Reviews

Patricia A. Dolan Lewis

Postman, N. Teaching as a conserving activity. New York: Delcorte Press, 1979.

Teaching as a conserving activity is a particularly readable book proclaiming a particularly timely philosophy. The author, better known for his co-authorship of **Teaching as a subversive activity**, is now suggesting an educational counterargument. As Neil Postman would state himself, this book would be the "vice versa" of his previous efforts.

For Postman, education is culture centered and defined by time. Today, in an era of technological change and constant innovation, education's role is to conserve tradition, to project the constant amid confusion. If however, the environment were static, then Postman suggests that education would be innovative. For Postman, education acts as a thermostat, triggering opposing forces to counterargue with current belief.

Building on the thermostat theory of education, the book considers the current information environment and proposes some solutions to present and future problems. It is based on the idea that children may learn to face the present by looking at the past.

Postman is intensely concerned with the intellectual and character development of youth. His views on education are not, therefore, specific to a particular curriculum, but refer to the entire education milieu.

Citing Plato as an early educational conservationist, Postman illustrates the need to argue against popular teaching. Plato, it seems, banished poets from the curriculum. Why?

Because Plato, like ourselves, was facing a tremendous change in the information environment. As an educator, Plato argued that poets, the transmitters of the oral tradition, were encouraging people to remain semi-literate. The young became emotionally and subjectively involved in the literature, and seldom had opportunities to critically evaluate it. It was this loss of objectivity to which Plato objected.

Postman moves quickly from Athens to America when he applies his thermostat metaphor to the television environment. He examines school and television side-by-side as contrasting communication systems and as contrasting curriculums. Television, termed the First Curriculum, makes attention subservient to content; whereas school, the Second Curriculum, makes content subservient to attention. For Postman, this is the fundamental difference between the two systems.

Specific differences between television and school resemble some of Plato's criticisms of the poets. Television's teaching style is emotional, imagistic and narrative. School's teaching style is abstract, cognitive, and expositional. School's information is based on levels of complexity, but television's information is totally undifferentiated.

In analyzing the television environment, Postman repeats the research on television's effects, but pictures the impact more starkly. His conclusions make for interesting, if debatable reading.

Television is hostile to privacy because it demands novelty. As a result, television has diminished the prestige of places and occasions for secret-sharing. Television in its controlled exhibitionism has blurred the line between public and private life.

Television has immersed people in a surrogate experience, depriving them of the ability to distinguish reality from media.

These are only two of the criticisms Postman makes in Chapter Four. He concludes with the idea that school, if it refuses to mimic the biases of the electronic curriculum, can be a strong alternative teacher.

Confusing the real with the image is further defined in Postman's explanation of the technical thesis. In this succinctly written chapter, the author explains how methods or procedures can be given a validity apart from their actual meaning. He cites television as a prime upholder of the technical thesis because television rarely deals with a moral dilemma. Instead, television proposes a technical solution to every crisis. "To put it simply, God is not dead. He survives as Technique." (p. 99).

Utopian Thesis

In the Utopian thesis, Postman argues that the school should not get involved in areas which traditionally have been the domain of other institutions: sex education, motivation, ethnic pride, religion, psychotherapy. The thesis explains that transferring a family problem into a curriculum reduces the responsibility of the individual. As a result, school by taking over areas formerly the responsibility of the church, government, family, medical profession can encourage a belief in victimization and failure. In the long run, such usurpation, will support the theory of individual powerlessness.

Postman's comments on this issue criticize the technicalization of the material through curriculum building. At no point does he argue that informal prayer or counseling is inappropriate in a school. Rather he argues against the process of institutionalizing value systems into managable teachable component parts.

Alternative Curriculum

In the final sections of **Teaching as a conserving activity**, Postman proposes teaching subjects from an historical perspective; the philosophies of science, history, language and religion would be taught with an emphasis on classical forms. In contrast to this goal, he also proposes a course in media ecology which would transcend psychology and sociology. This course would be concerned with the technologies and techniques of communication. It would consider how information biases people's perceptions, values and attitudes.

Perhaps this is in the most interesting section of the book — the indepth outline of a new alternative curriculum. The remaining information on the classroom itself is of limited value because of the triviality of its subject matter.

The strength of **Teaching as a conserving activity** lies in its ability to analyze the current information environment and propose some startling implications for the educational community. Although written in the United States, the book is not American-centered. Its comments on the state of things apply as easily to Halifax as they do to New York.

Like most philosophies, this one is one-sided and at times, exaggerated. It is this hyperbole which allows the reader to grasp the dynamics of the argument.

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The Canadian Studies Office: Its Purpose and Potential

Roger Elmes

1950 — a nine-year-old boy in southern Ontario exposed for the first time to the wonders of a "a new technology." Ten people have just watched two workmen struggling on the roof with a large awkward apparatus made of pieces of round aluminum pipe. These ten people gather in a semi-circle around a small box on the living room table. A large, older man turns a switch and suddenly a woman appears dressed like an Indian — its Princess Summerfallwinterspring and beside her is Buffalo Bob — and that's right folks, It's Howdy Doody Time. A nine-year-old boy in southern Ontario is exposed for the first time to the wonders of a "new technology".

He learns that the West is cowboys, good and bad; women who cook — the good ones — and women who don't — the bad ones who also hang around saloons (and he's vaguely somehow more interested in the latter than the former). Indians, all of whom are bad with the exception of Tonto and some monosyllabic counterparts. The land is flat and rolling — good; or rising in peculiar shapes — bad otherwise known as the badlands.

The west coast does not exist, the Rockies were never formed and the east coast was never heard of except in the context of murders in New York.

The nine-year-old learned all of this valuable, true information in a year on a black box with a nine-inch screen which gave him access to the world through Buffalo, New York — and he retained these truths for so many years.

1975 — a quarter century has passed.

A nine-year-old boy is sitting in the family room of a house in southern British Columbia. The images on the TV screen are flashing rapidly as he points a small box in the general direction of the TV. He's having trouble deciding, this Saturday morning, which cartoons to watch. The difficulty has been caused by a workman coming yesterday and running a little wire from the telephone pole to the house — 13 channels — Mickey Mouse, Road Runner, Star Trek, Bonanza (just to keep it honest for the parents), and its modern counterpart The Waltons on Sunday nights, and war and more war in a small country half way around the world.

He's always had Sesame Street and for awhile he's been able to look at his own environment through The Beachcombers. But the bulk of his electronic cultural experience and with his link to cable is increasingly, with the Friendly Giant to the south. Although that nine-year-old from 1950 has become a specialist in Canadian Studies and has taken the nine-year-old from 1975 twice across the country, this new Elmes — when bothered by some social issue — sits down and writes letters to Mr. President.

"The nine-year-old learned all this valuable, true information in a year on a black box with a nine-inch screen..."

The Association of Canadian Community Colleges recognized over five years ago that we were graduating students who, in the most diplomatic terms possible, had an imperfect knowledge of their own country. My own decade of experience in British Columbia colleges taught me that both high school graduates and the adult learners in the college system of that province had a minimal knowledge of the cultural, political, geographical, historical and economic realities of Canada, and its provinces. Moreover, their knowledge of the powerful influences of other countries on Canada was at best superficial.

Unfortunately, the vast majority of British Columbia college graduates left their college blessed with the same level of blissful ignorance of their own country as they possessed upon entry.

Numerous national and provincial studies, at all levels of Canada's education system, have painted the same picture over and over again. More recent studies show that we have made some progress — but it has been minimal. For example, a 1980 survey of Alberta students' knowledge of Canada showed marginal improvement in the three grades tested (See Table 1).

"...the bulk of his electronic cultural experience and his link to cable is increasingly, with the Friendly Giant to the south."

Table 1

	Gr. 6	Gr. 9	Gr. 12
Canadian Citizenship	27%	39%	52%
Canadian Geography	51%	61%	69%
Canadian History	35%	46%	54%

On the surface, it would appear that by Grade 12, students in Alberta are not so badly off, particularly with respect to Canadian geography. It must be remembered, however, that this survey tested factual knowledge in the cited subject areas and not the ability of students to link facts together in some form of critical analysis.

One would hope that in Saskatchewan and Manitoba, provinces with a long and honoured history of critical political thought, the situation would be different. But if the curriculum of the institutes and colleges is examined we find an extremely limited percentage of Canadian studies, or other subjects which would encourage the development of critical thinking and problem solving skills.

