

**COMPUTER-ASSISTED
INSTRUCTION**

**Man:
A Course
of Study**

An Evaluation

Prepared by Education Development Center Inc.

Man: A Course of Study

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CURIOSITY, COMPETENCE, COMMUNITY

Man: A Course of Study
An Evaluation

A summary of the original two-volume edition

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The Course Goals Defined

"Knowing is a process, not a product."¹

Two fifth grade boys are holding an animated conversation; a young graduate student occasionally asks them a question, but her intervention is rare. At the moment, Paul is speaking about a new way of looking at behavior:

I never realized....I always thought it was man's brain which separated him from animals. Now you realize that it can be the environment that makes one man different from another. I never really looked upon it like this. Man: A Course of Study, it brings it out. Like in math, why one and one equals two, in the new math, that brings it out.

A discussion follows about why the course they are describing leads to new thinking about man and his behavior. Paul again:

It isn't so rigid. It's like this: you don't have to stick with it. We've gotten into half-hour long discussions on the entire opposite subject, yet just sprouting little by little, and it's really interesting and the teacher gets really wrapped up and she keeps going along and we learn a lot more than what we would have started out with and it isn't rigid. It's like something you can lean into and turn any way and not, you know: "You have to concentrate on it."

His friend David has an explanation ready:

I think it's partly because there's all the materials like the films, the booklets and, you know, I could keep on going. It makes it more interesting and easier to do instead of: "Here is the book. Read." And you have to give credit to Miss H. She's a great teacher. She made it so that in Man: A Course of Study, you look forward, it isn't one big black thing which you don't understand.

¹Jerome Bruner, Toward a Theory of Instruction (Cambridge: Harvard University Press, 1966), 72.

These youngsters are in the process of making their own assessments of Man: A Course of Study. They are participants in the interview phase of an evaluation designed to assess this new course in the social sciences. They and their schoolmates in many parts of the country provide evidence by which to judge the power and limitations of this curriculum innovation.

What are the assumptions underlying the course, its view of man and learning, and its structural and conceptual components? A review of the Man: A Course of Study gestalt must begin with the thinking of Jerome Bruner. The force of Bruner's ideas has been paramount throughout the course development. In Toward a Theory of Instruction he expressed the theoretical stance and curriculum guidelines that form the "working paper" for this course. Most fundamentally, Bruner believes that the distinguishing characteristic of human beings is that they learn; from this position he has defined the important components of the will to learn, and the factors that lead to satisfied learning.

Curiosity is the first major instigator of the will to learn. (Watch children work with building blocks: their desire to see how high a pile they can build before it tumbles illustrates this.)

Competence in learning is the second attribute. (We get interested in what we are good at is the way Bruner puts it.)

Identification is the third component. Specifically this takes the form of competence models, people who control a rare resource of some desired competence. But "what is important is that the resource is attainable by interaction....In the process of teaching a skill, the parent or teacher passes on much more. The teacher imparts attitudes toward a subject and indeed attitudes toward learning itself."²

²Toward a Theory of Instruction, 123.

Reciprocity, or the need to respond to others, is the fourth contributor of the will to learn.

Where the will to learn becomes a problem, it is not so much in learning itself but "in the fact that what the school imposes often fails to enlist the natural energies that sustain spontaneous learning -- curiosity, a desire for competence, aspiration to emulate a model, and a deep-sensed commitment to the web of social reciprocity."³

Given the attributes of the will to learn, Bruner defines the critical question thus: How do we stimulate thought within the school, where curriculum is set, students confined, and a path fixed? Children, like adults, need reassurance that it is all right to entertain and express highly subjective ideas and to treat a task as a problem for which one invents an answer, rather than finds one in the book or on the blackboard. Bruner is concerned with reestablishing in the child's mind his right not only to have his own private ideas but to express them in the public setting of the classroom. It is implicit in Bruner's thinking that instruction is a viable means of promoting learning; that one need not destroy the system to achieve change; that it is possible to recast, reform the institution of the school and that the people who comprise this institution are themselves capable of growth and change.

Man: A Course of Study exemplifies the Brunerian approach to curriculum, and operates under the following assumptions:

1. That learning is in good measure a social process by which children and teachers can articulate and share ideas with one another;
2. That competence over a body of knowledge will lead to increased self-confidence and comprehension of one's operating assumptions about life;

³ Toward a Theory of Instruction, 127.

3. That the world can be observed, conjectured about, and to some degree ordered and understood using the tools of the behavioral sciences, and that an individual life can be viewed as part of the larger flow of human existence.

The course aims at enlarging human capacities rather than refining narrow skills. It is structured around the community of learning rather than around hierarchical or status-defined roles such as student, teacher, authority.

The organizing conceptual question of the course, "What makes man human?" is posed out of Bruner's abiding concern with "man: his nature as a species, the forces that shaped and continue to shape his humanity." He has classified the five "massive contributors to man's humanization" as: 1) tool making, 2) language, 3) social organization, 4) the management of man's prolonged childhood, and 5) man's urge to explain his world. "We seek exercises and materials," he wrote, "through which our pupils can learn wherein man is distinctive in his adaptation to the world, and wherein there is a discernible continuity between him and his animal forbears."⁴

Social Studies Curriculum Program Director, Peter B. Dow, relates these conceptual issues to specific learning goals: to stimulate children to think about the nature of man by providing them with interesting studies of animal behavior and human groups taken from recent work in the behavioral sciences and anthropology. We hope that these studies will provoke students to reexamine what they think they know about themselves and about human beings generally, and awaken in children an awareness of the fact that what we regard as acceptable behavior is a product of our culture.

⁴ Jerome Bruner, Man: A Course of Study, Occasional Paper No. 3, Social Studies Curriculum Program, Educational Services, Inc. (now Education Development Center, Inc.) (Cambridge: 1965), 4.

The instrumental or pedagogical aims of the course have been specified as follows:

1. To initiate and develop in youngsters a process of question-posing (the inquiry method);
2. To teach a research methodology where children can look for information to answer questions they have raised and use the framework developed in the course (e.g. the concept of the life cycle) and apply it to new areas;
3. To help youngsters develop the ability to use a variety of first-hand sources as evidence from which to develop hypotheses and draw conclusions;
4. To conduct classroom discussions in which youngsters learn to listen to others as well as to express their own views;
5. To legitimize the search; that is, to give sanction and support to open-ended discussions where definitive answers to many questions are not found;
6. To encourage children to reflect on their own experiences;
7. To create a new role for the teacher, in which he becomes a resource rather than an authority.

It is clear that these goals center around the process of learning, rather than around the product. As Bruner suggests, these goals put highest importance on the community of education, on exploration, and on question-posing, rather than on factual specifics or information per se. He writes: "A curriculum...is the enterprise par excellence where the line between subject matter and method grows necessarily indistinct."⁵ The course is replete in concepts and information, but these are not superordinate to the critical process goals. Rather, a continual interaction of method and material has been devised, whereby conceptual grasp and mastery of information are never considered separately from the method of discovery. Humans, according to Bruner, translate their experience

⁵Toward a Theory of Instruction, 72.

into a model of the world through action (the enactive mode), through image (the iconic mode), and through symbol (the symbolic mode). Man: A Course of Study attempts to integrate all three modes of learning, although we find that the iconic and symbolic modes are most heavily emphasized. Films and records, readings, and continual use of classroom discussion activities stress the interaction of the visual and the aural with students' manipulation of ideas through language.

