# ENVIRONMENTAL EDUCATION IN PUBLIC SCHOOLS

by

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# SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF BACHELOR OF ARCHITECTURE

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#### Richard Gerveys Grylls

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#### ABSTRACT

With the present national concern about the quality of environment, many people have made moves to reach the children in public schools with 'environmental education'. Many kits and books have been produced which introduce the new subject of 'environment and ecology' to children. Only a few programs work on the premise that 'environment' is far better taught outside the classroom.

In March 1971, the author taught a course in environment to two classes of 9th graders in the Mary E. Curley School in Jamaica Plain, Boston. The course was almost totally confined to the classroom. In April 1971, the author helped to organize and run an environmental education workshop for teachers under the auspices of the Education Collaborative for Greater Boston (Ed Co). This workshop took place mostly outside. From the contrasts between these two experiences and from wide reading, the author has begun to formulate a theory of learning about the relation between man and environment, which is based on real experience, challenging encounter, and the reinforcement of natural human instincts.

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#### INTRODUCTION

In Architecture School, a student becomes aware of the difference between the way he thinks about buildings and space and the way that the general public thinks. He becomes aware of his growing sensitivity towards the implications of a building over a length of time and how that conflicts with quick return economics. In later life, in order to sell a good design, he will have to learn the art of double talk or he will have to educate his client as to the merits of the design. Whichever his choice, there still remains a large credibility gap and the probability of compromises that will ruin the original intent of the design.

For many years, architects, planners and educators have agreed on the need to close that credibility gap, by making the general public more aware of the issues. An informed general public, it is thought, would lend support to quality designs, and would understand how to enjoy the benefits derived from them. Since there was, until about 5 years ago, no one trying to do this on a large scale (there were merely large numbers of architects, planners and ecologists talking to interested groups), it remained a pipe-dream. However, during the last five years, with the growing hational interest in environmental matters giving impetus, a great many books and articles have been written, the media have devoted time to educational programs, and a large amount of materials have been produced and published for use in schools. The school materials have come from architects, planners, ecologists, educators, TV producers and teachers; they take a great many different forms. There are films,

filmstrips, filmloops, TV series, board games, role-playing games, multi-media curricula, kits with model city buildings, kits with cutout buildings, kits which accompany a community renewal project etc. (These kits and other materials can be viewed at the COMMUNITY PROJECTS LABORATORY, M.I.T. Bldg. 5, 4th Floor, at the Childrens' Museum, Jamaicaway, Boston, and at the Hatheway School Library, Mass. Audubon Society, Lincoln.) With the exception of the last named kit (Produced by Richard Hatch, of ARCH in Harlem, N.Y.), all these materials were prepared with a traditional classroom of 25-30 children in mind, a classroom where subjects are 'taught' in a linear manner with the teacher making the choices for the children. This means that without a really good teacher and already motivated children, the materials are no less boring than other conventional social science materials. To the children confronted with these materials, they are merely part of another course, this time something about 'environment'. In addition, most of these materials cost a sufficient amount of money that only suburban schools who provide a good amount of money for materials can afford to buy them.

In the years while these materials have been developed, various individuals have run courses during the summer vacations which were modelled on contemporary educational theories, where learning is childcentered. A general direction was set by the leader after which the children were free to collect their own resources and do their own projects. The whole group would gather only for special field-trips and discussions. This process was for the children in marked contrast to their experience in public schools, and as such was a strange situation

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for most of them. In Boston, Kevin Lynch (MIT), Anthony Cascendino (through Summerthing), Jim Zien (Childrens' Museum) and others have run summer courses which have been intensive, day-long, exploratory, problem-solving, and creative in style. These courses have tied learning-about-environment to real experience; they were simple, pragmatic and adaptable to the skills of the children; they cost very little money. They were also, measured by enthusiasm and unusual creativity, remarkably successful.

One of the problems confronting educators is, given the success of architectural and other experts (as above) leading free-wheeling courses during the summer, how is it possible to get regular teachers to deal with the same topics using the same techniques during the school year. This is a huge problem which entails tackling rigidity at every level from the child to the school committee. At a general level, inroads have been made and there are now in American public schools many childcentered programs. Concerning environmental education, less has happened, but the recent passing of the environmental education act, which provides enabling funds to agencies concerned with environmental education programs, should change the situation.

The Education Collaborative for Greater Boston, in anticipation of funding from the E.E. Act, has set up a series of environmental education workshops for teachers. The first of the series was run in April 71. The concept of the workshops follows as far as possible child-centered education theories. The teachers learn about the environment by studying first-hand man/environment interactions in an exploratory

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manner, given as little direction as possible, a process which can later be tried out with the children in their schools. During the one workshop held so far, there were many complaints about the managerial impossibility of implementing these processes in their schools, notably in Boston, a complaint which the author found totally justified when trying to teach a 9th grade class in Jamaica Plain. Solutions to this problem were discussed and are described in the Summary of this paper. Unfortunately, the author had not comprehended the very real need for these solution techniques at the time he commenced teaching the course; he had had, then, different ideas about how a course could be taught in Boston.

Perceiving the relative failure of the materials produced for environmental education, the author decided to plan a short course, which would be based on child-centered learning theories, and to teach it in a Boston school and a suburban school for comparison. The junior high level was chosen firstly, because most innovative education programs have been run at the elementary level and it seemed that the same techniques should be tried with the higher age group, and secondly because it seemed that this age level would have the necessary aperceptive base to deal with the first order interactions between political man and his environment. The course would introduce the children to the workings of their neighborhood, its energy sources, its service sources, its waste products, its means of communication and transportation, its housing and its recreational facilities, and in addition have them work out idealized forms of these systems. This would be done by walks,

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interviews, photography, trips, which would be followed-up in the classroom by debates, dramatic and other presentations, and large scale documentation/analysis. Most activities would be done in small groups or individually, which would allow for varied interests and varied learning rates. The course would be run by the author and the usual social science teacher, and would cost nobody any extra money. In this way it could be demonstrated to the administration that a radically different approach, needing no more than an aide in the classroom, would work at no inconvenience and extra cost to them.

In order to circumvent the red-tape and bureaucracy of the Boston School System, the author joined the School Volunteers for Boston, a volunteer organization which places aides where they are requested by teachers and principals. By knowing the assistant principal of the Curley School, who was highly interested in environmental education, it was possible to get an invitation to teach at that school. Working for the Volunteers obligated the author to spending 3 hours every week in a school. Up until the time of the course the author was assigned to the Lewis Junior High School in Roxbury, to help with remedial math and reading. It became rapidly apparent from the time spent at this school that motivation to succeed, produce, or even to be around and alive tomorrow was lacking in most of the children. However, informal, however small the group, everything at or near the school was 'education' and was viewed with disdain. At this point, the idea of teaching a course in 'environment' or 'city systems' began to seem totally irrelevant to the children's needs. At the same time, the idea of teaching a comparative course in the city and the suburbs began

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to seem an academic thought which would not be responsive to the special characteristics of the different groups. Since teaching two courses seemed too much of an undertaking, it was decided merely to do the Boston part of the scheme and maybe arrive at some objective evaluations by teaching two different classes in the one school. Also, in response to the observations in the Lewis School, which seemed to have much in common with the Curley School, the nature and content of the course as planned began to change radically. The change also came in response to the realization that the bureaucratic and handling problems of taking the children outside the school were huge.

The children in the Lewis School did have a great interest in the happenings in their neighborhood, especially when it concerned police, guns, crime, drugs, music, sex and money. It seemed possible, thus, that environment could be studied by building on the children's perceptions of their every day activities. The aim was a general increase in awareness of how they reacted with their everyday environments, especially when the reactions were good. This would be done by having the children prove to themselves that the environment is rich with information if they cared to observe it, and rich with resources if they cared to look for them. In order to get them to care about such things it would be necessary to develop the senses by which they observed, to help them understand some of the simple patterns in man's life, to make them aware that everything they observed was either manmade or effected by man (and could thus be changed by man), and to make them aware how much man and his environment depend on money, electric power, written communication and other taken-for-granted necessities. Further patterns of life

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would emerge from their observations and from having them role-play situations in which their observations would be different (such as the removal of electric power). No <u>particular</u> awareness would be derived from this, but hopefully the children would have a general feeling that they understood their daily life in a new light. This plan would still work with the children in small groups but it would remove the necessity of taking the children out of school during school hours, although there would obviously be homework outside.

As the first day of the course came nearer, its compromise nature was further aggravated by suggestions from the teachers at the Curley School, that the sure-fire way of getting the children active was to challenge them with questions. It was difficult, they said, to get the children to ask questions themselves or even to think for themselves, and if the children were lead into a discussion it would probably flounder for lack of information on even the closest issues. They were, however, being honest in their evaluation, and they encouraged the author to try other techniques 'to see for himself'.