I emphasize that Saskatchewan and Manitoba are not unique. In Canada's colleges and institutes the problem is endemic. Indeed, the causal attitudes which have fostered and nurtured this situation can be aptly described as an epidemic.

"...do we train students to perform a particular task in industry or as a paraprofessional, or do we educate them for citizenship and career mobility in an increasingly complex society?"

The central question, across the country, seems to be — do we train students to perform a particular task in industry or as a paraprofessional, or do we educate them for citizenship and career mobility in an increasingly complex society? Surely, we can structure and plan curriculum so that we have a judicious blend of both in spite of the present restrictions imposed by Manpower funding, apprenticeship programs, program advisory committees and the intellectual and pedagogical lethargy of some instructors. There is still room to manoeuvre, even given Ottawa's recent backward move in transfers to post-secondary education.

Is it time that we asked ourselves as educators whether the training of paraprofessionals for the health sciences should include a critical understanding of the political and economic forces and processes which affect the delivery of health services? Should we be providing future trade unionists with a critical understanding of not only the structures of Canadian labour organizations but also of the economic and political problems facing organized labour? Would students in your business programs be better prepared for their careers if they had a similar information base?

"Unfortunately, the vast majority of B.C. college graduates left their college blessed with the same level of blissful ignorance of their own country as they possessed on entry."

As educators you can cite similar examples drawn from your own areas of experience and expertise. In the final analysis, no matter how long our list, we will come back again to the central question — do our colleges and institutes adequately prepare their graduates for a meaningful contribution to our country and provinces in an increasingly complex society?

Today, many different researchers have provided insight into the issues facing educators as Canada plunges further into the information society. It will have become clear to you that "plunge" is probably the most apt verb to use in its standard meaning of "thrust violently". The verb "plunge" is, as you know, both transitive and intransitive. Thus, whether we are plunging ourselves into the information society or being violently thrust into it by technological and international market forces becomes a very

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important question. With the partial exception of Telidon, and the Ontario initiative in microcomputers, it appears that forces external to Canada and certainly external to each provincial ministry of education are driving us before we have developed adequate policy initiatives or responses.

The question of Canadian content becomes increasing critical and the urgent need for inter-provincial co-operation in the production of software is more evident day-by-day.

Moreover, there are sound pedagogical reasons why front-line educators across Canada should be involved now in policy development, specification of standards and design of hardware rather than leaving the field to the business and industrial marketplace.

"The question of Canadian content becomes increasingly critical and the urgent need for inter-provincial co-operation in the production of software is more evident day-by-day."

The Canadian Studies Office of the Association of Canadian Community Colleges is not the panacea to the problems outlined. What single organization could be?

With a budget of $325,000 per year, we have attempted to serve Canada's 170 colleges and technical institutes. With a budget of less than $1.00 per student per year it is obvious that we can never hope to be much more than a catalyst. However, in a country where the constitutional responsibility for curriculum development lies clearly with the provinces, the role of catalyst is appropriate for a national educational organization.

If the situation is to be altered, the provinces, and the colleges, institutes and individual administrators and faculty in each province must accept the responsibility for both minor and major changes in attitude and curriculum.

The following constitute some areas of potential activity within each province:

1. Statements of support for increased Canadian content.
2. Curriculum changes: a) addition of inter-disciplinary Canadian studies courses; b) modules on Canadian politics, economics, etc. oriented to the particular trade or career program; c) development of labour studies courses and modules.
3. Funding for the development of learning materials which draw on the Canadian experience.
4. Release time to faculty for the development of traditional learning materials and software for microcomputers, videodiscs and Telidon.
5. Facilitation and encouragement of exchanges of faculty and administrators between provinces.
6. Encourage faculty to cite Canadian examples whenever possible.
7. Discourage the apparent inherent — perhaps genetic propensity of Canadians for self-depreciation. Parenthetically, it must be noted that the CBC even uses medical terminology as the title of our one national open-line radio show — Cross-Country Checkup — as though we are sick.

It should be noted that the provinces have a particular responsibility to ensure a minimum of duplication of effort in the production of both traditional learning materials and software for the new communications technologies. Any other course of action in the world's second largest nation with a sparse, unevenly distributed population would be economic folly. In this vein, the provinces **must** create and ensure the maintenance of excellent mechanisms for the inter-provincial exchange of all types of learning materials. Inter-provincial compatability of micro-computers, videodiscs, and Telidon systems is an absolute necessity if the exchange of software is to be enhanced. The provinces, probably through the Council of Ministers of Education, must therefore, make common, or at least, compatible hardware acquisition decisions.

Up to now, I have concentrated on painting with a broad brush some of the problems which the Association of Canadian Community Colleges has identified with relation to Canadian Studies. In the process the purpose of the Canadian Studies Office has hopefully been identified.

"...the provinces must create and ensure the maintenance of excellent mechanisms for the inter-provincial exchange of all types of learning materials."

I have touched briefly on the question of the potential of the Canadian Studies Office by describing our work as that of a catalyst.

In some provinces, we have had a greater impact than in others. This situation is likely to remain for some time although our higher rates of success will likely shift to other provinces.

In attempting to draw together — Canadian studies and content on one hand and new communications technologies on the other, let me point once again to the technical advances which television made in its first 25-30 years of commercial use. If you examine those changes closely you will discover an exponential rate of technical change in the last eight-ten years. Given the pervasiveness of television today and its cultural and social effects we would have to be blind to ignore the potential impact of microcomputers, videodiscs, Telidon and satellite broadcast TV on Canada's political, economic and cultural sovereignty.

Children's Perception, Retention and Preference of Asymmetical Composition in Pictures

Nikos Metallinos

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 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 over-simplification 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).

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Statement of Problem

There are extensive empirical investigations on the dynamics of speech delivery, speakers' credibility, persuasion techniques, etc. (McCrosky, 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 lease insofar as image size, color and shape or form are concerned (Piaget, 1974).

This study examines how children are influenced by idiosyncratic shapes, distinct colors, and 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 differentually affect children's perception, retention and preference. Furthermore, such distinctions are attributed to the particular shapes, colors and total synthesis of the visual displays.

"...the rules of picture composition that underline the aesthetic function of pictorial media apply equally when constructing visual messages for elementary school children."

Previous Studies

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 place-

ment of visual materials within the visual field. Trotter's (1976, pp. 218-223) study on the hemispheric specialization of the human brain points out the unique functions of each hemisphere. Ragan's (1977, p. 10) argument for a taxonomy of right-brain visual literacy outcomes is very important because 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 duration of presentation, the development of the perceiving individual and 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 perceived 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 of still pictures? This hypothesis needs to be tested.

"This study examines how children are influenced by idiosyncratic shapes, distinct colors, and dynamic composition or asymmetric placement within the confines of a still photograph."

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.

Abstract

This study examines the asymmetry of the field theory insofar as young viewers' perception, 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 the abilities of young viewers (aged 9-11) to perceive, describe and retain them, and whether or not such an asymmetrical composition is preferred.

It was found that 1. 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; 2. 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 3. 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.

"The concern of this study, however, is whether or not similar patterns (shapes or forms) are perceived and/or recognized more readily when they are placed on the left-visual field rather than the right..."

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, 1964, 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 interested groups as physicists, paint manufacturers, artists, interior decorators, neurologists and, of course, psychologists, have been done (Kling and Rigs, 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.

"The 'darkness' and 'lightness' of colors have been found to be contributing factors in viewer perception of hues..."

Hypotheses

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 viewer 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.

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. The newscaster's 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 crises," slide #5 "American political parties," slide #6 "over taxation," slide #7 "the energy crises in Utah," slide #8 "the rising cost of living," slide #9 "public transportation costs," and slide #10 "world wide polution 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 Hypotheses #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.

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 (perception of predominate/outstanding shapes and forms) was multiple choice. It consisted of 10 items constructed from responses gathered through pre-testing of the shapes, forms, or patterns contained in the visuals of the 10 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 perception of colors, their retention, and their preference have not been reliably determined."

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 nine item test was constructed based on the results of this test. The colors of the background and the image of the newscaster were 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 ten 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 difference 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.

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 childrens' 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 1 shows the survey of the scores obtained from each test, while Table 2 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 2, raises the following points. First, the childrens' 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 #1 and #10), etc. Third, the degree to which visual stimuli are perceived and recognized greatly depends, perhaps, on the viewers' previous exposure and knowledge of such visuals, as demonstrated with the high scores of tests #1, #5, and #10.