The conceptual and pedagogical goals of Man: A Course of Study involve specifically:

Conceptual Themes	Data Sources	Classroom Techniques	Learning Methods
Life cycle (including reproduction)	1. <u>Primary Sources</u>	<u>Examples</u>	Inquiry, investigation (problem-defining, hypothesizing, experimentation, observation, interviewing, literature searching, summarizing and reporting)
Adaptation	Student experiences Behavior of family	Individual and group research, e.g. direct observation or reading of texts	
Learning	Behavior of young children in school		
Aggression	Behavior of animals	Large and small group discussion	
Organization of groups (including group relationships, the family and community, division of labor)	2. <u>Secondary Sources</u>		Sharing and evaluating of interpretation Accumulating and retaining information Exchange of opinion, defense of opinion Exploration of individual feelings Exposure to diverse aesthetic styles
Technology	Films and slides of animals and Eskimos Recording of animal sounds Recordings of Eskimo myths, legends and poetry	Games Role play	
Communication and language	Anthropological field notes Written data on humans, other animals and environments	Large and small group projects such as art and construction projects	
World view		Writing of songs and poems	
Values			

The Evaluation Program

During the process of evaluating Man: A Course of Study, we frequently encountered from educators and researchers questions as to behavioral goals. The course has not been framed within the confines of a behavioral psychology, nor have its developers thought specifically in behaviorist terms as they prepared and tested it. Rather, the course was developed within a humanistic framework, by way of its emphasis upon the anthropological, biological and ethnographic. Its organizing question, "What makes man human?" has always been asked in the broadest possible sense, and its framers, from Bruner on, have emphasized the resonance of the question within the material.

We did attempt to review various lessons of the course in terms of specified inputs and expected outcomes, but disenchantment with this method was quick. It was indeed possible to pinpoint and specify behavior for each individual lesson, but the course as presented within such an outline lost its special power and charm. It lost its essential quality: the inclusive coherence of several powerful organizing ideas. By their specificity and attachment to a given lesson, the defined behaviors undermined what the developers expected to be the culminating objective of a theme as it recurred throughout the course. We were, in fact, reminded of William James's judgement many years ago on his own field of psychology when he declared it "a nasty little subject -- all one cares to know lies outside." This was a good part of the problem. From another perspective, one working party member who had helped to create the materials of the course, said: "We hope that the theme of

learning gives youngsters a way of considering the effect of learning on their own lives and the importance of learning to the human species. The formal way in which these behavioral goals are stated leaves little room for the importance of individual a-ha's: those moments when a child gets an idea that helps him order his experience in a new way. We can't predict what causes this to happen in any one classroom, but we know that it does. For example, as I once did (one of the) exercises with a class, one child became fascinated with the idea that what she was learning was shaping her life, would influence her life as an adult. She began looking at what she was doing with this perspective, using the experience of other children to contrast with her own."

The global nature of the course does not mean that we cannot assess outcomes in the classroom. The goals are accessible to research and provoked us to reach beyond traditional methods for measuring learning, to more innovative and reflective ways of evaluation. The questions below have given focus to this assessment:

1. Does Man: A Course of Study help students learn to understand themselves and others in ways they were incapable of before, and are they able to use this new knowledge in and out of the classroom?
2. Do students gain a more accurate knowledge of specific topics by using these materials?

Are they better at using evidence (including evidence from all types of media, not only written) and observing natural and social phenomena?

Can they go beyond specifics to some organizing conjectures about human behavior?

3. Is there a consistent style of pedagogy embedded in Man: A Course of Study that is identifiable by and appropriate for different types of students?

Are the pedagogy and approach of the materials different from those of traditional social studies?

If so, how does this pedagogy affect learning and class activities?
4. Do teachers' styles change in the course of teaching these materials?
5. How do the socio-economic and ability variables affect the teaching and learning of this material?

Is the course most effective with highly verbal students, or does it work as well for students with poorer reading and writing skills?

Does a unit function as well in the inner city as in well-to-do suburban systems?

Are there special motivational values for disadvantaged youngsters in various media?

We have looked on the evaluation process in the most global sense as an extension of a human need: to know where one has been to understand where one is going; to see what was in order to see what is. Both students and teachers need ways of summarizing and reflecting upon what has been learned if mastery and growth are to be recognized and consolidated. But we have found that youngsters have seldom been asked to participate in the considerations affecting the process of their own education, though educators expect such curricula as the social studies to provide children with resources for making decisions affecting their private and public lives. Much of this evaluation, then, is centered on youngsters' perceptions

and critical insights; by eliciting from them their own ideas about the materials, we hoped also to strengthen the student's ability to use ethnographic sources as evidence, to progress in skills of hypothesizing, analyzing and synthesizing, and to become an active participant in the classroom. A piece of curriculum cannot be evaluated realistically without understanding its impact and functioning from the student's point of view. In the past, evaluation has been focused too much on teacher assessments with only achievement test scores speaking for the students.

Jerome Bruner's Toward a Theory of Instruction has set down valuable guidelines for those with temerity enough to venture into the area of comprehensive evaluation. His emphasis on the "intelligence" function of evaluation, and on the importance of understanding the teacher who is teaching and the student who is learning, were vital components of our work. In addition, his point of view on the morality of the profession underscored the need to evaluate in an exploratory, thoughtful, yet disciplined manner: "The aims of the educational enterprise...center upon the problem of assisting the development of human beings so that they can use their potential powers to achieve a good life and make an effective contribution to their society. When one loses sight of that objective, both education and its evaluation become technical and sterile. The task of understanding how human beings, in fact, can be assisted in their learning and development is the central task of a theory of instruction, and techniques of evaluation derive from it in the same way that the practice of medicine derives from the medical sciences."⁶

⁶ Toward a Theory of Instruction, 166-7.

Methodology

We have used the interview method to understand what children make of the course, and how intimately they use the materials; classroom environment checklists (sample question on p. 21) to understand how, both as individuals and as groups, they view the course materials and the work they do in class; and tests to judge the consistency with which a body of information was conveyed to groups of children. We have no fondness for test-giving, or test-taking per se, and have minimized these elements in this evaluation. Written pre-tests and post-tests at the beginning and end of each of the two Man: A Course of Study sections have served mainly as group measures to provide a standard against which we can compare how children from different settings and grade levels are able to deal with the materials.

A personal response has been sought from teachers. Here again, the interview has proved a flexible technique; observing in the classroom has given us an understanding of the course-in-action on a daily basis, and has permitted an evaluation of changes in teacher style that may be attributable to the course.

