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A survey of pre-high school future studies programs.

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A SURVEY OF PRE-HIGH SCHOOL FUTURE STUDIES PROGRAMS

A Dissertation Presented

By

CYNTHIA BRAINERD GUY

Submitted to the Graduate School of the
University of Massachusetts in partial fulfillment
of the requirements for the degree of

DOCTOR OF EDUCATION
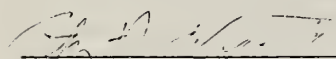
AUGUST   1978

Education

To Pierre

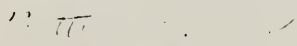A SURVEY OF PRE-HIGH SCHOOL FUTURE STUDIES PROGRAMS
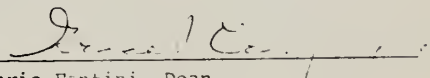
A Dissertation Presented

By

CYNTHIA BRAINERD GUY

Approved as to style and content by:

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May 1978

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The author wishes to express her appreciation to the members of her dissertation committee: Professors Peter Wagschal, Linda Lockwood, Klaus Schultz, and Betty Spears, for the time and support they have provided throughout the study. Each member has brought his or her own strengths which has enabled me to reexamine my material from a different perspective.

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I am particularly indebted to the teachers who generously gave time in busy schedules to provide me with pages of information. Without their overwhelming response the study would not have been possible.

To others I owe thanks that have no boundaries. My parents, Cynthia and Donald Guy, have always been my most loyal supporters. They have not only given me the priceless gifts of an education and true home but have shown me that the Earth, although burdened with problems, is still a miraculous place. More than any other influence, theirs has made me feel that I can make worthwhile contributions and have a responsibility to do so.

Peter Areson, my husband, has been a steady influence throughout my graduate work which has included sharing me with the Future Studies Program for the past four years, the duration of our married life together. His assistance has included reviewing, commenting on, and typing numerous drafts through to the final copy. Without his help the study would be far from completed. I am grateful for his help throughout the endeavor.

And finally, to our unborn child, whose kicks have been a gentle but constant reminder to get the paper done so that I can start giving it some overdue consideration.

ABSTRACT

A Survey of Pre-High School
Future Studies Programs

(September 1978)

Cynthia B. Guy,   B.A., Goddard College, 1967

M.Ed., Antioch-Putney Graduate School, 1971

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The role of the future is becoming far more important
in the lives of people than ever before. An active exam-
ination of what the future may represent (on the personal,
societal and global level) is crucial to the hope for re-
versing destructive trends afflicting society today. Com-
prehension about future possibilities cannot be accomplished
unless people at a young age are taught that it is important.
In fact, an increasing number of high schools and univer-
sities are including future studies programs in their cur-
ricula. In the pre-high school grades the programs have
been slow to develop; now, however, such courses are ap-
pearing in various schools throughout the country.

At present, there is no clear understanding of the state
of futures instruction by pre-high school teachers. The
study described in this paper was undertaken to initiate the
first step in gathering information about pre-high school futures programs.

A mail survey of pre-high school programs was con-
ducted to obtain information. A questionnaire was developed
and sent to a sample of teachers who were (or had recently
been) involved in teaching future studies on the younger
grade levels. Information was sought concerning such areas
as: who is teaching future studies and other program details;
how is future studies being offered; what is the content of
programs; what needs do future studies teachers have and
what is the future of the programs?

Considerable time was spent in the development of a
population for the study. Listings of futures teachers
were simply not to be found.

The response to the mail survey was unusually high.
All of the teachers who agreed to respond to the question-
naire did so, as well as eleven additional respondents.
Summarizing some of the outcomes:

1. Future studies is indeed being conducted at the
    pre-high school levels in the United States, al-
    though not to a large extent at the early elemen-
    tary levels.

2. Future studies is available to an exclusive pop-
    ulation of students (i.e. suburban, white.)

3. Students most in need of a futures perspective
    are not being exposed to future studies.

4. Existing future studies programs are fairly
   similar (i.e. geographic location, teachers involved,
   approaches.)
5. The most popular content areas with teachers
   were similar and there was general consistency
   between activities, areas and goals selected
   by respondents.
6. A number of teachers had difficulty clarifying
   goals of their programs.
7. Teacher enthusiasm for future studies appears to
   be the greatest factor in support of existing
   programs.

Recommendations were made after the survey. Included
were the need to further develop, refine, and expand exist-
ing programs, especially in urban locations; to work with
and not against the back-to-the-basics trend now popular in
education; and to expand efforts to expose a more varied base
of teachers to futures education. How future studies can
most effectively be incorporated into a particular school
or classroom is ultimately a matter that can best be deter-
mined by teachers.

The final section of the paper suggests areas that
need further investigation. These include: the role of
future studies in the curriculum, the effective incorporation
into education (i.e. the lives of children), the

organization of futures education (expanding beyond those teachers labeling their programs future studies) for the purpose of maximizing the sharing of ideas and experiences.

Now that the survey has been completed it is the writer's hope that the information be shared and better communication channels may be opened up. Furthermore, it may also provide a catalyst for further development of the futures field in the younger grades.

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CHAPTER ONE

INTRODUCTION

Within the past decade concern for the future has become an issue of vital importance to people throughout the world. Never before have so many millions been confronted with social, environmental and global problems that are becoming potential threats to their life style and even their lives.

Unfortunately even with great acceleration in thinking about the future many people still live in a present-oriented manner best described as "taking what they have for granted."

Surely humanity is at a turning point. The United States and other industrialized nations cannot hope to continue indefinitely a lifestyle of inordinate consumption at the expense of the rest of the world. On the other hand if the so-called "third world" countries regard the life style and values of the industrialized nations as a goal then surely humankind on Planet Earth is headed for disaster.

It is time to reexamine and redefine what "the good life" really means. Responsible thinking that will lead to a more equitable standard of living for all must begin here and now. Hard thinking about the future is imperative, yet only a few decades ago a "planner" was virtually unheard of and much less trusted.

On the educational level, curricula must be introduced that will help students investigate alternatives for their

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futures. Today's students face a future vastly different from any previous generation [Hostrap, 1973,217], yet the curriculum in most schools is surprisingly similar to what it has always been [Ricken, 1976, 48].

Fortunately, there are some universities and high schools beginning to make a systematic attempt to include studies of futures in their curricula. However, the spread of such instruction on pre-high school levels has not kept pace with the older grades. Yet children in the formative stages of developing attitudes and values possess flexibility of mind which enables them to more freely fantasize about the future and their roles as adults.

At present no study has documented the efforts of pre-high school teachers to incorporate futures themes and courses into their instruction.

The study described in this paper generates information about several areas vital to the continuing evolution of futures instruction: what efforts have been made to provide pre-high school students with future studies; what is emphasized in the programs; what does the future appear to be for the field; and what recommendations can be made for the implementation of futures instruction on the pre-high school levels?

1.1 Statement of the Problem

Today, the study of the future is an accepted area for investigation and many teachers have incorporated courses

into their programs. Within the past five years, several investigations have been conducted to determine the nature and range of high school and university futures programs [Stock, 1975; Eldredge and Rojas, 1974]. Until the present study was undertaken, there was no formal effort to determine and document what efforts are being made on the pre-high school levels in education to provide futures instruction.

It is appropriate to undertake a study of pre-high school futures instruction at this time because of the increase in futures programs on the elementary and junior high levels. Five years ago it would have been impossible to categorize the scattered programs found in this country, and the data resulting from such a study would have benefitted relatively few people. There is growing recognition of the need for futures oriented curricula on the part of teachers, administrators and other individuals concerned with making education more relevant. Information, materials and ideas concerning futures curricula for younger students are often not accessible to teachers and are unorganized. When existing future studies information is gathered, it can be refined and improved and barriers removed toward improved futures pedagogy.

The study described in this paper was undertaken in hopes of initiating the first step to a better understanding of future studies on the pre-high school levels.

1.2 Purpose of the Study

The purpose of the study is to compile information relating to future studies programs on the pre-high school levels. The study focuses on several main considerations which continue to be in the forefront of discussion about future studies. First is the commonly held belief that future studies has scarcely diffused into any grade level below high school. The second consideration, especially in view of the movement to return to a basics approach in schools, is that the typical elementary or junior high school student has little time for yet another subject in school, regardless of its importance. The purposes therefore include:

1. Determining the nature of the efforts to expose pre-high school students to futures instruction. This includes answering:
   - What is being done in the United States on the pre-high school levels to teach about the future?
   - What types of content are emphasized in programs?

2. Providing recommendations for the continued developments of future studies on the pre-high school levels:
   - What recommendations can be proposed for the con-

tinuation and expansion of futures education
on these levels?

1.3 General Description of Study

A review of literature revealed no previous study had
been made of pre-high school future studies programs. An
instrument was specifically designed to obtain the desired
information. (See appendix B.)

In order to generate information about the futures
programs, a questionnaire was developed and a survey con-
ducted. The initial step was to locate the teachers. Since
there is no single source from which to obtain a listing,
a large variety of sources had to be contacted. In regards
to locating prospective programs:

> Futurizing a curriculum, that is, orienting it
> towards the future - is different from merely
> updating it. Futurizing signifies a general
> commitment to make education relevant to the
> student's future. Futurized programs are dif-
> ficult to identify, because a future-orienta-
> tion is a subtle and subjective phenomenon, and
> because courses which are explicitly about the
> future can be taught in an un-futurized fash-
> ion   [Resources Directory, 1977, 224].

Following the identification of some teachers and pro-
grams the teachers were sent questionnaires. The teachers
were asked factual information about themselves, their
school, community, students, and the content of their programs.

The questionnaire responses were analyzed and classified.

Recommendations for the future of the field on the pre-high
school levels were made based on information from the survey
and a review of literature and personal experience in the
field of education.

1.4 Limitations

In order to gain insight into the scope, nature and
extent of existing programs, it was necessary to have de-
finite limitations for the study.

This study was not intended to be a survey of every
existing program dealing with the future in United States
schools; instead, it was to be a sample representative of
present and recent future studies programs. In order to
gain insight into the development of future studies (in
pre-high school education) a (reasonable) number of programs
were selected. The majority of the programs are active at
present.

There are many schools which have curricula with a fu-
ture perspective including futures themes. In order to get
a grasp on programs that use "the future" as the main focus,
curricula that include futures themes but do not center
around them have not been included in the survey.

Schools that were polled for the survey are in the con-
tinental United States, although this should not be taken
to mean that futures programs do not exist elsewhere. Can-

ada and France are examples of countries who have been act-
ive in futures research which could be reflected in their
educational system.*

Public, private and parochial schools are included in
the survey. Grade levels considered were from kindergarten
through the last year before high school. In some communi-
ties the upper grades were in a junior high and in other
cases a middle school.

In order to insure as many returns of questionnaires as
possible they were primarily sent to teachers who had agreed
to cooperate by answering in the affirmative to an inquiry
letter.

Recommendations in the final section of the study are
generally based on the experience of the teachers who have
been pioneers in the development of future studies in our
schools today.

1.5 Need for the Study

There has been no formal, organized attempt to survey,
study and critically place in a larger educational context
future studies programs on the pre-high school levels. For-

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*For example in Canada there is the Canadian Association
for Future Studies and in France the Association Futur-
ibles, started by Bertrand de Jouvenal. Another French
organization is the Delegation a L'Amenagement du Terri-
toire et a L'Action Regional, presently run by Hugues
Alain de Jouvenel.

tunately, an increasing number of useful books, articles and
newsletters are presently in circulation that offer valuable
information about educational futures as well as curriculum
themes.* However, it is still the teachers (working in isolation)
who have the most experience and who therefore are the most
valuable resouce for information about futures programs and
curricula.

Hopefully the study will be useful to futures teachers
who surprisingly, are the individuals consistently asking
for more information and more contact with other teachers
trying to develop similar ideas.

Surveys have been made of global futures organizations
[McHale, 1976; Spekke, 1976], as well as programs for fu-
tures planning at the national, business and university levels.
In 1975 a survey was made of secondary school future studies
programs [Stock, 1975]. All of these studies have provided
valuable information about futures inquiry on their respect-
ive levels. Now that the study of the future has become a
viable area for exploration on the younger levels and exper-
ience has been accumulated, it is important to organize and

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*An example of a futures book dealing with education
would be Learning For Tomorrow, edited by Alvin
Toffler. Futures articles are increasingly appearing
in education magazines as well as in publications such
as The Futurist. Examples of newsletters dealing with
futures education would include: Futures Information
Interchange, published by the Future Studies Program
at the University of Massachusetts and Forefacts, ed-
ited by Ellen and Ron LaConte from the University
of Connecticut.

examine the efforts on these levels also.

1.6 Definition of Terms Used

In recent years a number of terms have been proposed and
employed in the study of the future. As the field becomes
more popular, more of an emphasis is given to labels. The
emerging field, especially in education, is interdiscipli-
nary in nature and for this reason difficult to frame into
a single term. It has been said that trying to define the
new field of futuristics is like immigrants trying to define
an American on arriving at Ellis Island [Wagschal and McClel-
lan, 1975].

Futurism, futuristics, future studies, futures, are used
frequently throughout the study. Every attempt is made to
use the term most appropriate given the material being dis-
cussed.

Future Studies. The general title given to represent
education concerned with a rational and systematic study of
the future. Other people involved with futures education
define it as:

> Any serious, organized attempt to instruct
> individuals in the application of concepts
> and methods of intelligently conjecturing
> about the future [Stock, 1975].
>
> Education concerned with the study of pos-
> sible alternative futures, the reification
> of these futures and the ability to choose
> constructively among them [Wagschal and
> McClellan, 1975].

Futures Instruction and Futures Education. Both terms are used to designate educational instruction and education which deals predominantly with issues and concerns of the future.

Futurism. A field which provides a rationale for serious attempts to identify, analyze and evaluate possible future developments [Resources Directory, 1977, 141].

Futurist. One whose primary goal is to make future possibilities more real for others.*

Futuristics. Futuristics may be viewed as the discipline or field of activity that emerges from futurism. Futurism is the philosophical attitude or approach of a futurist. Futuristics is the set of specific activities that emerges from that viewpoint.**

Pre-High School. Designates all educational levels from

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*McClellan [1975,2] continues by stating that, Our definition of the futurist's role contains three components. "First, a futurist is concerned with 'future possibilities.' A measure of a futurist is the extent to which he expands and clarifies the multiplicity of possibilities. Second, it is 'for others' that a futurist makes possibilities more real. S/he must communicate. Third, to 'make more real' that unreal, abstract land called the future is the special task of the futurist. A futurist has succeeded when s/he has materialized a mental vision into a concrete comprehensive form which others experience as plausible, a 'real' possibility."

** Mr. Cornish [1977, 50] also states that,"futuristics is a unique combination of science and art, management and morality, electronic intelligence and common sense that manages to

kindergarten through the last grade before high school. There is some confusion associated with the term secondary in different communities. In some places high school starts in ninth grade and in others in tenth grade. This study is concerned with specific programs in various communities. The inclusion of programs is based on the definition of pre-high school levels in the particular community. (Therefore it may include eighth or ninth grades.)

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avoid collapsing into total confusion because it maintains a unique perspective on reality-that of looking forward in time. This concentration on the future provides an organizing principle that will, I believe, prove a powerful framework for thought and action that will enable mankind to manage human civilization with increasing wisdom in the years ahead."

CHAPTER TWO

STUDYING THE FUTURE

2.1 Historical Perspective

Future studies is an eclectic field and many factors
have contributed to the recent growth of futurism in edu-
cation. It is useful to postulate some of the major devel-
opments concerning how humans have viewed the future and
perhaps from this a more complete panorama will emerge for
future studies in education. A capsule summary of a few
high points in the exploration of the future is presented
here.

Study of the future has taken many interesting and di-
verse routes. In prehistoric times there was no real need
to study the future; tomorrow could be expected to be the
same as today. About 10,000 years ago, other factors ap-
peared. Military conquests, the use of the wheel, writing,
agriculture, science, history, and philosophy resulted in
cultural evolution. Societies began to change, although
still at comparatively slow rates.

The ancient Egyptians wrote about human destiny and
eternity in The Book of the Dead. In 2900 B.C., in The
Priest of Senefou, life was discussed in terms of being
made better through societal organization. Attempts to look
at the future were also made by the ancient Greeks whose

priestesses delivered oracles from the temples of Gods.

The main pursuit of these ancient people however, was not to determine the direction of their slowly changing cultures but to gain insight into personal concerns, primarily their fortunes.

More useful to our understanding of how humans viewed themselves in relation to the future came with the beginning of recorded history. Later, individuals such as the Athenian general, Thucydides, in the fifth century B.C., kept accurate records of events instead of relying on hearsay. As early historians started keeping records, man began to see that there were different cultures and that life changes through time.

Ancient philosophers, along with the historians, were a form of early futurists. The utopian tradition started as philosophers began asking: "What could be?" Plato, an early utopian described his ideal state in The Republic, in 350 B.C. In his book references are made to the differences in quality of human affairs and how they can be compared and improved. Plato left to history the first edition of a utopia, a more ideal society. British writer I.F. Clarke states: "From Plato, the literary tradition runs straight through to Sir Thomas More and on to the many visionaries, ideologues and propagandists of the last 100 years" [Resources Directory, 1977, 13]. As the Roman Empire collapsed in the fifth century A.D. man's interest in the future waned. There appeared

to be little cultural change and therefore less speculation about "tomorrow."

In the beginning of the Middle Ages, Europe was emerging from the gloom of the so called Dark Ages. Interest was growing in exploration, science, and other intellectual pursuits.

In 1516 Sir Thomas More wrote Utopia. Much of the account was a satire on government and society and inspired by Plato's Republic. More described such future images as humans going under the water in boats and traveling through the air as birds. His book served as a foundation for later utopian thinkers.

Somewhat later, also in England, Francis Bacon wrote utopian novels such as New Atlantis, in which some of the first attempts to describe relationships between science and philosophy were made. Bacon describes a society ruled intelligently by scientific philosophers. Bacon, unlike More, had a utilitatian approach to life and based hope for human progress on scientific and technological advances. As new technology was becoming a reality and people were recognizing that culture was changing, they began to have an interest in what changes might occur in the future.

In the seventeenth and eighteenth centuries the concept of civilization progressing in a desirable direction diffused into the thinking and writing of the day. For the next century literature appeared in Europe debating ancient versus modern writers, their theories, the merits of science,

and various ideas that shortly would come under the name
of progress. In 1763, The Reign of George VI, 1900-1925 was
published by an anonymous writer, attempting to describe what
life would be like during this later era.

Less than two decades after The Reign, the Industrial
Revolution was underway in England,and it became evident
that science was paving the way as an agent of social change.
What formerly had been ideas were now realities. Benjamin
Franklin in 1780 was anticipating the great improvements that
science might bring in the future,such as cures for disease,
increased agricultural output and longer lives. Franklin la-
mented that he was born too soon to see many of the scien-
tific improvements come to fruition.

In 1793 the Frenchman Condorcet, an avid follower of
Bacon, was writing of a time when: "the sun will shine on an
earth of none but free men, with no master save reason;
for tyrants and slaves, priests and their stupid or hypo-
critical tools will all have disappeared" [Res. Dir., 1977,
21]. Condorcet was optimistic about progress and even tried
to figure out how he could forecast its nature, direction
and goals, a novel undertaking for the time. He was extremely
close in his predictions for life in the nineteenth and
twentieth centuries. For example Condorcet suggested:

> Colonies in the New World would become politically
> independent of Europe; today almost all are. He said
> that they would make rapid progress because they could
> profit from the knowledge that Europe had acquired;

they have, though some much more than others. He pre-
dicted that slavery would eventually disappear; it
has almost everywhere. He predicted that science
would make rapid progress; that farmers would produce
more and better food on the same acreage; that people
would have more leisure and that birth control would
become widespread [Res. Dir., 1977, 22].

In the middle of the nineteenth century the Great Ex-
hibition was held in London,which represented the first glo-
bal unity, a coming together of people from throughout the
world, to share in peace the many possibilities for the
future that it held.

The popular notion that science and technology auto-
matically meant progress was not shared by all, however. In
America for example Emerson and Thoreau in the nineteenth cen-
tury were questioning such marvels of progress as the great
new railway system.

Thoreau, a follower of Emerson, was another of the great
figures in what later evolved into the Conservation,
Preservation and present-day Environmental movement.
All the movements have been based on questioning man's
relation to the land, especially his use of science
and technology in the name of progress [Guy (1), 1975,3].

Early in the nineteenth century science was used as a
theme in fiction for the first time. The Frenchman, Jules
Verne, published some sixty books from 1863 to 1903. Verne's
books gained instant popularity and included such still fa-
miliar titles as: Twenty Thousand Leagues Under the Sea,
Around the World in Eighty Days and Five Weeks in a Balloon.
H.G. Wells said of Verne:

His work dealt almost always with actual possibilities
of invention and discovery, and he made some remarkable
forecasts. The interest he evoked was a practical one.
He wrote and belived and told that this thing or that
thing could be done, which was not at that time done.
He helped his reader to imagine it done and to realize
what fun, excitement, or mischief would ensue . . .
[Res. Dir., 1977, 25].

Verne, the father of science fiction, opened a new road
for exploration into the future by making it available to the
common man. He offered information and explored future pos-
siblities in an exciting manner. Furthermore, Verne provided
leading scientists and intellectuals of his day with ideas
not beyond the realm of reason.

H.G. Wells, Edward Bellamy and Bulwar Lytton were but a
few of the writers following Verne's lead of writing sci-
ence fiction.

The notion of moving towards a better world through
progress received a further boost from Darwin's famous treat-
ise in 1859, The Origin of the Species. Writing about the
succession of species through generations, Darwin believed we
may look with some confidence to a secure future [Res.
Dir., 1977, 28]. In the same way that animals have progressed
from lower forms, so too will civilization evolve towards
higher and more intellectual forms with time. A belief in hu-
man progress seemed to be taking the place of an emphasis on
the more ethereal rewards of the soul.

If one were to follow the development of futures think-
ing through literature alone, it would be appropriate to open

the twentieth century with the works of H.G. Wells in Britain.
Wells took futures fiction a step beyond Verne. He not only
published fiction, but lectured widely and called for a
"science of the future." Wells continued to affirm that it
was possible to gain knowledge of things in the future. He
stated that in the scientific process the important consider-
ation was the analysis and not mere collection of facts.
Upon this analysis, confident forecasts could be made. Ac-
cording to British writer I.F. Clarke, the works of H.G.
Wells mark a divide between the former ways of predictive
fiction and the techniques of forecasting. He used his stor-
ies as a means of plotting the "critical path" of probability.

With the advent of World War I the dreams of progress,
characteristic during the preceding two centuries, took a
turn that altered much of our thinking during this century.
Scientific and technological "progress" became the channel-
ling of efforts towards the war. Disillusioned, Wells de-
clared that "human history becomes more a race between
education and catastrophe." After the Second World War
started he was conviced catastrophe had triumphed.

In Russia, shortly after the Revolution the first dys-
trophian (anti-utopian) novel was written. A general era
of pessimism grew as the century advanced,fueled by the two
world wars, the stock market collapse, worldwide depression
and the rise of Nazism. Excepting war planning, the only ef-
forts to describe the future were found in the form of ar-

ticles in popular magazines regaling the wonders of radio
and electricity for the modern household.

As the world grew smaller through communication, the
study of the future shifted into the political arena. Deal-
ing with the future was no longer exclusively the realm of
writers and philosophers. The atomic threat to national
security contributed urgently to the sudden need for go-
vernments to plan out and forecast paths to follow in creating
national policy. World War II marked the beginning of what
came to be a new and separate discipline of future studies or
futurism.