"The stimulus materials... were 20 slides made from an original videotape containing news stories."

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 1 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 2 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 1 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 readily 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 2) illustrate that the change of the context in which the visuals reappeared had very little bearing on the childrens' 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 2 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 childrens' perception, retention and preference of asymmetrical composition in pictures can be summarized as follows:

1. Childrens' 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. Childrens' 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 shapes 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. Childrens' 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 the confidence which side of the visual field is preferred most by the young viewers.

"...the childrens' ability to readily perceive shapes (forms or patterns) is influenced by their particular position within the visual field..."

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.

"Childrens' 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."

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TABLE 1

Summary of All Scores Obtained From Each of the Four Hypotheses

Tests	n	df	Left Placement Total	M	sd	Right Placement Total	M	sd	t
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 2

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

Test Items	Placement of Visuals	#1 Predominant Shapes, Forms	TOTALS	#2 Predominant Colors	TOTALS	#3 Visual Retention Shapes/Colors	TOTALS	#4 Preference of Total Syntax of Visuals	TOTALS
1	R	Circles	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

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In my Opinion

Alberta Invests in Apples: A Commentary

Richard Kenny

In a speech to the Alberta Society for Computers in Education, the Honourable David King, Alberta's Minister of Education announced, as part of a Computer Technology Project, the conclusion of negotiations with Bell and Howell, Ltd., to purchase 1,000 Edumod Apple Microcomputers. This was intended to be an initial purchase, a minimum number which would be the beginning of an effort to "triple the number of microcomputers in Alberta's classrooms within 18 months". This would occur, Mr. King stated, because the government's computer technology project would "allow school boards to purchase a microcomputer system through the (Alberta Education) School Book Branch, at a lower price than would ordinarily be available to boards". (King, 1981).

By mid-April of this year, the School Book Branch had sold fewer than 50 Systems. What went wrong? Why are Alberta's schools not beating down the doors to snap up this "bargain"? There is more than one answer to these questions but the most obvious is, quite simply, the price. The package consists of the following:

1. One 48K, Bell and Howell Edumod Apple Microcomputer with Control Card, Clock Calendar Card, and Integer Card,
2. One panasonic, 11 inch, Colour Monitor,
3. Dual Disk Drive,
4. One Centronics 739 Printer,
5. A software package consisting of Apple Pilot, Shell Games, Apple Plot, Visicalc, Line Editor, and 20 Diskettes.
6. An extended warranty, (15 months labour and 24 months parts), and
7. Inservice by Bell and Howell.

The price of the total package, according to the School Book Branch price list, is $5,905.40 and reflects the government's costs (i.e. no subsidy). Up until April of this year, a school could cut the price to $3,680.00 by opting for single disk drive and omitting the printer and the software. There has been much debate in Alberta about how much of a bargain this package really is and about whether or not a school can purchase a "comparable" set-up on the commercial market. Regardless, $3,600.00 is a substantial amount of money for a school to spend on any single piece of equipment and may well be a, if not **the**, major reason for the small number of sales of the package. Alberta Education has apparently recognized this point and will be allowing (as of April, 1982) a further splitting of the package. A school may now purchase the Edumod 48K microcomputer, single disk drive with control card, and 11 inch Panasonic monitor, for $2,517.00.

The other answers to the question of the lack of interest in the microcomputer package stem from more pedagogical considerations. Why would a school be interested in a microcomputer in this price range? The Bell and Howell Edumod is certainly a useful and flexible machine (especially as part of the total package listed above). But to what use would a school be putting it? Teaching computer literacy? Administrative purposes? Computer-managed instruction (CMI)? As an instructional device (CAI, CAL)? Mr. King justified his department's bulk purchase on a basis of a reduction in cost and on standardization, that is, in this case, to allow the tranferability of software and courseware. In this respect, he has likely been influenced by the success of the Minnesota experience in particular and seems to want to establish a large scale project of the MECC sort; i.e. based on one particular microcomputer.

But do Alberta's schools really need microcomputer systems and are they ready to embrace computers as instructional and management devices right now? The answer to this comes from Mr. King's own speech in which he stresses the importance of computer literacy and notes that it must be addressed first. It is the opinion of this present writer that Alberta's schools are looking to computer literacy as their primary instructional focus in this area and that they question the need for as sophisticated and expensive a system as is offered by Alberta Education. Computer literacy could be taught using a much less expensive machine. An inservice program on computer literacy currently offered by the Calgary Board of Education makes use of a hand-held microcomputer, the Sharp PC 1211, to introduce teachers to programming in BASIC. This program certainly teaches a level of computer literacy (albeit very elementary) and, for this aspect of the program, has no need for an elaborate machine. While definitions of computer literacy vary widely, most contain the following elements:

To be computer literate, one must be able to define, demonstrate, and/or discuss, how computers are used; how computers do their work; how computers are programmed; how to use a computer and how computers affect our society. (Brumbaugh, 1980).

These definitions vary, to a large degree, on the basis of the particular author's idea of how much knowledge (e.g. of computer programming) constitutes computer literacy. A report of the Ad-Hoc Committee preparing the Alberta Education Computer Literacy Curriculum stressed that computer literacy should be "both functional and flexible; that is, the specific skills, knowledge, and values required to be computer literate will vary with time and the student's level of expertise". (Computer Literacy Report and Recommendations, September, 1981). Surely, the selection of hardware would also be based on circumstance and, especially, on the level of student need.

Indeed, it is interesting to note that MECC itself decided to support a second microcomputer option last summer and signed a purchase contract with Atari. This contract will supply the Atari 400 microcomputer with disk drive and monitor for under $600.00 U.S. and will put "classroom computing hardware in a price range that will allow districts to place computers in every school and create computing laboratories in which whole classes of students can receive direct hands-on- computer experience". (Rawitsch, 1982). The justifications for this contract were two-fold:

1. Price: educators were interested in cheaper machines (than the Apple) "even at the cost of fewer features or less capability," and
2. Applications: the recognition that "some applications do not require large computer memory, file manipulation, or sophisticated graphics." (Rawtsch, 1982)

Although its Apple II purchase contract expired last fall, MECC felt that a need for a system at this level still exists and is "currently exploring the possibility of establishing a new agreement." (Rawitsch, 1982). In other words, they have recognized that educators have varying computing needs and are attempting to achieve a balance between large scale support and supplying a variety of computer models according to those needs.

Should Alberta Education be considering this variety of needs as well? The opinion was expressed earlier that computer literacy appears to be the priority application for Alberta educators at present. Other applications, however, are prominent as well. In the Calgary Board of Education, computers are being used for many instructional purposes from data processing and business education to mathematics and education for the gifted, not to mention two, well-established CMI projects which make use of mini-computers. Each application is substantially different and has its own requirements. And, of course, there are many other possible applications. Watts (1981) has suggested twelve general categories of uses for computers in education including Administration, Testing, Instructional Management (CMI), Computer-Assisted Learning (CAL, CAI), and Computer Literacy. Good instructional design incorporates needs analysis and task analysis before proceeding to the stage of selection and/or production of media. While Alberta Education may well have carefully considered the province's varying educational needs and while it has selected a flexible machine, it surely could never find one microcomputer that meets all these needs. The question then follows: why didn't government support several options and allow educators to make the choice?

To be fair, it should be noted that the Alberta Education purchase contract was intended to be a part of an inclusive, on-going computer technology project which was to include such support as a clearinghouse of computer materials, which would evaluate commercial materials and assist the production and distribution of locally-developed courseware; a Computer Literacy Curriculum; and the development of computer orientation and inservice for teachers and administrators. Such support is certainly necessary and would be an incentive for school systems to invest in microcomputer hardware. The elementary version of the Computer Literacy Curriculum will be piloted this fall but, to date, a clearinghouse has not been established (a director is currently being hired) and teacher support has been limited to inservice by the manufacturer.

Subsidized Apple microcomputer systems (perhaps up to 40 per cent as are textbooks in Alberta?) would certainly be very useful in schools, but so would Commodore Pets, Atari 400's. and sharp 1211's, depending on the instructional need. While schools are not prevented from purchasing these other machines, neither are they encouraged (financially or through support) as they are to buy the Bell and Howell Edumod. Standardization is important, but good instructional practice also requires choice. Hopefully, Alberta Education will see the light and provide Alberta's schools with a variety of computers from which to choose, at a reasonable price, and with readily available support materials and services. Then, perhaps, a much greater number of Alberta's teachers will choose to have an electronic apple on their desks!