The range of these methods has provided a validity that excelled that of any one technique. When several different techniques resulted in corroborating information, we began to feel confidence in the findings. Essentially, we have used both clinical and quantitative assessment. In addition, we have experimented with ways of measuring objective and subjective behavior, and in experimenting, have found that the devices themselves affect the students, for our interviews and checklists seem to provide youngsters with a methodology in itself -- an approach to evaluating

situations such as the classroom and their own responses to a course of study.

The Clinical Method. During the teaching of the course, we interviewed periodically a sample of city and suburban students who represented all ability levels. These interviews were conducted using semistructured open-ended leading questions. Students were interviewed either individually or in small groups by trained interviewers, and the interviews were recorded. When interviews were analyzed from transcriptions, they provided not only rich illumination of the more objective data, but causal explanations for the objective performance.

The Quantitative Method. Completed by all students involved in the field test, checklists gathered information on classroom environment, student involvement and participation, success of presentation of materials through various media, reading and homework, students' assessment of their own attitudes and learning styles. Results of these checklists were tabulated according to demographic sub-groups and were subjected to factor analytic techniques. In addition, the responses to open-ended questions at the end of the checklist helped us interpret the limited-choice questions.

Pre-tests and Post-tests. These tests, based on objective essay and scale formats, stressed many attributes of student learning: reading skills, use of evidence and ability to generalize, vocabulary, graphing and mapping, interpretation of visual materials, attitudes and personal preferences.

Classroom and Teacher Training Evaluation

Studying the classroom from the students' perspective, we soon learned that we had to focus also on a critical variable in the educational process: the classroom teacher. The first year's assessments of the teacher's role were culled from the students' point of view. For the last two years of field testing, we added an extensive series of classroom and seminar observations and teacher interviews to supplement the first findings and to determine the effect of the teacher training program. Through classroom observations especially, we wanted to learn more about the interaction of curriculum, methods, students and teachers.

We sought the teacher's reactions to the curriculum materials, classroom style, student response, and the workshop experience. Teachers were asked to define their roles and to give their views of the functioning of a unit. Coupled with this intensive material, the additional information from observers' reports of classrooms and workshops permitted us to evaluate more directly the relationship between teacher characteristics and student characteristics, with our curriculum materials as the catalyst.

Perspective of the Evaluators

The tests and checklists were constructed by evaluation staff members working closely with the course developers. As we developed and carried through the evaluation program, we confronted the issue of bias, of contamination of our findings caused by long and close exposure to the EDC philosophy and to Man: A Course of Study. This close relationship could result in distorted findings. Keeping this caveat in mind, we realized that no evaluation can be, or should be, value-free. Everyone has assumptions about education and its best goals. To work freely and well in a

situation, the evaluator must feel sympathy for the intentions of the curriculum project -- in this case, creating the inquiring, interactive classroom focused around issues of man's humanness. Our task was to learn how, and to what degree if any, the curriculum achieved its purpose, and at the same time to shed more light on the process of learning.

The Organization of the Course

Man: A Course of Study has two major sections: the first includes the animal studies of salmon, herring gull, baboon, chimpanzee and others; and the second studies the lives of the Netsilik Eskimos in the Pelly Bay region of Canada.

The materials fall into three categories: film and other visuals; written materials; and enactive devices, such as games. Film is the primary source of data in the course; it is used to simulate field observations. Thirty booklets of differing style and purpose replace the usual textbook. Some of the booklets supply data for individual units; others stress concepts, and their use spans several units. In addition, there are field notes, journals, poems, songs and stories; games, construction exercises, and observation projects are enactive devices that permit children to work with a minimum of teacher direction.

To help teachers adjust to these new and varied demands, a seminar program using readings, tapes and films designed exclusively for teacher use accompanies the course, and runs concurrently. Twenty suggested sessions built around issues of content and pedagogy constitute the substance of the seminars.

Student Evaluation Results

Some General Observations

There seem to be different kinds of learning distinctive to the two sections of the course. The Animals section continually reinforces and interprets a few basic themes; the most consistent informational learning seems to occur in material organized in this way. The Netsilik section is like the life cycle itself, a seasonal following of the lives of people. It is a life-style exploration of the total environment, and, because it is centered on human behavior, it elicits more personal, selective learning related to the particular interests of a child.

Children accumulated a great body of data; they also developed methods of investigation and working with evidence, and used the course ideas in personal reflective ways. In the process, the meaning of serious investigation grew, along with a respect for "a long-term kind of thing that learning can often demand," as one teacher put it. Irven DeVore, Jane Goodall and Niko Tinbergen were critical here, for they were admired scientists, specialists in their fields who devoted their energies to long-term investigation.

By discussion and small group work, fifth graders exchanged their views productively with one another, enlarging the range of each individual's thinking. We noted an increase in children's desire to work without the teacher's direction. As children developed a competency to work in independent groups, they forthrightly expressed the desire to be freer of the teacher's influence.

Certain themes of the course had special relevance for the students, particularly the ways in which creatures reproduce, nurture, protect the young, and succeed or fail in the struggle for survival. They were also intrigued by roles various members of groups fulfill, be they members of a baboon troop or members of a human society. For example, in studying the Netsilik, they were particularly interested in the male and female roles. Almost universally, both boys and girls preferred the role of the male to the role of the female:

...men go out and hunt....women have to stay
home and do the housework....you just stay
around the house and miss all the action.

The girls saw their own lives as containing much more excitement, choice and challenge than the lives of Netsilik women.

Youngsters' conversations revealed a growing sense of the interdependence of species members, particularly among primates. The course appeared to have considerable impact on the student's construction of a model by which to consider human needs. The model involved cooperation, nurturance, protection, and the sharing of responsibilities. Study of the Netsilik section seemed to be essential for the full development of this model, but its foundation was laid earlier when analogies with human behaviors were made during the animal studies.

In general, children seemed to become much more aware of similarities between humans and other animals than they did of differences, and in this sense, there was a certain degree of "over-learning." It seemed to impede somewhat their ability to understand the distinctive contributions to man's humanization, as delineated by Bruner. (See page 4.)

Children's ability to master and use correctly the concepts in the course seems to depend heavily upon the quality and numerousness of examples given with each major theme. And some of the larger conceptual issues of the course -- particularly language, innate and learned behavior, and natural selection -- caused special problems. A fifth grader's generalizations of these concepts seem to be almost accidental rewards drawn from a series of examples, and are for the most part categorical -- "Eskimos are nomads" -- rather than relational. (In a set of follow-up interviews a year after the study of Man: A Course of Study, attributes of behavior, both human and other animal, were recalled by students with accuracy and a good sense of the organizing framework. There appeared to be little carry over of learning methodology.)

The Course Materials

Film, as the basic text of Man: A Course of Study, was given special attention in the evaluation, and it clearly worked a magic all its own. Both center city and suburban teachers commented on the power of film to convey course material to slower youngsters and to spark discussion; students were equally enthusiastic. One center city school student put his response succinctly: "I like to see what I'm talking about." Another child said: "Everytime we learn something new, we should have a movie." All children made comments about the value of the films in conveying the total environment of the material:

...you learn more about it than reading. You see how they act and in reading you just see the pictures. Like the salmon. (In reading) you don't see the way he acts, how fast he goes. They're just shown in a picture just staying there, (you have to) make believe the water's flowing by.