2.2 The Development of Futurism - Post World War II

2.2.1 Inside the United States

National security during World War II became the motiva-
ting force behind the development of futurism in the United
States. There was need for exact, updated information for
defense planning which inspired the creation of such "think
tank" organizations as RAND (Air Force Research and Develop-
ment Corp.). For the first time the process of research and
the analysis of alternatives became institutionalized. A
number of organizations evolving from the RAND example
broadened the scope of their research projects after the war.
Most of the contracts were from the government and in areas
in need of critical examination and foresight. At RAND a

number of forecasting techniques were developed such as the
use of scenarios. The techniques were later applied to edu-
cation and science as research proceeded into these domains.

During the 1950's and 1960's other "think tanks" were
created, most having their origins in the earlier models.
Although other futures organizations have not been directly
involved in government work they nevertheless share a need for
good anticipatory thinking for effective planning.

> In the last few decades IBM, Xerox, Polaroid and even
> operations like McDonald's have started putting plan-
> ners on their payrolls. In recent years the govern-
> ment has used planners for helping understand social
> concerns in areas such as welfare. Educators got into
> the act when they wanted to find out how certain issues
> and events such as Sputnik or the Vietnam War were af-
> fecting learning [Guy (1), 1975, 17].

Futures organizations also started to emerge. In
the mid-1960's the World Future Society was founded in Wash-
ington, D.C. with local chapters in a number of U.S. cities.
The World Future Society attempts to bring together organi-
zations and individuals which share a concern, professional
or otherwise, with the future. The membership of the Society
represents a wide variety of fields and by the middle of
the sixties the term futurist started to be used to refer
to individuals who devoted the majority of their professional
time to studying alternatives.

Along with the development of futures oriented organi-
zations, a variety of books and periodicals have reflected the
surge of interest in futures planning. Notable examples

include: 1975 and the Changes to Come, written by Arnold
Barach in 1961. Barach has also been associated with Changing
Times magazine. The journal, The New Utopian came out in
the sixties as did the publication of the World Future Society,
the Futurist. The Futurist continues to be a popular journal
in this country and has contributed greatly to the general
acceptance of future studies.

Books that have had notable impact in the futures field
include The Year 2000 by Herman Kahn and Anthony Weiner from
the Hudson Institute and The Limits to Growth by Donella and
Dennis Meadows as part of The Club of Rome report.

Both books, using the new science of forecasting, pre-
sented accounts of the directions the world appears to
be heading. Whether or not one agrees with the forecasts
presented in the books, they proved that the future could be
studied in an important, useful manner.

Alvin Toffler's Future Shock (1970) vividly documented
that we are living in times of rapid change. Toffler warns
us to equip ourselves for the rapidly approaching future. In
the introduction the author writes:

> This is a book about what happens to people when they
> are overwhelmed by change. It is about the ways in
> which we adapt - of fail to adapt - to the future.
> [Toffler, 1970, 1].

Although the United States has been a leader in producing
individuals in futures work, it has lagged in centralized
long range planning through the government, in recent years.

Government work has usually been distributed to private or-
ganizations like RAND.

2.2.2 Outside the United States

World War II also provided the backdrop for the devel-
opment of futurism in other countries with France having a
major role. French futurism rose more in an intellectual
mode, representing an entirely different relationship to the
war. From a position of occupation and helplessness during
the conflict, French writer-philosopher Jean Paul Sartre
started writing about how the past was really dead, that humans
are free to create their own future and take full responsibil-
ity for its development. Sartre first coined the phrase
"inventing the future." He rejected the popular western no-
tion that the future grows out of the past and is therefore
largely controlled by historical forces.

With the return of peace and emphasis on rebuilding
France, planners were hired to explore the future for insight
into reconstruction and economic development.

In the fifties, Gaston Berger played a prominent role in
the development of futurism. Berger, a businessman turned
philosopher and educator, created the journal Prospective.
Articles appeared in the magazine concerning a variety of
aspects about the future.

Berger's version of futurism differed somewhat from
Sartre's in that he emphasized not only an existentialist

philosophy and planning but more socialization of the approach. Choice in creating one's own future was not limited to the individual only, Berger felt, but included the nation and all humanity as well.

Berger and his Prospective associates were highly influential in French intellectual and governmental life at the time and perhaps provided a direction that the French planners were seeking.

Pierre Massé, a follower of Berger, appeared in the sixties with a Fifth National Plan for France. The aims of the group were largely interdisciplinary in nature. As the Fifth National Plan was being completed new problems were included in the scope and ties were made with other groups such as Bertrand de Jouvenel's, Futuribles.

De Jouvenel's group, presently run by his son Hughes, has expanded to set up the Association Internationale Futuribles which remains an influential organization in France.

French futurism has maintained that there can be no science of the future (as advocated earlier in the century) because human beings create it by making free choices. The future belongs to everyone, and not just the scientist. It is the realm of possibilities (images and wishes) and not of science (facts). French futurism therefore departs from some of the scientifically based origins in the United States and elsewhere.

In other countries besides France and the United States, futurism was developing but in less of an institutional manner. The growth and influence of organizations, journals and institutes in France and the United States undoubtedly had an effect on other countries.

In 1965 Robert Jungk organized the Institute for the Future in Vienna. A few years later Heinz Herman set up the Berlin Center for Futures Research. Also in the late sixties, in Rome, an economic research group was formed by Pietro Ferraro called the Instituto per le Ricerche di Economia Applicatu (IREA). The IREA published Futuribili. In Rome also the Istituto Ricerche Applicate Documentazioni d Studi (IRADES) put out a bulletin on future studies.

Efforts centering around futurism from countries such as Britain and the Netherlands have largely been individual contributions. A committee on the Next Thirty Years was organized by the English Social Science Research Council in Britain in the mid fifties. Fred Polak in the Netherlands wrote The Image of the Future, which has since been translated into English. Polak's book has had a notable impact on futures literature and futurology in general. Polak follows major historical and modern development and compares it with the images for the future held by that civilization. He explains how present humans suffer from indifference toward the future because of their lack of imagery. We are timebound creatures, "clinging desperately" to today, for fear of what tomorrow

may bring.

Several Soviet authors are known to have written books such as Report From the 21st Century, and in Japan a number of futures oriented institutions have been formed in recent years. Language problems have hindered our familiarity with what has been produced in both countries though.

The USSR has always been committed to long term planning. Five, ten and twenty-five year plans have been instituted which have been mainly economic in emphasis but are now expanding to include other spheres.

In Eastern European countries long range planning and futures work has often come under the auspices of academies. In Czechoslovakia, reports have been compiled by the Academy of Sciences at the Institute of Philosophy and Sociology. In Poland the Polish Academy of Sciences has a Research and Prognostics Committee which also publishes Polaka 2000.

Prime Minister Olof Palme of Sweden set up a group in the early seventies to review the role of future studies. Of all countries Sweden has made the greatest attempt to include future studies in government programs.

A number of other countries have contributed to the development of futurism. Their contributions have stemmed from the mood and needs of the country at specific times. Collectively:

> Since the 1960's the field has not only grown enor-
> mously but has become partially institutionalized in
> education, associations, institutes, governmental
> agencies, and private enterprises. The field is still

in the process of development, but individuals and
organizations are turning to it in their attempts to
manage better in the years ahead than they have in
the past. Future studies, it is hoped, will enable
government and industry to deal in timely fashion
with emerging problems before they become unmanage-
able crises [Res. Dir., 1977,62].

The field of future studies should help individuals
prepare more adequately for the world they will be a part
of not a world that is already past.

2.3 Rationale for a Futures Perspective in Education

It seems that the most definitive roots for tracing
future studies into schools comes from a general increase
in awareness on the part of the public (including teachers)
that we are living in a vastly different world. The pre-
sent world requires, rather demands of us, acknowledgement
of new realities.

Events such as World War II, the development of the
atom bomb, the Korean war, desegregation and the surprise
of a communist country sending Sputnik into orbit, had
profound effects on education. The surge of technology
made scientific visions a reality and nations around the
world were being brought closer than ever before.

As the space race proceeded in the late fifties, there
was a strong emphasis on science related subjects in
schools, while the humanities lagged [DeYoung and Wynn,1972].
Since the first recorded course specifically on the future
was in the sixties,it is instructive to look more closely

at this decade.

The sixties were marked by dissention. Issues such as race, the Vietnam War and ecological problems created disagreement. Social discontent was manifested in the school systems. In the sixties many aspects of educational practice and theory were examined and criticized for not meeting the needs of the population. Urban ghetto schools, suburban schools, alternative schools and even more traditional schools seemed to be failing in their attempts to answer the needs of youth. More issues were brought to light than solved during this decade,but at least the emphasis was on making education more relevant and equal.

As the decade proceeded into the seventies, man started recognizing his difficulty in adapting to the increasing rate of societal and global change. An increasing number of individuals were looking towards a new era. In Things to Come, Kahn and Briggs (1972) state:

> A change from our industrial system to a post-industrial system may have as fundamental and profound effects upon the world as the change from feudalism to industrialism. This revolutionary change may affect the world, our way of looking at the world, and the way we live as much as any other breakthrough in all human history. [221-222]

In Table I Willis Harman of Stanford Research Institute lists the achievements of industrial society and the corresponding problems we should now be considering as technology surges forward and we pass into a new era.

TABLE I

ACHIEVEMENTS OF INDUSTRIAL SOCIETY

AND CORRESPONDING PROBLEMS

"Successes" of the Technological Era	Resulting Problems of Being "Too Successful"
Prolonging life span	Overpopulation; problems of aged
Arms - national defense	Hazard of mass destruction
Machine replacement of manual labor	Exacerbated unemployment
Advances in communication and transportation	Urbanization; "shrinking world" vulnerability of society
Efficiency	Dehumanization of world of work
Power growth of system-atized knowledge	Threats to privacy and freedom; "knowledge barrier" to underclass
Affluence	Increased per capita environmental impact, pollution, energy shortage
Satisfaction of basic needs; ascendance up "need-level hierarchy"	World revolutions of "rising ex-pectations," rebellions against "non-meaningful work," unrest among affluent students
Expanded power of human choice	Management breakdown as regards control of consequences of tech-nological applications
Expanded wealth of developed nations	Intrinsically increasing gap be-tween have and have-not nations
Development of prepotent* high-technology capability	Apparent economic necessity of war to use up output of "mega-machine." [Harman, 1972, 63]

* Exceptional power

Developments which previously took many generations
are now happening in less than a generation. How are
human beings coping? Toffler states a great deal of dis-
sonance and discontinuity results within and between seg-
ments of society from this decrease in time lag for in-
dividuals and society to adapt.

In relation to the individuals and organizations
involved in futures activities, Frank Tugwell observes
the tremendous increase of interest in the study of the
future in the recent decade.

> The   formal study of the future has become an
> important transnational intellectual phenomenon,
> replete with its own commissions, institutes,
> professional organizations, journals, and university
> courses. This development is all the more surprising
> because until recently the future has been treated,
> for practical purposes, as the special preserve of
> dreamers, doomsters and science fiction writers
> [Tugwell, 1973, vi.].

In reply to a questionnaire McHale sent out in the
early seventies, he found out there were over 1100 full and
part-time individuals involved in futures work. A similar
survey today would find twice as many individuals and organi-
zations involved in futures work, a sizable increase for a
new field.

The seventies represent the time of greatest development
for the study of futures. Futurist Robert Bundy offers one
explanation:

> We are   troubled and uncertain about many of our
> current social and technological trends. Perhaps
> more than ever before, we realize the power that
> man can exert upon his environment and himself and
> that within our time man's actions and inactions

will tremendously influence the structures of
society and the quality of life for many gen-
erations to come.

A growing number of educators, on all levels, are
recognizing the importance of bringing some kind of future
studies into their classrooms. Many of these individuals
reflect concerns expressed by some of the following who
have specifically commented on the need for futures educ-
ation. Draper Kauffman,Jr.,professor at Webster College,
in his book Futurism and Future Studies [1976] states that
schools must ask what kind of education will best prepare
students for the world in which they will actually live out
their lives?

The time lag in education tends to be enormous...the
students in school today will spend most of their
lives in the next century. It is doubtful that
they are even being prepared very well for what is
left of this one [8].

Alvin Toffler makes a plea for futures education in
Future Shock when he states that only when the millions
share a passion about the future will we be ready to meet
the impact of change. The cardinal task of education
must be to create a curiousity and awareness about the
future.

To create an education that will create this
curiousity is perhaps the most central mission
of the super industrial revolution in the
schools. Education must shift into the future
tense [427].

Futurists Christopher Dede and Draper Kauffman, Jr.
stress the importance of including future studies in
education because it helps an individual cope with one's

environment through what they term "fate control:"

> The loss of the ability to predict the consequences of
> one's · actions is, in a very real sense, the loss of the
> ability to control or cope with one's environment. Be-
> yond a certain degree, this "loss of fate control" is
> debilitating to any organism, and especially to man.

> Futuristics as a profession is intended to increase our
> "fate control" as a society and, ultimately as a spe-
> cies. As an academic discipline (which we distinguish
> as Future Studies) it has the purpose of increasing the
> individual student's sense of "fate control" by pro-
> viding him with a more realistic understanding of the
> alternative futures that may confront him [Dede and
> Kauffman, 1974, 207].

A variety of reasons have motivated teachers to of-

fer specific courses dealing with futures. Some of the

main reasons have been included in this chapter. A more de-

tailed examination is discussed later in the paper.

Dwight Allen, former Dean of the School of Education

at Univeristy of Massachusetts comments on the artificial

separation of education and society and of the need for the

inclusion of futures education as a force which will reveal

crises.

> Future studies - studies of alternative futures and
> of the variables that determine which of these futures
> will occur - have revealed several alarming crises which
> will soon have a major impact on our already chaotic
> world. Forecasts such as The Limits to Growth (Dennis
> Meadows) and An Alternative Future for America II (Ro-
> bert Theobald) sketch major world problems which we must
> face in the next ten to twenty years if we are to sur-
> vive [Allen, 1974, 4-5].

Allen states that only through education can there be

hope for solving many of the future societal problems in the

next thirty years.

2.4 Surveying Futures

> "Where anything is growing, one former is worth a
> thousand reformers"
> . . . Horace Mann

Today the formers in futures education are found on all
levels, in all types of educational institutions, throughout
this country. Attempts to survey futures programs, particu-
larly on the pre-university levels, have been sporadic, how-
ever. Organizations that employ futurists and are involved
in futures oriented research are more visible and easier to
isolate for purposes of classification and investigation.

Futures organizations and their respective areas of
inquiry have been listed in literature and publications:
(the RAND Corporation, Standard Research Institute, the Edu-
cational Policy Research Center at Syracuse University and
the Hudson Institute). Recent studies in the form of surveys
have been included in reports by the World Future Society in
the Futurist [Wynn, 1972, 74-76]. Harold Shane made a status
report on organizations involved in futures research in a
government report, The Educational Significance of the Future
in 1972. Shane has written in a variety of books and publi-
cations concerning futures activity in education.

Listings of university futures courses are available
due to the larger number of courses found on these levels.

> Just who taught the first university-level course on
> the future remains uncertain, but as far back as 1943
> a political science professor, Ossip Flechteim, wrote
> an essay urging that the future be taught. In the 1960's

a number of professors began teaching such courses.
One of the first courses explicitly devoted to a gen-
eral study of alternative futures was taught by Alvin
Toffler at the New School for Social Research in
1966 (Res. Dir., 1977, 233].

More recently H. Wentworth Eldredge was funded by the

World Institute Council of New York to survey university

level futures education starting in 1969. Billy Rojas

joined Eldredge in creating the "Mark II Survey of Futures

Research Teaching in North America" [Eldredge, 1973, 387].

Eldredge's original university-level survey listed over 300

courses offered by teachers in more than twenty disciplines

[Res. Dir., 1977, 233]. Both surveys dated from the early

1960's. Validity of futures surveys has been a problem.

Eldredge and Rojas acknowledge this when they mention many

of the courses they located were probably not still being

taught, while others have most likely been missed in their

search. Defining what is a futures course also raises ques-

tions concerning what should be included in the survey.

Eldredge adds if future-oriented areas such as: en-

vironmental and technological forecasting, utopian fiction,

policy and peace studies, and system theory were included

in his survey there could have been another 1500 courses.

In 1972 David Miller and Ronald Hunt published A Grad-

uate Level Survey of Future Studies. The intent of the study

was primarily to describe courses that had been designed by

the authors for their specific teaching purposes.

In 1974 Earl Joseph informally surveyed futures courses

on the university level and found there were thousands of
courses offered on the study of the future throughout the
world, a sharp increase from before [Joseph, 1974, 3].

2.5 Pre-University Surveys

Surveys of secondary school futures programs have most
often been found within other futures surveys. The Eldredge-
Rojas syllabus included twenty-three schools in the early
1970's offering futures courses on the kindergarten to grade
twelve level. Nineteen of the schools were secondary and
descriptions of four of the programs were included. Pris-
cilla Griffith at Melbourne(Florida)High School is credited
with teaching the first high school course on futuristics in
the United States [Toffler, 1974, 197].

Other surveys include one compiled by John Eggers (1976)
at the Center for Futuristic Studies at the International
Graduate School of Education (IGSE). Of the fifty-eight
schools identified in the IGSE, "Directory of Elementary and
Secondary Schools and Programs," all but ten programs were
on the high school level.

In the World Future Society report, "Resources Directory
For America's Third Century," (Jan. 1977) several secondary
programs are enumerated for the purpose of describing the pro-
grams and differentiating them from futures education on
other levels. Of the secondary futures programs, the authors
conclude:

Typically, the introduction of future studies results
from the interest of one or more teachers who are able
to determine the content of their courses. More rarely,
futures programs have been introduced or supported by
the county or state (particularly in Hawaii and New
York education departments) education departments which
may provide curriculum materials and teacher training.
These programs represent the forefront of secondary
level futures education in the United States, involving
more students over longer periods of time than do elec-
tive courses. A few schools in the country, offering
alternative forms of education, have constructed their
entire curriculum around future studies and futuristic
principles [Res. Dir., 1977, 228].

Without doubt the most conclusive survey of secondary
futures programs was conducted by Richard Stock in 1975-
1976. Stock located 184 schools that were offering some
form of futures instruction for their students during the
1972-1973 and 1973-1974 period. The main goals behind
Stock's study were to:

1. Determine the nature of the efforts to provide fu-
   ture studies instruction for secondary-level stu-
   dents in the United States;

2. To recommend steps which could be taken to improve
   futures studies instruction for these students.

Stock organized the data from his study into categories in-
cluding: characteristics of the schools; goals for futures
studies programs; curriculum content of futures programs;
data relating to the programs and teachers; evaluation of
total futures studies programs [Stock, 1975, 1].

In the seventies there have been various surveys made
of global and national futures organizations. Perhaps be-
cause of their visiblity it has been easier to organize

surveys of futures activity on the institutional level. In
education, most of the earlier futures courses appeared on
the university level but are now filtering to the secondary
level. Due to fluctuations in the number of futures pro-
grams these early surveys (with the exception of Stock's)
have a limited use at present.

Future studies has now been incorporated into a number
of elementary and junior high classrooms. Teachers and ad-
ministrators on the younger levels recognize the importance
of the future on this level. Some of the reasons for in-
corporating futures instruction on the younger levels are
examined in the next section.

2.6 The Need For Future Studies on the Pre-High School Levels

> . . . a focus on the future is relevant to all learners,
> regardless of age. The future is a matter for the con-
> cern not simply of graduate students, but of the youngest
> elementary school children as well . . . The future
> represents a starting point for change at all levels
> [Toffler, 1974, xxv].

As the study of the future has become an accepted part
of many higher education and secondary level programs, the
need for bringing it into younger grades is being recognized.
Richard Stock makes a strong recommendation for the inclusion
of futures instruction at earlier ages:

> Since it is primarily during the early years of school
> that the most formative images of a child's future are

developed, futures studies instruction should begin
much earlier than is presently the case. This study
showed that futures studies instruction was offered
primarily to senior high students. Therefore, ef-
forts should be made to develop appropriate future
studies materials and techniques for pre-high school
students and to train pre-high school futures stu-
dies teachers [Stock, 1975, 173-174].

Although fewer future-oriented programs have been devel-
oped in the elementary schools, many teachers have found ele-
mentary students more receptive than older students to fu-
tures thinking. Teachers not only from the survey but others
who teach younger students suggest they have a creative flair
and imagination which seems to diminish with age. The younger
students also seem to believe more in their ability to create
and control their futures.

Eugene Beecher states the importance of a futures cur-
riculum for younger students is to "form intelligent, respon-
sible citizens who are capable of adapting to and managing
change and of shaping the future" [Beecher, 1975, 96]. In
regards to a curriculum framework:

. . . a futures curriculum is seen as a set of exper-
iences in which children learn to make responsible,
intelligent choices within the context of a dynamic
world whose conceptual dimensions are time, space, and
change. In this way, a futures curriculum framework
consists of a central problem, "What choices do I want
to make?" and three themes related to the concepts of
change, time, and space: "Everything changes" "Time
is unitive," "Space is unitive" [Beecher, 1975, 96].

Chester Pierce, educator and psychiatrist, suggests a look
at the future should begin with pre-schoolers. The ideal

teacher "would have the zeal, enthusiasm, optimism, and know-how that constitute the basic ingredients for preparing the child for his future - the future of mankind," [Pierce, 1972, 13]. Like Beecher, Pierce feels future citizens will need a large number of cognitive skills but also an equal number of skills in the affective aspects of life.

It is the responsibility of the teacher to help prepare the child for as nearly as possible what life will be like or could be like when the child becomes an adult. Pierce believes research shows the child during his first five years absorbs more than we suspect, and therefore it is even more important to examine how to prepare youth for the future.

Margaret Mead speaks of the need for a new emphasis on youth in teaching and learning, one that will keep the future open. Mead concludes we must move from post figurative cultures (which focused on the elders and were mainly closed) to open systems which focus on the future and therefore on children "whose capacities are least known and whose choices must be left open."

> The development of profigurative (youth) cultures will depend on the existence of a continuing dialogue in which the young, free to act on their own initiative, can lead their elders in the direction of the unknown.
>
> It is only with the direct participation of the young that we can build a viable future [Res. Dir., 1977, 246].

An inspiring collection of writings in support of futures oriented education is found in Toffler's Learning for To-

morrow. Four articles from the book have been selected for mention which specifically center around futures education and younger children.

Benjamin Singer says that basic to any group or society is the attitude towards time and at a very young age this starts being developed.

> Identity and time perspective are both derived from the social systems in which we exist. Our identity is a figure which we fix against the ground of the time perspective we acquire. The resulting role conditioned by time can be called the "future focused role-image." The FFRI is our self-image projected into the future, and it lends meaning to much of what we do in the present [Singer, 1974, 21].

A sense of time, Singer continues, usually commences between two and two and a half years of age and by the end of the third year the child begins to comprehend future roles. Many environmental factors also contribute to this sense of future roles. Studying children between eight and ten years of age has revealed that there are large differences between children in how far they project themselves into the future. "The development of a time-perspective early in life provides both a motive and a means for achievement in the future, with the future focused role-image acting as a self-fulfilling prophecy" [Singer, 1974, 21].

Singer makes an association between future-oriented individuals and their accessiblity to goals and individuals who tend to be present oriented. The latter have been found to feel restrained by goals beyond their reach. He discusses

racial and class implications in relation to future orienta-
tions and states that "clearly, during the elementary school
period, something happens to cause children from certain so-
cial groupings to discount the future" [Singer, 1974, 28].
The feeling is further shared by William Smith, former di-
rector of Pace Association of Cleveland, who states that many
children in urban schools today do not learn as well as they
might because of confusion about their lives and what is
worth working for.

> They have not yet found a meaning for their lives and
> therefore are unable or unwilling to marshal up their
> full intellectual resources for use in the crucial
> game of living [Smith, 1970, 91].

George Wald, Nobel prize winner and Harvard biologist,
has expressed similar sentiments about the uncertainty of
the future. In a memorable speech in 1969 entitled "A Gen-
eration in Search of a Future," he said the present apathy of
many students stems from the fact they are by no means sure
any longer about a future [Wald, 1969].