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AMTEC

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AMTEC Achievement Award Call For Nominations.

A. General

1. The AMTEC Achievement Award is in the form of and engraved plaque or plaques awarded annually by AMTEC.
2. The AMTEC Achievement Award is sponsored by the Educational Media Producers and Distributors Association of Canada (EMPDAC).
3. The Award is made to up to five recipients per year. If the recipient is a group, each member of the group receives a copy of the award. A group receiving an AMTEC Achievement Award is considered one recipient.
4. The Award is presented in recognition of outstanding ability in promoting the use or creative development of audio visual materials in the classroom in the kindergarten, elementary, secondary, post-secondary or training environments. The successful recipient(s) will have made a significant contribution to the learning process employing audio visual materials in the classroom.

B. Implementation

1. The Spring issue of the Journal will carry a request for nominations. The Awards Committee will receive nominations in time for its recommendation to be considered for approval at the February Board meeting of the AMTEC board. It will be the responsibility of the Awards Committee Chairman to submit the notice to the Journal editor. The notice must include an address to which nominations are to be sent.
2. Nominations may be made by any member of AMTEC or EMPDAC.
3. Nominations are made by the nominator submitting a letter to the AMTEC Achievement Award Chairman. The nominating letter and accompanying documents should indicate the following:

   i) the name address and telephone number of the nominator.
   ii) the name, address and telephone number of the nominee.
   iii) a brief biographical sketch of the nominee.
   iv) a comprehensive project description including:

      a) the purpose of the project
      b) implementation and timeline details
      c) a brief overview of the content of the project
      d) the utilization strategy and/or creative development
      e) evaluation of the success and/or results of the project.

   v) names, addresses and telephone numbers of three individuals who are familiar with the project and are willing to act as references for the nominee.

C. Awards Committee

1. The Awards Committee will be appointed by the AMTEC Board and will consist of at least three persons, one of which will be a present member of AMTEC Board.

D. Presentation

1. Recipients of the AMTEC Achievement award will be notified in writing following the February Board meeting and prior to the Annual Conference.
2. The presentation will be made at the AMTEC Annual Conference Awards function, by a representative of EMPDAC.
3. The first issue of the Journal following the Conference will carry the names of recipients of that year's AMTEC Achievment Awards.
4. As soon as convenient, AMTEC and/or EMPDAC may publish a paper or summary of a paper on the recipients' outstanding achievements.

If you would like to submit a nomination for an AMTEC Achiement Award, foward documentation detailed in B.3. (noted above) to:

W.R. Hanson
AMTEC Achievement Award Chairman
c/o Media Services Group
Calgary Board of Education
3610 9 St. S.E.
Calgary, Alberta T2G 3C5

Rationale and Procedures for Developing Instructional Media Programs

Yolande Tremblay

What happens in the thought-process of the learner when he is using different media? What particular features of the coding elements are responsible for the improvement? We don't know! So it would be important to include the participation of the learner in the evaluation of the product along with the development of instructional media.

This work is a tentative suggestion of procedures for developing media programs. It will contain two parts: the first part will establish a rationale for the development of media programs, and the second will present some stages in the development of media software with applications in photography.

Rationale

The rationale of this exploratory study is based on the work of Gavriel Salomon and Wilbur Schramm. Establishing the current state of knowledge is important since it will allow us to lay the groundwork in the development of media software.

We will examine the beliefs and propositions of Salomon related to the compensatory model, to the verbal and visual systems with varied degrees of notationality. Then we will present the concepts of iconic, verbal and analogue codes, according to Schramm.

Salomon's Work

Salomon advances a theory relating media symbol systems to learning and thought-processes, and so offers some propositions about the mental skills enhanced by coding elements (1979). He increases the fundamental understanding of mental operations required by media use.

Compensatory Model

Salomon's work in the field of media software is the most important for understanding the relationship of media to cognitive processes. His major propositions relate to the role of media symbol systems in the cognition and development of intellectual skills (1979).

Salomon's compensatory model suggests that learning is improved when translation processes are short-circuited or circumvented to compensate for the learner's weaknesses. For instance, a medium such as television improves learning in the measure that its symbolic elements help to short-circuit difficult mental operations that human beings could hardly go through on their own (1971).

Thus, in the process of instruction, for effective communication, the cognitive demands of a task have to be matched with the skills required by the coding elements, and the level of the skills mastered by the learner.

Verbal and Visual Systems

According to Salomon, a verbal mode of presentation will facilitate performance especially if a person is more or less capable of producing the requisite verbalization on his own. An appropriate verbal presentation can open doors and arouse the desire for the acquisition of knowledge.

The cognitive development plays a special role in determining the quantity and quality of intellectual translation necessary for comprehension. Salomon argues that young children seem to be in need of transforming verbal messages more often into nonverbal representations, while older children process verbal messages directly and seem to convert less (1979).

Pictures may have the possibility of communicating more and better because their symbolic codes are closer to the internal representation that the learner must generate, according to his cognitive make-up and to the demands of the task. For example, if a learner is more proficient with a pictorial presentation, a verbal one may be more demanding and vice versa.

Notationality

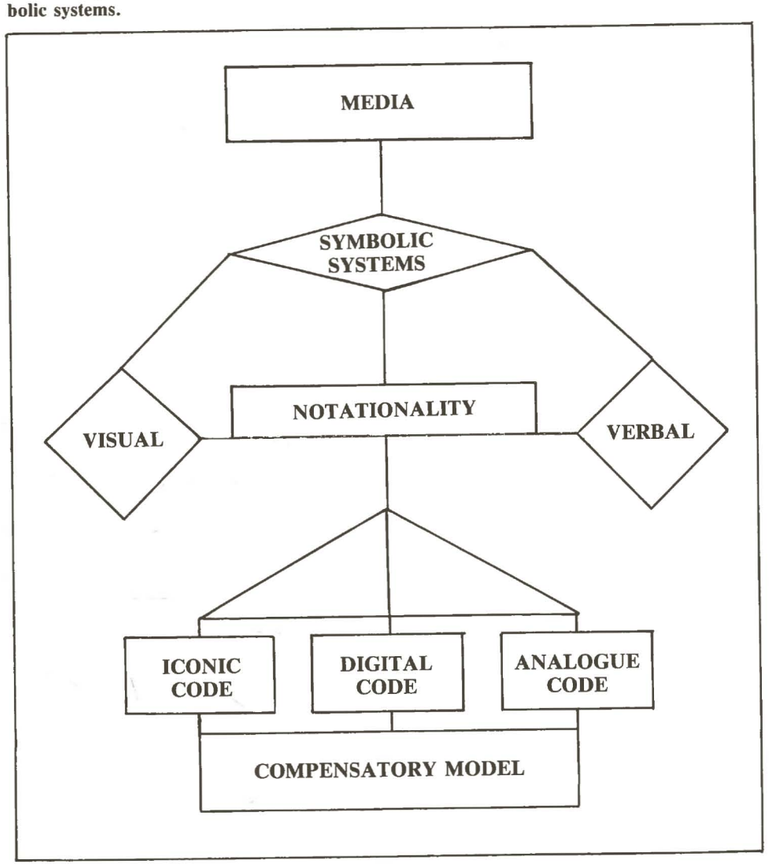
Another concept that deserves to be examined in Salomon's work is "notationality". To be notational, a system must contain elements which have segregated and disjoint referents, with a one-to-one correspondence between them. For instance, a musical score would be a notational system, and language is partially notational since it involves many ambiguities (1979).

Examples to illustrate this aspect could be placed as below:

Notational		**Non-notational**
Musical score	**Language**	**Photograph**

Yolande Tremblay is a professor at the University of Quebec in Rimouski.

Figure 1.
The compensatory model with media symbolic systems.



Salomon hypothesizes that non-notational symbol systems require fluid ability, and notational symbol systems require crystallized ability. Even if it seems hard to discover which type of recording abilities is demanded and by which symbol system, it is important to explore this field of knowledge that offers interesting issues.

Schramm's Concepts

Schramm also helps to understand and to advance a better use of educational media software. His work is worth examining for the purpose of guiding the research.

Digital Code

Schramm borrows the name "digital" from the computer and he gives some features of the digital system used by the printed media: it can present pre-packaged information quickly, however, it offers only a few cues but a lot of possible combinations. Equally, the digital codes (print, spoken language, mathematics) are used in the learning of basic mental skills (1977). It may lead the user from abstraction to assigned meanings. So it helps the learning process for people able to handle abstraction.