It was in this depressing atmosphere that the author started teaching on February 25, 1971. The concept of the course was now rather generalized and much more liable to be 'played by ear'. The two objectives were reduced to making the children more aware of their interaction with their neighborhood, and keeping them busy and interested, and relatively non-disruptive, for 15 forty-five minute sessions. For the author, personally, the course would serve the purpose of figuring out how a teacher in the Boston School System, in a junior high school,

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can put anything into practice that they might have learned how to do in an 'environmental education' workshop.

The report which follows is divided two ways. It is divided chronologically into sections. Each section includes:

A. Intent of the lesson plan

&

Report about the lesson.

# B. The thoughts, philosophical & otherwise arising from lesson.

(The thinking was slowly formulated into ideas for a course that could be given to 'environment' teachers. The course would use the same teaching techniques that child-centered-learning educators and many others feel should be used in the schools. The course works on the assumption that teachers teach the way they were taught, more often than not).

# C. Intent of 4.999 Course session

&

# Report about the session

(The content of this imaginary course is derived from several different sources. Most of the ideas have been tried successfully by EdCo in their own environmental workshop, by Lawrence and Ann Halprin in their two day visit to MIT in 1970, by Julie Portman in "Theater Workshop' workshops, and by the author at Northeastern. Some of the ideas have yet to be tried). The report is also divided perceptually into three distinct roles. The author tried to imagine what an average child in the class perceived in any one session (2nd part of A.), in order to see the distance between intent and actual perception. In the middle part (B), the author describes his own very subjective views on life, learning and environmental education. The author then tried to imagine the notes that a student taking course 4.999, "Environmental education in public schools", would take, again to show the difference between intent and actual perception (2nd part of C.). It is hoped that a comparison between the perceptions of the child at the Curley School and the student in 4.999 will prove illuminating as to the advantages of the latter form of learning.

In the final, <u>Summary</u>, section of the report, a few strategies are outlined for making such teaching and learning methods palatable to rigid school systems, particularly Boston. Only when there are no compromises, such as the ones that the author made in March, will environmental education have any value to the children of Boston and other urban communities.

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SECTION 1

# INTENT

To be seen around and known before starting to teach.

"A"

#### REPORT

This diary belongs to me. I don't normally keep a diary but I had to for class. I am in Class 117 at the Mary Curley and we have Civics with Mr. Carty in Room 110. We have classes on Wednesday, Thursday, and Friday. Mr. Carty teaches us about corrupt Boston politicians and propaganda. He says that the ads we watch on T.V. are propaganda, and tells us be careful. Mr. Carty is a big guy. He looks like a cop. He shouts a lot but we like him. We are usually a good class and listen. He knows how to keep order most of the time, and he gives good marks. Then we had this special teacher, Mr. Grylls. He came in sometimes for Mr. Carty and tried to teach us about ecology or something.

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I, for the benefit of my own future, have had to come to some conclusions about the nature of environmental education. The conclusions are based more on experience than intellectual theory, and each new piece of evidence presents a challenge to them. But as my experience builds up, a theory is beginning to evolve in which 'environmental' education plays a very minor role; the theory is more a life-theory---- it relates to Zen and Indian philosophy; 'Indians don't know the word 'ecology'; they live it', as Neihard, author of Black Elk Speaks, said recently.

The science of 'Environment', includes a huge body of factual knowledge that can be learned. The science covers the interactions between man, and man, and **man**-made environment, and natural environment, and man, all studied against time and evolution. For the sake of convenience it tends to exclude psychology, philosophy and myth, while heavily emphasizing sociology, economics and politics which are the practical sciences of mankind. But 'environment' is not and should not be treated as a science only; environment and man are one (just as are the mind and the body), and the study of man/ environment is the <u>practice</u>, not the theory of 'life'. As such it cannot exclude psychology, philosophy and myth which are essential parts of the nature of man.

"В"

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For their own personal fulfilment and happiness, everyone from sage to toddler should be learning about 'life'. Also, in all good social conscience, if the world is to survive the horrendous predictions of Asimov, Ehrlich and others, we all <u>have</u> to learn about life. This entails to my mind a rephrasing of what needs to be defined from "what is Environmental Education?" to, "How can <u>I</u> use the physical reality of man/environment to learn to practice better the art of life?". It is I who, with whatever advice I need, make the choice of what I do with my time, and thus what I learn, and how I go about it. It is I who run my life, not some educator with a handy curriculum. INTENT

An in-person advertisement for the course.

#### REPORT

#### 4.999 ENVIRONMENTAL EDUCATION IN SCHOOLS

"C"

Grylls.... biography

got interested by volunteering to teach 'cities' class with 1. 5 other architects and planning students, Spring 70, at the Houghton School, Cambridge, 5th grade, 2 hours twice a week, 9 weeks. Built model apartments, toured MIT and Harvard Sq. with cameras and tapes, taught scale by having kids build model of on-site coffin, put on city exhibition for the rest of school. Kids learned by doing and seeing and presenting; little heard; small groups, constantly busy, much fun. joined EdCo (Education Collaborative, 94 Prescott St., Camb.), 2. ran environmental ed. workshop with 4 teachers. Discussed how to do env. ed., and how to get it into recalcitrant schools. thesis for MIT Arch. Dept. to prepare and teach a course about 3. urban environment. Invited by Michael Sallen, Asst. Prin. Curley School (was at env. ed. workshop) to teach there. Thought could be fitted into Civics Class, didn't want anything special or expensive. "Teach our kids about pollution and stuff like that". Grylls spent Sept. 70 to Feb. 71 preparing, started teaching last week Feb. Planned 6 weeks intensive, 45 minutes a day.

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4. Reading List

5.

Village School Downtown, Schrag.)
Death at an Early Age, Kozol. )
suggests spending a day in school in Boston rather than reading!
to clear away the tears, suggests reading,

Education and Ecstacy, Leenard.....and smile! 4.999 will be part lecture/discussion and part trying to simulate teaching/learning situations in schools. 'Teachers teach as they are taught'. Try to break the chain somewhere and <u>have the children learn as the teacher learned</u>. Register how and when we learn.

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SECTION 2

# INTENT

A chart to help the kids realize where they spent an average day, what they did, what they were thinking about, and how many hours in each place. Wanted to elicit following everyday environments, as study topics for groups later;

"A"

Home, (Bus or streetcar), School, Outside, TV, Self/Imagination. The chart would also show when physical energy was absorbed and expanded, and similarly with mental energy. Session aimed to get kids physically participating by having them fill in common sense answers on the board. The totality of what they saw would be bigger than any one individual effort.

#### REPORT

February 25..... had Mr. Grylls for Civics today. He wrote a big chart on the board. We filled in what we did each hour of the day. We filled in where we did it, and what we are thinking about when we should have been doing the other thing. Somebody put down naked girls. I went up and filled in an hour. The other kids were shy and Mr. Carty told them to go up. Mr. Grylls showed us the 5 environments where we mostly spend our day. He said they were home, school, outside, TV and Self. 'TV' means we watch a lot of it, so it is like another place. 'Self' means what I was thinking about. Then he talked about energy with pluses and minuses. We said food was +, sleep was +, work was -, he said it was also + because we were learning. I told Mr. Grylls it

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was an interesting class. Most of us listened because Mr. Carty was helping Mr. Grylls keep us quiet.....

1.4. Semicontraction of the semicontractio

An <u>environment</u> is a particular place at a particular time. It is static, generalized and impersonal. <u>Man/environment</u> is the dynamic interaction that a person percieves as an experience. Good experiences help toward the fulfilment of human potential. The following are the prerequisite man/ environment relationships I feel are necessary for learning and practicing the art of life;

- 0-4 Love and reinforcement from, and thus to, living people/things.
- 4-11 Outdoor life, as much as wanted, Materials to create the flowering of imagination, freedom to explore locale and face its challenges, encouragement of flexibility and ingenuity ('More with Less'....Fuller)
- 12-14 Encouragement to explore further, travel, new turfs, new societies, acquisition of larger perspective of self, creative (self-organizing) cooperation with peers.
- 15-20 Experience working with 'system' in work environment; continuing practical exploration of intellectual, emotional and physical interests. Frequent detachment from working routine. Work/study set-up, not part-time students.

CONTRACTOR AND A DESCRIPTION OF

"В"

This is preventive environmental training, preventive of wasteful, negative and selfish attitudes. (It is the way I would like to rerun my life). Unfortunately, whenever I do put myself in a formal teaching situation, I am forced to become a missionary doctor, administering remedial training. Remedial education needs these ingredients, but much more importantly, it needs to include ingredients for developing self-confidence and thus self-motivation. I can only learn to do this over a great length of time, in which I build up my own self-confidence, and ability to act in a non-missionary manner.