Alvin Poussaint of Harvard Medical School has written
about the black child, and the added complexities these
children face, in relation to the future. He emphasizes the
importance of self image which a child learns early and how
it relates to their future lives. Poussaint further suggests
that the realization of aspirations through productive behavior
is where the problem arises for black youth:

> . . .this discrepancy (aspiration and goal achievement)
> persists because the educational and occupational values
> and goals of white society have been internalized by
> black youth, but for one reason or another the behavior
> patterns necessary for their successful attainment have
> not been similarly learned. Thus, the black child's
> negative self-concept is further complicated by his inter-
> nalization of white society's high level goals, and the
> need to achieve them, without a true comprehension of
> how to do so effectively in a system that discriminates
> against them [Poussaint, 1974,64].

Constructive images of futures are therefore less forceful in

helping to lead many black youngsters into adulthood.

In a paper concerning the Future Focused Role Image (FFRI)

in black children, Pierre Marchando, like Poussaint, stresses

the importance of the socio-economic strata in which the child

is developing. Marchando notes that black children at a young

age recognize that inequalities exist in their world.

> If they are allowed to believe that discriminatory social
> and economic patterns will persist in the future - their
> future - they quite rationally conclude that the present
> and the future are essentially interchangeable. Once
> this assumption is made, concern for the future becomes
> unnecessary [Marchando, 1976, 1].

In a related manner Pauline Bart states the importance

future images play on young people and their development. Al-

most from the beginning different messages are imposed on differ-

ent groups, the most basic delusion being girl and boy babies.

Not only do the two sexes at a young age see their futures as

distinctly different but that only certain futures are consider-

ed acceptable for each sex [Bart, 1974, 33-34].

Bart cites a number of instances which we are all familiar

with where girl and boy behavior patterns are reinforced from

the infant at home, to the early years of school and into ma-

turity. She emphasizes "images of the future" in liberation

movements and in bringing about a future of adaptive and com-
petent human beings.

Harold and June Shane have been pioneers in futures
education. They describe several obvious reasons why the years
ahead are more important for the young than for those ap-
proaching thirty. "Of the approximately forty million child-
ren who will be age twelve or younger in 1975, all will be
thirty-seven or younger in 2000 A.D. The 21st century will
belong to them" [Shane, 1974, 182]. The Shanes also point out:

> Children at a very early age need experiences that will
> help them to understand the nature of change, to re-
> cognize that the future is at least partly malleable -
> that there are alternative futures among which they can
> choose - and to sense that greater prescience and wis-
> dom are needed in the decision-making processes which
> can carry them toward socially desirable goals in the
> future [Shane, 1974, 182].

A second reason for introducing future-oriented education
at early ages is that our younger generation will possess the
capacity for doing either great harm or great good to their
species and their environment.

> If it is true that basic patterns of human behavior
> are fixed at an early age - and the data is increasingly
> persuasive - then it becomes important at the earliest
> possible age to teach for tomorrow so that man can re-
> gain as rapidly as possible the needed balance between
> wisdom and the mere exercise of technological power [Shane,
> 1974, 182].

Finally, simple math tells us that every ten years there
is a complete recycling of the elementary school population.

Education should avail itself of the chance to upgrade its contribution to the future through better instructional methods. For the individual student the Future-Focused-Role-Image is of prime importance. It can act as "a magnet toward which he is drawn; a context for his present behavior created by his concept of the future" [Shane, 1974, 163].

Educating the younger generation for the future is necessary. The earlier concepts dealing with the future are introduced in education, the easier the task will ultimately be to prepare and accept the future. Before educating for the future can be accomplished, it is necessary to discover what areas should be taught, and how. In order to do this, it is worthwhile to discover what has already been accomplished.

2.7 Pre-High School Future Studies Surveys

Most attempts to identify future studies programs on the younger levels have been small chapters in larger reports and have yielded little information.

In the Rojas-Eldredge syllabus, only four of the twenty-three kindergarten to grade twelve schools with future studies programs were elementary or junior high. Of the fifty-eight schools with futures programs in the IGSE Directory, eight were elementary or junior high. Stock's secondary survey mentioned that junior high and middle schools accounted for only 6.5% of the schools in his population. (He did not attempt to survey below grade six.)

The World Future Society's Resources Guide lists and describes two elementary programs in Virginia but goes on to say there are few specifically future-oriented programs in the elementary schools. The Guide does acknowledge that many teachers have found elementary students"more receptive than older students to thinking about the future" [Res. Dir., 1977, 225].

Clearly, there is a lack of information about pre-high school futures programs and what there is has proven to be obsolete. Correspondence by the author to all the pre-high school futures programs listed in the IGSE Directory as well as the Rojas-Eldredge syllabus, two large sources, obtained no futures teacher responses. Most of the programs were no longer active and a number of addresses were incorrect or incomplete. Of the two programs in the World Future Society Guide, only one inquiry letter yielded a response. Four letters sent to junior high teachers from the Stock survey yielded one response. (The teacher was no longer teaching.)

Although the response from programs that have been listed was poor, other indicators concerning pre-high school programs proved otherwise. The Future Studies Program at the University of Massachusetts receives large volumes of inquiries from teachers either already teaching futures courses or interested in starting programs. Many of the letters come from younger level teachers. There is also a dramatic increase in the number of articles in educational publications dealing with educating children for the future. In the 1960's and early 1970's

there were very few articles dealing specifically with futures education. Further, there has been a large increase in school and district workshops dealing with future studies; consultants are frequently requested. Conferences are also beginning to address futures education. Many indicators point to the fact the future is indeed "alive" in many classrooms on all levels.

CHAPTER THREE

METHODOLOGY

For the purpose of gathering information about pre-
high school future studies instruction, a mail survey was
undertaken. The process involved three phases:

1. Locating the Population

2. Development of the Questionnaire

3. Analysis of Data

3.1 Locating the Population

3.1.1 The Population

The intent in the search for the survey population was
to find a cross-section of teachers who were presently,
or had recently been involved in future studies programs*
on the proposed grade levels. It was within the guidelines
of the study to include programs no longer in existence so

---

*In the Directory of Elementary and Secondary Futuristic
Schools and Programs, the IGSE (International Graduate
School of Education), has defined a futuristic program
as, "one which has as a primary goal(s) helping students
understand what the future may or may not be like and/or
providing them with the opportunity to gain skills and/or
competencies which will enable them to cope with alterna-
tive futures as well as to create their own futures"
[Eggers, 1976, 3]. For purposes of this study the def-
inition used by the IGSE is appropriate.

that attrition could be analyzed as well.

The survey was to consider futures instruction in any
school and representative of diverse teaching methods,
size and locale.

There is no single source avialable from which to ob-
tain listings of futures teachers or courses. Since the
survey did not intend to list all futures courses, a mass
mailing to schools in the United States was not undertaken,
rather, programs were selected from available sources.

Difficulty in locating the population by subject areas
(where there might be a majority of futures courses found)
was compounded by the fact that elementary, and to a les-
ser extent, junior high and middle schools are usually or-
ganized around subject areas. Unlike most secondary schools,
subject area information on the kindergarten to junior high
levels is organized in a great variety of ways, which makes
it difficult for people outside the system to know what is
being taught.

In general, mechanisms for communication between tea-
chers, school systems and outsiders seems to increase with
grade level, especially as consolidation of students increases.
It is simpler for a professor to contact other universities
than for an individual to contact the numerous elementary
and junior high schools, to find out if a specific course
is being taught somewhere.

3.1.2 Preliminary Inquiry

Five state education departments were contacted to de-
termine how useful they would be in providing leads to the
population. The states were selected on the basis of pre-
vious activity in the futures field (organizations, uni-
versity programs, educational orientation), and included:
Washington state, Alabama, Washington, D.C., California and
Massachusetts. The World Future Society (WFS) in Washington,
D.C. was also contacted as the main umbrella organization for
futurists.

3.1.3 Sources for Obtaining the Population

From early February to the end of May, 1977, a total of
400 letters were sent to a large variety of individuals
based upon sources listed in table 2, in hopes of locating
futures teachers. Some of the main sources included: names
from the author's personal files and contacts, organizations
that have conducted workshops in futures education and uni-
versity professors.

Most individuals (the 400) were contacted as leads to
names of future studies teachers. Another letter was used
when corresponding directly to teachers already identified
as teaching future studies (either by previous contact or
knowledge of their futures teaching). The teachers' letters
were used for confirmation of whether the teacher was, or had

recently been, teaching future studies on the pre-high school level. (See appendix A for examples of correspondence used to obtain the population.) Table 2 on page lists the sources contacted and their usefulness in helping to locate futures teachers. It also includes the method used for each source.

The chart should not be treated as a complete list of sources from which the desired population was obtained, however the major sources appear there. The table should be used as a guide only, for several reasons:

- Overlap from obtaining sources was unavoidable. Often a name that was contacted was obtained from several sources.
- Many of the names that were contacted came from the writer's experience in the field over the past five years; such leads are not listed.

TABLE 2

SOURCES FOR OBTAINING POPULATION FOR STUDY

SOURCE	METHOD	COMMENTS
1. Review of Literature: ERIC Clearinghouse; Encyclopedia of Educational Research; Dissertation Abstracts; Social Education; Social Science Index; Psychological Abstracts; Education Index. (Categories included: Time Perspective, Futures, Futures of Society.	Authors were written from articles that appeared to be promising. Most were university professors. Years consulted: 1969-1977)	Most professors answered and were useful in giving course lists from their futures classes.
2. Personal Files: Files included five years of correspondence and contacts in futures field.	Sent letters	Files didn't include many names of teachers. Old lists with speakers and participants from conferences were helpful.
3. University Professors: Known to teach future studies.	Sent letters	Same as for #1 above
4. Lists From Previous Surveys: Elementary and Secondary Futuristic Schools and Programs, (IGSE); Status Report: Sample Syllabus ... [Eldredge and Rojas]; Resources Directory (World Future Society).	Letters sent to pre-high school teachers	Lists were outdated or inaccurate; they didn't yield any names.

Table 2, continued

SOURCE	METHOD	COMMENTS
5. Mailing list from Futures Information Interchange newsletter, University of Mass.	Letters sent to random selection of subscribers and names with prehigh schools indicated	Of 64 letters sent, half responded, but only several teachers located. Could have been good source if files contained more specific information.
6. High School Future Studies Teachers:		
For referral of teachers on younger levels.	Sent letters	Not fruitful
7. Junior High Teachers:		
Suggested from a secondary school survey done by Richard Stock.	Sent letters	Not fruitful
8. Organizations with an educational emphasis with futures orientation: Abt Assoc.; Educational Devel. Center; IGSE; Independent School Association.	Letters, calls, visits	Not useful in yielding names but helpful for suggestions concerning surveys
9. Futures Organizations:		
World Future Society; Northwest Regional Foundation; Earth Metabolic Design; Inst. for the Future; Comm. for the Future.	Sent letters	Four responded but not teachers
10. Organizations that have run workshops in future studies; Science Museum of Minnesota; Ofc. of L.A. County Schools; WFS teachers Workshop; Regional Center for Ed. Training; Research for Better Schools, Phila., Pa.	Obtained participant lists, sent letters	34 letter sent, several names were eventually located.

51

Table 2, continued

SOURCE	METHOD	COMMENTS
11. Social Studies Councils:		
Active in futures area: California and Colorado	Sent letters	Several names eventually found
12. Massachusetts Education Department:		
Lists of schools in Boston	Random selection from computer	15 letters yielded no response – same with phone calls to asst. superintendent of Boston schools
13. State Education Departments:		
California and New York	Sent letters to specific individuals	Both yielded teachers. New York gave access to large program
14. Newsletters and Publications:		
FII Newsletter; Teacher; Education Tommorow (WFS)	Advertisement concerning survey	FII too late; Teacher yielded several names from editor.
15. Futurists:		
H. Shane, B. Rojas, J. Glenn, D. Meadows, M. Marion, B. Reardon, A. Toffler, C. Dede	Sent letters	5 answered, no names eventually yielded
16. Word of Mouth:		
Primarily colleagues – UMass. Future Studies Program		Two large programs located in Keene NH, and Omaha NB

Ultimately, follow up letters were sent to individuals in 41 states (names located from sources listed on table 2), with the most going to California (39); followed by Massachusetts (35); New York (33); Minnesota (28); and Connecticut (27). Of the 400 letters, 380 were assumed to have been received and 20 were returned because of incorrect address or failure to forward a new address. (The final population of 59 teachers committed to filling out questionnaires was derived from the 400 inquiry letters. Further explanation is found in section 3.2.4).

3.1.4 Screening the Population

Once the name of a futures teacher or a program had been identified, a letter was sent asking if s/he would be willing to fill out a questionnaire. All the teachers agreed to fill out the questionnaires with the exception of a few teachers identified after the initial mailing deadline. Questionnaires were sent only to teachers or program heads who had agreed to fill out the forms.

Several teachers from the population were sent additional questionnaires to distribute to other members of their staff who were also doing futures instruction. In order to avoid possible duplication of information, teachers were asked to distribute the questionnaires only to colleagues in the school offering a different program than the respondent's.

3.2 Development of the Questionnaire

The second phase in the methodology involved the devel-

opment of a questionnaire to send to the population
identified in the first phase.

3.2.1 Assistance in Development of Questionnaire

Initial comments and advice on questionnaire design
were provided by the author's committee; by Prof. Bob Wegner
of the University of Massachusetts in Boston and by Ms. Ruth
Kreplick from the Technical Guidance Center at the University
of Massachusetts. A first draft was prepared and a group
of futures teachers offered further suggestions. The teach-
ers   included: Dan Kunitz and Bob McGovern from the Day
Jr. High School in Newton, Massachusetts; Barbara Swicord
from Winder-Barrow Middle School in Winder, Georgia; Bruce
Cloutier from the Fuller Elementary School in Keene, New Hamp-
shire and Kathe Chatwood, formerly a teacher at the Arbor
Heights Jr. High School in Omaha, Nebraska.

Ann Fitzpatrick, a doctoral student at the University
of Massachusetts who specializes in research methodology and
Paul Areson from the Tuck School of Business Administration
at Dartmouth College, helped the author work out difficulties
on the middle section of the questionnaire dealing with pro-
gram content, including the goals question.

3.2.2 Refinement of Questionnaire

The questionnaire was made up of three main sections:
background information (about teacher, school, program);

content of future studies programs (goals, learning areas, learning activities) and evaluation of programs (including program support, teacher needs, future of programs). One major change while developing the questionnaire was on the question in the content section dealing with goals of future studies programs. Initially the question listed goals and asked for rating of responses. In order to avoid bias, response to the item was changed to an open question where teachers listed and ranked their own goals. Although changing the goals section to an open question meant a considerable increase in interpretation (of results) it seemed advisable to leave the respondents as free as possible to generate their program goals.

The other two questions in the content section concerning learning areas and learning activities, were lists and teachers rated the selections by amount of time spent, source of materials and degree of success. Space was also left for respondents to add their own information. A closed format was used for both questions because it seemed important to offer typical areas of information in order to get a degree of consistency and because respondents might omit areas and activities from memory (or fatigue). Most of the items in these two content questions related to goals that have typically been identified in futures programs.

As one form of validation consistency between the three content areas was investigated. (For example an environ-

mentally-oriented futures program would probably spend a
"large" amount of time studying "energy alternatives" for
the future.)

Most of the other items in the questionnaire (other than
content) asked for straight data or for response in specific
areas concerning the futures program. In the data category
was information used to compile a composite of the community,
school, teacher and student population where futures programs
are located. In questions concerning specific aspects of
futures programs, the respondent was asked to select from
choices or to provide their own in some cases. (Such questions
included items dealing with origins of futures programs,
eligibility, teaching aids, funding, evaluation and needs of
futures teachers.)

At the end of the questionnaire respondents were invited
to send any available course syllabi, curriculum activities or
evaluation reports.

The questionnaire evolved into an instrument that included
elements from surveys that are descriptive, evaluative, samples
of the population. (Descriptive in that it was concerned with
what is, a state of the art study; evaluative because portions
of the data were examined critically and a sample survey in
that it was typical of the population.)

SURVEY OF PRE-HIGH SCHOOL FUTURE STUDIES PROGRAMS

Future Studies: The general title given to
represent education concerned with a rational
and systematic study of the future.

Please answer as much of this questionnaire as possible (even if you are not
teaching future studies at present) in regards to your (past) program.

Background Information

1. Are you presently teaching future studies?

( ) Yes: How many years have you been teaching a futures program? ____

( ) No: Why? _____

2. a. Your name: _____

   b. Age group:

( ) Under 30   ( ) 50-59

( ) 30-39   ( ) Over 59

( ) 40-49

3. Name and address of school:

_____

_____

_____

4. Type of school: –

( ) Public

( ) Private

( ) Parochial

5. Number of pupils in your school:

   ( ) Under 100

   ( ) 100-250

   ( ) 250-500

   ( ) Over 500

6. Which area best fits the community your school serves?

   ( ) Rural

   ( ) Urban

   ( ) Suburban

   ( ) Other: _____

7. a. Approximate income level of community:

   ( ) Under $7000.

   ( ) $7000.-$12,000.

   ( ) $12,000.-$20,000.

   ( ) Over $20,000.

   b. Does this represent the majority of the community?

   ( ) Yes

   ( ) No. Explain. _____

8. Minority profile of your students. Please give approximate percentages.

   _____ Black   _____ Spanish Surname

   _____ Oriental or Asian American   _____ Other: _____

   _____ American Indian   _____

9. Are teachers in your school or district involved in futures instruction at present?

   ( ) Yes: a. Total number of teachers in futures program: _____

             b. How many of these teachers are on the secondary level? _____

   ( ) No

   ( ) Don't know

10. How did your futures program get started?

    ( ) Personal interest in the area

    ( ) Suggestion of administration

    ( ) Influence of other teachers

    ( ) Other. _____

Curriculum:

11. How do you, or your team, offer futures instruction? Which choice best describes your program:

    ( ) A separate subject

    ( ) A mini course

    ( ) A unit within another subject/s, specify subject/s: _____
    _____

    ( ) Other, explain: _____

Eligibility:

12. Who is eligible for your futures program as described in number 11?

    ( ) All students in grade or team

    ( ) Students electing the program

    ( ) Students selected for program, basis: _____

    ( ) Other. _____

13. How many students are in your futures program at one time? _____

Goals:

14. a. List eight goals you emphasize in your future studies program.

    b. Rank order the four most important goals in your program by placing a number next to the letter with number one being the most important.

    (Goals might include helping students: clarify their values, examine alternative futures, cope with the increasing rate of change, use tools employed by futurists, develop research skills, understand the effects of human beings on the environment, etc.)

    _____ a. _____

    _____ b. _____

    _____ c. _____

    _____ d. _____

    _____ e. _____

    _____ f. _____

    _____ g. _____

    _____ h. _____

Areas:

15. a. What areas do you emphasize in your futures program?
    b. What is the source of your instructional materials?

    Please check only those areas included in your instruction.

		Proportion of time spent			Source of materials	
		High	Average	Low	Own	Commercial
a.	Energy	( )	( )	( )	( )	( )
b.	Population and growth	( )	( )	( )	( )	( )
c.	The Environment (Ecology)	( )	( )	( )	( )	( )
d.	Pollution	( )	( )	( )	( )	( )
e.	Food	( )	( )	( )	( )	( )
f.	Natural resources	( )	( )	( )	( )	( )
g.	Science fiction	( )	( )	( )	( )	( )
h.	Changing concepts (e.g. work, leisure)	( )	( )	( )	( )	( )

		Proportion of time spent			Source of materials	
		High	Average	Low	Own	Commercial
i.	New frontiers (outer space, oceans)	( )	( )	( )	( )	( )
j.	Values clarification	( )	( )	( )	( )	( )
k.	World order, peace	( )	( )	( )	( )	( )
l.	Technology and automation	( )	( )	( )	( )	( )
m.	Bio-medical developments	( )	( )	( )	( )	( )
n.	Transportation	( )	( )	( )	( )	( )
o.	Alternative life styles	( )	( )	( )	( )	( )
p.	Industralization	( )	( )	( )	( )	( )
q.	Privacy	( )	( )	( )	( )	( )
r.	Forecasting, prediction	( )	( )	( )	( )	( )
s.	Art	( )	( )	( )	( )	( )
t.	Architecture	( )	( )	( )	( )	( )
u.	Communications and media	( )	( )	( )	( )	( )
v.	Religion, spiritual beliefs	( )	( )	( )	( )	( )
w.	Cultural imagery and diversity	( )	( )	( )	( )	( )
x.	New terminology	( )	( )	( )	( )	( )
y.	Family	( )	( )	( )	( )	( )
z.	Sex	( )	( )	( )	( )	( )
aa.	Careers	( )	( )	( )	( )	( )
bb.	Urbanization	( )	( )	( )	( )	( )
cc.	Other. _____	( )	( )	( )	( )	( )
	_____	( )	( )	( )	( )	( )
	_____	( )	( )	( )	( )	( )

16. What learning activities have your students done in their futures instruction? How successful have these activities been?

Please check <u>only</u> the items you have done with your students. Add information where content is indicated.

		Degree of Success		
		High	Moderate	Low
a.	Cross-impact charts	( )	( )	( )
b.	Time capsule	( )	( )	( )
c.	Study local community	( )	( )	( )
d.	Redesign a community	( )	( )	( )
e.	Read or write science fiction	( )	( )	( )
f.	Design and/or build models of living environments for the future	( )	( )	( )
g.	Build alternative energy system	( )	( )	( )
h.	Construct futures wheels	( )	( )	( )
i.	Create or write a scenario	( )	( )	( )
j.	Use a computer	( )	( )	( )
k.	Futures games and simulations	( )	( )	( )
l.	Design future body parts	( )	( )	( )
m.	"What if" story completions	( )	( )	( )
n.	Values clarification exercises	( )	( )	( )
o.	Write letters to people or newspapers	( )	( )	( )
p.	Do a delphi poll	( )	( )	( )
q.	Work with or visit members of the community	( )	( )	( )

r. Keep notebooks or diaries:
   — content:_____

   _____

   _____   ( )   ( )   ( )

s. Story completion
   content: _____

   _____

   _____   ( )   ( )   ( )

	Degree of Success		
	High	Moderate	Low
t. Read from text or articles titles: _____			
_____			
_____	( )	( )	( )
u. Mapping or graphing (math activities)	( )	( )	( )
v. Recycling activities	( )	( )	( )
w. Select problems, propose solutions	( )	( )	( )
x. Conduct a futures fair	( )	( )	( )
y. Publish a futures oriented paper or bulletin	( )	( )	( )
z. Music activities dealing with futures themes	( )	( )	( )
aa. Write futures poetry	( )	( )	( )
bb. Activities centered around finding information (library skills, etc.)	( )	( )	( )
cc. Art activities (collages, murals, cartoons, dioramas)	( )	( )	( )
dd. Create or discuss metaphors for the future	( )	( )	( )
ee. Write forecasts or predictions	( )	( )	( )
ff. Write or act in a play about the future	( )	( )	( )
gg. Do a decision tree			
hh. Do a news broadcast on the future	( )	( )	( )
ii. Do a feedback loop	( )	( )	( )
jj. Identify trends	( )	( )	( )
kk. Design more effective systems (i.e. justice, government, etc.)	( )	( )	( )
ll. Other. _____	( )	( )	( )
_____	( )	( )	( )
_____	( )	( )	( )
_____	( )	( )	( )

17. Which of the following aids do you use in your futures instruction?

    Please give examples where possible.

