and Kuralei as I looked upon Midway that very hot day. The islands which are cut upon my mind will be to others mere stretches of jungle or bits of sand. For those other men cannot be expected to know. They were not there.

Finally Tony Fry left for Segi Point, an infinitesimal spot in the Solomons. English had to go on a trip somewhere, and I was alone in the rooms on Ford Island. Young officers reported in by the hundreds in those exciting days prior to the big strike, and after brief interviews, hurried on to islands they had never heard of, to ships they had never known. I stayed, and stayed, and stayed. I did the usual things one did in Pearl Harbor, but somehow the crowds appalled me, and an evil taste never left my mouth. Other men have had similar experiences, in California, or New York, or Oklahoma. They were home, yet there was an evil taste in their mouths; for not even Chicago or Fort Worth can solace a man who has been in the islands and who knows another great strike is forming. His wife and his mother may tell him that he is home now, and order him to forget the battles, but he knows in his heart that he is not home.

It was in this mood that I reported one day to fleet headquarters. That time the call was not in vain. I was given a medium-sized briefcase, unusually heavy. I was told that if our plane went down at sea, I must throw the case into the water. It was guaranteed to sink in eight seconds. I was given a pistol, and a Marine sergeant as an armed guard. With an armed escort I was taken to a waiting airplane. Seven other officers were in the plane, and I was certain that at least one of them was a guard assigned to watch me, but which officer it was I could not ascertain.

We stopped that night at Funafuti, a speck in the ocean. Two guards were stationed at my quarters, which was shared with no one. In the morning the procedure of the previous day was repeated, and we left Funafuti, a truly dismal island, for sprawling New Caledonia.

When we were about an hour away from Noumea, where Admiral Kester had his headquarters, an unfavorable weather report was received, and we were directed to land at Plaine des Gaiacs, an airstrip some distance from Noumea. We made what I considered a pretty hazardous landing, for we were well shaken up. We had a difficult decision to make. Should we fly to Noumea in a smaller plane? Should we go down by jeep? Or should we lay over until morning? It was decided to wait an hour and to try the first alternative.

A TBF took us down, and it was then that I learned which of my fellow officers was my extra guard. It was a jay-gee who looked exactly like a bank clerk. In the crowded TBF we never acknowledged that either knew why the other was there. At Magenta we made a wretched landing, and both the jay-gee and I were obviously frightened when we left the plane. Bad weather was all about us, and we wondered how the pilot had felt his way through the clouds.

Again an armed car was waiting, and we proceeded directly to Admiral Kester's headquarters. There the admiral was waiting. Three of us, the jay-gee, the Marine, and I, presented the briefcase to him.

Admiral Kester took the case into his room and opened it. It contained a mimeographed book, eight and one half inches by fourteen. The book contained six hundred and twelve pages, plus six mimeographed maps. The most startling thing about the book was the first page. The first sentence designated the forthcoming operation as Alligator. The second sentence was short. It said simply, "You will proceed to Kuralei and invest the island."

Slowly, like one who had acquired a Shakespeare folio after years of dreaming, Admiral Kester leafed idly through the super-secret first pages. The warships of his task force were named. The points of rendezvous indicated. The location of every ship was shown for 1200 and 2400 hours of each of the five days preceding the landings. The barrages, the formation of the landing craft, the composition of aerial bombardment, code words for various hours, radio frequencies, location of spotting points, and every other possible detail which might ensure successful operations against the enemy—all were given in the first few pages. Only the time for D-day was missing.

The admiral passed over the opening pages and dipped at random into the massive volume. Page 291: "At this time of year no hurricanes are to be expected. There is, however, record of one that struck three hundred and eighty miles southeast of Kuralei in 1897. Assuming that a hurricane does strike, it will be certain to travel from . . ."

On page 367 Kester read that "the natives of Kuralei should be presumed to be unfriendly. Long and brutal administration under the Germans was not modified by the Japanese. Instead of finding the natives opposed to Japanese rule, American forces will find them apathetic or even hostile. Under no circumstances should they be used as runners, messengers, or watchers. They should, however, be questioned if captured or if they surrender."

On page 401 the admiral was advised that fruit on Kuralei was much the same

as that on islands farther south and that in accordance with the general rule of the South Pacific, "if something looks good, smells good and tastes good, eat it!"

It was on page 492 that the admiral stopped. "Casualties may be expected to be heavy. The landing on Green Beach will probably develop an enfilading fire which will be aimed high. Chest, head, and face casualties are expected to be above that in any previous operation. If barbed wire has been strung at Green Beach since the reconnoiters of December, casualties will be increased. Every precaution must be made to see that all hospital ships, field hospital units, and base hospitals in the area are adequately staffed to handle an influx of wounds in the head and chest. This is imperative."