#### INTENT

The first session is always 'getting to know the teacher'. Therefore, a long, personally honest, narrative, spiced with first-hand stories of teaching experiences and sensational facts, centered around motivation and familiar patterns in Boston schools. For the students it is like a sit-back story with a moral. They should get the moral and built up some empathy with the teacher. First and last lecture.

"C"

#### REPORT

# 4.999 Lecture

- Boston Jr. High School kids used to one pattern. Class 25-30 l. kids, 45 minutes, desks screwed down till recently, move from room each class. Each lesson something to read/look at (sometimes read out loud), some questions to answer on same sheet of paper. This keeps kids quiet and down, then discussion, bring out point of lesson. Grylls first lesson, Feb. 25, luckily followed pattern, so worked.
- Pattern hard to break. All innovative elem. schools teething 2. troubles on conversion to child-centered learning. Immense trust needs building, self-confidence in kids, teachers need to cooperate. Takes time.

#### 3. MOTIVATION

......what is that for a kid in Jamaica Plain or other city place? Kids little anxiety or planning for future. Threat motivation hardly works; many parents don't care when kid is suspended; being

kept after school often only chance to learn. <u>Yet</u> fear, of what? is thing that keeps kids going to class.

- 4. There are good teachers, good entertainers, keep order, gain respect, say interesting things about familiar life (Carty was one); kids like coming back to these, like familiar TV program, sit back and listen.
- 5. Also, kids motivated by being <u>challenged</u>, which means tests. That is measure of success, want to see it. Marks/grades are virility/strength in competitive world. Don't like being challenged to use imagination; there is always a right answer. With Carty they discuss police, race, etc. and disagree; someone must be <u>wrong</u>! Concept of duality and non-absolutes only just beginning to form, but worth pursuing, because when they argue some of their peer-group conformity hang-ups disappear.
- 6. All ideas previously planned of debates, groups, plays, mobility, trips, systems analysis, designing, doing real projects, criticism, discussed with Carty in terms of practicality. He said, "Try, but probably fail if they don't fit pattern. Better to do leftwing politics using right-wing methods; teach abstract concepts by concrete means."
- 7. Problem to think about. How do you stretch the pattern to its ultimate limits as soon as possible, assuming kids hardly learn anything by existing pattern? Are there alternative means of motivation besides challenge?

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SECTION 3

# "A"

#### INTENT

The first of three sessions in the use of verbal communication, designed to make the kids aware of better ways to communicate in many cases, e.g. video-school, symbol signs, simultaneous information (split-screen), edible food ads etc.....Each group received a sheet with 10 questions, general knowledge, some they would not know the answers to but could find out easily. Aimed at getting them to use school library as resources for information. Questions planned so as to be thought provoking later, when consideration situation with no verbal communication in home, school, etc.

#### REPORT

February 26.....Mr. Grylls asked us how we would find out what coca-cola was made out of. We said you could write to the company, or go to a library or test it with chemicals, and other things too. Then we were divided up into groups called home, school, outside, TV, and self. Some kids did not want to be with the people in their group but Mr. Carty said they had to. Each group got an envelope with magazines and newspaper cuttings. Each group got a sheet with 10 questions. We were told to give in one answer sheet for the whole group. We were told that each question had two answers. The other one was where we had found the real answer. The questions seemed stupid, and we could not answer some of them because we had not learned about them. Mr. Grylls told us we could ask Miss Chang how we wrote our names in Chinese. Then he gave me a library slip and I found the date of the Encyclopedia. The other kids in my group did nothing. I did not notice what the rest of the class was

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doing. I don't know why Mr. Grylls asked us those questions, or why he brought us the magazines. There were some nice pictures of girls. I have learnt virtually nothing about life (certainly not positive aspects of it) by standing in front of 30 kids and bawling at them. I have acquired a few recipes for keeping 30 kids in one classroom entertained for a while, which may be valuable occasionally; but as a practical skill it is hardly worth acquiring. Young people are fine at entertaining and occupying themselves; they need consultant help and little more. As far as my future is concerned I will only teach at a school where this is a basic belief. If I were tempted back into traditional education, I should go with helpers (at least three of them), so that we could set the kids a task, put them in groups, and have them go outside the school to find information, collect material, design, build, etc.

"B"

INTENT

To put a number of small groups of people in an unusual situation (as strangers they would arouse curiosity and questioning and get information in return) in an unknown area, have them observe and report back to base. To encourage diversity of reporting, assign different groups different media. To encourage students to look carefully, all but eliminate verbal reporting. To recreate experience in parallel visual manner (speed of visual understanding) rather than linear verbal manner (slowness of narration). Specific intended results....unknown, other than to have a beginning understanding of a new area.

"C "

#### REPORT

# 4.999 Field-Trip to Dorchester .... all day affair.

The class split up into groups of about 5 people each. We were given 2 hours to explore, on foot, an area near Field's Corner; told to report back to the class in one of the following media;

Mime or play (preferably non-verbal)
Statistics (figures and graphs)
Edited interviews(tape-recorder)
2 dimensional art (drawings, collages)
3 dimensional art (model, sculpture)
Maps (self-made)

Each group had medium. Told to look at people, people's use of the place, eat lunch in one of the local bars.

Results ..... <u>great</u>! Some people shy about presentations that did not include verbal explanation. Verbal descriptions sometimes boring. Immense activity, great feeling being reporters in a strange community, feeling of knowing something really well. Know your community and then you can get information from it, things from it, etc. Group working meant lots of ideas, sometimes carried out separately, but didn't matter. Everything was very subjective and very real.

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SECTION 4

# "A"

#### INTENT

Second of three sessions on verbal communication. First hand experience with non-verbal means, charades with questions and answers (game, entertainment to keep the kids happy). Appreciate the difference between really difficult abstract questions and ones that could be easily symbolized. Later, 25 slides of unusual things or unusual views (textures). Try to make kids aware of craving for labels; pure visual appreciation, why did one need to know more? Know more by looking at picture for a few seconds than a three hour lecture. Signs, symbols and instantaneous recognition. Later still, knowing something about labels, mime, and having back questions from last time, begin to imagine a world without words/speech. When you lose one sense the others develop. So, what's different? Expected results unknown, but hoped that each group would find something in their environment which worked better without words.

# REPORT

March 3.....Mr. Grylls tried to supervise our study period this morning. Usually we just goof off in the auditorium and some kids do their homework. He wanted us to play charades, and some of us did for a time. He had us act out things like, 'Do you believe in God?', and "when did you wake up this morning?' and 'What does your girl-friend look like?' We acted the questions to another person and they were supposed to act back an answer. I don't think anyone did. We all tried a few, and Mr. Grylls wanted us to invent some, but nobody could think of any. Later he showed us slides. The pictures were strange. We could not tell what some of them were. We asked questions but he did not answer them. Two kids wrote the questions on the board. We wanted to know what the pictures were of, and we wanted to know if they were in Boston. He said it did not matter. He wanted us just to look at the pictures without knowing what they were, but he told us anyway. I didn't like many of the pictures, except the girls on the beach. He kept that one on a long time for us, but the girls in the class didn't like it. Then he asked us to imagine what life would be like without words. We were in the same groups as last week, but nobody really knew what he wanted. I have, however, learned something about the need for positive reinforcement from my environment.

Events and places sometime coalesce into a huge and glorious oneness; Mahler at the Albert Hall, Mozart in an Adams drawing room, the Airplane at the late Fillmore West, the Top of the Hub at night, alone in the middle of the Scottish Moors, 42nd St. anytime, etc. etc. etc. On another plane, what I am and what my room looks like and allows me to do is another coalescent situation, where there is frequently conflict too.

Where the place is always in conflict I don't go. I chose not to use the drafting rooms at MIT, because I did not like the noise, the dirt, the uniform shanty town environment, and the hassles with people who were otherwise my friends. But a child in a classroom does not in many present schools have that choice; not only that they often spend all day changing from one class to another (it is easier to move children than a teacher with a whole set of books) and have no personal space whatever.

A place of ones own, however small, however old one is, is a pre-requisite for survival. A teacher, in addition to this, needs varied environments for the work that the children will do. If the school does not have many different types of room (and virtually none seem to have these), then that one room

<u>"B"</u>

has to be vastly flexible. Small children can change a space in their imagination; bigger children are grappling with reality and credibility, and thus have greater need for flexible space.

11

#### INTENT

To create a <u>real</u> and <u>instant</u> environment, responsive to the needs of a particular role-playing situation, to illustrate the need for reinforcement by the real thing not, for example, an artificial environment without speech/words which was described verbally.