        ( ) Field trips   _____

        ( ) The community   _____

        ( ) AV materials   _____

        ( ) Resource people   _____

        ( ) Games   _____

        ( ) Other.   _____

                              _____

Evaluation:

18. How have you evaluated student progress in your futures program?

        ( ) Grades ——————————————→ Please rank order, one being the
                                        most important input for grades:

        ( ) Written evaluations
            of work   ( ) Tests

        ( ) Other. Explain. _____   ( ) Classroom participation

                    _____   ( ) Written work

                    _____   ( ) Work habits

                                    ( ) Other. _____

                                          _____

19. How successful do you feel your overall futures program has been?

        ( ) Very successful

        ( ) Good

        ( ) Moderately successful

        ( ) Poor

        ( ) Very poor

20. Where do you receive the most encouragement for your program?

        ( ) Other staff   ( ) Students

        ( ) Administration   ( ) None

        ( ) Parents   ( ) Other. _____

Support:

21. a. Do you have direct financial support for your futures program?

       ( ) Yes: Please supply details if possible.

            Source. _____

            Yearly amount. _____

            Duration. _____

       ( ) No

   b. Do you have any financial support for your futures program?

       ( ) Yes: Please explain. _____

                       _____

                       _____

       ( ) No

General:

22. What do you feel are your major needs as a future studies teacher?

    Please prioritize your selections with number one being the most important.

       ( ) More instructional materials

       ( ) More support from administration or other staff

       ( ) Money

       ( ) More knowledge of the field

       ( ) More help from resource people and the community

       ( ) Other. _____

                    _____

23. Do you foresee problems in continuing your futures program in the future?

( ) Yes:

( ) Budget cuts

( ) Emphasis on other areas in the curriculum, specify areas:

_____

_____

( ) Lack of support from administration or staff

( ) Lack of student interest

( ) Lack of instructional materials

( ) Other. _____

_____

( ) No

24. Do you plan to continue your futures instruction in the future?

( ) Yes: What changes, if any, will you make in your program?

_____

_____

( ) No: Please explain why if reasons differ from items checked in number 23.

Comments:

a. Please add any questions that you feel should have been included in this questionnaire.

b. In order for me to better understand your program please include any available course syllabi, curriculum activities, evaluation reports, etc.

c. In order to insure consistency and validity, would you be willing to fill out another copy of this questionnaire in several weeks? Thank you.

( ) Yes

( ) No

My sincere appreciation for your time and effort.

3.2.4 Mailing Procedure

Once the questionnaire and a cover letter were approved, a final list of "definites" (i.e. teachers who had agreed by mail to fill out a questionnaire), was compiled for the survey population. (See appendix A for a copy of the letter.) Fifty-nine teachers and a few support personnel in seventeen states made up the definites list. The largest number of teachers were from New York and Nebraska where extensive futures programs are active. The first and largest mailing of questionnaires were sent at the end of April, 1977. At the time a total of 102 questionnaires were distributed, of which fifty-nine were sent to previously committed respondents and fifty-three indirectly. The "indirect" population was made up of teachers in the larger programs where the author had already secured the agreeement of at least one teacher. Keene, New Hampshire; Philadelphia; Compton and Soledad Canyon, California; and Omaha, Nebraska made up these larger groups.

During May and early June, twelve additional questionnaires were sent. The final group was distributed to teachers whose names arose from earlier mailings. These twelve were sent without previous correspondence. Figure 3.2.4 shows the total questionnaire distribution.

Since teachers are customarily burdened with work at the end of the school year it did not seem advisable to extend the mailing date beyond April. (The later questionnaires

Figure 3.2.4   Questionnaire Distribution

    59   (47.5%) Individuals who had previously agreed
                 to do questionnaire, the definites.

    53   (42.7%) Extra questionnaires distributed
                 to indirect population.

    12   (9.6%) Additional questionnaires sent
                 after original mailing.

   124   Total   Of which 65 (52.4%) were from the
                 indirect population. (Not previously
                 committed.)

were expected to yield more information to validate early

responses and conclusions of the survey.)

3.3 Analysis of Data

The final phase in the methodology was the analysis of
data from the returned questionnaires.

The questionnaire previously included on pages 57 - 66
should be used for referral in the section on analysis.

The explicit nature of many of the questionnaire items,
the size of the population, and the design of the questionnaire
made it possible to total the majority of the responses and
characterize the parts of each question.

The procedure followed in the analysis was that indi-
vidual responses were totaled and response to each part was
expressed as a percent of the whole. Data from the objective
questions (all but number 14) did not present any major anal-
ysis difficulty and results are found in chapter 4. A more

complete discussion of questionnaire items appears in chapter
5, Discussion and Recommendations.

3.3.1 Problems in Analysis

Following the summary of responses to the question, those
questions presenting analysis difficulty were identified.
The major analysis problem was encountered with the question
dealing with goals (question 14). To a lesser extent prob-
lems arose from several questions relating to evaluation of
futures students (question 18) and numbers of students in
future studies programs (question 13).

Respondents interpreted question 13 which asked for num-
ber of students in future studies programs at one time, in
several ways; two totals are therefore determined. One total
represents the number of students actually recorded by each
of the respondents. Since some responses seemed unusually
high, a second estimate was prepared using data that had been
validated or in which the writer had more confidence. In
the latter category, for example, one response from each
school in each of the larger programs was used instead of in-
cluding all the responses from the school where there was
obvious overlap or inconsistency.

Another question (18) which needed further analysis
dealt with evaluation of futures students. Again, a portion
of the respondents did not answer the question as intended.

Respondents were asked to check selections and rank order items under the grading selection only. Some answered the separate parts, but few respondents provided all the information requested. Two totals are therefore figured, one using the grading modality appearing most frequently and the other selecting from the modalities ranked "most important" by those who did rank their grading techniques. (See page 84 in Results.)

Responses to the content section (goals, areas and activities) were difficult to analyze because there was a large number of different responses and some inconsistency between sections. This was due in no small part to the nature of the question.

In relation to the question concerning goals, seven general categories were developed on the basis of the goal responses that were cited most frequently. Two of the larger groupings (Environment and Preparation for Futures) had subcategories to further classify the responses. As only 65% of the respondents ranked their top four goals (as requested in the directions), responses were analyzed both using the top rankings that were included in responses and using all the responses regardless of ranking. In the goals question and other questions where the respondents were asked to rank order their options, an effort was made to interpret responses in terms of both the most frequently appearing

(the most "popular" option), and in terms of the most important, to the respondent(or most "significant") option. When the rankings were considered,the top two goals from each response were put into four categories, to determine the most important general goal area. (See page 87, Results.)

The second analysis of the goals, where all goals are considered, placed each goal into one of the seven main goal categories mentioned earlier as well as the sub categories when appropriate. The most popular categories and sub categories were identified.

The other two questions in the content section, learning areas and activities (number 15 and 16), were analyzed in a similar manner. Both items asked for graduation of responses into high, medium and low categories. The areas designated by respondents as having a high proportion of time spent were then examined to determine which were the most successful. A second total was determined by figuring which of the areas and activities were most popular as indicated by total number of responses to that item. (See pps 93-94 for results.)

CHAPTER FOUR

RESULTS

Information is presented in this chapter concerning the results of the questionnaire. A more complete interpretation follows in the Discussion chapter.

The data represents a total of 69 questionnaires out of 70 that were filled out and returned. (One questionnaire was not used because the respondent answered the questionnaire in relation to her present job and not to her former one as a future studies teacher.)

This chapter is divided into three sections, preceded by a short discussion of the questionnaire returns. The three sections are: Characteristics of Population, School, Community and Program; Content of Future Studies Programs; Evaluation and Future of Programs.

Returns of Questionnaires:

A surprisingly high number of respondents returned questionnaires.

As previously mentioned the majority of the questionnaires were sent out at the end of April 1977. By the tenth of June, 65 had been returned. The closing time for receiving questionnaires was set for June 30, by which time 70 had been received. Fig. 4

72

shows the distribution and returns of questionnaires.

Fig. 4   Distribution and Returns of Questionnaires

        124   questionnaires distributed
         70   returned
         59   expected return (previously agreed)
        ___
         11   more than expected (+ 19%)

    A reminder was sent to those individuals who had agreed
to fill out the questionnaire, but who had not done so within
one month.(All questionnaires from this group were eventually
returned.)

4.1 Characteristics of Population, School, Community and
     Program

4.1.1   Name and Age of Teacher Population

    Most futures teachers surveyed were young and there
    was a fairly even distribution of female and male
    teachers.

    Although 69 separate questionnaires made up the pop-
ulation, 71 names were included in question 2a, asking for
name of respondent.

    Of the 71 names listed on the 69 questionnaires, 40
(56%) were female and 31 male (44%). 73 Individuals re-
sponded to question 2b dealing with age group. Figure 4.1.1
is an age profile of the teachers in the survey.

Fig. 4.1.1   Age of Respondents

                        (n = 73)

Fig. 4.1.1, continued

Age	No. of Respondents	%
Under 30	25	34
30-39	23	31
40-49	13	18
50-59	11	16
Over 59	1	1

4.1.2 Respondents Teaching Future Studies

The majority of futures teachers were presently
active teaching future studies and averaged a
three year involvement with their programs.

The first question asked, "Are you presently teaching
future studies?" Respondents answering in the affirmative
were then asked about the length of time they have been
teaching their futures program. All 69 persons answered this
question. 50 (72%) Indicated they were presently involved
with future studies. The average length of time teaching
future studies for these 50 individuals was 3 years (stan-
dard deviation 1.7.) The 18 (27%) not teaching future studies
were asked to elaborate, and their comments are summarized
in figure 4.1.2. Figure 4.1.2 shows the majority of the
respondents not directly teaching future studies were in-
volved in the program in a non teaching capacity.

Fig. 4.1.2 Respondents Not Teaching Future Studies
(n=18)

No. of Respondents	Reason
10	-Individual is not directly a teacher but is involved in some other capacity in future studies program (coordinator,ad-ministrator,media specialist,etc.)

Fig. 4.1.2, continued

No. of Respondents	Reason
4	- Left teaching or is in a new teaching position elsewhere
2	- Futures programs is no longer active
2	- Futures program has been integrated into other units

4.1.3 Futures Teachers in School or District

> Futures teachers were not generally alone in teaching futures programs in their school or district.

Question 9 deals with other teachers in the respondent's school or district involved in futures instruction. Respondents indicating "yes" were also asked (in 9a) for the number of teachers and (in 9b) "How many of these teachers are on the secondary level?" All 69 respondents answered question 9. 48 respondents (70%) had colleagues involved in futures instruction, 16 did not (23%) and 5 did not know (7%). Of the 48 with other future studies teachers in their school or districts, the average number in the future studies departments was 8 (standard deviation 4.6). 243 Teachers associated with 48 of the future studies programs were on the secondary level, and this can be interpreted to mean the average future studies program is composed of 5 teachers (on the secondary level).

4.1.4 Type of School

From the sources used to gather the population,
public schools provided most of the futures programs.

The type of school in which the respondent teaches
(or is associated with) was determined in question 4.   The
totals from these responses are presented in figure 4.1.4.
68 out of 69 respondents (98%) answered question 4.

Fig. 4.1.4   Type of School
                              (n=68)

School	Total	%
Public	66	97
Private	1	2
Parochial	1	2

4.1.5 Regional Location of Schools

The North Central and Northeast regions of the United
States were the most prolific areas for finding fu-
tures programs for the survey.

All 69 respondents answered question 3 dealing with lo-
cation of the school. Figure 4.1.5 is a tabulation of the
location of schools by region and state.   The total number
of respondents from each state is indicated in the column
"No. of Responses."

Figure 4.1.5   Region and State of
                        Population Distribution
                              (n=69)

Region	State	No. of Responses	%
Northeast	NH	4	6

Region	State	No. of Respondents	%
Northeast	MA	2	3
	CT	3	4
	NY	13	9
	PA	2	3
			35
North Central	IL	3	4
	MI	1	1
	OH	3	4
	WI	1	1
	MN	6	8
	NB	16	23
			41
South	VA	3	4
	GA	1	1
West	CA	11	16

Of the 67 schools listed with grade level indicated, 22 (33%) were elementary schools and 45 (67%) were junior high or middle schools. In several cases there was some overlap of grade levels. One teacher taught gifted children in all grades, hence exposing all levels to her futures program. Another teacher worked with students in a detention home which also included all grade levels.

4.1.6 Number of Pupils in School

Schools with futures programs were generally large schools.

Figure 4.1.6 presents the results of question 5, concerning the number of pupils in the respondents' schools. All 69 individuals in the survey population answered question 5.

Fig. 4.1.6 Number of Pupils in Respondents' Schools
                    (n=69)

No. Pupils in School	No. Respondents	%
Under 100	2	3
100 - 250	4	6
250 - 500	21	30
Over 500	42	60

4.1.7 Minority Profile of Students

Minority students were not found in futures programs
in any substantial number.

64 (93%) Answered question 8 which asked for the mi-
nority profile of students. Respondents were to give ap-
proximate percentages of: "Black, Oriental or Asian Amer-
ican, American Indian, Spanish surname and Other." Of the
64 respondents only 20 (31%) had any of the above groups
in significant proportion (> 5%). The minority profile of
these 20 respondents is shown in figure 4.1.7.

Fig. 4.1.7   Minority Profile of Students
                            (n=20)

Minority	No. of Respondents With 5% or Over	% of Pupils
Black	10	50*
Spanish Surname	15	33
Oriental or Asian American	6	33
American Indian	0	0

* 2 respondents from the same school had almost 100%
Black students. Without the 2 the percentage drops
to 21%.

One respondent, under "other" listed that she had 18%
each: Croatian, Italian and Indian (India).

4.1.8 Community Location

Suburban students have the most exposure to future
studies.

Question 6 asked, "Which area best fits the community
your school serves?" Figure 4.1.8 shows the results.

Fig. 4.1.8   Area Served by Schools
                         (n=69)

Area	Total	%
Suburban	48	69
Rural	11	16
Urban	9	13
Other	1	1

The one "other:" comment indicated a small town which
could presumably fit the "rural" category.

4.1.9 Income Level of Community

Middle income level communities are where the most
futures programs are located.

Approximate income level of community is the topic of
question 7. Figure 4.1.9 represents the results of the
question. 68 (99%) of the respondents answered the question.

Fig. 4.1.9   Income Level of Community

(n=68)

Income Level	Total	%
Under $7,000	5	7
$7,000 - $12,000	19	28
$12,000 - $20,000	34	50
Over $20,000	10	14

The majority of the respondents (75%) felt that their selection for the question was an accurate representation of the whole community.

4.1.10   Origins of Future Studies Programs

Futures programs most often originate from a teacher's personal interest in the area.

A total of 65 respondents (94%) answered question 10 dealing with the origins of future studies programs. 18 respondents checked more than one selection. Figure 4.1.10 summarizes the results to the question.

Fig. 4.1.10   How Future Studies Programs Started
(n=65)

Selection	Total	%
Personal interest in the area	42	62
Suggestion of administration	12	17
Influence of other teachers	11	16
Other	26	38

"Other" comments concerning origins of futures programs:

a)   Through a workshop, a course taken (usually at a college), pilot project part of a larger program. (8)

b)   Through a team project the unit was created.   (6)

c)   An individual interested in the area got the
     program going.   (4)

d)   Impetus came through money (usually grant.)   (2)

e)   Misc: "Not sure, Began before I came, Prepara-
     tion for future was one of district goals, By
     working with high school geography project . . ."

4.1.11 How Future Studies Programs Offered

     Most future studies programs were offered within ex-
     isting subject areas.

     Question 11 asks respondents to select a description
of how their futures programs were available to students.
67 Respondents (97%) answered the question and 11 individ-
uals made more than one selection.   Figure 4.1.11 shows the
results of question 11.

Fig. 4.1.11   Organization of Futures Instruction
                       (n=67)

How Instruction Offered	Total	%
A unit within another subject	34	51
A mini course	18	27
A separate subject	9	13
Other	19	28

     The following categories are the major subjects into
which the future studies programs fit.   Respondents were
asked to specify subjects if they checked "A unit within
another subject."

Social Studies, History . . .   17
English, Language, Arts . . .   14
Science   11
Math   4

Respondents who checked "other" were asked to explain. Of the 19 individuals who checked "other," 14 said their programs were interdisciplinary in nature or part of a larger, multi-subject program. (The 5 remaining "other" explanations were repeats of selections already listed.)

4.1.12 Eligibility of Students

The majority of futures programs were open for all students in the grade of team where the program is offered.

67 Respondents (97%) answered question 12 concerning student eligibility. Selections made by respondents appear below. (4 Respondents made more than one selection.)

Fig. 4.1.12   Eligibility for Futures Programs
                      (n=67)

Composition of Program	Total	%
All students in grade or team	45	67
Students electing the program	10	15
Students selected for program	10	15
Other	6	9

Respondents who checked that their futures students were selected for the program were asked to indicate the basis on which selection was made. 6 Of the 10 individuals who checked the selection stated that it was qualities such as: "high IQ, academic achievement, the mentally gifted stu-

dents, good behavior, intellectual creativity, selection
by the guidance counselor." Responses to "other" were var-
ied and there was no general concensus.

4.1.13 Number of Students in Futures Program

Results from the survey indicated a large number
of students in futures programs at one time.

Question 13 asks, "How many students are in your fu-
tures program at one time?"61 Respondents (88%) answered
the question. Most respondents omitting the question were
not classroom teachers and therefore the question was not
entirely applicable. Of the 61 respondents there was an
overall total of 1148 students in futures programs or an
average of 182 students (standard deviation 109) per futures
program at one time. The average appears high because of
some inconsistency in the manner the question was answered.
(Some respondents listed the total number of students dur-
ing the term or school year; others listed the number of
students in the overall program.)

4.2 Content of Future Studies Programs

Questions 14, 15 and 16 deal with the content of future
studies programs. The three questions were designed to get
the maximum amount of information about the programs without
framing responses or making them too lengthly. Correlations
between the three sections are discussed on page   of the
Discussion.

4.2.1 Goals

Goals which were part of the general categories of pre-
paration for futures, and those which helped stu-
dents in attitudinal development ranked highest in the
goals questions.

Question 14 asked respondents to a) list goals emphasized
in their future studies programs and b) rank order the 4 most
important goals. 60 Respondents (87%) filled in goals, al-
though only 28 (47%) listed as many as 8 goals. 39 (65%)
rated the goals as requested in the directions. Because
respondents answered the goals question differently, totals
are presented in terms of the most "popular" options and
most "significant" options (as explained in Methodology,
pps 70-71.) This discrimination is made throughout the
analysis of the results.

Division of all goals into two categories, those goals
directly concerning futures issues and all the other goals
listed, was made. Of the 332 goals listed by the 60 respon-
dents, 199 (60%) were in the "other" category and 133 (40%)
of the goals "directly" concerned futures issues. A more
detailed division of goals is presented in the classifications
that follow.

Table 3 presents seven main categories into which
the goals have been divided on the basis of overall pop-
ularity. Two of the categories are further divided into
subcategories (because of the similarities of cer-
tain goals within the category). For each of the seven

TABLE 3

MOST POPULAR GOALS
(60 RESPONDENTS, 87%)
Total Goals = 332

General Goal Category	# Goals Represented in Category	Goals Appearing Most Frequently*	Respondents Selecting Goal	% Of Total Resp.
I - Attitudinal Development	82	Clarification of Values	31	52
		Coping with Change	20	33
II - The Environment	57	Human Interaction With Environment	26	43
		Alteration of Environment	8	13
III - Technology	11	Understanding Technology	7	12
IV - Preparation for Futures	133	Examining Alternative Futures	39	65
		Forecasting/Methodology	14	23
V - Culture	7	(7 Goals listed, each mentioned only once.)		
VI - Learning Skills	26	Research Skills	12	20
		Basics	4	7
VII - Miscellaneous	16	Recognition of Cause-Effect Relationships	3	5

* Top two goals selected from each category.

categories the most popular (most frequently cited) goal (or goal type) is listed. Totals and percentages are given for all categories. The total score for each goal (and goal category) represents the total number of times the goal was listed whether it was rank ordered or simply listed. In the classifications in table 3 goals have been simplified or further interpreted in some cases where respondents have not been explicit or where their goal clearly fits a group already designated (i.e. uses similar but not exact wording of other goals in the category.) An effort was made throughout the assignment and classification of goals to be consistent.

The divisions into categories of the respondents' goals is necessarily somewhat arbitrary. A number of goals, (e.g. "coping with change") could fit into several categories and would therefore affect different totals.

Figure 4.2.1.1 summarizes the results of table 3 by listing the five most popular goals, i.e. those appearing most often in the responses to question 14.

Fig. 4.2.1.1   Five Most Popular Goals
                (n = 60, Total Goals = 332)

Goal	No.	% Respondents
Examining alternative futures	39	65
Clarification of values	31	51
Human interaction with the Envir.	26	43
Coping with change	20	33
Forecasting/methodology	14	23

The second analysis of goals was carried out in terms of "significance" or importance to the respondent. The rank ordering of goals was used to determine significance. A total of 39 of the 60 respondents (65%) ranked their goals, and 148 goals were ranked. Only the top 2 rankings from each respondent were used because of the small number of goals ranked more than once by different respondents. Several goals however, clearly were rated higher, more frequently than other goals. The most frequently cited, highly ranked goals appear in figure 4.2.1.2.

Fig. 4.2.1.2   Most Significant Goals
             (n=39, Total Goals Ranked = 148)

Goal	No.	% Respondents
Examining alternative futures	13	33
Coping with change	13	33
Clarification of values	11	28

Figure 4.2.1.3 represents a comparison of the most popular and most significant goals and goal categories.

Fig. 4.2.1.3   Grand Totals for Goals

		Total No. Times Indicated
a) Most popular goal:	Alternative futures	39
Most popular goal category:	Preparation for Futures	133
b) Most significant goals:	Alternative futures	13
	Coping with change	13

	Times Indicated
Most significant goal category: Preparation for Futures	32
Total Goals = 148	

The popular and significant responses are almost iden-
tical. There are, however, several issues concerning the
goals question that should be examined further which include:
the selection of the seven categories to represent the goals;
bias in the question; classification of certain goals into
categories; interpretation of goals; and analysis of goals
on the basis of "popular" and "significant." Further analy-
sis of the goals question is made on page 112 in the discussion
section.

4.2.2 Learning Areas

> "The environment" and "changing concepts" were the
> learning areas checked most frequently by respondents
> although there were a number of areas close in popu-
> larity and significance.

29 Learning areas were listed in question 15 (including
one option for respondents to add their own areas). 65 Re-
spondents (94%) answered the question. Individuals were
asked about a) the areas emphasized in their futures pro-
gram and b) the sources of instructional materials.

Respondents were given 3 choices to describe time spent
on future studies in each learning area: high, average and
low. Only those areas included in respondent's futures pro-
gram were to be checked. Because of the large number of re-

sponses, several totals are given for this question. Figure
4.2.2 shows the 5 areas appearing most often by the 65 re-
spondents. Totals are calculated by the total number of re-
spondents to each area, regardless of how they rated the item.

Fig. 4.2.2   Most Popular Learning Areas
                      (n=65)

Area	Total #	%
1. The Environment (Ecology)	58	89
2. Changing concepts (e.g. work, leisure)	57	87
3. Energy	56	86
Pollution	56	86
4. Population and growth	55	85
Transportation	55	85
5. Science fiction	54	83
New frontiers (outer space, oceans)	54	83
Forecasting, prediction	54	83

Figure 4.2.2.1 presents the learning areas appearing in
the high (proportion of time spent) category most often. This
may be interpreted to mean the most significant learning area.
These areas are of particular interest because they are the
topics on which future studies teachers spend the most time
in class.

Fig. 4.2.2.1   Most Significant Learning Areas
                      (n=65)

Area	# Spending "High" Amount of Time	%
1. Values clarification	32	49
2. The Environment (Ecology)	28	43
Changing Concepts (work, leisure)	28	43
3. Transportation	20	31
4. Energy	18	28
Science Fiction	18	28
Technology and automation	18	28
Urbanization	18	28

Fig. 4.2.2.1, continued

Area	# Spending "High" Amount of Time	%
5. Careers	17	26
Natural resources	17	26

Twelve respondents (19%) added information in the space provided under "other." Most of the additional comments were for clarification of items already checked.