The Netsilik films particularly drew students into a "shared experience" with the people shown. As one teacher said,

They're not just asked to imagine information....It takes novelists, I think, to create the closeness to the study that these films do.

The students themselves conveyed a sense of the power of these films to make strange and unfamiliar human habits more known and thus more acceptable, and part of the necessary range of human behavior. Quality and real-life footage were the critical variables in the films' credibility.

There were a lot of things that I didn't like, but I don't think they should change them. Like when they took the animal and they skinned him, I didn't like that, but there's no reason why you should change it, because it's true, and that's what they did....We have to clean fish and take them apart before we have to eat them too....that's their way of living.

The wide range of course materials appeared to modify students' views of traditional data sources. The book was no longer viewed as the sole authority and source of truth. Because children did not have to depend solely on the written word, that word became less threatening and all-powerful. There were able to relax and browse through booklets, recognizing words from their new vocabularies. They began to view reading as a more pleasurable activity. The use of vivid and pertinent illustrations in the booklets greatly aided this development, especially for the child with poor reading ability. Center city children showed more willingness to read these booklets than more traditional classroom texts. In describing the "concept booklets" of the course, one child in a large center city school told an interviewer:

I like the booklets. They took a very hard question and broke it up....See, they had a question at the beginning and then they had a story to tell you about the question.

Children, particularly in the suburbs, were very impatient with obvious repetition in material. They were anxious to be considered mature learners, and did not like blatant repetition as a teaching device. So some of the "saturation" techniques backfired when they appeared condescending, and of course they provoked a negative response. On the other hand, all children were disturbed by cursory run-throughs of material and wanted a sense of thoroughness.

Checklist Results

The checklist proved a valuable evaluation tool. The students completed checklists at four intervals throughout the year. A sample question -- If I had to describe studying the Netsilik Eskimos, I would use the words: easy, confusing at times, makes me think, fun, hard, not very important, boring, etc. (check 2).

The responses of the students to the checklists indicated the paramount role of visual materials, particularly films, in learning, especially learning that is enjoyed. Whenever children were given the option of selecting reading or films as their favorite learning format, there was unequivocal choice of film materials. We have found this at all grade levels where honest ethnographic or documentary treatments of a topic are provided. In general, checklist results showed minimal boy-girl differences in preference for particular materials or learning styles. (There were, though, slight differences

in personal assertiveness: boys expressed less outward attentiveness in class, more independent thinking about the ideas of the course, yet, more frequently than the girls, said they were bored and less interested; girls felt they had to participate more in class discussions to get good grades.)

Test Results

In both sections of the course children made significant gains in learning. (These gains remained significant for sub-samples controlled by such variables as school grade level and grade average, sex, school system, measured ability, father's education and occupation.) In terms of absolute knowledge, children knew a lot more of the material covered on the Animals test prior to that section, than they knew about the Netsilik Eskimos prior to that section. This, of course, could be expected in light of children's high interest in animals and the general availability of information.

On over-all vocabulary competence, a 30% increase, from an average 40% to an average 70% level was found. Certain words (such as "structure," "reproduction," "life cycle," "environment," "predator") that recurred throughout the course were correctly defined by over 80% of the sample.

While students in all school systems improved their scores from pre- to post-test on the Animals section, the average gain differed markedly from system to system. These differences nevertheless were smaller than the differences found across the systems on the pre-test.

Among the most notable of the findings on the Animals test is that learning gains were not associated with students' intelligence or

previous knowledge in the area. Those students with poor academic background, found so often in the center city, gained in learning and mastery over the ideas and concepts as much as those whose beginning positions were much stronger. This did not hold for the Netsilik unit, where test gains were greatest for those students of highest I.Q. and least for those of lowest; between these points, test gains were proportioned evenly. It is apparent from the evidence that where materials dealt with happenings, children were quicker to grasp and retain the content. Where inferential or conceptual skill was called for, children found more difficulty and fell into more confusion.

In the Animals test, we found a great relationship between the amount of reinforcement of an idea through various media and exercises, and the gain in learning that took place by the end of the section. In the few instances where learning seemed to be going in a direction opposite to what was desired, a close inspection of the course revealed contradictions and confusion in the presentation, or a lack of material directly related to the idea.

Of the two sections, the Netsilik proved to be the favorite of the majority of children because "it's about man." The course does not succeed as Man: A Course of Study without the Netsilik materials. It is here that children become most speculative and reflective about the course; teachers should take care to pace the course so that the Netsilik study gets its full share of time during the school year.

Special Testing: Games

A special research project was undertaken to determine the effects of the hunting games that are part of the Netsilik study. 585 students in one school system were given pre-post tests designed to measure several factors, such as knowledge of facts, knowledge of strategy, rules and structure of the game, and attitudes toward hunting in general and the games in particular.

The results clearly indicate that the hunting games were highly successful teaching devices. The tests measured a variety of kinds of knowledge related to the game, and on all of these the students did well. The data also clearly indicate that studying past games and planning for future ones improved the learning of most of the kinds of knowledge tested. It appears that students must reflect on their play in order to learn much from it.

Sex was significantly associated with the quality of play, and with the kind of learning dependent upon quality of play. Boys greatly out-performed girls, and were by far the superior strategists. General school performance, as rated by teachers, was not associated with learning the effective strategies of the games, though all other knowledge gains associated with the games were significantly associated with school performance. From additional analyses, it appeared that the achievement level of the group with which one played made very little difference. This indicates that teachers may group students at their convenience.

Teacher Evaluation Results

The Seminar Program

As Man: A Course of Study entered the phase of development where full-scale field testing was in progress, the need became clear for a required teacher education program, to provide continuing support for the classroom teaching of new material, and allow teachers to examine and experiment with new pedagogic approaches. It was also hoped that the seminar workshops would contribute to a new professional cohesion counterbalancing to some degree the fragmenting and isolating tendencies of many school systems. The leaders of these seminars, which meet regularly over the course of the school year, have been trained during summer institutes and have been either classroom teachers themselves, or administrative personnel.

We observed a natural rhythm to the majority of seminars. (Six seminars were studied in the evaluation: 2 suburban, 1 small city, 3 inner city.) Early in the course, teachers were most interested in specific lessons and daily planning. They wanted, and probably needed, to get to know the course at a straightforward operational level. As the year went on, however, and they became familiar with the teacher manuals and classroom materials, they were more willing and interested in looking at the course from broader perspectives.

All reactions indicate that the value of the sessions did not relate only to content. Sharing the common experience of teaching

the course seemed to give teachers a special enthusiasm for the seminars. The seminar situation also gave potentially controversial topics a hearing, and demonstrated that youngsters could and would work seriously on topics that some teachers had not considered appropriate for the fifth-grade classroom.