#### REPORT

# 4.999 Total Environment Day

"C"

Grylls arrived this morning with a huge roll of brown paper, a roll of carpet, some 2" x 4"s, and some environmental posters, to make either;

1. A classroom for teaching env. ed

2. A place for a religious service

We chose the latter and some went off to look for other scrougables while others built. At first chaos, who was leader, which ideas to build, no real decisions, but people started building anyway. Great argument whether it should be a separate small building or really use the shape of classroom. Voted for latter.

In darkness and low paper ceiling, we held an environmental service blessing the compacting of the garbage and the recycling of the paper. As we blessed the grass (carpet) grew under us, and the paper ceiling lifted high to let in super-natural (?) light.

l

Afterwards in our new religious center we discussed total environments in classrooms.....e.g.

Iotal silence for visual things (charades and slides, etc)
Showing slides real big for full effect.
Classroom as lab. with equipment and visual stuff for
environmental ed.

People boxes, little sound absorbing boxes for kids to get away and study.

Exercise bars in class to get rid of aggressions.

Creating the right environmental mood for what the kids

# are doing.

And in a second second second of the provided of the second s

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The classroom as flexible space in shape and size. How?

SECTION 5

# "A"

#### INTENT

Last day on verbal communication. Intent same as second day. Program made simpler by perhaps 'describe a day in this new environment'. To make things simple, since the kids are not very expressive in any medium it seems, presentations to be made verbally; good practice in the art of public speaking. Each group given a list of questions to think about while planning their description.

#### REPORT

March 5..... it snowed yesterday and there was no school. Today Mr. Grylls had us describe what our group places (home, school, outside, TV, self) would be like without words. I was still in the self group and we got a question sheet with questions like 'How do you tell a lie when there are no words?' It was very difficult, but we thought you could do most things with sign language. Each group had to give a presentation. Nobody wanted to but Mr. Carty picked one person from each group. Teresa told about her home with buttons and flashing lights and things. It sounded like startrek. I got up and read the answers to the questions, but hobody was really listening and they wouldn't keep quiet. I don't remember what anyone else said. I don't really understand what Mr. Grylls is getting at. I asked him but I don't remember what he said. The personality and flexibility of space are meaningless if those characteristics can not be applied to man too. They are innate qualities, which Society is unfortunately very good at subduing. I, because of my upbringing and the range of my experience, am aware of this. I am also aware that happiness comes from inside, and that I have control over it to a great degree. I am also aware that keeping my mind/body system ticking over well is the best way to prepare for the future, as well as being a good way to spend the present. No moment in life is solely preparation for the future; the present is the synthesis of the past and the future and is uniquely valuable. Philosophers, poets, politicians and all sorts of people have their versions of, 'Getting there is all the fun', but very few people practice this. Life is a game whose true reward, as de Ropp describes in the Master Game, is understanding. A miniscule part of that understanding is thinking about and acting on the intrinsic worth of the present. If I know that I feel and function better when I am happy, I should make the effort to be in that state Sometimes I do, and it is at those times that I am now. subconsciously radiating to others what it means to be aware of one's internal needs and to respond to them. It cannot be taught, it is highly difficult to describe verbally or any other way; it has to be experienced. The game is there to be played.

"B"

-35-
#### INTENT

To allow students to make up their minds on the worth as a learning tool of playing games themselves or with children. To play the game, criticize it, compare it to games where the kids have to use a great deal of imagination before the game becomes real, decide whether to play others. To experiment with a piece of equipment handed to one out of the blue with an open and inquiring mind. No answers expected but discussion anticipated.

"C"

#### REPORT

## 4.999..... Games Day

This morning we played one part of 'Make your own World', a two-part game put out by Coca-Cola (free from Coke, or borrow from a Concord school). Game for 11 players or teams. Teams represent interest groups, (including soil and water, i.e. inanimate matter) making decisions about area development. Game is tight, inflexible, playable once or twice only, but great for kids, whole classes, including high-schools. Good for role playing, good for group decision-making, good for inter-group conflict, good for unseen consequences of planning decisions.

Later discussed games as educational tool;

- 1. Need to be simple and structural first (Coke, Monopoly) (another in Conn. schools 'Mike's World, Your World')
- 2. Should have roles if possible; see Creative Studies games, Legislator, Elderly Housing, etc. for high-schools.

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3. Environmental awareness by taking away necessities; Sight (tried words and failed miserably!)

4. Awareness from crisis situations;

Electricity cut (long one)

Plague, contamination

3 and 4 difficult (but try) to set up with a role-playing, roleplaying needs competition, Better to try small group brainstorming and then newscasting results.

5. More crisis situations;

Worst possible condition of home

Worst possible condition of school classroom dynamics Worst possible condition of transportation to work, etc. Can lead to

Best possible conditions, Utopian planning and design.

- 6. Classic game to teach the feeling of discrimination, making something arbitrary like blue-eyes inferior for a day, last in the line, no questions answered, other kids get all the stuff, really effective with 3rd and 4th graders. Ugh!
- 7. A game can be made out of information gathering, treasure hunt;

A commission to collect evidence,

Research for a design problem, guide book,

A real job that gets paid

N.B. beware of putting cart before horse. Information is needed for something. Do the kids want that something? Grylls said there was no reading list for the course. Ask him about

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what we want and he will try to tell us what are good books.

1

111.04

SECTION 6

## INTENT

What can you tell from looking at a building? After the fiasco with the verbal and non-verbal environments, a quick and radical change to straight simple observation. What can you tell about the man who designed this classroom? Visual detective work, which might interest the kids. Why do you always sit left side to the window in classrooms? Intention, to provoke curiosity by challenging the kids to think, or sometimes guess, about what went on in the past, who is making money, how old something is, is it out of style? Begin the process by having them identify building types and figure out in their own minds how they knew. Continue the process by setting them observation homework relative to their group title, despite the fact that there is no strong feeling of allegiance to particular groups yet.

"A"

#### REPORT

May 10 .... Mr. Grylls showed us some slides of buildings. He asked us what went on inside them. Some kids kept on shouting out the answers, but eventually Mr. Grylls got them quiet. Some of the buildings were very strange looking and you did not know what went on in there. But there were some easy ones, like the Prudential. I got 18 out of 25, most kids got less. Then he asked us how we knew what they were, and people said shape, size, crosses, windows and things like that. Then he showed us the slides again and asked us to look at windows. Then he set us homework. Each group had a different assignment. I was in the 'self' group,

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and we had to observe one person we did not know for ten minutes and see what we could tell about them. I enjoyed this lesson. 4 of the girls in class got to go down to Jamaica Pond with Mr. Grylls 7th period to do their homework. They missed science. One enjoyable way of playing the game for me is to watch and observe. As yet, like most people, I do this in a most superficial way. I see a strong of distractions, and have very little feeling for the implications of what I see. Students in schools of architecture do however get more visual training that most people. It is not something that they are taught, but a skill which develops out of what they read and hear and the reality of what they see. I have no idea how much more or less I see and understand than another person. I merely sense that because of my time at MIT I now enjoy and am challenged by the process of observing people and environment, more than previously.

A child frequenty asks, first, "What is it?" and then, "How does it work?" When the answer to that second question is not a long verbal explanation but rather a lab session to see how it does work, or a game to feel how it does work, then the child learns a skill. In this age of styling and superstyling it is often difficult to find how something does work, but that is no excuse for trying to short-circuit the learning process of a child. Since so many children love machinery and gadgetry they should be encouraged to do their own research. As they research, they learn to see and understand. Since children also love animals they can go through the same process.

"В"

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Learning to see is often little more than having the freedom to explore from every angle something one loves, or being projected sufficiently long into unfamiliar territory that one has to see to be able to survive. Both are parts of the game; as such, they include the internal challenge to play it well.

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INTENT

Today's session assumes a small level of motivation and a delight in puttering. These sort of challenging detective problems, even city equivalents, would not work with over elementary aged kids in the city (in fact, the young urban teenager is a huge problem still relatively unsolved on a general educational level, let alone environment). The intent in this.....Someone approaches you with a challenge, a question they do not know the answer to. Do you accept the challenge or gripe about it? How can you set about finding what equipment you need? Can you get it? ----Obviously, yes, at the Peabody School. Then after gathering samples, can you find the answer to the original problem, or was that so long ago that you are bored? There will be many different reactions from the students which should be noticed by the group as a whole. If they get bored they should report back to base and be sent off to discover what they might like to research. The plan for the day not only covers a great deal of scientific matter; it also covers a great many strategic matters in terms of motivation, group sizes, flexibility, length of problems, and choice of problems. There will maybe be too much going on to allow time for introspection into these sorts of dynamics, but the students should think about it sometime.