Areas including: "Religion and spiritual beliefs, sex, family, cultural imagery and diversity, privacy, bio-medical developments and world order and peace" were areas where few respondents spent a high amount of time within their futures programs (although 35% indicated that they spent an average amount of time with the areas).

The second part of question 13 deals with the sources of instructional materials for the futures instruction. Since a large number of respondents checked one, and often both options, the results have not been analyzed in detail. 62 Individuals responded to the second part of the question. The majority of people used their own materials but about 40% also used commercial materials for the selections.

4.2.3 Learning Activities

The largest number of futures teachers indicated that values clarification exercises and futures games and simulations were used as activities in their programs. However, there   were several other activities close in popularity and success.

Question 16 dealt with specific learning activities, and

the success of these efforts. Again, respondents were asked
to check only those items they had done. 68 Respondents (92%)
answered question 16. Totals were figured on the basis of
"popularity" and "degree of success" of the learning activity.
Figure 4.2.3 presents the 5 learning activities most often
checked by the 63 individuals, regardless of <u>how</u> they rated
the degree of success.

Fig. 4.2.3   Most Popular Learning Activities
                        (n=63)

Activity	Total Responses	%
1. Futures games and simulations	46	73
2. Select problems, propose solutions	45	72
Values clarification exercises	45	72
3. Design and/or build models of liv-ing environments for the future	43	68
4. Read or write science fiction	41	65
5. Create or write a scenario	39	62
Write forecasts or predictions	39	62

Figure 4.2.3.1 lists the learning activities considered
most "successful" by respondents. The activities were iden-
tified from the responses in the "highly successful" column
of question 16.

Fig. 4.2.3.1 Most Successful Learning Activities
                        (n=63)

Activity	Total "High" Responses	%
1. Values clarification exercises	34	54
2. Futures games and simulations	29	46
3. Design and/or build models for liv-ing environments for the future	27	43

Fig. 4.2.3.1, continued

Activity	Total "High" Responses	%
4. Read or write science fiction	25	40
5. Read from text or articles	24	38

A comparison between Figures 4.2.3 and 4.2.3.1 shows that both contain the same learning activities in a slightly different order.

Four items in question 16 ask for additional information for the selection. Under letter "r" ("keep notebooks or diaries"), 22 respondents (35%) added information. The content of the notebooks or diaries was either biographical information recorded by the student or information about a specific subject, in notebook form. Notebook topics included: leisure and food, computer information, forecasting, food chain growth, predictions and information about nature.

Content for item "s," ("story completion"), was provided by 14 respondents (22%). Most indicated that the subjects for story completions were varied; responses included: writing your own obituary, inventions, media, transportation, scenarios and science fiction.

Item "t," ("read from text or articles") asked for examples of titles. 33 teachers (52%) provided information about what their students read. Responses generally were individual selections or commercially oriented reading such as newspapers and magazines. Included in the individual selections were:

"The Future: Can We Shape It," "The Classroom in Orbit," "Foods of the Future," Teaching Tomorrow Today, and The Biological Time Bomb. Examples of commercial selections included the Los Angeles Times (and other newspapers), and magazine selections including: The Futurist, Scientific American, Time, and Futures Conditional (newsletter), as well as texts: Scholastic unit on "The Future."

12 People (19%) mentioned a variety of "other" examples of learning activities under item 11. Examples included: designing future cities and governments, new transportation systems, leisure and technology systems, creating a futuristic film, planning a future birthday party, a school day in the future and making computations about pollution.

Table 4 helps to summarize the top selections concerning the three content areas. Since the figures (totals and percentages) have been listed previously they have been omitted in order to make the table easier to read.

TABLE 4

TOP SELECTIONS OF GOALS,

LEARNING AREAS, LEARNING ACTIVITIES

Most Popular Goals n=60	Most Significant Goals
Alternative futures	Alternative futures
Clarification of values	Coping with change
Human interaction with env.	Clarification of values
Coping with change	
Forecasting/methodology	

Most Popular Learning Areas	Most Significant Learning Areas
n=65	

Table 4, continued

The Environment (Ecology)	Values Clarification
Changing concepts (e.g. work, leisure)	The Environment (Ecology)
Energy	Transportation
Pollution	
Population and Growth	Energy
Transportation	Science Fiction
Science Fiction	Technology and Automation
New Frontiers	Urbanization
Forecasting, predicting	Careers
	Natural Resources

Most Popular Learning Activities n=63	Most Successful Learning Activities
Futures games and simulations	Values clarification exercises
Select problems, propose solutions	Futures games and simulations
Values clarification exercises	
Design and/or build models of living environments for the future	Design and/or build models of living environments for the future
Read or write science fiction	Read or write science fiction
Create or write a scenario	Read from text or articles
Write forecasts or predictions	

In the Discussion section the relationship between the three parts of the content section (above) is analyzed.

4.2.4 Aids in Futures Instruction

Of the various aids used by futures teachers, AV materials, which most often included the use of films, were checked most by teachers.

The last question in the content section (number 17), asks which aids are used in futures instruction. Respondents were asked to check the aids used in their programs, and to

give examples. The results are shown below. 65 Respon-
dents (95%) answered the question, and 157 specific examples
were given.

Fig. 4.2.4   Aids Used in Futures Instruction
                    (n=65)

Aid	No. of Teachers Using Medium	% of Total
AV materials	51	79
Games	43	66
Field trips	37	57
Resource people	37	57
The community	33	51
Other	11	17

36 Respondents gave examples, or added some kind of
supplementary information about AV materials used. Men-
tioned most frequently were the use of films, including:
21st century films, "1999," student made films, and "Free
To Be You and Me." Filmstrips, slides, video tapes, a data
bank and TV were also included as examples of AV materials.

27 Teachers described games used in their futures in-
struction. The names of games included: Survival, Future
Shock (5 listed), Cope, IQ Game, Futuribles, Lost on the Moon,
NASA, and Newtown. Most games were environmentally and so-
cially oriented. 7 Respondent mentioned the used of simulations
and 2 respondents stated that students made their own games.

26 Individuals gave examples of various destinations
for field trips in their futures programs. The
examples were varied; it is difficult to generalize about

the typical field trip. A cross section of examples includes: an architectural office, a science center, a jet propulsion lab, city hall, colleges, mortuary, police station, solar home, G.M. Assembly Plant, Hartford Sewage Plant, Congressional Clearinghouse for the Future and the New Alchemy Institute.

30 of the 37 respondents using "resource people" gave examples. They included: a solar energy architect, a Gray Panther leader (senior citizens group), writer, welfare people, speakers from nearby colleges, doctors, a futurist, an environmentalist, a representative from NASA, people from the phone company, a movement specialist, a computer expert and "each other."

Examples of how a community can be used in futures instruction were given by 22 of the 33 respondents who checked this item. Although there was some overlap with the category, "resource people," some of the 22 examples included: hospitals, the mayor, realtors, the Urban Planning Department, a nursing home, a local tour to find sculpture and new structures and local businesses.

Under "other," 15 individuals used the space to provide information about what other aids were used in their programs. About a third of the comments were further elaboration of items already checked in the question. Other examples included: problem sheets on energy usage in the home, creative learning center, spontaneous role playing, and building an underground classroom.

4.3   Evaluation and Future of Programs

4.3.1   Evaluation of Students in Future Studies Programs

Most futures teachers do not use grades directly for
evaluation in their programs.

Question 18 asks, "How have you evaluated student pro-
gress in your futures program?" 64 Respondents (94%) an-
swered the question with 12 of the 64 checking more than one
item although this was not intended in the questionnaire.
Figure 4.3.1 shows the totals.

Fig. 4.3.1   Evaluation of Students in Programs
                        (n=64)

Means of Evaluation	Total No.	%
Grades	15	23
Written evaluations of work	19	30
Other	32	50

About two-thirds of the "other" comments centered around
the fact that evaluation was ungraded, or that it was based
on projects. The remainder of the comments included: ob-
servation, student self-evaluation, criterion, tests, (Tor-
rance Creativity, research skills and critical thinking test).

Respondents who selected the grades option were asked to
rank order 5 items concerning the (most important) input for
grades. Although 15 respondents checked grades, a total of
42 individuals (64%) checked the items that were intended for
rank ordering under grades. Selections that were rank or-

dered are therefore figured by most used items. The most used total represents the largest number of respondents ranking the selection (or simply checking it).

Figure 4.3.1.1 shows the items in terms of most used in the respondents evaluation of students in future studies instruction. (The reader is reminded that the totals do not necessarily refer to grades only as a means of evaluation.)

Fig. 4.3.1.1 Most Used Input for Student Evaluation
(n=42)

Input	No.	%
Classroom Participation	38	90
Written Work	32	76
Work Habits	28	67
Tests	22	53
Other	8	19

"Other" comments included oral reports, projects, and general attitude.

4.3.2 Success of Future Studies Programs

When asked to indicate success of programs, futures teachers ranked their programs high.

Question 19 asks respondents how successful they feel their overall futures programs have been. Figure 4.3.2 shows the results from 66 respondents (96%).

Fig. 4.3.2   Success of Future Studies Programs

(n=66)

Figure 4.3.2, continued

Success Category	No.	%
Very successful	29	44
Good	24	36
Moderately successful	12	18
Poor	1	2
Very Poor	0	0

Four respondents added positive comments about their futures programs, although comments were not requested.

4.3.3 Encouragement for Futures Programs

Students clearly provide futures teachers with the most encouragement for their programs.

63 Respondents (91%) checked one or more items for question 20 which asked, "Where do you receive the most encouragement for your program?" Figure 4.3.3 presents the totals for question 20.

Fig. 4.3.3 Encouragement for Futures Programs
(n=63)

Source	No.	%
Students	46	73
Administration	25	40
Other Staff	18	29
Parents	9	14
None	1	2
Other	10	16

Of the 10 "other" comments, 3 people listed consultants, 2 listed a university course and others mentioned:

literature, "myself," and specific individuals.

4.3.4 Financial Support for Futures Programs

Most futures teachers do not have any funding for their
programs, although slightly less than half the programs
received some form of financial assistance.

The first part of question 21 asks repondents if they

have direct financial support for their futures program. The

second part of the question asks if respondents have any finan-

cial support for their programs. Individuals who checked in

the affirmative in either part were asked for additional in-

formation. 64 Respondents (94%) answered (one or both parts)

question 21. 26 Individuals (41%) indicated they had direct

financial support and 24 of the 26 supplied details concerning

the source, yearly amount and duration. 10 Of the teachers

supplying details were from the same program and had similar

information. Figure 4.3.4 lists, as available, the source,

yearly amount, and duration of funding.

Fig. 4.3.4   Direct Financial Support
                    For Futures Programs
                        (n=26)

No. of Respondents	Source	Yearly Amt.	Duration
10	ESEA Title IV.	$46,000 $20,000	2 years
2	ESEA Title IV	$31,200 $24,000 $15,000	3 years
1	Program for Gifted and Talented (St. of CT Dept. of Ed.)	$20,000	1 year
1	State Program for Gifted	$ 6,000 (per year)	3 years

Fig. 4.3.4, continued

No. of Respondents	Source	Yearly Amt.	Duration
1	NDEA (federal and state)	$ 5,000	1 year
1	Teacher Incentive Plan Program	$ 150	4 weeks

Other respondents listed Title III, a Pace Grant, the Board of Education and Budget for the Gifted, as sources but did not list any further details.

37 Of the individuals (58%) indicated they did not have financial support for their programs.

The second part of the question asks respondents if they have any financial support (from any source) that could be used for their futures program. 23 Respondents checked yes and 27, no. The people with some support were asked to elaborate. (It should be noted that there was some confusion concerning "direct" and "any" financial support (21a and 21b). Several individuals checked both parts of the question while other responses to 21b. would have been more appropriate in 21a.) Of the 22 explanations for "any" support for their program: 4 mentioned that their financial support was from a subject department in the school. 4 Stated the source was the district, 3 indicated it was from the school or curriculum budget, and 2 said they received money for films only. Other sources listed, overlapped or repeated information from the first part of the question.

27 Respondents (42%) had no financial support for their

program of any kind.

4.3.5 Needs of Future Studies Teachers

A sizeable percentage of future studies teachers list "more knowledge of the field," as their greatest need.

Respondents were asked in question 22 what they felt their major needs were as future studies teachers, in order of significance. 62 Respondents (90%) answered this question. 19 Of the 62 (31%) checked, but did not rate their items.

Figure 4.3.5 includes the 6 needs listed in the question for future studies teachers, with the total number of individuals who rated each item, regardless of their order. (The totals for figure 4.3.5 also include responses that were checked but not rated.)

Fig. 4.3.5   Most Widely Accepted Needs
                 of Future Studies Teachers
                       (n=62)

Item	Total No. of Responses	%
More knowledge of field	47	76
More instructional materials	40	65
More support from administration or other staff	34	55
More help from resources people and the community	34	55
More money	33	53
Other	23	37

Of the 23 individuals who checked or rated "other," 11 of the comments indicated a need for more time to plan programs. 4 Respondents listed the need for more support and interest from others in the school community and 3 listed more materials. Other comments mentioned once included: the need

for more workshops and seminars, more acceptance and interest
on the part of students for the program and the need for
data to prove that futures students test higher than other
students.

When totals were figured for the 43 individuals who
ranked the items in order of importance to them, the re-
sultes were generally the same as figure 4.3.5.

4.3.6 Problems in Continuing Futures Programs

A number of futures teachers foresee problems in contin-
uing their programs in the future.

Question 23 asks people whether they foresee problems
in continuing their futures program in the future. A total
of 63 individuals (91%) answered the question with 33 in-
dicating yes (52%) and 30 no (48%). Respondents answering
yes, were further asked to check items that might be prob-
lem areas in regards to continuing their futures instruction.
Figure 4.3.6 shows the results from question 23.

Fig. 4.3.6   Problems in Continuing
                      Future Programs
                         (n=33)

Item	No.	%
Emphasis on other areas in the curriculum	17	54
Lack of support from admini-stration or staff	11	33
Budget cuts	8	24
Lack of student interest	4	12
Lack of instructional materials	4	12
Other	8	24

Respondents checking "emphasis on other areas in the curriculum," were asked to specify the areas. The overwhelming majority of the 17 respondents listed some form of basics as the other areas to be emphasized. (This included: basics (6), reading and/or English (3), math (3) and writing (1).)

Of the respondents checking "other," several cited that the community was too conservative and people were more interested in traditional teaching. Two other respondents mentioned a lack of teacher interest. Other miscellaneous comments: "We're looking for a different ungraded, interdisciplinary unit."[It was the fourth year of the same futures program for this school.] "All students are not up to the high levels of reasoning required","My inability to overcome the problems I'm presented with."

4.3.7 Continuing Futures Instruction

Despite obstacles, futures teachers plan to continue their programs in the future.

The last item on the questionnaire, number 24, asks respondents if they plan to continue their futures instruction in the future. Respondents checking yes were then asked what changes, if any, they would make in their programs. Respondents indicating no were asked to explain (if different from question 23).

63 Individuals (91%) answered question 24, with 55

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checking yes (87%) and 8 checking no (13%). 49 Respondents
added comments concerning any changes they would make in
their program. The main changes concerned the following
areas: updates, revisions (varying offerings) of present
program (7); more materials and content (4); more career
oriented materials (3); better design of unit (2); expand
and integrate unit into other areas (subjects) in school (2);
broaden my knowledge of area and therefore the program (2).
Other comments: "more skills emphasis," "more AV materials,"
"better PR with the community," "a more low keyed program,"
"gear the program more on the local level or future of the
community."

Most individuals not continuing their programs (and
whose reasons differed from what they checked in number 23)
were not planning to teach the following year.

In the last section of the questionnaire under "Comments,"
respondents were invited to include any available course
material to help clarify their programs. Most of the ma-
terials complemented what individuals included in their
questionnaires. (See appendix C for examples of materials
sent.)

CHAPTER FIVE

DISCUSSION AND RECOMMENDATIONS

Survey results that help determine the nature
of efforts to expose pre-high school students to futures
instruction are examined in the first part of this
chapter. Recommendations are made in the second half of
the chapter.

5.1 Availability of Future Studies

Programs in future studies are offered on pre-high
school levels. Results make it evident, however, that a
limited population is served by the curriculum.

Students in futures programs are generally from
public schools in suburban middle class communities,
located most frequently in the North Central and North-
east parts of the country. Total minority enrollment is
insignificant and less than half the teachers responding
teach in the elementary grades. Teachers who do offer
future studies expect all their students to participate, al-
though this is less true in the higher grades where more
students select future studies as an elective course.

Several factors contribute to the limited population
served by futures education. Undoubtedly there are more
private (and perhaps parochial) schools involved in

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futures education than indicated in this survey. In part
the programs are difficult to locate because of the organ-
ization of independent schools. Frequently on the pre-
high school levels in private schools interdisciplinary,
open classrooms take the place of more structured class-
rooms in public schools. Subject areas are therefore
less likely to be isolated in private schools, making an
area such as future studies difficult to locate for survey
purposes because of its integration into regular instruct-
ion.

Parochial schools generally place more emphasis on
traditional subject areas, making future studies less
appealing. In the preliminary correspondence (locating
futures programs) plans for a sizeable parochial school
program were found in Chicago but actual instruction had
not yet been implemented. The futures program included
in the survey from a parochial school was being phased out
because of a reemphasis on state curricular guidelines.
The reemphasis necessitated the futures teacher switching
grades to comply with the shift.

Of the public schools, suburban communities have had
the financial resources and freedom to hire innovative
teachers and to support programs that are more imaginative
than many in the urban schools. Unfortunately, city
schools have been plagued with a multitude of problems
that make it difficult for teachers to innovate curricula.

These problems include: sheer numbers of students (often because of consolidation), the inability to remove poor teachers (inflexibility of tenure), discipline, lack of money, lack of community support and generally unequal educational opportunities. The tragedy is that the children who have the most to gain are still not within reach of futures education.

Minority exposure to futures education is limited because of the lack of accessibility of minorities to the suburban schools.

An obvious reason for the large number of programs found in the North Central and Northeast parts of the country is the large population density in both areas. (California alone in the West has a large number of programs also.) In both regions there are also a large number of universities attracting teachers and some offering futures courses.

Another major reason both regions are popular areas for futures education is the strong influence that futures organizations and activities have in these areas. The World Future Society in Washington, D.C. and the Science Museum of Minnesota are two examples. Both organizations sponsor conferences and workshops on futures education which attract considerable interest.

Hopefully as futures education becomes more wide-spread the diversity of students affected will increase

so that urban, non-public students and students from a variety of regions will benefit.

Already the survey shows that more teachers are involved in futures instruction than were involved four years ago, and most of them plan to continue their programs. Informal surveys (such as those mentioned in chapter 2) indicate far less pre-high school programs in the early seventies and virtually none were discovered prior to that time.

5.2   Organization of Future Studies Programs

Futures programs are either small, individually run programs (one or two other teachers) or large programs involving a number of teachers from the school district.

The larger programs often started as a result of suggestions by administrators, other teachers, or program coordinators. Most of the smaller programs originated from a teacher's personal interest or commitment.

Although programs are on the increase, teachers from some of the larger programs predict difficulties in continuing their programs in the future, frequently listing money problems as a factor. While the larger programs obviously tend to receive the bulk of the funding and financial support, the emotional commitment of teachers is equally vital.

5.2.1 Organization of High School and Pre-High School
       Programs

Two years prior to the survey described in this
paper, Richard Stock conducted a survey of high school
futures programs. The high school and pre-high school
results are similar in many respects. For example, most of
the high school programs are also found in public schools,
taught by young teachers, serving middle class communities
in the North Central and Northeast regions of the United
States. Data concerning the teachers, experience teaching
future studies, admission into programs and content areas
were also similar.

Contrasts between the two surveys appear in areas of
organization and size. Most high school programs offer
future studies as an elective course and therefore in-
volve a smaller proportion of students than the younger
age programs. Learning activities that are most success-
ful in the high school programs tend to be more action-
oriented (field trips, futures projects and fairs) than
those of their younger counterparts. Partial explanation
for the increased success and orientation towards action
activities is that the older students are perhaps more
motivated and self directed, having chosen to be in future
studies. Maturity undoubtedly has something to do with
the older students' ability to handle action oriented act-
ivities. (In this case action oriented activities

include out of class, independent activities such as field trips, fairs and projects. Such activities should be differentiated from in-class, teacher-directed action activities which are especially common for elementary students.)

As the larger programs become organized there will be a need to develop better continuity between grades, to minimize overlap and redundancy. Already there is evidence that many of the same goals and content areas are shared by the younger and older futures students.

Both surveys appear to be subject to similar problems in relation to finding a permanent place in the course of instruction, with the smaller programs most affected. When a teacher leaves, the program usually ends.

For both pre-high school and high school futures programs it is necessary to develop more roots by expanding programs to involve more students and teachers throughout the grade levels. There must also be more substantive organization if programs are to succeed.

5.3 Content of Future Studies Programs

5.3.1 Goals

For the most part goals of future studies programs are fuzzy. Difficulty was experienced in the effort to elucidate the main emphases of the programs. In part the

difficulty could be due to the open nature of the question.
Respondents may have been unable to draw upon their own
program organization. (The original intent in leaving
the question open was to allow freedom to provide inform-
ation specifically relating to their program.) The dif-
ficulty encountered with the goals question is not exclu-
sively a problem of futures programs. Formulating overall
directions and purposes is often the most difficult part
of curriculum development; there is an emphasis on means
and not ends. Without a clear idea of overall goals, the
selection of learning opportunities becomes random and mis-
guided.

5.3.2 Consistency Between Sections

       Correlations were made to evaluate consistency
between the three content sections. In other words, could
a teacher achieve goals through the areas and activities
s/he had selected?

       To correlate the three sections (goals, areas and
activities), tabulations were made using: respondents who
had listed and ranked their goals as asked for in the
question (i.e. listed goals and not variations of goals,
and ranked their goals in order of importance to their
program); the environmental and futures goals listed by
respondents; goals that were ranked one or two in order

of importance; areas and activities that were rated in the high category by respondents. Environmental and futures areas and activities were selected from the lists on the questionnaire to coincide with the environmental and futures goal categories.

Twenty-four respondents' results (the number qualifying based on the above criteria) were correlated and all but two had areas and activities that related to their top goal selections. Respondents clear about the aims of their programs were also consistent about how to achieve the aims. It seems likely that any program that selects content from a number of divergent sources and that does not put it together into a meaningful framework cannot be particularly effective. In futures education where one deals with undefined territories, it is especially vital to coordinate all parts of the curriculum so that they work together to guide students. Piecemeal approaches to futures content produce confusion and lack of interest on the part of the students.

5.3.3 Environmental and Futures Education

"Preparation for futures " and "understanding the environment" were popular goal categories for respondents. Although most of the futures programs in the survey appeared as part of English or social studies, environmental issues were definitely part of the curricula of these subjects.

Future studies seems to be helping to bring environmental issues into the realm of general curricula.

At the same time future studies was found in science programs (third most popular subject area) which indicates that science curricula were dealing more with the socially oriented issues typical of futures education.

It has been suggested that "the future" be used as a teaching strategy in science instruction.

> The use of the future-oriented teaching strategies can lead to a more comprehensive view of science and of the world. I propose that we have a mechanism here for developing science literacy which will complement science and meet critical social needs. [O'Hearn, 1975,8].

A positive synergy should result from the relationship of environmental and futures education. The merger should help students feel more in control of directing their own futures, and the futures selected would hopefully keep in mind the scientific facts relating to ecosystem stability. What better way to teach about areas such as energy (which relates to all ages including the very young) than through a futures perspective?