Urban and suburban seminars show distinct differences. It appears that suburban teachers had become acquainted with the Man: A Course of Study pedagogy before actual contact with the course. These teachers showed a lack of interest in seminar discussions of pedagogy, and were more interested in general discussions of the content of the course; debating the values implicit in particular material, for example, or analyzing the conceptual structure of the Netsilik section. Urban teachers were more concerned with utilizing what tended to be a new classroom pedagogy. They wanted to talk about how to do it in terms of specific techniques.

Teacher manuals were almost unanimously extolled. Rather than seeking less specificity in lesson plans, first year teachers expressed appreciation for the explicitness of the suggestions and the clearly delineated continuum of lessons, many feeling they would have floundered without this guide. An unexpected complementariness between the teachers' guides and the seminars seemed to occur, for the seminars tended to promote more reflective teaching which offset the rather programmatic nature of the teacher guides.

...we get a chance to find out what kinds of things you would like to get from this discussion. But you have to ask yourself. This is great. You don't have a teacher's manual telling you what points you ought to get across. You are asking yourself what is important to you.

There was no indication that teachers did not want to attend seminars; rather, the reverse was the predominant attitude.

I'd say the best part is the workshop we have to take. You get in there with a bunch of people, there must be 15 or 16, and there the excitement about the unit is contagious.

Certainly, the nature of the curriculum played a part in creating behavioral changes in the classroom; but the seminar program appears to have been necessary. One leader commented:

Teachers have really had a new look at kids, because in the nature of this material, if you listen at all to children, you come out with a brand-new respect for what they have to say. And that is the area I think that we've succeeded in most....

They are, I think beginning to see that they can comfortably change. But they're not going to change all at once.

Teachers Evaluate the Course

In evaluating the course themselves the teachers spoke less often and less specifically about conceptual goals as a strength of the course than they did of materials and methods, pedagogic goals, and classroom climate. They selected as the most salient and exciting characteristics of the course in the classroom: diversity of activity and materials; the verbal expressiveness and the respect for others' opinions; the power of the film to convey the themes of the course, to promote skills of observation, and to motivate children to become involved.

Many teachers, after working with Man: A Course of Study for a year, came away with a new concept of skills as developed in the upper elementary grades. The skills teachers mentioned most frequently as emphasized in the course were both social (active listening, communicating, and sharing in group exchanges) and intellectual (observing, abstracting and contrasting).

Criticisms varied from teacher to teacher; there was less consensus on negative attributes of the course than on the positive factors. The most common criticisms were that traditional skills were neglected and independent projects not stressed. Since the course does operate on a consensual basis in terms of class work, the lack of individualized activities was seen as a problem area by some: "If a kid isn't interested, what do you do?" Many felt that too long a period had been allocated to the early animal studies, to the detriment of the Netsilik section. Evaluation findings based on student responses would support this criticism.

Changes in the Classroom

From observations in classrooms, one important point related to classroom methodology seems clear: children, through question-posing and follow-up projects, can demonstrate their grasp of the conceptual and methodological framework of the course; however, the teacher is critical for success and plays a focal role -- defining tasks of investigation, guiding children in setting up working arrangements, and following through the collected data and the new questions raised.

These are new functions for many teachers, requiring practice and reflection.

Though materials per se have seldom been credited with changing teaching methods or teacher behavior in the classroom, a group of classrooms observed regularly during the teaching of Man: A Course of Study, showed discernible positive changes in teacher style that seemed attributable to the methods and materials of the course.

One important shift documented by the teachers themselves was the shift from the didactic mode of teaching and learning to the interpersonal mode. A comparison of a group of Man: A Course of Study teachers, first prior to and then after teaching the course, indicated that these teachers moved in the direction of an open, student-centered classroom with the introduction of Man: A Course of Study; they talked less and were less dominating. Students gave longer responses, were more apt to raise issues for discussion, and engaged in more student-to-student exchanges. (The students themselves overwhelmingly preferred group work and the dyadic pattern of working with one friend over solitary endeavors. Very few liked to work best with the teacher's help, or in one big group. This probably reflects the developmental level of this age group, where task accomplishment in the company of peers is particularly satisfying.)

Of various comparisons of subgroups of Man: A Course of Study classes, only the distinction between idea- and student-oriented teachers revealed significant differences. (In an idea-oriented lesson,

the teacher was primarily concerned with the concepts and facts in the curriculum; the student-oriented teacher emphasized students' behavior and interpersonal relations.) Both teaching styles can be effective with these materials; in a small sample, however, student-oriented lessons were closer to the Man: A Course of Study pedagogic model of the student-centered, open classroom.

Comparisons with Control Classes

An examination of both Man: A Course of Study classes and control group classes uncovered vast differences in the lives of the two sets of classrooms. Man: A Course of Study sessions contain a variety of activities and learning modes; students' time is more equally divided between reading the text, watching films, question-answer, guided discussion, and writing. Man: A Course of Study lessons often were aimed at conceptual development; control group lessons never were. Control group sessions possess great uniformity; reading the textbook and answering questions are seen as the major forms of activity.

Man: A Course of Study lessons were more apt to be pupil-centered, student-to-student interactive discussions; students gave longer answers to more opinion-oriented questions, they talked to and listened to one another, and they appeared interested in the proceedings. The teachers were less controlling, and they tended to draw out students more; they were more expressive and were physically closer to their students.

Suburban control classes revealed a pattern of class activities similar to that of Man: A Course of Study though the content did not appear to be equal in appeal. The urban control classes showed the most clear and obvious differences in class activities compared with Man: A Course of Study. For example, the urban controls saw "answering questions" as a major way to learn. This was not true of any other sample.

Interviews with students and teachers in control classes suggested some general themes which appear to be characteristic of all classrooms: students preferred a setting in which they played a fairly active role in a variety of activities, particularly sharing of ideas with one another and the teacher. Yet the majority of the control group students found themselves in restrictive class environments in which they were expected to play a fairly passive role. All of the control group teachers complained of a lack of audio-visual resources related to the materials they were teaching. They often expressed dissatisfaction with their present teaching methods and a desire to change, but felt unfamiliar with newer approaches. They seemed to want to change, but simply did not know where to begin.

Does the Course Succeed on its own Terms?

Reciprocity and Diversity

The fundamental learning style of Man: A Course of Study is the emphasis on reciprocal learning. The course lessons mirror closely the process by which it was constructed -- not by single individuals working independently of one another, but through a group process (the working party) where approaches and ideas were exchanged and debated by scholars, teachers, artists, and researchers. Translated into classroom terms, this means that the responsibility for formulating a position is shifted from "authority" centers -- texts, teachers lectures, didactic films -- to student resourcefulness in integrating information from data sources. Ideally, the teacher is central not as a source of "answers" but as the catalyst of events, as a model of one who explores and questions human behavior and who is visible and available to students in a mutually concerned search for understanding. Films, field research, information and concept booklets, student and teacher inputs serve as these data sources. The suggested activities raise questions and pose problems, but the materials are intended as the triggering mechanisms for student-generated questions.

If the desired outcome of social studies in the schools is a totally consistent and common body of information, then the methods of this course are not the appropriate ones. If, however, the educator believes that knowledge about behavior is not definitive, not circumscribed, but open-ended and subject to a range of educated response, then this course makes that responsiveness possible.