"C"

2.1

### REPORT

#### 4.999 Whole day lab at Peabody School, Concord

Divided into groups of 4 (approx.), given a question, first discussed what equipment needed, then went off to gather evidence.

- 1.) How old are trees A and B? (one is white pine) What sort of year was 1957? .....tree borer.
- 2.) What lives in the brook? .....bottles, pond slide Who lives off what?

3.) What lives in the woods? .....plaster of paris for

- tracking
- 4.) What lives in the undergrowth? ....Berlese funnel How deep?
- 5.) How to make money here 1871? How to make money here 1971?
- 6.) How much is the water polluted? .....Millipore equipment, vacuum cleaner How much is the air polluted?
- 7.) What smells the most?

What makes the most noise?

What is good to taste?

This was far too much, too much going on but fascinating. Came back, set up lab to explore and scrutinize for evidence. Made pond slide, two pieces of glass glued to balsa. Put in projector, tried to identify creatures. Watched them eat each other! General discussion on visual detective work. Were these original questions liable to motivate? What other questions came up for exploration in same manner? People brainstormed, but had not thought about these:

What practical designs has man pinched from nature? What does the topography look like (model, map)? What do the cracks on rocks mean? How does man effect nature, misuse of place? How does nature effect man's building efforts?

Then how do you turn this all around and do it in the city.

What goes on in a building?

Was it well designed? Does it work?

What is public, what is private, what is rented?

What are the natural local building resources?

How many buildings are used 24 hours a day?

Is environment discriminatory, children, aged, infirm, sex?

Who is making money and why?

Do all of one building type look alike?

What effect do seasons have on man-built environment?

What's in style (ads, cars, new buildings)?

Where do you find the most trash?

How close, how bright street-lamps on different streets? Which of these questions would motivate a child to explore? How do you do it, if it is horrendously difficult to leave classroom? This all needs a huge amount more thought!

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SECTION 7

## "A"

## INTENT

To remind the kids about their observation homework and suggest a few things that visual detective work might be able to tell them. Suggest they look for quality, how good, rather than quantity, what is. To take advantage of the opera trip tomorrow to let the kids prehear some of the music. To play the kids a record of the real thing, rather than putting together a mis-mash at a piano, so that they would get a genuine sound picture. To compare the Carmen characters with famous singers the kids would know to give them some plane of reference for understanding a new kind of music.

#### REPORT

March 11 .....Mr. Grylls talked about why we should observe things. He said Jamaica Pond was manmade because of the paths. We said it had been formed by a glacier, because we had learnt that.

After, he told us about the opera tomorrow. We had to think of a really sexy girl singer. I think Diana Ross got most. Then we thought of a guy who was like a poet. Nobody agreed. Then we thought of a bully type. Elvis got picked. Then he played us a piece and told us to think of Diana Ross. It was difficult to hear because people were laughing and talking. Then he played us two more songs. The record player wasn't loud enough. The opera is Carmen. The music sounded quite nice but most of the kids were not interested in listening.

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March 12 .....The opera was O.K. and the kids did not goof off as much this time as last time. I asked Mr. Grylls about Miss Thurber. He had not seen her before, and I asked him what sort of teacher she was. He got her almost right. I told him about the girl I had observed. Another part of the game is making sure that what <u>I</u> do is <u>relevant</u>. Here there are contradictions between, "Ask not what your country can do for you. Ask what you can do for your country", and, "Apres moi, le deluge!" Is a person's primary duty towards society or himself? Does the Greek philosophy, "Know thyself" include benefits for society?

Relevance is not the same for everyone. We read about and try to educate the high-school students about (and many people have been concerned in) the war, pollution, equal opportunity, racism, drugs, housing the poor, all today's major societal problems. But, despite the fact that society and I are interdependent, this inter-dependency is not yet so perceivably near a crisis that society's problems have to be my problems. To some relevance is avoiding the problems, to some relevance is basic survival, to some relevance is promotion and status, to some relevance is small scale community problems. Most relevance is essentially selfish, does not deal with much more than the immediate future, is not inter-dependent with other relevancies, and stops beyond a scale where results can be tangibly seen in a short time span. However, if what is considered relevant is well done and brings happiness, then life is worth living.

"B"

Unfortunately this laissez-faire attitude goes nowhere toward solving the problems it creates. Many young people, by becoming aware of the problems, have also become aware of their inter-dependency, and thus the need for radical solutions which effect the whole picture. There are two practical ways of doing this. One is a benevolent dictatorship (philosopher-king), slowly assumed probably by a president, probably at a time of crisis, who then, by propoganda, control of the media, etc., forces the people into roles that are interdependent and do conform to a vast systems analysis of what the country needs to be able to run smoothly and ecologically. The other is education and experience, or continuing to abet the increasing pace of evolution toward peaceful, cooperative and humanitarian living, which was sparked by the young people of today. This counterculture has its violent side, but as yet it is timeless and dogma free, and increasingly productive (Whole Earth Catalog and A.D.). As far as teachers are concerned, this means that the relevance of interdependency can either be preached in schools, or it can be experienced through suitable learning situations. One is heard but won't be felt for a long time; the other is felt, and could quite easily form more healthy, less insular, attitudes. But beyond this, relevance is still whatever brings me happiness; it is not a dogma now that may bring comfort later. As sheer numbers of people necessitate a certain degree of interdependence, the

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challenge is how to make that experience positive and provocative, so that the present is as good as the future may be.

"C"

## INTENT

To use a balmy spring day to have an informal discussion on what relevance means to children of different ages, and to hope that some students would be rebellious enough to leave the discussion to do something genuinely relevant to their needs of the moment. To figure out, if the group were elementary kids, junior high kids, high school kids, what they might be discussion or doing on a spring day when it was too hot inside the classroom. The discussion may not go in this direction at all!

#### REPORT

## 4.999 Garden Party, capitalizing on Spring outside

<u>Relevance.</u> Range for city kid very low; no travelling. Gradual evolution of Curley course topics from:

Transport

Power

Housing

Recreation

Food and garbage

Media

.....into the 5 most immediate environments (?)

Home

School

Outside

TV

Self

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Even that not close enough. Real outside interest at 8th/9th grade;

Disasters

Crime

Drugs

 $\mathtt{Sex}$ 

Sports

But you can't study those. You have to experience them. They do!

Junior High difficult age. Main interest ... ME!

Discovering adulthood, puberty, personality, popularity, image etc.

Not a creative or imaginative period usually. More concerned with possessions

Great time for exposure to the world, things outside familiar turf.

New peers (Suburban/urban exchanges)

New places (New activities possible)

New tasks (teenage skills)

Elem. kids..... everything local is relevant, and kids themselves are the best guides as to what interests them.

High school kids, junior adults want to be doing adult things. Doing research on the first six environmental topics could work well.

Environmental Relevance is also Immediacy;

is a real cop to demonstrate police techniques. is a real actor to demonstrate before seeing a play. is a real singer to sing arias before an opera visit. is a real artist to preview a museum visit.

is a fish expert to preview a visit to the acquarium. etc.etc.

.....or the teacher has to be a fantastic actor.....

is talking about the news when the kids do.

is betting on the fight.

is electing a class president, in 1972.

is planting a tree.

is taking photographs.

is interviewing the locals.

is anything that is one's own.

is most things participatory, not listening to the same person talk again.

is capitalizing on the unexpected.

A good teacher needs a million friends available at a moment's notice. A good teacher mixes learning discipline with a large number of

dynamic evens, things that fix in the visual/emotional memory. A good teacher should live near where they teach.

SECTION 8

# "A"

### INTENT

To play it safe by asking questions again. To have the kids learn from each other about the city of Boston. To discover, if they had travelled with the eyes open. To prethink a trip to be taken as homework (altered just before the session commenced to a daytime field trip next week) from Arborway to Everett on the Washington St. Elevated. To allow the places asked in the questions to get nearer the kids interests by having them ask the questions. Then, to have the kids brainstorm on things that they could look for from the El., which could eventually be made into separate list and separate contributions to a huge collective map of what there was to be seen and used on and near the Arborway/Everett line.

#### REPORT

March 18...... Yesterday was St. Patrick's day and there was no school. Today Mr. Carty decided that the class was goofing off too much. He told me to go back to our old seats, so that we wouldn't be near our friends. Then he sat back and looked at us. He decided that some kids were still too near their friends. He told them to move to other places. Then he didn't like that and told them to move again. I told him he was playing chess with us. Some kids did not want to move but Mr. Carty just smiled. He gave real corny reasons for the kids to change. He likes to tease. But most of the class still likes him. It took a long time.

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Then Mr. Grylls asked us some questions about Boston. He asked questions like where is there a round building, and a chinese supermarket, and a good ice-hockey game. They were good questions, and they made us think where we had been. Also which subway stop they were at. I got 10 out of 15.