5.4 The Future of Future Studies

Despite specific needs and problems, most pre-high school futures teachers feel strongly about continuing their programs and the majority of teachers plan to keep their programs going. With the exception of the information

from this survey, no follow-up studies have been done con-
cerning the duration of futures programs. Data from this
survey indicate the average respondent has been teaching
future studies for three years and plans to continue.

Teacher enthusiasm (most started programs out of
personal interest) seems to be the most positive influence
for future studies. This enthusiasm may help to get pro-
grams more broadly diffused into education. Certain
issues however, hinder the progress that could be made.

5.4.1 Vulnerability of Programs

Futures programs are often subject to problems of
continuity. The larger programs do not always have the
teacher commitment. In one extreme case a teacher wrote:

> The project was plagued with problems. It did
> not arise as a staff suggested change to fill
> a need or belief system-it was imposed by a
> grant seeking administrative think tank. A
> poorly chosen project director lacked the
> leadership skills necessary to insure enthus-
> iasm. The kind of instructional philosophy
> more conducive to stimulating creativity
> (flexibility) in children-"open"or "center"
> oriented education was incompatible with the
> belief systems of over half the teaching
> staff. A philosophical split in the staff
> remained constant over the three year period.
> [anonymous letter from a California teacher].

In some of the larger programs respondents indicated
doubt as to whether the programs will continue (in a
formal sense) once funding has been depleted. There are

definitely teachers within these programs who feel strong-
ly enough about the area so that they will continue regard-
less of whether there is funding and a specified framework.

The future of the small programs is hardly free from
difficulty. Those teachers not continuing their programs
often indicate they are leaving their particular teaching
post and there is no one to continue their efforts. (Hope-
fully teachers moving into new teaching positions will
continue with new future studies programs.) When the pro-
gram ends the students who have had some exposure to
future studies are left without any continuity in the upper
grades and incoming students never experience the program
at all.

Futures programs are also vulnerable to the fad
stigma. A hostile school or community environment can also
make acceptance difficult. Futures programs must be run
by individuals who feel strongly about their programs, who
are able to defend them and can make the programs less
threatening to conservative administrators, school boards
and communities.

5.4.2 Implementation of Future Studies

The demand for time on teachers is another consider-
ation which hinders the progress of future studies. Lack of
time was cited most frequently by respondents when additional
needs were listed. Initiation of any new curriculum places

unwanted time demands on teachers; only the more motivated
and committed teachers have thus far become involved in
futures teaching.

The CBEP (City Building Education Program) is a
good example of a program that has not let obstacles
hinder the effort. It represents the only truly inner city
futures oriented curriculum in the survey. The program
was the brainchild of an elementary school teacher who
recognized how to develop the tools, vocabulary and prob-
lem solving ability to think about the present environment
in relation to the future. For the next two years with
her own students the teacher developed and tested a cur-
riculum to teach future skills.

In the CBEP, students rebuild their city according
to plans developed by the class. At present a number of
schools throughout the Los Angeles area have subscribed
to the program. Classroom teachers responsible for implement-
ing the curriculum are introduced to the program during sum-
mer workshops. Follow-up meetings and consultations take
place during the school year. The CBEP is a successful
program that starts with time and space dimensions under-
standable to young children. It proceeds to expand the
personal relationship to the community where the students
live and then builds the reality base that forms the new
community. The new community represents the desirable
environment as defined by the students for their future.

The most important consideration regarding implement-
ation of curricula is that teachers will always find a way to
develop and teach curricula, if they become convinced the area is
worthwhile. Teacher exposure to futures education is
basic if we expect to see the field in schools. The import-
ance of involving an increasing number of teachers in
futures education is discussed in the second half of this
chapter.

5.4.3 Future Studies and Back-to-the-Basics

More parents today want their children, "to have a
structured school environment stressing basic skills and
discipline-the same kind of schooling they remembered
from their childhood-with report cards and textbooks,
homework and spelling tests and drills in multiplication
tables and grammar rules " [Katz,1977,1]. Schools are
answering by reemphasizing basic skills.* The reaffirmation
is one of the most important considerations in trying to
get future studies accepted into school curricula.

Teachers in the survey reflected the trend towards
basics. Respondents who indicated there was an emphasis
on other areas in the curricula (which might hinder the
continuation of their programs) overwhelmingly listed
basics (competency tests, more reading classes, math con-
cepts, etc.) as the culprit.

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*Skills associated with the 3R's.

The reaffirmation of basics need not interfere with the introduction of future studies. Instead, futures teachers should be leaders in asking the question, what will the basics be for living in the year 2000, because that is the world today's children will be living in. Will reading, writing and math be the tools for survival in the future?

The present lack of success in skills areas could result from factors as: "faulty application of educational practices and theories, 'social diseases' such as abject poverty, too few resources to help children for whom English is not a first language, turmoil over such matters as busing or segregation, lack of money or lack of adult responsibility " [Shane, 1976, 82] .

Future studies should be viewed as a unique mechanism for teaching skills in a manner more relevant to today's world. It should also be used as a vehicle for defining new skills areas that children are most certain to need competency in, for the future. (See appendix E for a list of needs of students in the future.)

It is fallacious to spend time teaching basics in the manner that they were taught at the turn of the century and earlier.

Recommendations

As a result of the study described in this paper, with special consideration given to the items under the Discussion, recommendations are proposed for the continued development of futures education on the pre-high school levels. The recommendations lead to the refinement of existing programs and the expansion of the field in general.

5.5 Refinement of Programs

5.5.1 Organization of Goals and Evaluation

There needs to be clearer delineation of goals of futures programs. In a field such as future studies where uncertainties, open-ended questions and divergent thinking processes prevail, there is need for some type of structure or framework. Clearly stating program goals should be the starting point.

Students need to know what is expected of them and when they have achieved what is expected. Methods for evaluation are equally important to give teachers necessary input regarding the success of their instruction.

As goals and evaluation procedures become more defined, methodology and general pedagogy for futures instruction will improve. Such efforts will enhance the standing of future studies in the classroom and popularize the efforts that have been made.

5.5.2 Reinforcement

Students should be encouraged to have more input into
future studies programs. Obviously, futures teachers are
convinced the area is valid, but there has been little in-
dication that students play any part in the planning or
implementation of programs. A good starting point for cur-
riculum planning is to assess students' perceptions of the
future. If futures teachers receive their greatest encourage-
ment from their students, as they indicated, then students
should have more involvement in program development.
Mechanisms should be devised so students can provide feed-
back about issues of importance to them. If future studies
is to have relevance to the lives of the students it must
be based on a combination of student and teacher input. The
combined efforts should identify where perceptions of futures
differ between the two age groups, as well as giving the
teacher new information about their students, "much of
which the teachers may have incorrectly anticipated pre-
viously " [Frey and Gannoe, 1].

5.5.3 Continuity

There needs to be more communication between
teachers from kindergarten to grade twelve
levels. It was not uncommon for teachers in the
larger programs to be unaware of what other futures teach-
ers in the same program were doing. (The need for more

communication was identified as the highest priority at a future studies teachers meeting in one of the larger programs.)

From Stock's secondary survey it was evident that many of the same goals were shared. There must be more delineation as to what is important for what age group and a hierarchy of levels developed for similar goals at different learning stages.

5.6   Expansion of Programs

5.6.1   Growth

Futures education must grow by whatever means is most effective. If teachers are only interested in (or able to) offer future studies as an elective then that route must be taken at present.

Since most futures programs in the survey were offered as part of social studies or English instruction, effort should be made to influence teachers within these subject areas. Futures education should play a more prominent part at social studies and English conferences, at workshops and in publications. From a platform of strength, future studies can gain more status and therefore influence other areas of instruction because in the long run future studies should be part of all curricular areas. Harold Strudler [1974] commented that:

...specialized courses on the future are only a
stop-gap. The future of education itself will
best be served if the burgeoning interest in
tomorrow is not, as it predominantly still is
today, channeled into a separate discipline,
but instead is made pervasive throughout the
entire curriculum [176].

5.6.2 Dissemination

There must be improved dissemination of materials,
ideas and information concerning future studies programs.
A newsletter or journal published frequently and expressly
for the purpose of sharing future studies information would
greatly aid in increasing communication.

The publication should not only list and review
literature in the field but also contain ideas for class-
room instruction and give a national overview of recent
developments in futures instruction. Futures teachers
would provide the major input into the publication be-
cause they have the most experience thus far.

Such a publication would also provide an important
service in locating futures teachers and increasing com-
munication between all individuals interested in futures
education.

Teachers should be encouraged to join and work with
futures oriented organizations such as the education
division of the World Future Society. Subject area and
professional organizations are useful outlets as well for
sharing information.

As demand increases, better commercial materials
will appear on the market. At present there is need for
higher quality and greater diversity of professionally pre-
pared materials.

The information from this survey should be shared
extensively through futures publications, at workshops and
conferences and between teachers.

5.6.3 Participation

A larger number of students from varied backgrounds
must have the opportunity to participate in futures educ-
ation. Additional exposure will only come when a larger
and more diverse group of teachers become aware of the
importance of futures education. Pre-service and in-service
programs for teachers are crucial. Museums, universities
and other educational institutions have been very in-
fluential in exposing teachers to future studies through
seminars and workshops.

Cooperation must come from all levels. Teachers
should be given released time to plan programs and attend
workshops. Financial incentives should back up the efforts
of teachers.

5.6.4 Urban Participation

More students in urban schools must be exposed to
futures education. In a study by Plante, it was discovered

that individuals from a suburban environment tend to be
significantly more "active time oriented" than urban in-
dividuals [Plante,1977,92]. Plante defines active-
reactive future time orientation as, "the degree to which a
person is future oriented and believes that human effort
and personal decision-making can have a decisive effect
on the course of future events (active) versus how much
s/he is present oriented and believes that the future will
be determined primarily by factors of fate and chance
(reactive)"[Plante,1977,5]. Plante also linked active time
orientation with increased self esteem and social respon-
sibility of individuals.

In view of studies such as those by Plante it seems
especially important to bring futures education into the
urban schools. Although there is no definitive way to
achieve such a task there are a number of possibilities.
Education departments in urban universities, which tend
to attract urban teachers, could take a more decisive
role in offering courses and workshops in futures education.
The offerings of the urban universities in the future
studies area should be geared to meet the needs, limit-
ations and circumstances faced by the participant teach-
ers in their respective jobs.

Remedial education may also serve as another entrance
for   futures education in urban schools. Previous
studies [Forer and Keogh,1971] have discovered that fre-
quently students with learning problems also suffer from

a disorientation of time perspective (a sense of past, pre-
sent, and future.) If remedial teachers placed more of an
emphasis on developing techniques to deal with such time
orientation problems, perhaps other teachers would see the
benefits of this instruction to their students as well.

A further recommendation for increasing futures edu-
cation in urban schools is to design programs specifical-
ly oriented towards the city environment from which the
students come. A number of urban schools are placing more
emphasis on using the community as an integral part of
the learning environment. As the traditional role of the
school expands to include the community, students have a
unique opportunity to see, understand, and be part of the
actual world they are entering as adults. Although urban
schools are going through difficult times, it is still the
urban environment that represents rich cultural and sci-
entific centers. Schools should therefore be able to link
up with other environments in the city in order to cultivate
talent in _all_ students and hence to help students control
their own destiny [Fantini, 1978].

5.6.5 Involvement

There should be more community involvement in future
studies. Parents, school administrators and other faculty
should be involved in (or made aware of) the futures pro-
grams. The use and support of the community is one of the

least used resources in future studies and one that could
be highly valuable.

5.7 New Directions

5.7.1 Values and Moral Education

> The future deals with cognitive and affective learn-
> ing but it also involves 'moral learning.' The future
> is not predetermined. It is at least partly subject
> to our influence; and our interest must, therefore,
> focus on preferable futures as well as those that
> are 'possible' and 'probable.' For this reason
> the question of values arises repeatedly
> [Ricken, 1976,51].

In designing futures curricula, teachers must not
only help with decision making but also help children
examine the moral implications that go into their choices.
Increasingly, crises and delicate ethical issues are con-
fronting human beings. Education must aid students in
understanding their attitudes and in clarifying their
values, which in turn serve as guides from childhood
through maturity. Moral education and the process of
exploring values must be an integral part of future
studies, which can serve as an example for all education
in general.

5.7.2 New Basics

As mentioned earlier, futures teachers can take an
active role in redefining basics. "New basics" must

emerge which will help youth develop the skills which will
be required of them in the years ahead. New methods, us-
ing the future as a focus and vehicle, can also be used
for teaching the traditional skills areas.

5.7.3 Optimism

It is essential that futures education place more
emphasis on developing optimistic attitudes about the
future. (See student work included in appendix D, especial-
ly the collages, for a portrayal of the need for more
optimism.) Only three respondents listed goals that in-
dicated they were concerned with developing positive at-
titudes. It is only from a platform of hope that children
will begin to develop a sense of responsibility toward
themselves, their future and the collective futures of
humankind. (i.e. What I do today does effect my future; I
can make a difference in the course of my future.)

All too often as the world becomes increasingly
complex the future is dismissed as something one is
powerless to affect and therefore "why bother?" (A modern
version of a Greek tragedy.) Doom and pessimism cloud a
vast number of people's thoughts about the future, and it
is dismissed from mind. It is imperative that all teach-
ers, especially those dealing with the future, help child-
ren reverse the trend of pessimism and develop realistic,
healthy and most importantly, optimistic attitudes about

the future. Only then can there be possibility for construct-
ive change in improving a world afflicted with monumental
problems.

5.7.4 Responsibility

We are all responsible for the future. In Robert
Havighurst's words:

> It is necessary to extend our vision beyond the
> year 2001-to the year 2050 at the very least.
> We must do so because it is essential we remember
> that the children and youth who will be living
> in 2050 are just as precious as our own. They
> are part of the germ plasm of the human race.
> Because they are, they deserve the best of our
> time and energy now so that 75 years hence they
> will be better beings because of what we have
> had the vision and foresight to do [Shane,1975,83].

Further Study

Development of the following areas is important if future studies is to continue to expand and develop.

1. Many futures-oriented programs exist today not necessarily called future studies programs. To define a managable survey population, the whole range of futures oriented programs and curricula not explicitly called future studies was not included in the survey. It would be useful to understand how other teachers have future oriented their curricula. (Especially if we follow the long range recommendation of diffusing future studies into the mainstream of curricula.)

2. A further examination of the back-to-the-basics trend and its effect on future studies is needed. Futures programs that have already been affected by the trend should be studied as well.

3. The compilation of a pre-high school future studies curriculum guide would be extremely useful for futures (and potential futures) teachers. The book should include background information for the teacher concerning futures activities and detailed explanations (and variations) of the activities.

4. Research into the following areas is recommended:

a. The ability of young students to cope with
various futures topics often considered too
abstract or unrelated to young children. (For
example, technically oriented goals and areas
seldom checked by respondents such as privacy,
sex, religion, world order and peace.)

b. The development of tools and evaluation methods
to determine a child's perceptions of the future.
Tests such as those developed by Jake Plante
[1977] to use with high school students to gain
information about future time perspective are
needed for use with younger students when diag-
nosing problems.

Summary

The study presented in this paper is a first step in surveying and starting to organize pre-high school futures instruction. The following have been accomplished:

1. Information has been compiled about the nature of efforts to expose pre-high school students to future studies.
2. Recommendations for pre-high school futures programs have been made, as well as suggestions for further study.

In addition:

3. A population of teachers on the pre-high school level involved in futures instruction has been identified.
4. Strengths and weaknesses of programs have been identified.
5. The first network for communication for future studies teachers on the pre-high school levels has been identified.

The future will be determined by today's children. For the first time in history children do not have the luxury of passively attending their own future. Teachers have an obligation to encourage students to start thinking about the issues that will inevitably confront them.

Such problems as unguided or misguided technology,
population growth, thermonuclear war, environmental
devastation, the widening gap between the rich and poor
and genetic manipulation can no longer be ignored or left
to cultural myopia. We are in a position of "having
our hand on the tiller of the world." Whether or not the
future generation will be able to take the tiller and cope
with tomorrow is dependent on preparations that must be
made today.

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APPENDICES

A P P E N D I X   A

CORRESPONDENCE:

Letters Sent Concerning Survey

SCHOOL OF EDUCATION

125 Marlborough St.
Boston,Mass. 02116
(617-536-8918)

1977

Dear

    As part of my doctoral work in the Future Studies Program I am trying
to locate teachers on the elementary and middle school levels in the
United States who have taught future studies, (i.e. taught about the future
in a systematic way with their students). This teaching about the future
might be as a separate unit or integrated into other curricula.

    I would be very appreciative if you could send the names of any
teachers, schools or districts who might be involved in teaching about
the future on the pre-high school level.

    If you have any suggestions concerning other sources that might be
able to provide names I would also be very grateful.

    I will be glad to send you a summary of my findings upon completion
of this survey.

Many thanks for any assistance you can offer.

Sincerely yours,

Cynthia Guy

The Commonwealth of Massachusetts

University of Massachusetts

Amherst 01002

SCHOOL OF EDUCATION

125 Marlborough St.
Boston, Mass. 0211€
(617-536-8918)

1977

Dear

    Your name has been referred to me as a pre-secondary
teacher who has been involved in futures instruction.

    I am a doctoral student in the Future Studies Program and
am interested in conducting a survey of future studies programs
on the pre-secondary levels. At this time I am unaware of any
survey that has been done of futures instruction on this level.
I am convinced that there is a real need to set up a network
between teachers interested in this type of instruction on the
pre-secondary levels.

    Would you be willing to fill out a questionnaire for this
survey? The isolation of many pre-secondary futures teachers
has made it difficult to locate teachers and your help would
be greatly appreciated.

    I will be glad to send a summary of my findings upon
completion of the survey. All information will remain
anonymous.

    Many thanks.

                Sincerely yours,

                Cynthia Guy

The Commonwealth of Massachusetts

University of Massachusetts

Amherst 01002

SCHOOL OF EDUCATION

125 Marlborough St.
Boston, Mass. 02116

April 28, 1977

Dear

Enclosed is my questionnaire for pre-high school teachers in future studies. I
hope you will be able to assist me by completing it by May 13th.

This survey represents the first organized attempt to survey future studies
programs on the pre-high school level. In my search for teachers for this survey
I have discovered many exciting programs. However, it does seem that few teachers
are aware of the work others are doing in this field. It is my hope that this study
may be of some benefit to all involved with futures education in pre-high school
grades.

The intent of the questionnaire is to identify and prioritize the objectives and
activities of the wide variety of programs. Please make an attempt to answer all
questions as accurately as possible. Space has been provided in the questionnaire
for further information, where our responses are not sufficient. I am confident
that, given the cooperation of all, this survey should yield interesting and use-
ful data and make it possible for me to make recommendations for the future.

To facilitate the dissemination of these results I will send a summary to all
respondents.

I cannot express my appreciation enough for the time and effort you will be giving
me. Without your assistance this study, which makes up the basis of my doctoral
dissertation, would not be possible.

Sincerely yours,

Cynthia Guy

Note: Responses to this survey will be treated with discretion and will remain
      anonymous.

APPENDIX   B

QUESTIONNAIRE SENT TO

FUTURES TEACHERS

SURVEY OF PRE-HIGH SCHOOL FUTURE STUDIES PROGRAMS

Future Studies: The general title given to
represent education concerned with a rational
and systematic study of the future.

Please answer as much of this questionnaire as possible (even if you are not
teaching future studies at present) in regards to your (past) program.

Background Information

1. Are you presently teaching future studies?

    ( ) Yes: How many years have you been teaching a futures program? ____

    ( ) No: Why? _____

2. a. Your name: _____

   b. Age group:

        ( ) Under 30   ( ) 50-59

        ( ) 30-39   ( ) Over 59

        ( ) 40-49

3. Name and address of school:

        _____

        _____

        _____

4. Type of school:

        ( ) Public

        ( ) Private

        ( ) Parochial

5. Number of pupils in your school:

( ) Under 100

( ) 100-250

( ) 250-500

( ) Over 500

6. Which area best fits the community your school serves?

( ) Rural

( ) Urban

( ) Suburban

( ) Other: _____

7. a. Approximate income level of community:

( ) Under $7000.

( ) $7000.-$12,000.

( ) $12,000.-$20,000.

( ) Over $20,000.

b. Does this represent the majority of the community?

( ) Yes

( ) No. Explain. _____

8. Minority profile of your students. Please give approximate percentages.

_____ Black   _____ Spanish Surname

_____ Oriental or Asian American   _____ Other: _____

_____ American Indian   _____

9. Are teachers in your school or district involved in futures instruction at present?

( ) Yes: a. Total number of teachers in futures program: _____

b. How many of these teachers are on the secondary level? _____

( ) No

( ) Don't know

10. How did your futures program get started?

    ( ) Personal interest in the area

    ( ) Suggestion of administration

    ( ) Influence of other teachers

    ( ) Other. _____

Curriculum:

11. How do you, or your team, offer futures instruction? Which choice best describes your program:

    ( ) A separate subject

    ( ) A mini course

    ( ) A unit within another subject/s, specify subject/s: _____

                                      _____

    ( ) Other, explain: _____

Eligibility:

12. Who is eligible for your futures program as described in number 11?

    ( ) All students in grade or team

    ( ) Students electing the program

    ( ) Students selected for program, basis: _____

    ( ) Other. _____

13. How many students are in your futures program at one time? _____

Goals:

14. a. List eight goals you emphasize in your future studies program.

b. Rank order the four most important goals in your program by placing a number next to the letter with number one being the most important.

(Goals might include helping students: clarify their values, examine alternative futures, cope with the increasing rate of change, use tools employed by futurists, develop research skills, understand the effects of human beings on the environment, etc.)

_____ a. _____

_____ b. _____

_____ c. _____

_____ d. _____

_____ e. _____

_____ f. _____

_____ g. _____

_____ h. _____

Areas:

15. a. What areas do you emphasize in your futures program?
    b. What is the source of your instructional materials?

Please check only those areas included in your instruction.

	Proportion of time spent			Source of materials	
	High	Average	Low	Own	Commercial
a. Energy	( )	( )	( )	( )	( )
b. Population and growth	( )	( )	( )	( )	( )
c. The Environment (Ecology)	( )	( )	( )	( )	( )
d. Pollution	( )	( )	( )	( )	( )
e. Food	( )	( )	( )	( )	( )
f. Natural resources	( )	( )	( )	( )	( )
g. Science fiction	( )	( )	( )	( )	( )
h. Changing concepts (e.g. work, leisure)	( )	( )	( )	( )	( )

	Proportion of time spent			Source of materials	
	High	Average	Low	Own	Commercial
i. New frontiers (outer space, oceans)	( )	( )	( )	( )	( )
j. Values clarification	( )	( )	( )	( )	( )
k. World order, peace	( )	( )	( )	( )	( )
l. Technology and automation	( )	( )	( )	( )	( )
m. Bio-medical developments	( )	( )	( )	( )	( )
n. Transportation	( )	( )	( )	( )	( )
o. Alternative life styles	( )	( )	( )	( )	( )
p. Industralization	( )	( )	( )	( )	( )
q. Privacy	( )	( )	( )	( )	( )
r. Forecasting, prediction	( )	( )	( )	( )	( )
s. Art	( )	( )	( )	( )	( )
t. Architecture	( )	( )	( )	( )	( )
u. Communications and media	( )	( )	( )	( )	( )
v. Religion, spiritual beliefs	( )	( )	( )	( )	( )
w. Cultural imagery and diversity	( )	( )	( )	( )	( )
x. New terminology	( )	( )	( )	( )	( )
y. Family	( )	( )	( )	( )	( )
z. Sex	( )	( )	( )	( )	( )
aa. Careers	( )	( )	( )	( )	( )
bb. Urbanization	( )	( )	( )	( )	( )
cc. Other. _____	( )	( )	( )	( )	( )
_____	( )	( )	( )	( )	( )
_____	( )	( )	( )	( )	( )

16. What learning activities have your students done in their futures instruction?
How successful have these activities been?