Reciprocity....requires recognition of one critically important matter: you cannot have both reciprocity and the demand that everybody learn the same thing or be "completely" well rounded in the same way all the time. If reciprocally operative groups are to give support to learning by stimulating each person to join his efforts to a group, then we shall need tolerance for the specialized roles that develop -- the critic, the innovator, the second helper, the cautionary. For it is from the cultivation of these interlocking roles that the participants get the sense of operating reciprocally in a group.⁷

Juxtaposed against the diversity of expected outcome is the given nature of the materials. Both students and teachers comment frequently on the "packaged" aspect of the basic data sources. This input could be viewed as the structured or programmed attribute of the course; students and teachers are presented with a sequence of activities and a set of materials such that there is no need, unless desired, to search out further material or to decide upon basic pedagogic strategy.

Is there a contradiction inherent in this situation of packaged materials and open-ended expectations? Not in operation, for the core materials are not intended to function as the boundaries of the course or as pieces of a jig-saw puzzle. They are more like paints in an artist's palette; how they are selected and used depends upon the talents and predispositions of the painter (with a corresponding range of results).

Social Learning

It is evident from the evaluation that Man: A Course of Study has been especially successful in meeting its goals for social learning, as

⁷Toward a Theory of Instruction, 126-7.

critical as the more content oriented goals. The idea of a community of learning, of people actively engaged in exploring and sharing ideas together, was preceived by the majority of children and teachers as a reality and a pleasure, adding a new dimension to the life of the classroom.

We observed, and deduced from objective data, a range of teacher styles running from the very open to the quite traditional, but we found that on the whole, teachers seemed to utilize the general methods suggested in the teacher manuals, and to notice as a result children's increased confidence in expressing ideas, new attention to each other, and ability to communicate effectively in discussion situations. In terms of social learning, this is a notable accomplishment. It appears that the combination of curriculum materials and pedagogical suggestions worked to produce a high degree of environmental consistency in classrooms across the country. More variety of activities and materials, more small group work and open discussion and teacher mediation and guidance, rather than dominance and authoritativeness, were the norms rather than the exceptions.

An example that summarizes social learning and its impact on attitudes came from a control class in which youngsters were using the standard school-developed social studies curriculum, but in addition using Man: A Course of Study as a science or anthropology study. The teacher, interestingly, used Man: A Course of Study methods for that study, but showed no carryover into regular social studies, and the children were acutely aware of the difference in learning methods.

They described in an interview how they did small group work only in

Man: A Course of Study. •

Boy 1 ...it's easier to discuss different things in a small group than it is with the whole class.... the other way, you just keep it to yourself and say, "Well, I'm not going to tell anybody else about it."

Boy 2 I know. In a way it's something like any other thing. If you're telling somebody something, they'll usually want to hear what it is. Like at first they'll say, "No, your idea is no good." Then they'll get around to, "Okay, what is your idea?"

This "approach" rather than "avoidance" attitude is encouraged by the structuring of Man: A Course of Study lessons, and the kinds of questions raised by the course content. A child in the center city put it this way:

I think when we went in small groups for discussion and we gave up our own thought (was best). That's all we knew about it -- our thoughts. And then when the other children brought up their thoughts, we learned more.

Social learning of this type is not didactic, not second hand; it is experiential learning that comes from doing, from participating in the classroom -- what we could describe as real-life learning of socially interactive skills.

This emphasis on what might be called, after Bruner, the reciprocally operative group, reflects one way of considering the learning process, one method of arranging classroom happenings and children's time in school. It emphasizes social process and consensual task completion, in that children do the same things at the same time. Thus interactive learning can be contrasted with another style of more

independent or individualized instruction, where the child works more on his own, on projects or research of special interest without the continuous flow of interaction in a class.

While we do not have research evidence to shed light on learning gains, student satisfaction in learning, or attitude development attributable to the latter method (were Man: A Course of Study materials utilized in this way), it seems reasonable to suggest that the interactive mode may be a particularly felicitous mode for upper elementary age youngsters, where task orientation and working with peers are known to be pertinent concerns of youngsters at that stage of personal development. Although the interactive style of this course is one of its strengths and successes, we are not suggesting that the group-focused process is the best or the only mode by which children of various ages should learn. As one's own identity as a single individual with special talents and preferences becomes of paramount importance in the adolescent years, a preponderance of consensual tasks in school may be far from the best operating style.

Both the independent, or individualized, and the interactive styles of educating the young, however, are quite different from a third form of teaching, the traditional style in which learning is more dependent, more rote, more teacher-centered and less speculative than either of the other two methods. As children grow and learn, there seems to be little evidence that this third position should ever be the predominant learning method if we wish to educate thoughtful, confident, and responsive human beings.

This evaluation does raise some questions about how the community of learning functions on a day-to-day classroom basis. For example, there does appear still to be a lot of "teacher talk" in the course, despite its apparent diminution over the year's time. This would suggest the need for in-service emphasis on classroom process in interactive learning. It would be good if teachers began to recognize early their own natural propensities to talk a lot.

We also found that many of the lesson plans lead the teacher to raise most of the questions for consideration. Some modification of this focus of question-posing might be in order, as a further topic of in-service consideration.

Problems of Conceptual Mastery

We found many instances, both in tests and interviews, where there appear to be special problems for children in mastering the larger conceptual issues of the course. Youngsters have considerable difficulty in grasping the uniquely human quality of language, in correctly identifying innate versus learned behaviors in humans and other animals, and in dealing with the topic of natural selection.

The problems demonstrated in answering test questions in these areas were illustrated in interview material. For example, many youngsters were not able to make conceptual distinctions between behavior controlled by innate urges of animal species -- the internal drives that are beyond control or understanding by the animal -- and behavior governed by man's symbol system for organizing experience and creating rules of life.

Some of the problem seems to be explainable in terms of children's level of cognitive development and the accompanying need for a great wealth of good, graspable examples. Children of this age utilize in their thinking one-to-one correspondances; generalizations seem to be rather accidental rewards drawn out of a series of examples. Teachers also find Man: A Course of Study content new and very difficult, which further contributes to conceptual problems of children. Research into long-term use would help to determine if teachers master the course over time.

Knowing that children schooled in the suburban settings of the interviewed field sample had a history of learning with pedagogy more like Man: A Course of Study methods than had children in the center city, we do not find it surprising that on the whole suburban youngsters showed more ability to elaborate an idea in conversation, to deal with conceptual themes fluently and to show a somewhat more highly developed level of formal relational thinking in their interviews. In fact, in light of the comparative observations made in city control classes indicating the lack of emphasis on opinion-giving, drawing conclusions from evidence, or hypothetical or reflective thinking, it is encouraging that center city fifth graders, in the course of one year, could show growth in the communicative, reflective ways that seem to occur.

Inquiry

While the interviews show, and checklist findings indicate, children's use of inquiring attitude, hypothesizing and observing

during the study of this course, it is difficult in verbal evaluations to judge how well they understand that these are approaches to problems. At this age, they are not self-conscious about the methods they are using. They do use these methods but the majority have not translated the "doing" into an articulated system that they can express. The observation exercises now part of the course were introduced specifically to make explicit within the context of the child's own family, school and neighborhood, methods for data gathering and analysis.