Iconic Code

The iconic code of pictures exhibits contrasts with the digital system. Simple visual information may be assimilated all at once. The learner is encouraged to move around and pick out the cues that interest him.

This code is concrete and invites the individual to wander from it to meanings he can extract and verbalize when necessary. In the human brain, the iconic impressions are often intense and resilient to loss.

Analogue Code

Analogue code originated from the digital and analogue computer, but is nearer to the iconic code. For example, in spoken language, there are analogue elements: tone, rhythm, voice quality, and so on. The differences between iconic, digital and analogue codings are just beginning to be understood. So the theory for the best use of these coding systems must emerge in the future (1977).

The current research on instructional media software requires continued studies on content, how learning is acquired by the human being, or what aspects have helped in the process of developing skills or acquiring knowledge. Schramm, as well as Salomon, emphasizes the symbolic systems of the media that could affect learning. Figure I shows a synthesis of their points of view.

Development of Media Software

In the development of media software, efforts must be concentrated in order to know how the learner is processing the knowledge he is acquiring, and how he is developing skills. We need to examine the psychological consequences in the use of symbolic systems to provide the necessary mediators in a compensatory approach.

In this second section, we suggest some stages for the development of media; the model to be used is inspired by the Instructional Development Institute, and it will be applied in photography.

First, the behavioral objectives must be defined, and some target audience characterestics need to be identified; then the concepts to be taught will be planned, and a rough design for presentation strategies will be prepared. A formative evaluation will be proposed to revise the design before finishing the production and making the summative evaluation.

Behavioral Objectives

In a module formulated in photography, we emphasize "thinking", so that the objectives are in the cognitive domain. To attain them, a compensatory model could be applied with coding elements, specifically adapted to the visual system, and aided by verbal and analogue symbolic codes of varied degrees of notationality.

In a work like photography, two levels of performance objectives should guide the process:

A terminal performance objective that the learner should have reached at the end of the course: the student should be able to analyze factors which express some ideas or feelings in pictures, to apply procedures in taking pictures and to synthetize his knowledge in order to communicate ideas and feelings by means of photography.

Some enabling objectives or sub-objectives which state the essential behaviors for the learner, to achieve the terminal performance objective:

The student enrolled in the Photography Class I, should be able:
To itemize some principles of photography when given a written test;
To analyze factors expressing an idea or a feeling, when shown pictures and given a written test;
To translate verbal systems of photography into symbolic statements and vice versa, when given a written test with pictorial matter;
To apply the procedures for taking pictures as judged by a committee, when given a 35mm camera and black and white films;
To synthetize understanding about photography for expressing specific ideas or feelings when taking pictures with a 35mm camera and color film by a committee.

We know that objectives often surpass one another but the thing to look for is the main emphasis of the objective, and here, we could deal specially with what a student should know and comprehend about principles of photography in order to solve problems quickly when taking pictures for a specific objective or a particular task in a class.

Target Audience

Some characteristics of the target audience deserve to be identified in an attempt to apply a compensatory treatment in a special task. For instance, it is important to discover how people with fluid abilities or crystallized abilities react with some specific coding elements. Can they instantly form visual images to anticipate a kind of picture, or do they depend upon verbal strategies?

To demonstrate the processes of taking pictures with variable depth of field, do they use two screens differently for a visual display?

In order to render a special idea, are diagrams of the inner part of a camera helpful to understand the result of different combinations of speed and aperture?

We think it is very important for a teacher to be able to adapt his teaching methods to the varied skills of the young people and to help them develop their abilities in different fields. An instructor who could master only verbal system or only visual system, would be limited in his means to face learners whose aptitudes require other treatments.

To facilitate successful learning we need to assign methods to students on the basis of prior knowledge of their abilities. Thus, pertinent learners' differences must be taken into account as factors in media software development.

Concepts to be Taught

When deciding upon concepts to be taught, it is important to consider the desired results for the respective learners. For instance, to learn some generalities about photography, the individuals involved should develop skills that enable them to operate effectively under various circumstances, which require similar abilities: analyzing visual displays, comparing spatial elements, synthetizing factors and applying them, in the solving of problems, etc.

The compensatory model looks for isomorphism between the presentation of concepts by coding elements and representation to the learner's intellect. Media are vehicles and we have to discover how, under the best conditions, they convey concepts that comply with the mental process.

It is possible that some people learn about photography faster and better if the message is presented through a digital code and the degree of abstraction conducted through syntax and vocabulary.

In photography how could the non-notationality of a picture help a student understand depth of field? To communicate a special feeling in a picture, and in order to unite many factors as aperture size, length of exposure, distance of the object, etc., in what measure would a student need a more notational system, for instance, verbal language?

To cognitively understand photography, would it be helpful to use diagrams that may be more notational than pictures? We need to understand how different degrees of notationality interact in the learning of concepts. The isomorphism with internal representation has to be examined in order to save useless mental elaborations while assuring efficient learning.

Presentation Strategies

Understanding the principles of photography permits us to convey ideas or feelings in pictures more adequately. And for a teacher who wants to learn to produce, analyze and use pictures with children, it is necessary to be able to communicate a message by visual system as well as by a verbal one, in order to adapt his teaching to the aptitudes of the learner. We know that the cognitive development varies with regard to the age. According to the subject matter it requires a more or less higher degree of concreteness and abstraction.

In fact, photography is not just a matter of technique, but really a question of aesthetics. Thorough observation, awareness of the environment, and technical expertize are necessary to convey different messages.

The feeling which has to be expressed requires proper combination of light and precision on image. If someone desires to reveal joy, softness, tenderness, he will not portray sadness, or inspire pity. Certain conditions of light or kinds of films are more appropriate than others to convey a particular feeling.

Also, if one wants to isolate an object or a person on a picture, he will use a different technique when he wishes to present them in a large context and vice versa. He can vary the depth of field, choose a slow or a fast film, select adequate speed combined with appropriate f-stop.

Design

A rough design is prepared in order to achieve the desired outcomes.

We think that a slide-tape could illustrate the principles of photography. A sequence on video-tape could demonstrate the procedures used when taking pictures. For the application of general principles, a camera and a film could also be useful.

We suppose that learning can be enhanced when translation processes are circumvented or short-circuited for the learner. For instance, in photography it could be difficult to understand clearly the meaning of "light writing", but if explained with an adequate coding system, the process is presumably facilitated, with a correspondence between the coded message and the mode in which it could be best internally represented.

As the learner cannot see the transformation that occurs by the action of the light on the surface of the film in the black box of the camera, he has to reproduce in his mind the reactions that happen in different conditions for special purposes.

In the event of changing the stimuli when they seem to be more or less significant in the learning of the task, we need to ask and know what is going on in the learner's mind when presented these coding elements (iconic, verbal, analogue, etc).

Let us take some other examples to demonstrate what we mean. If the learner does not understand the concept "focus" in photography, we may assume that a diagram showing a lens and the pictures formed by objects (on the film, behind the film, before the film), could help to represent the information of images by objects located at different camera distances.

It would be possible to explain the "depth of field" by using only words, but very probably the presentation of some pictures illustrating different situations would be more efficient than long written descriptions of the subject. In this case, the verbal system could be a reinforcing strategy rather than a primary one.

In order to penetrate the meaning of a concept like "depth of field", we could use a double screen.

In written language, we think that underlining, capitalizing, directing attention with arrows, light pointers, could be ranged in the analogue code, and could be appropriate in photography learning. Understanding of the learners' cognitive process would enable the professor to select intelligently a compensatory treatment adequate for each student.

Presentation strategies is a means the teacher can use to compensate for some of the students' weaknesses in the development of skills or understanding. That could help to discover which particular features of the media software are responsible for the learning and which coding elements could produce the expected outcomes in the mind of the human being according to his specific abilities.

Evaluation

Since we consider the development of instructional media software as a constructive process, it is necessary to apply two kinds of evaluation: formative evaluation, to determine "en route" failure, and summative evaluation to assess success or failure of goal attainment.

Formative Evaluation

When the media software is being constructed, it has to be tested in detail by observational methods to assess whether or not learners are achieving, what they are making with the product and how they are organizing the material in their mind. This procedure puts the evaluation process at a time when its results can be used for correction.