Please check <u>only</u> the items you have done with your students. Add information
where content is indicated.

		Degree of Success		
		High	Moderate	Low
a.	Cross-impact charts	( )	( )	( )
b.	Time capsule	( )	( )	( )
c.	Study local community	( )	( )	( )
d.	Redesign a community	( )	( )	( )
e.	Read or write science fiction	( )	( )	( )
f.	Design and/or build models of living environments for the future	( )	( )	( )
g.	Build alternative energy system	( )	( )	( )
h.	Construct futures wheels	( )	( )	( )
i.	Create or write a scenario	( )	( )	( )
j.	Use a computer	( )	( )	( )
k.	Futures games and simulations	( )	( )	( )
l.	Design future body parts	( )	( )	( )
m.	"What if" story completions	( )	( )	( )
n.	Values clarification exercises	( )	(·)	( )
o.	Write letters to people or newspapers	( )	( )	( )
p.	Do a delphi poll	( )	( )	( )
q.	Work with or visit members of the community	( )	( )	( )

r. Keep notebooks or diaries:
         content: _____

         _____

         _____   ( )   ( )   ( )

s. Story completion
         content: _____

         _____

         _____   ( )   ( )   ( )

	Degree of Success		
	High	Moderate	Low
t. Read from text or articles titles: _____			
_____			
_____	( )	( )	( )
u. Mapping or graphing (math activities)	( )	( )	( )
v. Recycling activities	( )	( )	( )
w. Select problems, propose solutions	( )	( )	( )
x. Conduct a futures fair	( )	( )	( )
y. Publish a futures oriented paper or bulletin	( )	( )	( )
z. Music activities dealing with futures themes	( )	( )	( )
aa. Write futures poetry	( )	( )	( )
bb. Activities centered around finding information (library skills, etc.)	( )	( )	( )
cc. Art activities (collages, murals, cartoons, dioramas)	( )	( )	( )
dd. Create or discuss metaphors for the future	( )	( )	( )
ee. Write forecasts or predictions	( )	( )	( )
ff. Write or act in a play about the future	( )	( )	( )
gg. Do a decision tree			
hh. Do a news broadcast on the future	( )	( )	( )
ii. Do a feedback loop	( )	( )	( )
jj. Identify trends	( )	( )	( )
kk. Design more effective systems (i.e. justice, government, etc.)	( )	( )	( )
ll. Other. _____	( )	( )	( )
_____	( )	( )	( )
_____	( )	( )	( )
_____	( )	( )	( )

17. Which of the following aids do you use in your futures instruction?
Please give examples where possible.

( ) Field trips _____

( ) The community _____

( ) AV materials _____

( ) Resource people _____

( ) Games _____

( ) Other. _____

_____

Evaluation:

18. How have you evaluated student progress in your futures program?

( ) Grades ————————————→ Please rank order, one being the
most important input for grades:

( ) Written evaluations
of work

( ) Tests

( ) Other. Explain. _____

( ) Classroom participatic

( ) Written work

_____

( ) Work habits

_____

( ) Other. _____

_____

19. How successful do you feel your overall futures program has been?

( ) Very successful

( ) Good

( ) Moderately successful

( ) Poor

( ) Very poor

20. Where do you receive the most encouragement for your program?

( ) Other staff   ( ) Students

( ) Administration   ( ) None

( ) Parents   ( ) Other. _____

21. **a.** Do you have direct financial support for your futures program?

      ( ) Yes: Please supply details if possible.

          Source. _____

          Yearly amount. _____

          Duration. _____

      ( ) No

  b. Do you have any financial support for your futures program?

      ( ) Yes: Please explain. _____

          _____

          _____

      ( ) No

General:

22. What do you feel are your major needs as a future studies teacher?

    Please prioritize your selections with number one being the most important.

      ( ) More instructional materials

      ( ) More support from administration or other staff

      ( ) Money

      ( ) More knowledge of the field

      ( ) More help from resource people and the community

      ( ) Other. _____

      _____

23. Do you foresee problems in continuing your futures program in the future?

    ( ) Yes:

        ( ) Budget cuts

        ( ) Emphasis on other areas in the curriculum, specify areas:

                _____

                _____

        ( ) Lack of support from administration or staff

        ( ) Lack of student interest

        ( ) Lack of instructional materials

        ( ) Other. _____

        _____

    ( ) No

24. Do you plan to continue your futures instruction in the future?

    ( ) Yes: What changes, if any, will you make in your program?

        _____

        _____

    ( ) No: Please explain why if reasons differ from items checked in
          number 23.

Comments:

a. Please add any questions that you feel should have been included in this
questionnaire.

b. In order for me to better understand your program please include any availabl
course syllabi, curriculum activities, evaluation reports, etc.

c. In order to insure consistency and validity, would you be willing to fill out
another copy of this questionnaire in several weeks? Thank you.

    ( ) Yes

    ( ) No

My sincere appreciation for your time and effort.

APPENDIX C

MATERIALS SENT

BY RESPONDENTS

OVERVIEWS OF PROGRAMS

BEYOND THE BASICS

Changes are occurring in the world every day, every hour, every minute and every second. During the few minutes you spend reading this article, changes will have occurred which will affect the very fiber of your life and well-being.

Many teachers are becoming acutely aware of the need to help students recognize these changes and build a foundation for assimilating these changes into their lives. Teaching the same old material in the same old way will not prepare the future adult to deal with the changes which will touch his life.

As a reading specialist who spends all day teaching reading with a systems approach, I felt that the students needed more than a good skill basis in order to meet the demands of the 1980's and the years to come. The problem was to add this dimension without sacrificing any successful phase of the existing program.

First, I defined the areas I felt were a major priority. I chose "The Nature of Change," "Technology and Automation," "Environmental Studies," and "Consumerism." Next, I scanned several commercial materials which were written on multi-levels and which had skill exercises included. I selected two series which had a preponderance of selections in the areas I wanted to see. I also perused magazines and journals for articles and wrote exercises for these articles.

Since the system used by my school for reading is set up also by skills on performance levels, these materials then were coded for use in conjunction with the present program. Supplementary materials include kits from the Center for the Humanities, films and tapes. The length of time utilized varies with individual students but at least one quarter will be spent with each student I see during the day.

It is my strong belief that a study of the future belongs in every student's course of study and that a systems approach can be modified to meet this pressing need. Every teacher of every student needs to examine his program and see where an emphasis on the future can be placed. Time and tide wait for no man and the future is already here!

FUTURES STUDIES CHECKLIST

_____	Behavior Modification	_____	Minority Rights
_____	Film Making	_____	Changing Roles of Women
_____	Ecology	_____	Future Shock
_____	Population	_____	The Nature of Change
_____	Changing Life Styles	_____	Forecasting Techniques
_____	Environmental Studies	_____	Food/famine
_____	Technology - Automation	_____	Computer Use
_____	Aging/Immortality	_____	Genetic Control
_____	Crime/Rehabilitation	_____	Science Fiction
_____	Futures Vocabulary	_____	Mind Control/ESP
_____	Architecture	_____	Biofeedback
_____	Space Exploration	_____	Politics and Government
_____	City Planning	_____	Consumer Awareness

_____ City Planning
       transportation
       communication
       urban growth

_____ Values Clarification and Self Awareness

_____ Work/Income/Leisure Time

_____ Genetic Breakthroughs and Their Moral Dilemmas

_____ Futurists and Future-Oriented Organizations

_____ International Relations/Peace-keeping Structures

Other:

B.

1975 – THE WORLD – 2000

TABLE OF CONTENTS

OBJECTIVES

1. To make students aware and "knowledgeable" about current world problems and their interconnectedness.
2. To familiarize students with the political and geographical interconnectedness of the world.
3. To vividly demonstrate the difficulty of politically resolving problems without resoting to the final political act of WAR.
4. To help student explore different methods used in predicting futures.
5. To sensitize students to current affairs and their implications.

There are a number of ways of introducing this unit. It could be part of a more general course in FUTURES whose outline includes:

        I. Personal Futures
        II. The Post-Industrial Society
        III. Internationalism or the Global Village

Or this unit can be used independently. The difficulty is finding material so all can participate, and the need to constantly push students into their roles. In this exercise, students play two roles; one, as expert in a problem area and two, as a representative of a particular country.

This unit could be made part of a World History course or a course in Twentieth Century History. To avoid the problems of role playing, it could be set up as a Council of the Gods based on the Chariot of the Gods concept; where to interfere in the course of human history and how.

I start the unit with questionaires which seek to find out where the students are in their concerns and some basic knowledge. These questionaires are used as discussion initiators and also help define problems.

I then delegate students to become expert on a particular country; information to be recorded on index cards for quick reference. Most basic information can be found in Almanacs but will have to be updated with newspapers and journals.

After they are on their way in knowing a country, I then list the problems they have outlined and let them choose a problem area for which they will be responsible. Two to three students per problem allows for a wide range of classroom expertise. Using the Readers Guide (see PERIODICAL SHEET) and current journals, magazines and newspapers, the students start putting together a folder of information on their subjects (see PROBLEM AREA PACKET). The information they are gathering includes: 1. statement of the problem, 2. some background, and 3. predictions. Interesting articles could and should be shared periodically with the rest of the class.

The next step is grouping students around larger, more general categories of problems in order to share a wider range of expertise. The committee task is to generate proposals to be discussed in the GENERAL ASSEMBLY meeting, 1975.

The balance of the unit is self-explanatory and includes forms students use to record information. It should be made clear that ACTIVITY SHEETS are used to record events that are or will happen outside the CONFERENCE. These must be submitted for approval and anything is permissable if they have a rationale and have considered the consequences. Examples of what happened in the 1975 CONFERENCE:
1. Countries in Southeast Asia united to form the Socialist States of Indo China.
2. O.P.E.C. nations raised the proce of oil.
3. A number of Latin American nations joined together for economic and political reasons.

The activities are communicated to the members of the CONFERENCE, some of which require some immediate action.

One of the issues raised at the opening sessions of the CONFERENCE was the question of who was the legitimate delegate to the CONFERENCE. One country tried to seat the Palestinian Liberation Organization and also the revolutionary from Columbia. In these cases, both were rejected. In all of these sessions, the students learned the in's and out's of PARLIAMENTARY PROCEDURE. It is also helpful if teachers play delegates at the CONFERENCE as this can set the tone.

All of the above prepares the way for a fairly sophisticated CONFERENCE for the year 2000 when the students have to deal with a world which they created at their CONFERENCE in 1975.

Activities from Kindergarten Futures Class

1. The class traced their heritages through ancestors
    who worked on the construction of the nearby Triboro
    Bridge during the last century. Pictures were brought
    in of the bridge during construction and the com-
    munity at the time and were compared to present-day
    photos.

2. Based on present growth rates the number of McDonald's
    that could be in the area by the time of graduation
    was   figured.

3. Skits were planned and performed of such things as
    visiting a doctor's office of the future.

4. Classroom displays included futuristic forms of
    transportation and buildings.

5. A time capsule was buried by the class until the
    last day of school which contained predictions by
    the class for the last day. (great enthusiasm!)

FUTURE STUDIES - A course outline
1976-77

A. Course Description:

Future studies is an independent honors course offered to students of the eighth grade. The first half of the course allows the student to examine the historical trends of the Past through an anthropological-approach to Culture. The second half of the course focuses upon the Future in determining those values that pattern trends and forecasts.

B. Course Objectives:

To allow a group of students to participate in a productive learning center

To determine the broad areas of history that make up the pattern of culture, its tendencies, dynamics, and developement.

To stress the close inter-action and interdependence of the environment and culture.

To demonstrate that any projection of the future deals, ultimately, with people, and with their constantly changing values and needs.

To facilitate the construction of a Society at the conclusion of the course.

C. Student Guidelines:

1. Students must maintain a B average in all other academic work.
2. Students are to be responsible for all assignments. Late work will not be permitted.
3. Respect for the opinions and views of fellow-members is vital for the growth of all.
4. The Future Studies pass is to be used only for Futures work, in the Library.
5. Students will keep a Journal containing assignments, reserve reading responses, research, class responses, suggestions, diary. This Journal will be evaluated every 4th week.

D. Contracts:

1. This course is a non-credit honors course.
2. A Contract situation is available if you desire extra credit for your work in Future Studies. For example - your work in building a solar-collector could be under contract with Science. The study of Science Fiction and Literature could be in conjunction with English credit. This arrangement is to be worked out with the individual instructor.

E. Monthly Schedule, Future Studies, 1976-77

a. Three activities to promote Group Interaction

1. <u>Role-playing</u> - real and imaginary situations
2. <u>Time-Lines</u> - personal time in relationship to society time / a project to introduce the concepts of Culture and Socialization. What does it mean to be a member of a society?
3. <u>Lost on the Moon</u> a future studies game devised by NASA. Students work individually and then as a group to settle conflicts.

February, 1977

b. Concept - building
   1. <u>Culture</u> - how it is patterned? - how am I a part of it, how does it shape my environment?
   2. <u>Socialization</u> - a survey view from 1900 to the present. What is the price one pays for enculturation?
   3. <u>Culture - Whole</u> - includes all areas of culture. How and why do the parts inter-relate - sometimes in harmony, sometimes in conflict, sometimes in destruction.

March, 1977

c. <u>The Future</u> - can "we" shape it? Text and resource readings expose students to future ideas, trends, forecasts.
   1. Students select an area of the culture-whole for in-depth, future research. For example communications, family, education, government, energy.

April, 1977

d. <u>Science Fiction</u> - look to the literature of the past.
   1. Science Fiction and Literature
   2. Science Fiction Play - written and directed by students

May, 1977

e. <u>Earth</u> - a limited resource.
   1. Environmental education and values clarification.
   2. Examining the patterns of culture in relationship to the uses of resources. Are they ecologically compatible with the survival of the environment. (example: the interface among our cultural pattern of whales, economics, modern technology.)

June, 1977

f. <u>Society</u> - a design for the Future.
   1. Students construct a society in the future, that reflects their values as a group.

<u>FIELDTRIPS</u> - (proposed)

<u>February 1, 1977</u> - Hartford Sewage and Pollution Treatment Plant - to examine how a area processes its waste in relationship to the environment and also to become aware of waste as a alternative source of energy.

<u>February 4, 1977</u> - Cooper - Hewitt Museum of Design - to see the exhibit, Man trans Forms to see design, to show <u>why</u> things look the way they do, <u>how</u> things are designed, and <u>how</u> they affect our lives.

-3-

March, 1977 - Talcott Mountain Science Center - to view a Solar Energy Study project in conjunction with making solar collectors in the course.

April, 1977 - Congressional Clearinghouse on the Future - Workshop Washington, D.C. (in conjunction with Washington Trip) - to demonstrate the relationship between legislation in a government and Future Planning.

May, 1977 - The New Alchemy Institute, Woods Hole, Mass. - a camping weekend with a day trip to Nantucket Island. - students will attend workshops at this nationally recognized farm where alternative sources of energy - sun, wind, recycling in living and food production are currently being developed and tested.

G. Future Studies Staff

    a. Mary Collins, - instructor and developer of Future Studies Center.
    b. Catherine Miller, - media and resource faciliatator for Future Studies Center.

"THE FUTURE IS PURCHASED BY THE PRESENT"
.....Sam Johnson

Culture Development Systems Approach

People

Ideas   Habitat

Technology   Organization
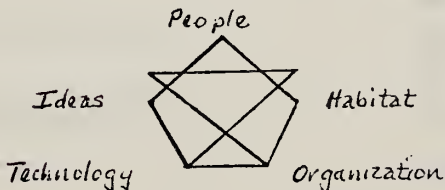
E.

AEROSPACE IN YOUR FUTURE

P F F MINI CYCLE

MAY 18 - MAY 25, 1977

Special Assemblies, all Students

May 17	Dr. Mervin K. Strickler
May 24	Mr. John Sorenson

Courses, May 18-May 25

1. Aircraft, From Kitty Hawk to SST	Lloyd Aronson, NASA Goddard Space (Flight)
2. Space Shuttle	Dr. Harry Herzer III, NASA Mr. Jack Bannister, NASA NASA Space Science Ed. Project
3. Air Traffic Control	Edward D. Thomas FAA ARTCC Center
4. Aerospace Medicine	USAF Team
5. Russian Civil Aviation	Dr. Mervin K. Strickler FAA Office of General Aviation
6. U.S. Military Aviation	William Reynolds USAF-CAP Eastern Region
7. Helicopters	Jean Ross Howard AIA Col. John Iselin American Helicopter Assoc.
8. Business & General Aviation	Bruce Landsberg Cessna Aircraft Company
9. What Pilots (and others) Need to Know About Common Drugs	Dr. Deanna Kitary University of Virginia
10. Flights of Fantasy	Muriel Thorne, NASA

F.

MILFORD FUTUROLOGY PROGRAM

GOALS

The following is a list of general goals which guide the staff in implementing the program. They serve as directions and are not intended as specific behavioral objectives. Such specific measurable objectives, stated in performance terminology, are integral elements of each instructional unit. This list of goals describes both the optimum outcomes for the individual student and for the program.

After participating in the program, the student will be characterized by

- an understanding of the concept of change, its acceleration, and its effect on his life;

- an ability to recognize trends and to project alternative future paths;

- an understanding of the role of technology in shaping paradigms;

- an ability to employ various forecasting techniques;

- an ability to integrate information and ideas from a variety of sources;

- an ability to apply several approaches to solving problems, and to evaluate solutions;

- an understanding of the factors involved in making decisions;

- an ability to use imagination and divergent thinking;

- an ability to examine, evaluate and act upon personal value systems;

- an understanding of how value systems affect decisions and actions;

- an understanding of the pluralistic nature of possible futures;

- an understanding that action taken in the present is largely determined by images of the future;

- an understanding that action taken in the present determines the future;

- a willingness to take an active role in determining his own and society's futures;

- a paradigm which is consistent with a wholistic spatial and temporal view;

- a reasonable and reasoning optimism;

- an interest in sharing his concern for futures.

The program itself attempts to

- model an enrichment program in education of gifted students;

- model a transdisciplinary, experience-based approach to synthesis in education;

- model application of futures studies to education;

- demonstrate a balanced view of past, present and future;

- develop interest in the education of gifted children and in futures studies;

- provide information and assistance for interested persons and organizations.

G.

SCIENCE FICTION - FUTURISM UNIT

Futurism: The study of alternatives for the future through science fiction and current social trends.

General objectives:

1. The student will become aware of the wide range of alternative futures.

2. The student will be introduced to and recall the major themes in science fiction.

3. The student will realize what effect decisions made today will have in creating desired futures and that the future can be controlled.

Major themes in science fiction:

1. Technology controlling man rather than man directing the speed and development of technology.

2. Loss of identity in an over technological or totalitarian world.

3. Maintaining the precarious balance of nature upset by man and his machines.

4. What will humaness be? What will be the impact on modern man as medicine replaces his body or brain?

5. The destruction of society by unleashed and uncontrolled technology.

6. Most importantly, what will be of value in the future?

Science fiction course, Nine Tomorrows by Issac Asimov
Stories to be considered:
  "Profession"
  "Feeling of Power"
  "All the Troubles of the World"

Film sources:
  "Silent Running"
  "Stranger Than Science Fiction"
  "2000 A.D."

Activities:
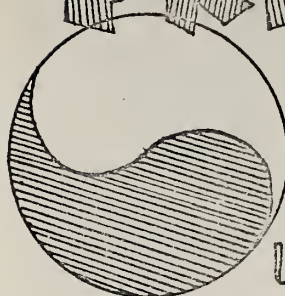
A poll will be taken at the beginning of the unit and at the end   measure any change in values held by the students.

The students will be involved in three discussions of the literature and activities.

To involve the students in a simulation of decision making for a country, they will participate in a computer game dealing with the administration of a mythical country.

The students will take a vocabulary quiz from a list derived from the stories. They will also take a content quiz on the stories.

The student will complete a project that will indicate the individual's impression of some facet of the future. Preparation for this scenario will involve some library research.

PREPARATION FOR THE FUTURE

AN ALTERNATIVE IN PROCESS EDUCATION

WHO: 8th Graders, Dist. 66 Schools, Omaha, NE.

Interdisciplinary: English, Social Studies, Science **:WHERE**

WHAT: Teach students to avoid being trapped by one way of thinking. Help students develop the attitude that they can be actively involved in influencing their own futures. Clarify personal values systems. Anticipate and Adapt to change.

Develop freedom and responsibility to know and choose desirable futures. Create the awareness in students that the future is a mind set, not a series of givens. Involve learning processes that teach students to ask questions about social and cultural alternatives, limitations, choices. **:HOW**

DESIGN: The operational proposal is designed to create the awareness that there is no final way to knowledge but there are constantly changing ways to know. Interdisciplinary curriculum is designed to move sequentially through English, social studies and science. Values, decision making, and self-awareness will be emphasized in communication and language arts the first quarter. During the second and third quarters man as an individual, in the community and in the world, will be emphasized in social studies and science. Students will learn to sharpen their inquiry and problem solving techniques. They will demonstrate a competency to design, develop and apply specific forecasting techniques within selected parameters of investigation. They will apply the results of their inquiry to specific areas of social and environmental concerns in the fourth quarter.

ARTICLES ABOUT PROGRAMS

Easy Ways To Help Children Think About the Future

Two futurists incorporated educational futurism into a fifth grade classroom. In the following article they describe three techniques that they developed.

by Jerry Glenn and Cyndy Guy

Children, unlike adults, have little difficulty thinking about the future. In our work with ten-year old students in New Hampshire, we brought futuristics into the classroom using techniques that require only pencil and paper. Three methods which we found to be extremely easy yet fascinating are futures wheels, modified cross-impact analyses and futuristic scenarios.

Futures Wheel

A futures wheel begins with a circle drawn in the center of any piece of paper. Within the circle, each student writes down a subject that interests him, or the class as a whole. The subject can be an event, trend or idea—anything that the students want to know more about.

Next, each student extends a number of spokes from the central circle on his piece of paper. He makes each spoke end in a possible result or association of the initial idea. The process is then continued to examine third and fourth order consequences of the germinal thought.

The comments of students who construct futures wheels often indicate their intellectual processes at work. For example, one little girl threw down her pencil in anger and confusion

How Will This Affect This	I want to travel	I want to swim better	I want to go to college
I want to travel	XXX	I might not be near a swimming pool	If I travel, I might not have time to go to college
I want to swim better	I might not be able to travel because of work outs & swim meets	XXX	I might have to go to swim meets during college
I want to go to college	If I go to college, I might not have time to travel	I might have too much work to have time to swim	XXX

One fifth-grader's modified cross-impact analysis is shown above.

during the exercise and exclaimed, "I started off with more people and I ended up with fewer people. That doesn't make sense!" We asked her to see if she could find her mistake.

Later the child said, "Well, if we continue having more people and living the same way, we will die. I guess we'll have to change if we want more people." The point is that the student taught herself a great deal about the population issue through the use of this futuristic method.

Of course, futures wheels can get out of hand if you keep running out new lines. There are visual and spatial limits! Some of the fifth graders with whom we used this technique ended up with the most complex intellectual spaghetti we have ever seen.