Ethnocentrism

Since one of the learning goals of the course is "to awaken in children an awareness of the fact that what we regard as acceptable behavior is a product of our culture," the issue of ethnocentrism is important to an evaluation of the Netsilik unit.

The interview materials demonstrated that children do make links between some Netsilik ways and our own, for example, between feelings for family and friends and their way of relating to one another, and such feelings as we express them. Where basic similarities in human behavior have been grasped, children demonstrate verbally that the unit is having positive effect in creating a sense of the family of man.

Do children go beyond the easy correlation of similarity, however, and begin to understand and sometimes enjoy the diversity of human behavior? To this question, we have less clear signs of growth. There is evidence that at the functional level bridging occurs. By that we mean that the instrumental problem-solving behavior of the

Netsilik elicits most favorable reaction from children as an expression of a culture different from their own, not highly technological, but very inventive. Netsilik solutions to hunting and survival needs are considered clever and functional by youngsters.

The diversities that elicit emotional responses do not so easily build to positive attitudes: the issues of infanticide and senilicide, the killing point of the hunt, the skinning of animals, and the treat of the caribou eye. For example, one scene in a film showing the food treat of the fish eye, was universally mentioned by the children who saw it as the most difficult scene to stomach, in a literal sense. There is rational understanding of such behavior, but it is not really seen as "acceptable" -- its visceral impact is too disturbing. Even the physical appearance of the Netsilik -- sallow and less groomed than our own prevailing adult standards dictate -- evokes comment about the poor, sad-looking Netsilik without much consideration of differing standards.

The Netsilik belief system, expressed in terms of magic and spirits, seems to skirt some middle ground of feeling and draws out both sympathetic and distancing responses. The distancing reactions could be attributed to several factors. Children are learning the myths and beliefs of their own culture, and the magical and shamanistic system of the Eskimo is in some conflict with our scientific interpretations of the world. Eskimo beliefs, because they do carry out a "magical" view, are ridiculed by some youngsters who have themselves barely emerged from the "magical" interpretations of early childhood.

When they do not take a position of cultural relativism, they take an "adult" stand of scientism: we have science instead of magic, we now know the answers. This is always put forth in the form of a rather easy, top of the head kind of comment. A class case study also documents that in some cases children never come to understand that myths are not literal interpretations of reality; in these cases, the teacher seems especially responsible for such misinterpretation.

However, despite some misunderstanding or skepticism and relegating of magical beliefs to a more "primitive" way of dealing with experience, many children do grasp the importance of a belief system for organizing and understanding daily life. On a word list exercise in the interviews where they select from several options the two words most important to the Netsilik in their daily lives, almost without exception children select "beliefs," and with good reasons. One concise insight was this: "If you believe in something, you're not afraid." The sympathetic, even empathetic responses of some children seem to derive from emotional kinship, from delight in the imaginary, the make-believe, and the intuitively true. They feel drawn to the imaginative and perceptive qualities of the Netsilik songs and stories. It seems appropriate to emphasize these in the course. In addition, most of the Netsilik myths contain acutely realistic insights into human feelings and behavior that strike resonant chords in children. Sharing, guilt, appeasing the powers that be, all contain elements of human psychology that ring true.

It is important to note that children begin to value diverse expressions of humanness not through rational understanding of technology, social organization or cultural symbols, but through encounters with personalities and their stories, either shown on films or told through records and written material, where basic psychological dimensions are illuminated through examples specific to Netsilik culture and beliefs. Telling stories is as old as man, and clearly the impact of "Stories of Beginning Times," "Songs and Stories of the Netsilik Eskimos," and of other personal expressions can be felt in the remarks youngsters formulated that show a good deal of sympathetic understanding.

Relevance

It is often difficult for center city children to develop a sense of agency, of power to shape their existence, as they cope with the complex multiverse of experience that surrounds them. There are different avenues of approach in education that can be taken toward helping them develop this sense of control. In social studies, these avenues amount to a decision between teaching surface or external craftiness (specific ways to function in the daily world) and teaching models for organizing experience, aiming for long-term, internalized understanding. The kinds of topics viewed as relevant under the first rubric would be dealings with police, shopping in the supermarket, how to get a specific job, etc.

The consideration of these topics can be fruitful school pursuits. But is it enough? Does it not relegate these children to the dead-end

status of third-rate minds, never being challenged to develop and use models for organizing experience? Jean Piaget has stressed that the mind is developed through use. To believe that more general and interdisciplinary education is not relevant to the center city child is to relegate a whole group of citizens to an inferior status and create a society that cannot be changed.

What are the alternatives? Man: A Course of Study appears to have demonstrated one viable way -- examining the most basic survival mechanisms of living creatures, with a view to contrasting and comparing behavior of different species, including and emphasizing man. Are these questions that children consider worth inquiring into? At what points do children touch base with their own lives and concerns? The issue of relevance has been a legitimate and important one among educators, particularly as it pertains to children in the center city. Considering that these children are as much, if not more, concerned with basic dimensions of survival than are children in suburban situations, Man: A Course of Study has taken as its concerns: family and social relationships; issues of dominance and protectiveness; roles of males and females; what makes a good parent; the meaning of dependency; how a group survives. It is hard to think of a set of issues more closely reflecting the psychological needs of center city children. Throughout the evaluation of the course, these dimensions have shown consistent power to motivate children to want to learn and to generate reflective thinking. Their interests range from the salmon to the Netsilik, but always with a personal reflection that shows the links of course materials to the child's life.

What I liked about the salmon, they made me most curious. At first I wondered, why do you want to swim up this stream, this certain stream to lay the eggs? And...he does not know he's going to die after he reaches this point. This made me like him more. And I liked his struggle, he struggled very hard to go upstream. And sometimes they'd make it and sometimes they'd fail.

* * *

If we lived in the Arctic, my father would -- like the mosquitoes started biting on the little boy, and the mother tried to protect him from the mosquitoes, and she gave him a balloon to entertain him and he fished and got food.

* * *

That's what they sort of mean by feelings. The Netsilik love each other....and they call each other by pet names. And they care for the young.

The course helps children to find a model for knowing themselves, for understanding basic human behaviors and how these influence lives. For example, reproduction proved to be the topic that center-city youngsters found especially personally intriguing. The course affords many opportunities for teachers and students to discuss together the topic of human and other animal reproduction, and the special qualities involved in human nurturance and care of the young, putting the topic in the context of survival of the species and purposes of dependency. It is a responsible, responsive context that appeals to the deepest needs of young people at a time when their just-budding sexuality hints at serious questions they must address. Through the study of many different groups of animals, and then through the study of a human group, the student finds value in stable environments, in continuity, in cooperation among members of the group. Interviews reveal a growing sense of the inter-

dependence of creatures, and indicate a budding model for considering human needs, involving cooperation, nurturance, protection, and the sharing of responsibilities. It is hard to deny the relevance of these issues. Further, the intimacy with which the course connects the social scientist to his work -- the way in which materials are put together to show the time, energy, and methods a person brings to the study of a field -- made strong impressions on youngsters:

This man -- Niko Tinbergen, I think it is -- he made this big study on gulls. Thirty years he spent listening to the gulls.