On page 534 a clear night was predicted from the hours of 0100 on until about 0515, Depending upon D-day, the moon might or might not be bright enough to completely silhouette the fleet. It was to be noticed, however, that even a crescent moon shed enough light to accomplish that purpose. The brighter planets were sometimes sufficiently strong, in the tropics, to outline a battleship.

Admiral Kester closed the book. Alligator, it said on the brown stiff-paper cover. At that moment similar Alligators were being studied by men responsible for submarine patrols, aircraft operations, battleship dispositions, and supply. Each of the men—and it is easy to understand why said, as he closed the book after his first cursory study of it, "Well, now it's up to me."

D-day would be selected later, and some officer-messenger like me would fly to various islands and move under heavy guard. He would, like me, be some unlikely candidate for the job, and to each copy of Alligator in circulation he would add one page. It would contain the date of D-day. From that moment on, there would be no turning back. A truly immense project would be in motion. Ships that sailed four months before from Algiers, or Bath, or San Diego would be committed to a deathless battle. Goods that had piled up on wharves in San Francisco and Sydney would be used at last. Blood plasma from a town in Arkansas would find its merciful destination. Instruments from London, salt pork from Illinois, Diesel oil from Louisiana, and radio parts from a little town in Pennsylvania converged slowly upon a small island in the remote Pacific.

Men were on the move, too. From Australia, New Zealand, the Aleutians, Pearl Harbor, Port Hueneme, and more than eight hundred other places, men slowly or speedily collected at appointed spots. Marines who were sweating and cursing in Suva would soon find themselves caught in a gasping swirl which

would end only upon the beach at Kuralei, or a mile inland, or, with luck, upon the topmost rock of the topmost hill.

Each of the remaining bits of gossip in this book took place after the participants were committed to Kuralei. That is why, looking back upon them now, these men do not seem so foolish in their vanities, quarrels, and pretensions. They didn't know what was about to happen to them, and they were happy in their ignorance.

The intensity, the inevitability, the grudgingness of Alligator were too great for any one man to comprehend. It changed lives in every country in the world. It exacted a cost from every family in Japan and America. Babies were born and unborn because of Alligator, and because of Alligator a snub-nosed little girl in Columbia, South Carolina, who never in a hundred years would otherwise have found herself a husband, was proposed to by a Marine corporal she had met only once. He was on the first wave that hit the beach, and the night before, when he thought of the next day, he cast up in his mind all the good things he had known in life. There was Mom and Pop, and an old Ford, and Saturday nights in a little Georgia town, and being a Marine, and being a corporal, and there wasn't a hell of a lot more. But there was that little girl in Columbia, South Carolina. She was plain, but she was nice. She was the kind of girl that sort of looked up to a fellow. So this Marine borrowed a piece of paper and wrote to that girl: "Dear Florella, Mabe you dont no who i am i am that marine Joe Blight brot over to see you. You was very sweet to me that night Florella and I want to tell you that if i . . ."

But he didn't. Some don't. To Florella, though, who would never be married in a hundred years anyway, that letter, plus the one the chaplain sent with it . . . well, it was almost as good as being married.

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AMTEC Leadership Award

The premier award given by AMTEC is the Leadership Award, a handsome engraved gold medallion. There may be no more than two recipients in any one year, and it is given in recognition of outstanding service in the field of educational media. Following are the general criteria for the award:

1. The nominee must have been active in the educational media field for 10 years or more.
2. The nominee may have been active at either local, regional, national or international level.
3. The award may be presented to one who is active, retired or deceased.
4. Nominations may be made by any member of AMTEC.
5. The nomination must include a brief biographical sketch of the nominee as well as any other information which will be useful to the selection committee in making their decision. This should include the educational background and the reasons why the nominator feels the award should be made.

Presentation of the award(s) will be made at the AMTEC Annual Conference Awards Function. This will be part of the annual conference in London in June 1984.

Nominations should be submitted to the Awards Chairman as soon as possible. Address all nominations to:

David MacDougall
Director of AV and TV Services
Sheridan College of AA & T
1430 Trafalgar Rd.
Oakville, Ontario L6H 1L1

CLASSROOM SIMULATION
Continued from page 9

to the individual participants posed by the technology would probably force the investigators to include sensitization training prior to complete involvement in the simulation experience. After analysis there was no evidence that the simulations increased the actual number of alternative solutions to a problem that a subject considers. There was, however, some indication that subjects were more analytical and selective in their instructional decision-making after participating in the stimulation.

Summary

It must be kept in mind that the nature of the simulations dealt with in our project were such that the effects of the simulation would be experienced at some future time. As well, in all of the simulated incidents, the occurrence of conditions that would call for individuals to use what they have learned via the simulation is unpredictable. It would be highly impractical for investigators to go through weeks of observation to have a classroom incident occur which parallels the simulation and then assess whether the teacher's responses were effective. Therefore, the evaluation of the simulation materials could not practically be carried out by direct observation. The evaluation method selected involved collecting judgements by a cross-section of users. They were asked to rate various statements on a 5-point Likert-type scale. While there were deficiencies in the data which was collected and while conclusions as a result are difficult to arrive at, the exercise was a tremendous value to the project team and the participants. What this project has successfully demonstrated is that the project design can be used to develop and to deliver instruction in the area of teacher training. What is required now is additional research and further refinement of the methodology so that teacher training programmes can begin to benefit from its potential.