At its simplest level making something positive out of interdependency is having friends. Among poor people, friendship and interdependency are often synonymous, but as people grow richer and can afford material goods beyond what they need for basic survival, dependency on other people is reduced. Unfortunately, interdependency between people is not only a practical matter but also a natural emotional need. Material society tends to thwart this natural need, by giving people tools which make them lonely as well as independent. Some of the greatest friendships are between people whose different life courses have separated them by great distances. Many people in high places from presidents, to mayors, to educators have tried to recreate artificially this situation, with a view to giving people a chance to understand other different people better. Every ambassador or foreign service official is in this situation. Towns in England and France are called 'twin-towns'; their mayors first exchanged visits and rhetoric, then people began to exchange vacations and crafts. EdCo herds ten children from Concord and ten children from Cambridge together and has them study each others communities for two weeks. Many such grass roots efforts at fostering understanding, and a feeling of interdependency at long range, are in action. Unfortunately they reach very few people.

"B"

Parallel to this are a number of efforts to legislate interdependence. New Jersey residents pay Philadelphia's road taxes; in another U.S. city plans are in preparation for pairing specific parts of the urban center with specific parts of the suburbs, in order to get a more equitable taxbase and a more integrated transportation system. This is obviously a very necessary economic move, but it remains indifferent to the fact that each area is made up of people who will have little real understanding of why they are paying taxes for something they cannot see benefiting them directly. As a result each group is liable to become more entrenched in its isolationism, and the ensuing bureaucratic problems are likely to be enormous.

Again there is a choice. Interdependence can be preached and then legislated for, or it can be thought of as a basic human need which should never be thwarted and always encouraged and made more challenging. At school, because I was self-disciplined and curious, I had no great need to be continuously near my friends. On the other hand a bored, unmotivated city child, who learns almost all that he does from his peers but who is continuously thwarted in his efforts and made to listen quietly to irrelevancies, is not going to be any less bitter towards life as a result. Furthermore, on a larger scale, I have spent five years away from England and have begun to feel what interdependence is. In the process I have gathered many

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distant friends, enough that I hate to spend a night in a motel. In contrast, the children I have tried to teach know very few people outside their turf other than their teachers. Their interdependence with their teachers, beyond the regimented hours of school, is usually nil. Their world is 'here'; the rest of the world is 'outside there'. The less varied their physical world is, the smaller stay the inner worlds of their minds. Not only is this dangerous in a crowded society, as is being demonstrated every day by radicals, reactionaries, and others with bigoted, prejudiced, narrowminded views, it also means that they will be able to fulfill little of their physiological potential when called upon to do so by unexpected events. In addition they will miss the greatest joy of life.

### INTENT

To run a session that might help to sensitize students to the different natures of interactions, and to estimate what degrees of control would be needed to get a system of a certain magnitude running smoothly. Also to have some fun with the idea of multi-loop, non-linear feedback systems and their varying degrees of complexity.

"C"

This would serve only as an embryo of an idea, an idea which is a really meaningful movement game which brings out interactions and interdependencies. The students would work towards this in a creative problem solving session later.

#### REPORT

## 4.999 Choreography Day

..... totally unfurnished, artificially-lit room.

## 1.

In own time, invent repetitive activity/pattern; direction, speed character and intensity to be fixed. Anything from smallest changes, to using the whole room. Machine-like regularity. This wasn't working because everyone had hangups so we each got a slip of paper with one word....'leap', 'call', 'slip', 'hurtle',.... to help with the composition. Pick 4 people, have them do thing simultaneously. If 2 people collide, shout 'M.F.', all freeze, resolve conflict altering patterns. Go on till movements can be continuous without any M.F.'s. Same with 6 people.

2.

Same with 8 people.

etc.

## 3.

Pair off pairs, form synthesis.

Separate ..... synthesis ..... Separate ..... Super-synthesis. Separate .....

## 4.

Everyone random movement, eyes shut, careful.

When contact communicate, touch easiest corresponding parts of bodies. Go on.

Start low hum. Aim for another noise producer. Slowly gather.

When all near, slow collapse to floor.

Body pile, yum!

## 5.

Original movements. Grade in order slow to fast, make line. Slowest first ..... add one every 30 seconds. If 2 people collide, communicate or synthesize, go on as before (real conflict, shout M.F., resolve, go on, others do not stop).

to be able to forget particularness of particular people.

SECTION 9

"A"

#### INTENT

To give the kids some choices to see how much they were interested in the observation assignment they had had and had mostly not done, how much they were interested in the Know-Boston session yesterday, or how much they just wanted the new 'event for the day' which would be some directed meditation. If they chose the last, to give them some limited sense of relocation, and letting the mind's eye wander and be controlled in a slowly less and less formal manner till some form of synthesis control takes over. Also, to give them some idea of the environment inside their heads.

#### REPORT

March 19..... Mr. Grylls gave us three choices. Two were about observing things like we had done before. The third was he would try to hypnotize us. We voted using slips of paper. Everyone chose hypnosis except one wise-guy who put down a fourth choice, which said Mr. Grylls should get out. He turned off the lights, and drew the shades. Then he got us quiet. We relaxed on our desks and shut our eyes. It was not very comfortable. He asked us to see bad things about school. We were beating our hands on the desk. Then he asked us to see happy things like what we liked and like the sun last summer. He went very slowly and I felt like going to sleep. I did not see very much. It was difficult to concentrate. There were always notices on the loudspeaker. Then we opened our eyes. I asked him why he had done it. He said he wanted us to relax and let our minds produce pictures. It felt quite nice. He said he didn't do it very well.

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The inner world of the mind is a fantastic resource. There is much evidence to prove that the human brain is capable of performing tasks far beyond even the most sophisticated multi-loop non-linear feedback computer system, tasks of unbelievable complexity. Anyone who drives a car, even if he does not sense the simultaneity of multiple operational outputs in response to multiple visual, tactile, and audial inputs, and thus derive intellectual satisfaction, has nevertheless tapped the large mental resources needed to perform a highly complex operation, and feels pretty good about it. Composers. choreographers, mathematicians, lawyers, artists and many others are fascinated by complexity, and the extent of their own mental potential. It is a challenge to these people to be able to achieve what they instinctively know is possible. When distractions are part of the operational input, as they are when driving a car, then the mind/body copes well. When distractions are not desirable input, the mind/body works overtime to get rid of them. But, by sheer concentration, these people are often able to tap the necessary resources to both free the mind of distractions and to arrive at the complexity of design they want.

This concentration is a state of the body as well as the mind; it is quite simply a very good feeling. But it is very difficult to achieve in a world that is continuously full of distractions. Sometimes as I write a million irrelevancies are also passing through my conscious mind. But, once or twice the pen becomes an

"B"

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extended part of a perfectly harmonized mind/body synthesis. These and other times remind me of the real game of life and its rewards. It is also a painful reminder of the amount of exercise and self-discipline needed to make the rewards lasting, and thus a reminder of personal failure.

## INTENT

To invent some games which are badly needed, and in the process to use a highly useful set of problem solving techniques devised by Synetics Inc. in Cambridge.

"C"

#### REPORT

## 4.999 Mind/body day - wasn't there

Yoga exercises, everybody contributed what they knew. Did together. Formed small groups.

Brainstormed on sensations and associations from choreography day, wrote them down.

Solved problem....to invent a game using parts and the whole of a class of 35-30 teenagers, that promotes interaction, cooperation and interdependence.

Used Synetics, positive thinking, positive reinforcement approach to problem solving.

SECTION 10

"A"

### INTENT

To capitalize on the goodwill attained as a result of the hypnosis session, to capitalize on having two periods in one day, to make another attempt at having them be creative, to give them each a choice of three projects. The projects would all entail the presentation of a ten-minute TV newcast;

1. The state of the nation after a week of total blackout.

2. To take the subject of the annual school essay contest, 'How to learn the greatest amount in school?', and invent an illustrated report about an ideal educational establishment where everyone learnt huge amounts and also had great fun.

3. To take 'Laugh-In' as a model, and invent some funny situations to do with pollution and other environmental issues.

Each group would at first brainstorm for ideas, then break up into smaller groups to develop the best ideas, and then come back together again to plan the final newscast.

Since the kids are many of them TV addicts, they should be familiar with this territory and the presentation techniques used. To solve this problem will still be a huge challenge to the kids. The use of the TV program in the project is essentially a sugar-coating to get the kids thinking about issues as a result of having ideas about what they want on the program.