Teachers noted that the "model" experiences coupled with the opportunity to carry on experimentation and observation on their own, helped children to understand why persistence and long-term effort can be necessary to achieve goals and find out the meanings in experience.

There is another dimension to relevance, in terms of personal competence and human curiosity: learning is relevant if it makes people feel more able, more in control of situations, and possessed of more understanding about fundamental issues of behavior. Along this dimension of mastery, children express, as the course progresses, many ways in which its materials and classroom exercises contribute to competence and understanding, in which student-initiated learning is taking over from external imposition of ideas.

Before the teacher used to always give us the answers. Now we have to find it out for ourselves in the book. [Is that harder or easier?] Easier. [Why?] Sometimes you never have questions to ask, but when you do, you write them down, then look at the film, and then you know the answer. By figuring out answers yourself, you learn more....when the teacher tells you all the answers, you don't hardly know because you forget.

The experimental activities of the course, where children use source data to raise questions about behavior and then search for answers, demonstrate the power of the inquiry method when the problems are of interest and the data sources real.

I like (baboons) because we get to have our own machines [film loop viewers] and we get to watch film slides and we write notes about things that they do and their behavior and things like that.

[How do you learn the most, through films or slides?] The slides and the machines we have. Cause you can watch them and while you're watching take notes and we watch the film over and over again and get good ideas about the stuff.

Teachers recognized this element of relevance in the scope of discussion opened up by the course. Students were using their learning outside of school, in home situations where, even in television viewing, they felt an area of expertise, a competence, that delighted them and gave them pleasure in learning. This is personal relevance of a high power.

Kids love to discuss things. And if the teacher can come up with the right questions or the right answers at the right time, it's tremendous. You find the discussion going all over the place. I mean, you start out with the herring gulls and territories, and you end up talking about territories all over the world. You talk about salmon laying six thousand eggs and you end up talking about population explosions in China. You talk about why animals fight with one another, and you end up talking about the war in Vietnam.

...there have been times when they have related to somebody's life line....last night when they saw the television program, "How Life Began," they were able to relate material about the herring gull and the salmon and they said, "I kept telling my father about it and I kept telling my brother about it until they

said 'Keep quiet, I want to watch the program,' but we knew so much." I'm sure that was a wonderful feeling for them, that they had a great understanding about this subject.

As another child put it: "We can grow up now." This self-reflection on the ways one learns, on how one generates ideas by observation, question-posing and careful recording of information is a truly relevant skill. It is the scientific method made operational for organizing the experiences of daily life, in that it gives children workable procedure, and the opportunity to employ it over time.

Children have expressed in their own words many examples of Man: A Course of Study materials dealing with ideas close to the cutting edge of their own experience. Their overriding concern appears to be the area of relationships; for example, the child's relationship with its parents, friends' relationships with each other, a female's relationship with a male. In our work with this age group, we have repeatedly noted that they are struggling to penetrate to the meaningfulness of experience and to translate their budding insights into language and image. They are growing in ability to separate thoughts about experience from the experience itself -- to be self-conscious and reflective in behavior. They demonstrate in what they say a very personal, immediate need to understand the relational world: what leads to joy, what makes a person feel sad, what is "good" human behavior. In terms of growth, it is the integration point of the internal world with the external action that is at issue here: the great happening of adolescence -- true self-consciousness.

One of the problems, of course, is that later school work does not always provide continuing opportunities for using these methods. When children return to traditional classrooms, or to situations where the quality of curriculum materials is far different from Man: A Course of Study, the half-life of this experience may not be long. We have done very little follow-up work, and what we did undertake shows that most youngsters did not address a newly posed problem with the methods they had learned in Man: A Course of Study. We need further follow-up research, but one anticipates disappointments, particularly for children who return to a school career dominated by more traditional styles of learning, to which they must either adapt or opt out.

Is Curriculum Dead?

Bruner has written that curriculum is the endeavor par excellence where the line between method and content grows necessarily indistinct. Yet checklist findings indicate that this happy union does not always occur. The teachers in suburban situations as evidenced both by these checklist findings and class observations, are likely to be using (before or without Man: A Course of Study) a pedagogy involving interactive situations, but the content of the social studies is clearly more boring and uninteresting to large numbers of children than is Man: A Course of Study, despite group work, discussion, and other pedagogical diversities.

Even when school systems support the open classroom, then, this in no way guarantees that the majority of children will bring enthusiasm and motivation to learning situations. Classroom management procedures per se will not energize the American classroom. Curriculum materials have a critical role to play, and quality of content seems necessary to catch students' enthusiasm; progressive classrooms focused on student participation are not in themselves sufficient.

Further, the heartland of resistance to change -- the urban center classroom -- responds to curriculum-methods innovation in measurable degree; students in urban Man: A Course of Study classes perceive their activities in a way that is comparable to those in suburban schools. They respond to these changes by sharing with their suburban peers a new pleasure in social studies.

Has Man: A Course of Study succeeded on its own terms? Even if we consider the several problem areas mentioned, the overwhelming weight of the evidence would say yes. The materials have revitalized the social studies classroom, and their integration with an interactive pedagogy seems to serve well the upper elementary grade youngsters for whom the course was designed.

	MAN: A COURSE OF STUDY 1967-8	MAN: A COURSE OF STUDY 1968-9	CONTROL GROUP 1968-9 only
NO. STUDENTS	2,182 (51% male; 49% female)	821 (50.3% male; 49.7% female)	350 (37% male; 63% female*)
CLASSROOMS	123 in 14 school systems	39 in 6 school systems	14 in 5 school systems
SCHOOL SETTINGS	Urban, suburban	Urban, suburban in East	Urban, small city, suburban in East
GRADE LEVELS	4% fourth grade; 58% fifth grade; 29% sixth grade; 10% ungraded	46% fifth grade; 54% sixth grade	100% fifth grade
TESTING OF STUDENTS	Checklists, pre- and post-tests (containing multiple choice and open-ended items covering information, concepts and attitudes)	Checklists: pre- and post-tests	Checklists
CLASSROOM OBSERVATION	60 observations in 22 classrooms taught by four men and 14 women	49 observations in seven classrooms taught by three men and four women	20 observations in five classrooms
SELECTED STUDENT INTERVIEWS	85 students in 12 classrooms	52 students in seven classrooms	21 students in four classrooms
SELECTED TEACHER INTERVIEWS	Beginning, middle, and end-of-the-year interviews with teachers of class in which students were interviewed		Teachers from four classrooms
INTERVIEWERS AND OBSERVERS	Seven evaluation staff members	Five evaluation staff members	
METHOD OF EVALUATION	Statistical analyses of objective descriptive materials	Statistical analyses of objective instruments and clinical interpretations of interviews and	

*The girls predominated in the private school sampled