For instance, if non-notational symbol systems require fluid ability, it is interesting to cultivate this kind of ability in the learning of photography. Observation, analysis of the space, the conditions of light, and combination of factors, like speed, distance, emulsion are required in order to produce some personal vision of the world.

We believe that to promote creativity, which is important in photography, the instructor has to present many divergent examples, to infer generalities, to model the procedures, to call for practice, to develop skills of thorough observation, internalization, etc. And above all the developer of instructional media software must know how the learners are proceeding mentally with the symbolic systems used in the cognitive process.

If visible finger movements are associated with verbal code, this can facilitate the internalization of the steps necessary to take pictures. But we must evaluate with the students these particular features of the media, and investigate closely how every coding element interacts with mental cognition.

As the media software is being built and experimented with a small group, some questions could help the professor:

Describe your mental process for understanding the concept or principle.
— How do you develop your response?
— Do you verbalize to yourself when shown a picture? In what order?
— Give the step-by-step sequence you are using to analyze a complex picture.
— For problem solving, could you imagine what would happen and what it would be like? How did you determine your answers?

By means of these questions and the like, it would become possible for the teacher to know the different operations by which learning occurs in accord with various degrees of abilities in the learners, and so to assist the process by adequate compensatory treatments, and to adapt the notational systems that suit the best for the objectives of the task.

This formative evaluation will make us discover if our product is working or not, and what has to be modified in the final design. According to the needs of a compensatory approach and in response to the goals of instruction, we might find out that different versions are necessary.

Summative Evaluation

Finally, a summative evaluation involving a larger group of students will determine how the last version will realize the final outcome. After a period of instruction, some tests could be administered to the group. At a later date, another form of the test could be administered to assess the durability of the learning process and the effectiveness of the compensatory model as applied to the aptitudes and the respective methods employed.

Revised Design

When correctly applied, evaluation and revision reduce the need to spend time and money uselessly. A close observational and experimental method will permit one to assess and revise the production at a point where results will improve the media.

The final production will be concretized only after many trials and errors. Thus, this procedure presents a more realistic opportunity to foster learning. Rather than exclusively planned and prepared material by the instructor, and without the use of tests, re-tests and revisions, the above mentioned model allows for a direct to co-relation between the skills of the learner and the methods applied. Figure 2 presents the stages we suggested.

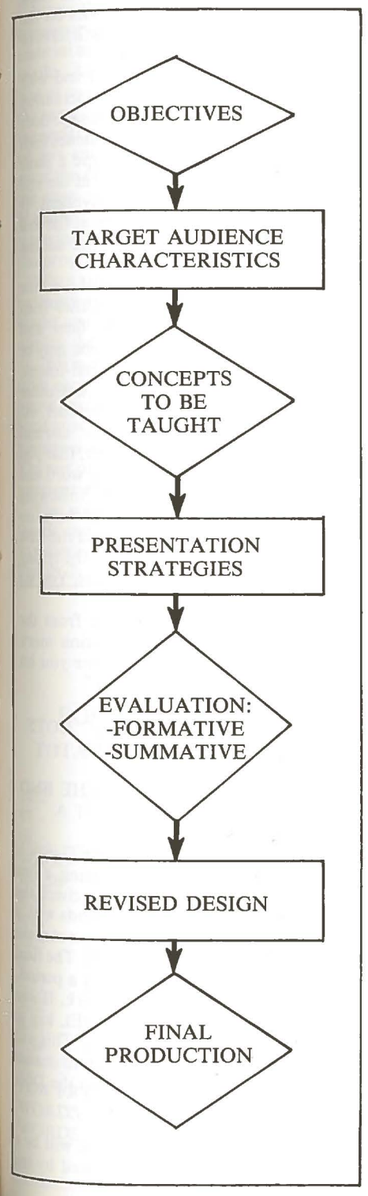
Conclusion and Recommendations

This brief study of the work of G. Salomon and W. Schramm allowed us to examine their thought about the symbolic systems of media. This appeared as an important rationale to lay the groundwork of media software.

We suggested some procedures to develop instructional media programs including the participation of the learner along with the preparation and evaluation of the product.

Much research and experimentation is necessary to discover the characteristics of the media related to the learning of specific tasks, and to know the ways of matching aptitude and treatment for enriching the student's cognition.

Figure 2
Stages in the development of media software.



1. Some learners may be engaged in constructive activities, in beginning with pictures from which they will induce the principles.
2. On the other hand, some learners may be led in mental operations by presenting them with principles before giving examples by pictures.
3. We have to try different degrees of notationality to know when learning improves according to the types of learners engaged in the process, we should also use different degrees of notationality to facilitate mental elaboration.
4. To compensate for low aptitudes in a visual task, we may assume that using some plain diagrams and directing the learner's attention could help to demonstrate relations between concepts and thereby save mental operations.
5. When facing a task like photography with certain types of learners in a compensatory model, we have to know in which measure is a verbal system necessary.
6. Do the learners maintain their preferred strategy? We have to help them develop skills that would, in many cases, shorten the way and restrain useless activities.

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Of Interest

Computers Anyone?

AMTEC members who would like to form a special interest group in computers, computer technology and software should contact Mr. Ron Eyre. Mr. Eyre will help to organize a SIG in Microcomputers in Education.

To obtain further information and to express interest contact:

Mr. Ron Eyre
Wellington County Board of Education
500 Victoria Rd. North
Guelph, Ontario
N1E 6K2

14th Annual Conference on Visual Literacy
Vancouver, British Columbia
Nov. 17-20, 1982

"Seeing Ourselves — Visualization in a Social Context" is the theme for the fall visual literacy conference. The 1982 conference will explore the process in film, television, still photography, architecture and other visual media.

Keynote speakers include John Culkin, founder of the Centre for Understanding Media; Freeman Patterson, world famous photographer; and John Hirsch, director of Stratford Shakespearean Festival.

For further information, please contact:
Dr. Patricia Groves
Sociology Department
Capilano College
2055 Purcell Way
North Vancouver, B.C.
V7J 3H5

CJEC's New Editor

Dr. Denis Hlynka will assume the editorship of the **Canadian Journal of Educational Communication** on July 1, 1982. Dr. Hlynka is an Associate Professor in the Faculty of Education at the University of Manitoba. He holds a Ph.D. in Instructional Development and Technology from Michigan State University. He has published articles in many Canadian and international journals.

Dr. Hlynka will edit his first issue (Volume 12, Number 1) during the fall. The deadline for material for that issue will be August 1, 1982.

Readability Calculation by Microcomputer

Tom Rich

Often when preparing scripts, support materials and other materials for audiovisual programs, questions arise about the readability of the language. How do the writers know that the material is written at the right level? Often materials seem to be prepared on the basis of intuition or experience. Certainly, changes are made after piloting, but the changes are often superficial. Seldom are alterations made in the language level of the material.

Readability formulas which could help to determine the actual difficulty of the language, often seem too complex and cumbersome to calculate. Recently, however, microcomputers have been able to adapt the readability measures making them more useful to the curriculum expert and the audiovisual practioner. Microcomputers seem to eliminate the tedium from the mathematics of readability evaluations.

This article will describe a program adapted from a longer one described in an article by Michael Schuyler, "A Readability Formula Program for Use on Microcomputers," in the March, 1982 *Journal of Reading*. It had been redesigned to run on a PET microcomputer. Because of memory limitations some of the features of the original program have been eliminated. The program can be loaded from disk or tape and, if desired, a printer can be used for the final output.

Purpose

The program gives basic statistical information on the sample passage including: words, sentences, three-syllable words, syllables per 100 words and sentences per 100 words. A total of six different formulas for readability are computed and the data for plotting a Fry Readability Graph is given.

The passage to be evaluated can be any length but commonly passages of 100 words are used. In order to get a better evaluation of material from a book, it is suggested you use several passages of approximately 100 words from various sections of the book.

Methodology

A few comments must be made about how the material to be evaluated should be entered. The first thing you will see on the screen is an abbreviated set of instructions. After the instructions, the program will ask you to enter the name of the book or material you are evaluating and the number of lines of text in the first section to be entered. After typing each, press the RETURN key.

There is no need to count the exact number of words or sentences in the passage to be evaluated as the program does that for you. Simply count the number of lines, as they appear in the source material, in the first passage you are evaluating.