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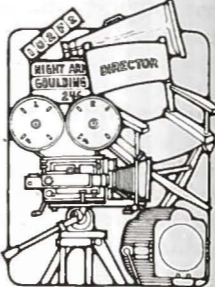
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COMPUTER NEWS
Continued from page 3

\$100,000 to \$1,000,000. Schools can receive roughly one program per 5 Apples, Ataris or IBM PC's. SVS will make recommendations, but schools can pick from the entire SVS catalogue.

Canadian schools should send school name, address, district, number and type of computers in use, contact person, phone number and comments to: TC Data, 2142 Trans Canada Hwy., Quebec, H9P 2N4. Telephone: (514) 683-7161.

Computer Museum

The Computer Museum is located at One Iron Way, Marlboro, Maryland, 01752. It has 3 major galleries: Super Computers from Stretch (the IBM 7030) to ILLIAC IV, the world's largest computer recently deinstalled from NASA; the Four Generations of Computing showing the evolution from the era of vacuum tubes to the microprocessor; and the Pioneer Computer Timeline with parts of the ENIAC, EDSAC and the

Whirlwind. Also on display are early calculating devices, the first transistorized computer, MIT's TX-O and the evolution of card computing starting with the Jacquard loom.

Museum services include a lecture series, gallery talks, group tours, a museum store, a quarterly publication, library and viewing room and an intern program. The museum is open Monday through Friday, 1:00 p.m. to 6:00 p.m. Admission is free. For further information, call (617) 467-4036.

CTW Introduces Children's Computer Magazine

The Children's Television Workshop is publishing a new magazine this fall designed to introduce children to computers and the new electronic technology. The magazine, called ENTER, will be the first created by CTW independent of an educational television series. It will also be the first CTW magazine to accept advertising of products and services by computer and electronic game hardware and software companies and by educa-

tional publishers — in order to provide consumers (the 10-16 year old target audience in this case) with new product information.

Editorial content will include career opportunities and issues relating to the growth of computer technology in the 80's. Features will include news articles on new developments in computer technology, career awareness profiles focusing on a wide range of professions, profiles of young people doing interesting things with computers and video games, "how-to" articles, consumer awareness features, games, quizzes and puzzles, and some simple programming challenges.

Annual subscription price for ENTER's 10 issues will be \$12.95 U.S. Single issues will be sold for \$1.50. A classroom bulk rate for teachers will also be offered.

AMTEC ANNUAL ELECTIONS

Nominations are requested for the elections to be held in 1983 to fill three positions on the AMTEC Board.

The positions are:

1. Vice-President (President-Elect)

This is a three year term, beginning in June, 1984 at the Annual Conference. There will be one year as Vice-President, one year as President and one year as Immediate Past President.

2. Member-at-Large

This is a three year term beginning at the Annual Conference in June, 1984. All nominations must be received by the Chairman of the Nominating Committee by January 30, 1984.

Procedure

1. If you wish to nominate someone:

Nominations may be made by any five AMTEC Members providing the nominee is a member of AMTEC and has signified his/her willingness in writing. A brief biographical sketch of the nominee must be sent to the Chairman of the Nominating Committee along with the nomination.

2. If you wish to be nominated:

Indicate this to five AMTEC members who will arrange to nominate you by sending a letter of their intention and your biographical sketch to the Chairman of the Nominating Committee. You must be a member of AMTEC.

All nominations must be received by the Chairman of the Nominating Committee by January 30, 1984.

Send nominations to: **Tom Rich**

Chairman, Nominating Committee
Past President, AMTEC
Director, Educational Services
P.E.I. Dept. of Education
Box 2000
Charlottetown, P.E.I. C1A 7N8

NOTES FOR THE GUIDANCE OF AUTHORS

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

- Contributions for this category are welcomed from all members. Writers are encouraged to use a familiar, casual style. Jargon should be avoided.
- 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.
- 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.

- Include your name, position, institution and mailing address.
- 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.
- 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

- Manuscripts should be 5-20 double spaced, typed pages.
- Include an abstract of about 100 to 150 words.
- The author's name, position, institution, and mailing address should be on a separate page.
- Authors should send three copies.
- 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.

- Type contributions on 8 1/2 x 11 paper, using a 60-stroke line. Do not break words at the end of a line.
- 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.
- 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.

- 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.
- Spelling should conform to the Merriam-Webster **Third New International Dictionary**.

Canadian Journal of
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Vol. 13 No. 2
March, 1984
ISSN 0710-4340

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