## REPORT

March 24 ..... Mr. Grylls took our study period this morning. Everybody wanted to goof off and he wanted us to do a project. He told us the three projects. He wanted three groups. One was to imagine a big power failure for a week and give a newscast about what happened. One was to make a program about a good school, better than the Curley School. One was to make a Laugh-In program about pollution. The kids didn't want to do it and he gave up trying. He tried to look mad. I and 3 others decided to do the blackout one. We each wrote down what we thought will happen.

In the afternoon, Mr. Carty told us about the History Exam. He told us what the question would be. It is tomorrow. Then Mr. Grylls asked us to read what we had written in the morning, but nobody could hear because all the kids were talking. Mr. Carty was not there and Mr. Grylls could not control us. I don't think he is hard enough on some of the kids, but they know he is a special teacher anyway. Later we had two fire-alarms.

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But personal failure can be valuable, since learning from failure is a large part of learning from life.

"В"

Unfortunately, many failures in life are almost planned that way by society. Society trains specialists and then challenges them to solve problems outside their particular skills. In the business world this is the Peter Principal at work; in schools, this is drilling the children to remember answers to questions that adults feel they should know (forgetting that they are not adults and often do not have the patience or stupidity to work out problems that somebody has worked out before, and which seem totally irrelevant), and then expecting them to be successful at solving the unexpected problems that life continually poses.

A <u>real</u> failure is failure to meet a self-imposed challenge or an externally imposed challenge <u>which nobody else knows the</u> <u>answer to</u>. My whole effort at the Curley School was, as far as I am concerned, a failure, because it was a failure as far as the children were concerned. But I have learnt a great deal, possibly at the children's expense.

The course had a few moments that provoked a few children to feel and sometimes express emotions other than boredom and frustration. Even those mements will not be particularly memorable or formative, since they were not provoked by the children; they did not involve real discovery. They involved somewhat artificial

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encounters between myself and individuals always as members of a class group. I was rarely a catalyst for encounters between the children and other children or the children and their environment; the encounters were almost always with me. Because I am in no way a hero, a spinner of yarns, an entertainer, a seasoned expert, or an authority figure, I am not a provocative figure to encounter. Even if the teacher I worked with was only one year older than myself, he had a seasoned secure look and manner that makes him a good teacher in a traditional situation. I cannot work in this situation, especially over a short period of time. Even the hero-figure has to cultivate friendship and rapport to keep his audience entranced over a long period of time. But, I was a short-order missionary who wanted my flock to feel something of what I felt about the relationship man/environment. Since the members of the flock were were not allowed to feel things by their elders, they had to listen and perform dull exercised instead. After a while missionary left, and maybe all the flock will remember is that the missionary was there.

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"C"

## INTENT

To remind the class of the horrors of dull survey formal lectures, and in so doing warn against the use of lecturing in any form to children. At the same time, to introduce the students to some excellent literature that should only be read if they really want to. Also to warn against getting too enthusiastic about the creative approaches advocated by Richard Jones and George Leonard, without figuring out what their own potential might be to be creative on demand about something that does not necessarily interest them.

#### REPORT

### 4.999 Lecture

Some nervous guy came and talked. Handed around summary sheet of what he said; questions to think about at bottom!

Summarized Piaget, Bruner, Holt, Jones theories, on and on. Asked for questions.

Some wise-guy asked him one of the questions at the bottom. 5 minutes before the end in comes Grylls...."April Fool". Whole thing put up show to bring pleasant reminiscences of how not

to do it.

All 4 educators worth reading. Holt to get the feeling of slowness getting to know kids. Bruner question centered curricula, building up the aperceptive base. Jones on imagination; imagination fine with elem. kids dangerous higher very slow confidence building needed.

Story about black-out and laugh-in day at Curley. Most successful getting imagination working by questions to another class, like;

"How many trees to make one day's Boston Globe?"

"What constructive uses for broken glass?"

"Plastic, metal or concrete decompose faster?" (did not try having them invent conflicting ads like Texaco Oil from Alaska and preserve your landscape).

Questions above more like class imagination. <u>Not</u> individual imagination. That only comes with time and great trust.
SECTION 11

"A"

# INTENT

To take the subway (or elevated) from Forest Hills to Sullivan Square, one stop before Everett where one has to pay to return, to observe things en route. Each kid would receive a mimeographed map of the line with the stations marked on it. They would be asked to record information relative to their group, or at least some things that they noticed (the other class went on this field-trip yesterday; it was hard to get them to look out of the windows, let alone write down anything they saw). On arrival back at the school these maps would be collected to help create the master map. On the way they should also look out for the places asked in the 'Know Boston' session.

# REPORT

March 25..... We were just going on the subway field trip to Sullivan Square when there was a fire alarm. Some kids skipped school. When we were all back in the classroom, no one wanted to go on the trip. We all just sat around for a long time till Mr. Carty said "let's go!" Some kids stayed behind, but most of us went. When we were all outside Mr. Carty said let's forget the field trip and go and have coffee and a rap. We walked down Center Street to a Deli where Mr. Carty knows the owner. We sat in there but the guy did not like us not eating. So we went down to Jamaica Pond with Mr. Grylls. The two girls stayed with Mr. Carty. I ran around the pond and so did Jim and Tony. The others walked the other way. We got around and they were watching the reeds and bushes come alive. It was funnybecause when the ice melted, they got freed. They had been leaning over from the ice expanding and then they stood up. Some of the kids were cheering them on. It was a beautiful afternoon and we didn't get back to school until after school was out.

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Maybe some members of the flock will also remember Jamaica Pond by the reeds that do strange things. Maybe they will remember things that moved, events that took place, just as I remember the Albert Hall by a performance of Mahler's Symphony of a Thousand, and a particular area of red-sky streaked heathered Scottish moorland by the grouse that kept flying up under my feet. Each in its own way was an encounter with the natural order of things, a moment of understanding about the workings of an environment and the part that man does or does not play. First principles were at work, and in such cases the feelings reach all the senses in a way that defied verbal description.

"В"

It is both this return to first principles and making the experience so rich that it can no longer be adequately verbalized that will characterize my own environmental education. The concept is universal. People can and will learn about the natural dynamic order of man/environment interactions ('Life') if and when:

1. They cease to teach, and everyone learns from others and the world around them.

2. They learn to respond to their inner timing and needs, and society slowly hinders them less.

3. They are challenged by new situations.

4. They learn to renew their natural curiosity.

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5. They feel and respond to their basic need to interact, and have interdependencies.

6. They learn to make sure that their environment reinforces their activities.

7. They realize the unique value of the 'now'.

8. They use their eyes not only to read and watch TV but also to understand the world around them.

9. They realize the need to be relevant to themselves.

10. They realize the true value of real experience.

11. They begin to understand and use their own potential.

12. They cease to evade the issue by writing theoretical

papers, which few will read and even fewer still will learn by.

### INTENT

To set a group design problem that will involve some basic thinking about survival needs of food, shelter and clothing and suitable luxuries. To take the students sufficiently far away from 'man' as to be able with other concepts of survival, such as temperature control, soft textures, perpetual motion etc. To give the students a creature that has distinct physical properties and qualities of its own that would have to be designed for. To allow for different groups to have different perception of this creature, so that varied designs will evolve which have different degrees of suggestibility in terms of design for humans.

## REPORT

4.9999 Design by first principles, organic design day

Huge quantities of paper, cardboard, foam, balsa, and other misc. materials; glue,tapes, saws, scissors, staplers etc. Small groups (3 or 4)

# Problem

Design a housing unit for an urban ping-pong man.

### Anthropology

The ping-pong man is a hybrid (believed evolved in 20th century by Mao of China). He has all the characteristics of an essentially good human being, but the physical form and physical characteristics of a pingpong ball (in a classroom project the urban creature could be closer to the kids experience; dolls, hampsters, roller skates, popsicles).

"C"

Ping-pong men have evolved in many different ways, all though are still inhabitants of Earth. Different societies have different responses to... earth, air, fire, water. energy, waste. movement needs. communication, senses used individual, society, property. work, play, rest. time, change. (This list would have to be edited down to physical things for small children). Procedure Rough outline of nature of ping pong man (how unhuman?) 1. 2. Rough outline of society (simple) 3. Purpose of urban society and close living. 4. Purpose of housing. (shelter, community?) 5. Nature of housing (comfort, flexibility?) 6. Design a unit, and the matrix in which it fits. Check-off list Does the unit need, or does it need the opposite of; 1. Roof 2. Walls Foundations, floors 3. 4. Entrance 5. Windows

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- 6. Furniture, particians, floors
- 7. Stairs
- 8. Flexibility (night/day, seasons)
- 9. Maintenance
- 10. Electric gadgets (lights, toothbrushes)
- 11. Telephone
- 12. Cooking gadgetry
- 13. Plumbing gadgetry (Do ping-pong men recycle internally?)
- 14. Heating
- 15. Yard/garden
- 16. Stoop
- 17. Street, sidewalk.