A question mark (?) will appear at the bottom of the screen when you are ready to enter the text. You will enter it one line at a time; a new line is indicated with a question mark. The lines correspond to the lines in the source material and not to the screen on the computer. Simply type the line in continuously without hitting RETURN even if the edge of the screen is reached. The line will automatically wrap around to the next line on the screen. Don't worry about words being broken up at the end of the line. The only caution is that one line from the book cannot take up more than two lines on the computer screen. If it does, you will have to break it into two parts.

Each line of text entered must end with either a slash (/) or the normal punctuation (. ? !) If the line in the source passage does not correspond to the end of a sentence then space after the last word and type a slash before hitting RETURN. Words at the end of a line cannot be broken with hyphens. If the source text has words broken at the end of a line, complete the word before adding the slash and hitting RETURN.

The actual typing of the material is a little different from normal typing. Other than punctuation at the end of the lines and sentences, absolutely no punctuation may be used including commas, colons, semi-colons, dashes, quotes or parentheses or any other symbol that is not a letter or a number. At the end of the sentence the normal punctuation is used. Note however, that you must leave a space between the last word and the ending punctuation. The following punctuation begins immediately with no space between the punctuation and the first word of the sentence. In addition, the typing is done automatically in all capitals. You do not have to use the shift key.

Here is an example. Each line from the source material begins at a question mark printed by the computer each time you hit RETURN.

```
? THIS IS SAMPLE TEXT .NOTE
THE SPACE BEFORE THE
PERIOD NOT AFTER/
? AND THE SLASH AT THE END
OF THE LINE WHEN NOT A
SENTENCE END .
```

The only time you will hit RETURN is when you have completed entering a line from the text. Before you do so, check the line for errors and make sure it ends with a slash or end punctuation as you cannot make corrections after hitting RETURN. The final line of the passage must end with a period, question mark or exclamation mark. If you must make corrections, use the DEL key at the upper right of the number pad. This will erase letters. To position the cursor to change letters, the cursor controls next to the DEL key may also be used.

When you hit RETURN, there will be a slight pause as the line is evaluated by the program and then another question mark will appear for the second line to be entered. When you have entered the final line of text that sentence must have normal punctuation at the end — not a slash. You must also use the number of lines which you specified in the beginning of the program. The computer will keep returning with question marks until that number of lines has been entered.

When the last line has been entered the computer will automatically process the material and, after a slight pause, display the results. At that time, you will have the option of continuing with another passage from the same text or ending. If you answer YES the program will again ask how many lines of text and display the question marks to enter the copy. This must be material from the same source as the preceeding passage. If you wish to switch to evaluating different materials, you should answer NO and start the program again by typing RUN.

When you have completed the number of passages you wish to evaluate in the particular text, answer NO and the program will display the summary data table (See Figure 1). This is essentially the same as the one seen after each passage except that it notes how many passages have been evaluated and the total number of words, three syllable words, sentences and syllables for all the passages. The rest of the data is averaged across all the passages evaluated.

The statistics for the syllables per 100 words and sentences per 100 words are used in plotting a Fry Readability Graph (See Figure 2). Enter the sentence data for the graph on the vertical axis and enter the syllable data on the horizontal axis. The point where the two intersect is the approximate Fry grade level.

FIGURE 1

READABILITY
FOCUS ON SCIENCE
TOTAL PASSAGES 1 THRU 10

1032	WORDS
87	3-SYLLABLE WORDS
68	SENTENCES
1450.83	SYLLABLES
140.58	SYLLABLES PER 100 WORDS
6.58	SENTENCES PER 100 WORDS
9.44	FOG READING LEVEL
72.5	FLESCH READING EASE
6	FLESCH GRADE LEVEL
5.37	POWERS READING EASE
3.22	ARI
6.91	FLESCH-KINCAID
7.98	COLEMAN

FOR FRY, PLOT SYLLABLES PER 100 WORDS AND SENTENCES PER 100 WORDS ON FRY GRAPH.

You will have the opportunity to get a paper copy of the final table. Answer YES to the question if you wish a printout and the computer's directions. When complete, the program will terminate. To start again and analyze material from another source, simply type RUN again. There is no need to load the program again.

Program Output

On the printed output of a sample run, you will see that the name of the document along with the total number of passages evaluated. As mentioned earlier, these passages can be of any length. The statistics given include the sum total of words, syllables, sentences and three syllable or longer words which are found in all the passages evaluated.

The program counts the number of words by looking for spaces. HELLO, PEI and 1982 are all counted as one word each. If P.E.I. was entered with periods, the program would count three sentences, one for each period, but only one word as no spaces occur. A comma or other punctuation after a word would not affect the word count but would cause one extra letter to be added to the punctuation. The slash at the end of a line simply tells the computer that the sentence continues on the next line.

The program estimates the number of syllables by dividing the total number of letters by a constant, 3.1127, and rounding the result to two places. The number of three syllable or longer words is estimated by checking for words with nine or more letters and three or more vowels.

A total of six formulas plus the Fry data (sentences and syllables per 100 words) are computed. The formulas are as follows: Fog, Flesch, Powers, ARI (Devereaux), Coleman, and Flesch-Kincaid. Following is a brief overview of each adapted from Schuyler's article. (1982). A partial bibliography of more detailed sources on readability is found in the Reference section.

Fry

The index is derived by plotting the average number of sentences per 100 words and syllables per 100 words on a graph. It provides an approximate grade level and reasons for the score. As a result, Fry scores are particularly helpful in suggesting ways to increase readability and in understanding why passages are rated as they are.

Fog

The formulas used in the Fog scores is as follows: .4 * (T/W * 100 + W/S) when T equals three syllable words, W equals words, and S equals sentences.

In Fog the percentage of the three syllable words expressed as a whole number is added to the average sentence length. This is multiplied by a constant, .4. This index tends to grade consistently high when compared to the other readability formulas.

Flesch

The formula for a Flesch count is as follows: 206.835 - .846 * L3 - 1.015 * (W/S), when L3 equals the syllables per 100 words, W equals words and S equals sentences.

This formula does not yield a direct grade level but provides a reading ease score beteen 0 and 100 based on the number of syllables, words and sentences. A high score indicates easy material. Gray (1975) has derived an appoximate grade level from this. He defines scores of 92-100 as grade 4: 81-90 as grade 5, and so on. No fractions of a grade level are used.

Powers

The formula for the Powers scores is as follows: -2.209 + .0778 * (W/S) + .0455 * L3. when L3 equals syllables per 100 words, W equals words and S equals sentences.

Although Powers uses the same variables as Flesch, this formula uses different constants and a different order of computation. The value derived relates directly to a grade level. The Powers index grades consistently lower than any of the others with the exception of ARI.

ARI or Devereaux

The ARI formula is as follows: 1.56 * WL + .19 * S1 = 6.49, where W1 equals word length and SL equals sentence length.

This formula is the simpliest formula of the readability formulas given. Although it correlates well with the others, it consistently grades lower. Schuyler found that when the other formulas gave levels of from 12 to 14, the ARI formulas often gave levels of from 5 to 6.

Flesch-Kincaid

The Flesch-Kincaid formula is computed as follows: .39 * (W/S) + 11.8 * (Sy/W) - 15.59, when W equals words, S equals sentences and Sy equals syllables.

This formula is a derivation of the Flesch formula which compute grade level directly. Unlike the Flesch scale, grade levels of less than four are also computed. For very simple material, negative values may be obtained.

Coleman

The Coleman formula is as follows: -27.4004 * Cloze% + 23.06395. In the Coleman formula Cloze% equals (141.8401 - .21459*(L1/W*100) + 1.079812*(S/(W/100)))/100. Within the Cloze formula, L1 equals letters in the passage, S equals

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sentences and W equals words.

This formula uses letters rather than syllables and correlates very highly with Fry. It does tend to grade somewhat higher than Fry but will also yield negative values for very easy material.

Schuyler (1982) points out that although all of these readability indices have a very high degree of correlation they may not be equally valid. A high degree of correlation among the scores should not be surprising as they are all using the same data and many of the same variables. However, it should be pointed out that the ARI index, closely followed by the Powers, consistently tend to score lower than the others while the Fog index tends to score consistently higher than the others.

A critical element in the evaluation of readability is sample size. There is some evidence (Coke and Rothkopf, 1970) to indicate that more than 10 per cent of the words in the material analyzed may have to be sampled in order to reduce the possibility of error to an acceptable level.

Limitations

This version of the program has certain limitations over the original Apple version. For instance, the Dale formula, which necessitates a 3,000 word list for comparisons, is not included. It simply overtaxed the memory of a 32k PET, although a means of modification are currently being considered.

Those who are interested in the Dale formula or the Apple version of the program should consult Schuyler (1982) for a complete program listing.

I will be happy to provide a PET version of the program to anyone who sends me a cassette audiotape (30).

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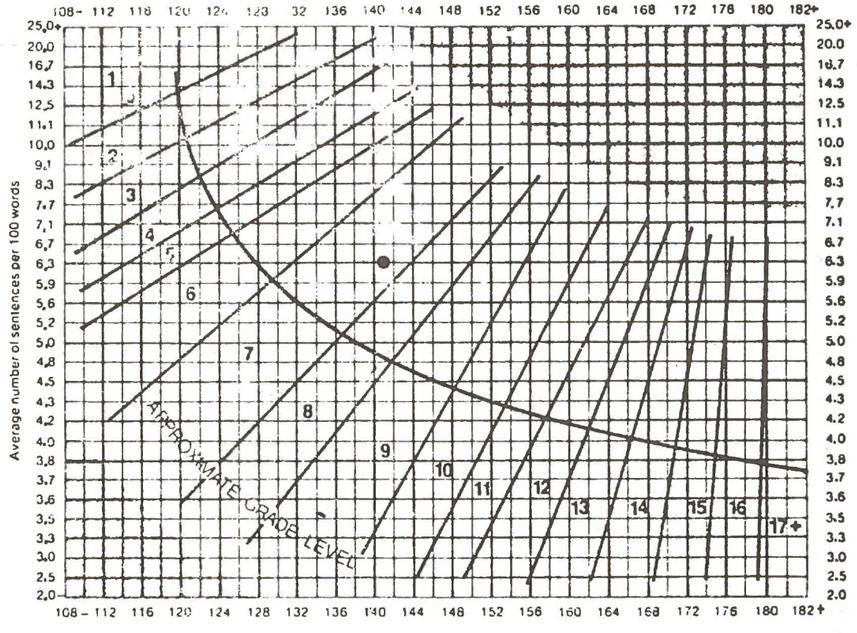
FIGURE 2
The Fry Readability Graph

Directions

Enter graph with average number of sentences per 100 words and average number of syllables per 100 words. Plot a dot where the two lines intersect. Area where dot is plotted will give you the approximate grade level.

This graph is taken from an article by Fry (1977) in the *Journal of Reading*.



"...like the Arabs..."?

Denis Hlynka

The word is out. The information society is here. Those of us in AMTEC have, of course been expecting and even predicting this next stage in communications technology for some time. We always knew that our field would someday thrust itself to the forefront ever since Thomas Edison predicted for motion pictures a future ahead of its time:

> *Maybe I'm wrong, but I should say that in ten years textbooks as the principal medium of teaching will be as obsolete as the horses and carriages are now... Visual education, the imparting of exact information through the motion picture camera, will be a matter of course in all our schools.*
>
> *(Colliers,* Feb. 28, 1925, *V 75,* #8.)

Well, Edison was wrong. It didn't happen by 1935, nor for that matter by 1945, 1955, or 1965. It still hasn't happened. Similar predictions were made for other media which promised to revolutionize education: programmed instruction, television, games and simulations. Always the new media fell short of the promise.

And now the computer revolution is upon us, and somehow, this time, we have been caught standing on the corner, watching all the chips go by.

What are the implications for the computer/telecommunications revolution upon AMTEC? It seems to me that AMTEC has three obvious but equally possible alternatives. First, it can adapt immediately to new developments, strengthen its goals and resolves, and come out as a major leader in educational technology in Canada. Alternatively, AMTEC can maintain its rather low profile, status quo approach. Or, third, AMTEC may find itself anachronistic and unnecessary in a world of media specialization, and in the words of the poet, should

"...fold its tents like the Arabs
And as silently steal away."

Many of us perhaps would immediately reject this latter option, but if we are serious in examining AMTEC's future, I believe that we must allow all three options to stand as very real and viable possibilities.

The fact is that the study of the information society, far from being a timid field seeking a home, has already been claimed and welcomed by more than one eager group of adherents from engineers to futurists, while by and large, educational technologists have been by-passed. And, the fact is that we are moving to more specialized interest groups...a challenge which may be beyond the scope of AMTEC. Why attend an AMTEC '82 conference in Winnipeg when more specific options are available: a distance education conference (ICCE); a children and television conference; a videotex conference; a vocational computer conference; or a teleconferencing conference?

And if AMTEC doesn't survive through the '80s? It is a difficult question, not to be answered glibly. Unless the AMTEC membership is prepared to support fully a clearly defined set of objectives, we may indeed have no choice but to "fold our tents."

Parenthetically, it should be noted that the problems addressed here are not uniquely AMTEC's nor uniquely Canadian. Consistent rumors from the United States suggest that AECT, a much larger and healthier organization is likewise undergoing similar problems.

Which leads us to the major concern of this editorial...the future of the *Canadian Journal of Educational Communication.* Let us review what has been done so far.

First and most significant, Dr. Richard Lewis has taken our modest *Media Message* and given it a facelift coupled with a new name is a new philosophy. *Media Message* is now the *Canadian Journal of Educational Communication.* Its functions have expanded considerably. CJEC presents readers with profiles of educational media and communication technology happenings in Canada and elsewhere; it acts as the official organ of AMTEC; and it provides a channel for formal refereed professional and academic papers at the cutting edge of our field.

Second, under the editorship of Richard Lewis, the first four issues of CJEC have already appeared. Thus the first action steps have already been taken to give the journal a more significant role in AMTEC.

Third, a new editor of CJEC is about to take over. It is always difficult to predict precisely what impact a new editorial policy might have. Nevertheless, we think we can give you some glimpses into what you might expect from CJEC for the next two years:

Feature Articles. An attempt will be made to continue the recent trend of providing a mechanism for formal refereed papers as the backbone of the journal. The trend will be towards fewer but longer contributions within this section.

Profile. A common request from AMTEC members is to obtain more information on media organizations across the country. We hope to be able to profile such organizations on a regular basis within this column.

Update. A summary of current events and happenings across the country is the goal for this column.

ERIC. A review of significant current documents from the Educational Resources Information Exchange document service will be a regular feature.

Bibliographies. This section will feature basic print and media bibliographies on subjects of interest to educational technologists.

Fiction. This section is only in the experimental stages. Most media journals tend to be cognitive in approach and content. The premise of including a fiction section in this journal is based upon the assumption that there is indeed a body of work from the entertainment domain which approaches truth as a unique slice of life, a frozen moment in time. Should the concept be workable, CJEC will begin modestly by

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reprinting selected works of fiction which deal with the themes of educational media.

AMTEC News. Of course, the reader will be informed of developments within their own organization, through this regular column.

Another concept which deserves further exploration is that of "guest editor." The feasibility of inviting individuals with expertise in some aspect of educational technology; then allowing that person free reign to pull together a collection of papers highlighting that theme is currently being studed.

What does CJEC need in order to thrive and grow for the next two years? What can YOU do to make CJEC a viable and useful journal? First you can contribute by writing. A journal first and foremost needs papers. It should not be the exclusive job of the editor to seek out papers from his friends and aquaintances. Rather, the major source should be the membership itself. **So, most important, if CJEC is to continue to operate through the '80s, each member needs to consider his or her potential contribution through writing.**

Second, CJEC needs information. We need YOU to submit short news notes for the UPDATE column; we need book reviewers; we need individuals to take charge of the various proposed columns.

Third, CJEC must expand its subscription base. A survey of the AMTEC membership lists shows that very few Canadian libraries subscribe to our journal. Why? Can you help? Does YOUR library subscribe to CJEC? If each AMTEC member could add only one subscriber, we would (obviously) double our circulation.

Finally, tell us what you would like to see in CJEC, then help us.

AMTEC and CJEC are both at a significant crossroads. If CJEC is to represent the AMTEC membership accurately; and if CJEC is to become a significant journal representing the views of educational technologists in Canada, then the first major step is to obtain a commitment from all members to work towards this goal. Ladies and gentlemen of AMTEC, it is time to move.

Just Off the Press

Thank God it's Friday, or Is it? This book, written by Dr. Pierre Turgeon, University of Ottawa, is particularly for teachers. It deals with the problem of stress and responses to overload, control, openness, exhaustion response, etc.

The Ontario Public School Men Teachers' Federation is making the book available at reduced rates for quantity orders.

For further information and order forms, contact:

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