# Extras

Scrounge more materials. Paint, pierce or distinguish group society.

SECTION 12

## INTENT

To have an honest evaluation discussion with the kids to see what they remembered and what they thought might be useful, also to see if there was **a**nything that they might like to have more of if Mr. Carty was willing.

"A"

Secondly to offer to any kid who might be interested a few Saturday morning sessions exploring Boston for new and interesting places and events.

### REPORT

March 26 ..... We had movies this morning. Civics was cancelled.

March 31 ..... Mr. Carty says Mr. Grylls isn't coming back and is writing his thesis. We asked whether we would get an exam on what we had done. Mr. Carty said No. He also said that he would talk to Mr. Grylls about grades, but I don't think he will. I can stop writing the diary now. ..... and Mr. Grylls can now conclude his thesis.

"B"

The thesis was written this way for a number of reasons. Firstly, the concept for the course took form over a length of time and was never finalized. By the end of the fourth session, the futility of the whole effort was highly apparent. The remaining sessions were done partially in search of a concept. There was, thus, no simple finality that could be recorded. Secondly, everything was disjointed. Not only did it eventually happen that there was no coherent thread to the course and that each session was more an experiment to see what worked, but also these children were not used to continuity. For them each lesson was a separate event; in between they lived, philosophized, and taught their peers. The discontinuity was as real as the way the thesis is written. Thirdly, the process of recording the development and the teaching of the course, and the consequent changes in educational theory, was highly complex. It was difficult to see reasons for particular lesson plans without a general philosophy of life to explain their compromising character. It was difficult to explain teaching techniques without presenting the model techniques of which they were compromises. It was difficult to evaluate what was taught by any other method than trying to gauge what the children perceived and learnt. It was difficult to be precise about a huge experience that was simultaneously both

a teaching and learning experience, without separating the various perceptions involved.

The diary of the child is imaginary and does not represent one particular child, but a synthesis of four or five just above average children in the class. The children were 75% white, 25% black, equal numbers boys and girls, 13-18 years old, mostly from Jamaica Plain, didactic and factual, unopinionated, more responsive to dynamic situations than academic work, loathe to use their imaginations, and mostly unmotivated. In actuality, two classes were taught in fairly parallel manner. The other class became gradually hostile and totally uncooperative.

The philosophy (which can also be read contiguously) grew while the year progressed. If there were such things as pure philosophy and applied philosophy, this philosophy would prefer to be the latter but is only as yet in its formative stages.

4.999 is made up of a collection of events, taken from teachers workshops with EdCo, a class taught at Northeastern, a theater workshop, a two-day workshop with Lawrence and Ann Halprin at MIT during 1970, and ideas that came out of these experiences. It is applicable to learning situations with children as it is with teachers; very little needs to be simplified.

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# INTENT

To have the students plan and execute a real project, a project that they feel some emotional attachment.to. To have the students feel that it is by doing things that man revitalizes his curiosity about life and motivates himself to further study and reading, that only few are by nature totally academic, (those who can revitalize themselves continuously by their academic or intellectual work), and that many student frustrations can be alleviated by taking on a problem, defining cautiously its social limits, and then setting about solving it.

"C"

REPORT

## 4.999 Project

Everything so far has been, play

elixir of love, friendship fuelling-up building up awareness motivation medicine a demonstration learning process a sedative for boredom

Personnel

Pair off or group (encouragement, on-going evaluation)

Problem

Large scale environmental problem

or

Local (near apartment) problem

or

MIT environmental problem

or

Within own apartment problem

# Procedure

- 1. Research problem
- 2. Propose solution
- 3. Obtain necessary go-ahead
- 4. Gather vertically-aged manpower
- 5. Solve problem.

The solution must include follow-up or maintenance; i.e. solution is managerial as well as physical.

Ilkka Suvanto and I will continue to work for EdCo, one of whose aims is to get environmental education into the schools. The work will include running workshops for teachers, planning follow-up procedures, and the setting up of a center/network (to be federally funded) to make environmental education a continuously spreading phenomenon.

## SUMMARY

In the preceding pages, the author has tried to infer the threefold nature of environmental education, and the relative importance of each part. Environmental education is;

1.) the study of a body of knowledge which had to do with man/ environment interactions. This study can be carried out in many ways by those who are interested enough to do their own research. That research can continue from infancy to death with very little external stimulation, if the person is naturally curious, self-motivating, open minded, and has time.

2.) It is a stimulating vehicle through which human potential can be developed. Through it, curiosity can be aroused, the senses can be stimulated, motivation can be developed, cooperation can be fostered, and humans can become more human.

3.) It is <u>remedial</u> education. It takes into account the spiritual decay of capitalist society and the ensuing appaling standards of education at all levels during the first 70 years of this century; it takes into account that it has to <u>sell</u> to both adults and children basic ideas such as, "This is fun! Try it out! Let's see what our senses can do! Let's see what can be found out in the world". Except at very high research levels, there is nothing new about environmental education. But, like many old things, it has to be dressed up in new finery and sold to adults and children by gimmicks. Some of these gimmics, which are basically stimulation techniques, are described in the 4.999 notes.

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However, since this is the present time, concessions have to be made. Honest gimmicks are acceptable, especially if they try to deal on a continuing basis with the development of human potential. This paper has explored some of these stimulation techniques rather than exploring direct means of carrying out serious study of environmental interactions. That again is a concession to the reality of huge numbers of unmotivated and uninterested adults and children. However, the paper has so far neglected to make a further concession, namely that, as mentioned before, these stimulation techniques need conditions to work well that many school systems find totally unacceptable.

It is very difficult in most public schools, not only in Boston (especially difficult at levels above elementary), to implement childcentered learning. This would include the processes and techniques described in the imaginary 4.999 course. Opposition comes from administrators, parents, examination boards and evaluators. The prime reason for the opposition is that adults can no longer define tangible progress in terms of the children reaching <u>knowledge objectives</u>, and will not take the word of educators that the <u>behavioral levels</u> that the children reach are not only far more important to their development but are also far higher when the children are participating in child-centered learning. The educators are as yet not backed up by any satisfactory way of measuring behavioral progress; it is unlikely that this will ever be developed in a truly objective form.

Confronted with this opposition, a teacher in Boston, for example, who wishes to teach a child-centered 'environment' course to her/his

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children, may be able to initiate it in the following ways;

1.) By pairing off with another teacher or joining a group of teachers so that he/she is able to take a small group of children outside to do special projects, while the other teachers look after the remaining children. This is often known simply as 'team teaching.'

2.) By calling on parents; having special days arranged for outings and walks, and having the parents well versed in their duties.

3.) By calling on students in local teacher training colleges or other local schools, having special days regularly arranged for special group projects, and having the students well versed in their responsibilities.

4.) By calling on a teacher from another school system which has busses, and trying to arrange joint field-trips, also with parent or student help.

5.) By calling on a teacher in another school system where it is easier to get helpers, and arranging a mutual exchange of children and helpers.

In addition to fulfilling these seemingly basic needs for manpower and transportation, there are even more basic needs that have to be met, in order to have a workable basecamp from which to initiate operations. These needs are; 1.) To have for the children a fixed classroom for most of their lessons, so that they can have somewhere that is their own territory.

2.) To have materials of all sorts, leftovers, scraps, magazines, measuring equipment for the children to work with.

3.) To have easy access to more special materials when the children are sufficiently interested to want to use them.

To acquire these working conditions, a teacher has to have a sympathetic principal and someone to go to for help. At present most teachers do not have either person.

It is to this very problem that the program proposal that EdCo is at present submitting to the Federal Government for funding addresses itself. It is hoped, in conjunction with the Mass. Audubon Society in Lincoln, to set up an 'environmental education' center located in Boston, which will provide a source of information and help to trachers, a program of workshops aimed at administrators, principals and parents as well as teachers, a distribution system for materials and a travelling classroom (bus) that can be used both for environmental trips and as a base for children/teacher workshops at the schools. The center's staff will, hopefully, also act as catalysts, helping teachers to establish contact with parent organizations, student manpower, other teachers, and special experts.

With this support, plus their own initiative, it is possible that teachers will find themselves able to implement good programs of childcentered environmental education, and thus be able to motivate the

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children sufficiently that they are able to accept and reap the advantages of an educational environment that is totally childcentered. If, by environmental education programs which are truly exploratory and challenging, children who are already motivated can cease to be bored and unmotivated, children can learn that there is joy in learning, then the necessary reforms in schools will evolve much more smoothly than they will if they change in deference to political power groups outside or inside the schools. Environmental education can be thought of as a lever to help a growing understanding of the true nature of education and life.