But kept under some control, this is an excellent technique for multi-concept formation, and an aid for brainstorming. Such a visual package of information is also a guide for associative reasoning, anticipatory awareness and adaptation. Moreover, it has been successfully tested on the elementary, secondary and college levels.
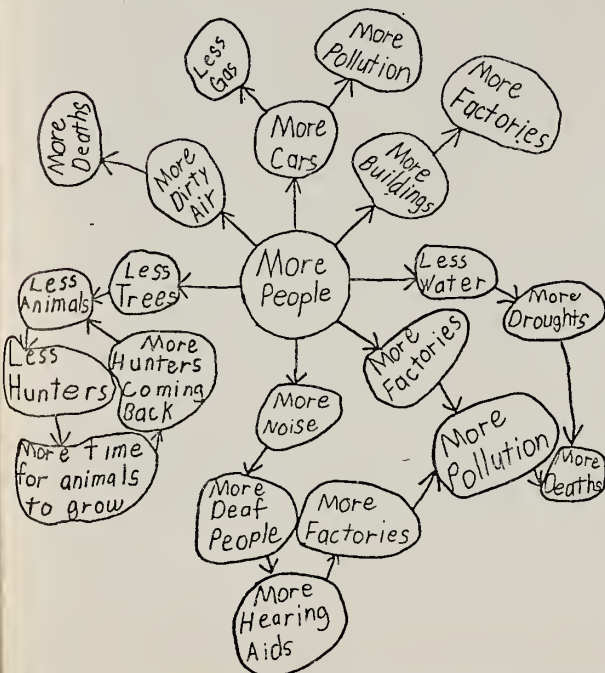
Modified Cross-Impact Analysis

In this exercise, each student selects three activities in which he or she would like to engage. These are listed along the side and across the top of a sheet of paper so that two axes are formed. The student then tries to determine how each activity may affect the other two.

One student we worked with had the recreational goals of swimming and travel, which she realized could be conflicting or extremely compatible with her educational aims (see accompanying cross-impact analysis). By using the cross-impact technique, she learned several valuable things. One is the importance of time. The student seems to conclude that travel and college will vie for top priority. For an adult, there seems plenty of time for both, but a fifth grader may have a different perspective.

Recognizing that time is important, the student will probably begin to *plan* future activities which she most wants, working as many as possible into each other. She may realize, for example, that swim meets can be integrated with college activities, as long as the academic work load is not too great.

Students can also use cross-impact analyses to forecast trends. Some forecasts developed by our students were strikingly similar to the pessimistic projections of Dennis Meadows and his colleagues at the Massachusetts Institute of Technology, while still others were more optimistic and suggestive of the views of Buckminister Fuller and Herman Kahn.

Futuristic Scenarios

Students can also try to envision the world of the future, and then express that vision in an oral presentation, a written essay, a dramatic piece, or the actual construction of a small-scale city of the future. Some teachers have even had students construct their interpretation of what the human form may eventually look like if it adapts structurally to continued noise and air pollution, dietary changes, etc.

Futuristic scenarios can be extrapolations of existing trends which the class discerns by clipping magazines, newspapers or other contemporary items of interest. Or, the scenarios may be purely the product of the students' imaginations. Scenarios could also involve the construction of the child's utopia—or dystopia, if he finds that more intriguing.

Children often will question the scenarios of their peers, indicating what they would like to see changed in the scenario to produce a different set of conclusions.

Our fifth graders made lists of policies and gave each policy a priority. Popular policies were recycling, bicycling, talking to people about future problems, and introducing technological solutions to solve problems.

One ambitious boy said, "I'm going to talk and help people to understand the idea of the transportation room. It should be usable by 1999. It is a little chamber you get into and turn into little atoms (energy patterns?) and put where you want to go and then you are reassembled in human form . . ."

"Futures wheels" give students a chance to explore the ramifications of a complex problem, such as population growth. The wheel shown here is in an early stage of development. School children generally make wheels that are far more complex.

Building the future

Program teaches youngsters to relate to their environment

By GARY CHRISTIAN
Post Reporter

During Doreen Gehry Nelson's 14 years as an elementary classroom teacher in Los Angeles, her father would teasingly tell her, "Maybe someday you'll get to teach a higher grade."

Perhaps she has reached that higher grade with her innovative City Building Educational Program.

Explaining the program is difficult, because, as Nelson said during an interview in Houston, "Though it started out as a program, it's more of a system of thinking."

THE IDEA OF building a curriculum around the theme of city building developed when she was appointed in the late 1960s to a committee trying to determine what the citizens of Los Angeles wanted their city to look and be like in the future.

"We soon discovered that most people interviewed didn't have the tools, vocabulary or the problem solving ability to think about the present environment in relation to the future."

At the same time, Nelson was not entirely happy with traditional elementary education.

But she believed it did not teach creativity or the two things she found Los Angeles residents lacking decision-making and problem-solving abilities. Even her most gifted students weren't creative, she said.

"I DON'T THINK little kids have cute, wonderful imaginations," said Nelson. "I think there is a tendency in human beings to be imaginative, but it has to be trained."

So she spent the next two years developing a curriculum she felt would teach kids techniques for surviving and thriving in the future.

The curriculum was built around architecture, in part, she admits, because her brother Frank Gehry is an architect. But mostly it was because she was considering the three necessities - food, clothing and shelter - as a means of getting through to students.

"Architects are the only people I know of who house peoplekind," she said. "They've invented a system that's rather universal.

THE PROGRAM IS being used in 50 classrooms in 10 of Los Angeles' school districts. It is being taught from kindergarten to university graduate level. The Fort Worth Art Museum is sponsoring classes this fall.

Phase I of the year-long program concentrates on individual discovery. Games and activities are aimed at teaching students who they are, where they live and how to evaluate their immediate environment, Nelson said.

That leads quickly into group activities such as building a model future city and redesigning the surrounding classroom.

Phase II involves the student with objects, things that change naturally, that can be changed and transformed. Phase III proceeds from lessons on self and objects to the relationship of an individual to an organization. It's a time for government games.

THE STUDENTS are ready by the end of Phase III to begin building their model city of the future. Architects work with the students. The chore takes in more than design decisions. It calls for political and economic answers as well.

The problem with evaluating the course is that it can't be tested in the usual way. But a Los Angeles County study of five building classes showed students ahead of students in five regular classrooms in most academic skills.

Nelson already has come up with similar programs in other areas, communications and career building. She is working on a criminal justice program. "I can't tell you what it is going to be. We'll probably invent prisons and justice systems of the future."

Nelson conducts workshops for new teachers during the summer.
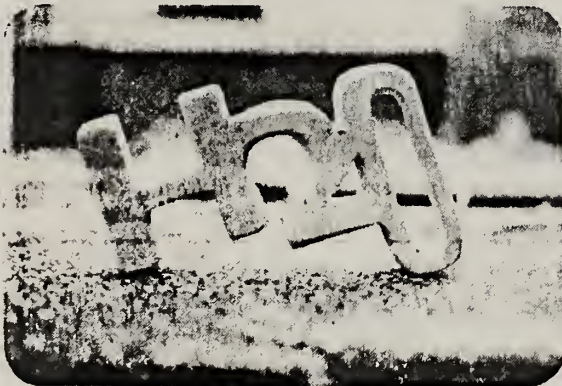
Imaginative design for water works building

City grows out of problem-solving, inventing

Colorado Council for the Social Studies

P.O. Box 10524, University Park Station, Denver, CO 80210

SPECIAL EDITION: "TEACHING THE FUTURE"

NEWSLETTER, APRIL, 1977, VOL. 6, NO. 3

Dear Member:

This Special Edition of the CCSS Newsletter grew out of the feelings of the CCSS officers that the services the Council provides should be widened, as well as the personal belief of the temporary Editor that the Future Studies movement provides us as educators with a very special opportunity to enrich, change, develop, and expand both our classrooms and ourselves.

Alvin Toffler, in the Introduction to his <u>Learning for Tomorrow: The Role of the Future in Education</u>, states:

> Like our distant ancestor, educators, too, need an image of tomorrow's society. But this image must include the possibility--indeed the high likelihood--of radical change. This image need not be "correct" or "final"; it cannot be. There are no certainties, and any picture of a foreseeable society that depicts it as static or stable is probably dulusory. Thus...we need not images of a future frozen in amber, as it were, but something far more complicated: sets of images of successive and alternative futures, each one tentative and different from the next.

Materials for use in constructing these images of the future are being published every day, and no listing can be complete. This issue focuses on the most recent materials, largely from 1974-76, but a wealth of "good stuff" was published in the early 1970's and more is coming out every day. Materials for the K-6 years are sadly lacking, and as usual, the elementary teachers will have to rely more heavily on their own creativity.

The officers of the CCSS hope this Newsletter format will be useful to you. Please write and let us know your feelings.

Theresa Koontz Noland

SAMPLES OF CURRICULA

DIRECTIONS: The following questionnaire will be used by your teachers to determine
what parts of the "Future Unit" will be changed, eliminated, and/or expanded.
Please answer all questions carefully and honestly. Your opinion will determine if
classes to come will participate in the "Future Unit."

Check the box that best tells how you feel about the items listed and use the
space after each subject to comment on the items listed.

MATH	Good	Fair	Poor	Do Not Remember	Eliminate
1. Mission X, Y, or Z	☐	☐	☐	☐	☐
2. Making an Inflatable	☐	☐	☐	☐	☐
3. Class on Inflatables	☐	☐	☐	☐	☐
4. Einstein (film)	☐	☐	☐	☐	☐
5. Time Got You Bugged? (film)	☐	☐	☐	☐	☐
6. The Great Relativity Bomb Plot	☐	☐	☐	☐	☐
7. Automation: Promise or Threat? (filmstrip)	☐	☐	☐	☐	☐
8. Day in the Life of a Computer (slides)	☐	☐	☐	☐	☐
9. Computers: Will They Free Us or Enslave Us (Reading)	☐	☐	☐	☐	☐
10. General discussion about use of computers	☐	☐	☐	☐	☐

COMMENTS: _____

_____

_____

_____

SCIENCE	Good	Fair	Poor	Do Not Remember	Eliminate
1. Terra II (role playing situation)	☐	☐	☐	☐	☐

COMMENTS: _____

ENGLISH	Good	Fair	Poor	Do Not Remember	Eliminate
1. Flight to the Moon - Activity about picking 4 survivors to start a Moon Colony	☐	☐	☐	☐	☐
2. All Summer in a Day - Ray Bradbury	☐	☐	☐	☐	☐
3. Harrison Bergeron - Kurt Vonnegut, Jr.	☐	☐	☐	☐	☐
4. Tomorrow and Tomorrow and Tomorrow by Kurt Vonnegut, Jr.	☐	☐	☐	☐	☐
5. A Pail of Air - Fritz Leiber	☐	☐	☐	☐	☐

COMMENTS: _____

_____

* This is the questionnaire that was
used to determine student response to the
Future Unit. It lists the major materials
and activities which were incorporated
into the curriculum.

SOCIAL STUDIES

Readings:	Good	Fair	Poor	Do Not Remember	Eliminate
1. Predictions - short term	☐	☐	☐	☐	☐
2. Predictions - individual	☐	☐	☐	☐	☐
3. Predictions - society in general	☐	☐	☐	☐	☐
4. Predictions - leisure, work week, school	☐	☐	☐	☐	☐

Movies	Good	Fair	Poor	Do Not Remember	Eliminate
5. Leisure - Four Day Work Week	☐	☐	☐	☐	☐
6. Mass Transit - Up, Up and Away	☐	☐	☐	☐	☐
7. From the Face of the Earth	☐	☐	☐	☐	☐
8. Cities of the Future	☐	☐	☐	☐	☐
9. Weird World of Robots	☐	☐	☐	☐	☐

COMMENTS: _____

READING

	Good	Fair	Poor	Do Not Remember	Eliminate
1. It'll Never Happen (True or False Predictions)	☐	☐	☐	☐	☐
2. When You're in Your Forties - Cities Transportation, Work, Free Time	☐	☐	☐	☐	☐
3. Times Angry Man (Play about time machine)	☐	☐	☐	☐	☐
4. The Forbin Project (Play about computers taking over the world)	☐	☐	☐	☐	☐
5. EPICAC (Story by Kurt Vonnegut)	☐	☐	☐	☐	☐

COMMENTS: _____

SPECIAL EVENTS

	Good	Fair	Poor	Do Not Remember	Eliminate
1. Silent Running - movie	☐	☐	☐	☐	☐
2. Telephone Company - assembly on communication	☐	☐	☐	☐	☐
3. Play - Visit to a Small Planet	☐	☐	☐	☐	☐
4. Mr. Ullery - The World of Work	☐	☐	☐	☐	☐
5. Ms. Neisen - Home of the Future	☐	☐	☐	☐	☐
6. Mr. Kroner - Cities of the Future	☐	☐	☐	☐	☐
7. Help Period movies	☐	☐	☐	☐	☐

COMMENTS: _____

What single event do you remember the most about the last two-week unit?

_____

Other comments about the "Future Unit" _____

_____

B.

PREPARATION FOR THE FUTURE

WHEN WILL IT HAPPEN?

Below are some predictions about the future. Working with a group of students, choose the time when you think the prediction will most likely come true. Choose dates and give reasons for your answers.

	Before 2000 A.D.	2000-2020	2020-2050	2050-3000	Never	Reasons
1. When will school become year round?						
2. When will school attendance become voluntary?						
3. When will students attend school only by means of T.V.?						
4. When will we be able to live under water?						
5. When will our life span exceed 100 years?						
6. Picture telephones						
7. Robot servants						
8. Passenger travel to other planets						
9. Colonization of other planets						
10. Contact with extra-terrestrials						
11. Sea-mining						
12. Travel outside our solar system						
13. Communication with animal						
14. A real six million dollar man						

C.

FUTURE INNOVATIONS

Write the 10 possible scientific discoveries below on the board and construct 5 columns labeled: Very Favorable, Favorable, Little or No Concern, Detrimental and Very Detrimental. Discuss each discovery to assure that students understand. Dates are expert's predictions for these breakthroughs

1. Chemical control of aging process, permitting extension of life span by 50 years with proportionate increase in the number of years of vigor.(2015)

2. Sustaining the human body in frozen storage, thereby permitting it to be brought back to life at a later date. (2025+)

3. Development of "raceless" societies among at least one half of the world's population through interbreeding. (2025+)

4. Availbility of cheap non-narcotic drugs (other than alchohol) for the purpose of producing specific changes in personality characteristics.(1980)

5. A process in which the nucleus of an ovum is removed and replaced by a somatic cell, allowing development in a host mother of an individual genetically identical to the person supplying the somatic cell. (1985)

6. Control of people's behavior by radio stimulation of the brain. (1985)

7. Availability of complex robots which are programable, self adaptive, and capable of performing household chores, such as preparing meals and cleaning.(1990)

8. Use of mental telepathy as a mode of communication. (2025)

9. Discovery of information proving the existence of intelligent beings beyond the earth. (2025+)

10. Maintenance of the human brain outside of the body for 1 month. (2025)

Poll the students to obtain their opions on the impact of each discovery if it were applied to society in the near future. After the votes have been recorded, the class can offer reasons for their responses. After this discussion have students vote on whether on not to apply the discovery to society.

D.

TOPIC: Women's Rights

SUBTOPICS – See Women in Politics
                          Business
                          Science
                          Industry
              U.N. – Rights for Women
              Civil Rights – women
              Equal rights amendment

Related Topics:
  Work
  Family
  Human rights

QUESTIONS:
1. How is the increase in women's rights affecting the American family?
2. What are the current women's organizations and what are their programs?
3. How is the role of the male in American society affected by the changing role of women?

BIBLIOGRAPHY:

TOPICS Human Engineering

SUBTOPICS:
  Eugenics
  Euthanasia
? Cyborgs
?Prostheses
  Longevity
  Cloning

Related topics:

QUESTIONS:
1. What ethical and moral problems are created by the Revolution in biology?
2. Who will or should make the decisions as to whom the services will go?
3. Should there be restrictions on the kind of research being done?

BIBLIOGRAPHY: Taylor, Gordon, The Biological Time Bomb

TOPIC: Nuclear Technology

SUBTOPICS: Related Topics:
  Radiation in medicine   Energy
  Nuclear power plants   War - weapons
  Bomb tests   Pollution
  Nuclear waste products   International crime
  Terrorists
  Transportation

QUESTIONS:

1. What is the current use and predicted use of nuclear power
    plants in the future? Where are these plants located or
    proposed locations?
2. How is nuclear waste now being disposed of and what proposals
    are there for future waste disposal?
3. What are the dangers of plutonium falling into the hands
    of terrorists?
4. What are breeder reactors and when are the predicted break-
    throughs?

Student Researchers:

1. _____
2. _____
3. _____
4. _____

TOPIC: Housing - Cities

SUBTOPICS: Related topics:
  Cities of the future   Population
  Architecture   Urban decay
  Geodesic domes   Family
  Modular housing
  Mobile homes

QUESTIONS:

1. As population in cities increase, what new housing patterns
    will be created?
2. How do housing environments affect human behavior?
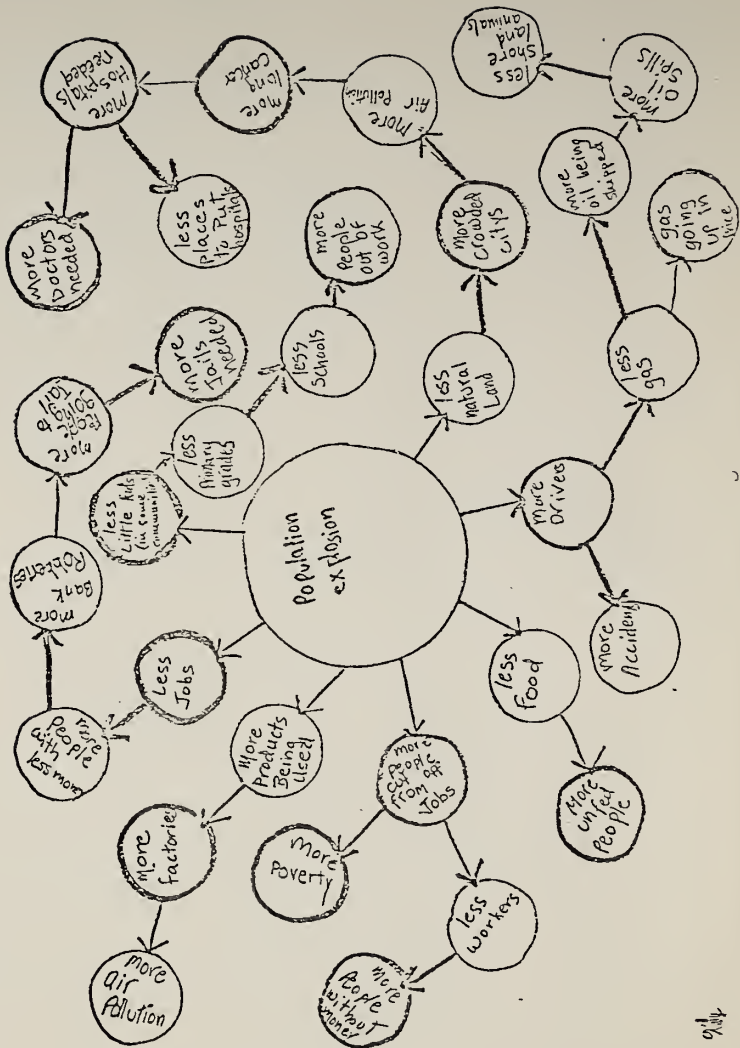3. What newer conveniences will new housing have?

BIBLIOGRAPHY:

A P P E N D I X   D

STUDENT WORK

FUTURES WHEELS

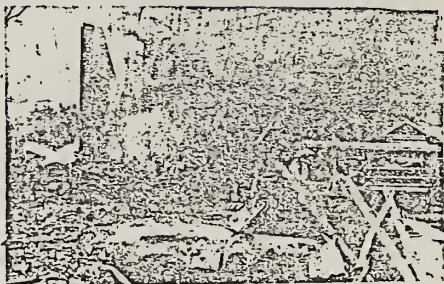Possible Implications of Trends:

Fourth and Fifth Grade Students

188

Population explosion

less Schools

More people out of work

More crowded cities

More air Pollution

More long Cancer

More Hospitals needed

More Doctors needed

less places to put hospitals

less Natural Land

More oil being spilled

less Shore land animals

More oil spills

gas going up in price

less gas

More Drives

More Accidents

less Food

More unfed People

More Jails needed

less primary grants

less Little kids (in some countries)

more people going to jail

more Gang Rockets

less Jobs

more People with less money

More Products Being Used

More factories

More air Pollution

more Poverty

more People cut off from Jobs

less workers

more People without money

456

Less Oil

Less Cars
more Walking
more Cramps
Doctors
more Hospitals
more Jobs
more Money to spend
more people buying things

Less lights
more candles
more work
price up
more people buying things
more Money to spend
more candle makers
more money for the store owners
more Jobs

Less warm houses
more cold houses
more fireplace fires
more smoke
more sickness
more Doctors
more Hospitals
more Jobs

more closed gas station

Less gasoline
Less transportation
more walking
more cramps
more Doctors
stretch sold
more jobs

Less boats
Less shipping
Less jobs
more sickness

Less Trains
Less work pay
Less work with pay
Less food

Less Planes
less pilots
less Airports
more land being sold
More money

more food wasted
more food
more jobs available
less population
more people dying
more Sickness
More Pollution
more things being bought
more Stores needed
More store workers needed
more jobs
more Doctors
more Hospitals
more Jobs
more Money to spend
more doctors needed
more Hospitals needed
more jobs

Key	Color
All trends	Blue
All less jobs	L Green
All more Jobs	D Green

Checked by Colleen Stevenson

Susan MacKay

COLLAGES

Trends Children See as

Projected by the Media:

Fourth and Fifth Grade Students

More children starving.

More drugs
being pushed.

More air plane crashes.

More people dieing
of cancer because
of smoking.

More mugging
and robbery.

LESS ROOM FOR PLAY BECAUSE PEOPLE DO STUFF TO THE LAND

less fish because PEOPLE JUST fish for sport.

THERE are MORE UNDER WATER SHIPS

MORE BUILDINGS

LESS ART LIKE THE PICTURE UP THERE

No more tribes like shown in picture
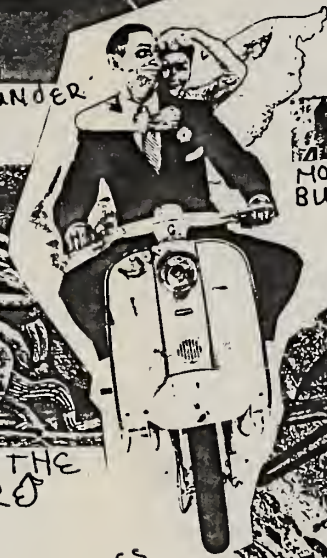
LESS Marriages

BIRDS ARE DYING OFF

LAURA

more
aircraft

less
little
kids
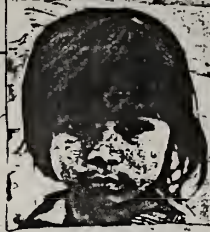
more
recycling
of tin

more small
cars

more
bike
riders

more
oil
needed

more drugs
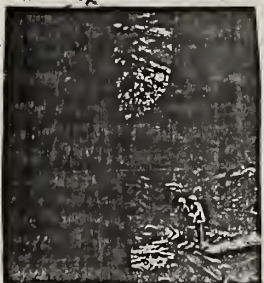
less wildlife
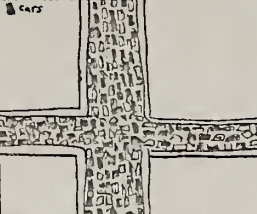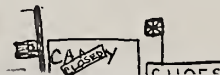
more spacecraft

A MODIFIED CROSS-IMPACT MATRIX

Possible Implications of Trends on Each Other:

Fourth and Fifth Grade Students

How Does This ↓ \ Effect This →	MORE Cars	MORE RECYCLING	LESS CLEAN WATER	Less Open Land	Less Candy Stores
MORE Cars		There will hopefully be more recycling from the metal and other parts of cars. This trend will continue to increase.	There would be even less clean water because you need water to make cars and maybe car rust would fall into the water and that would make it even dirtier. Therefore this trend continues to be on the increase.	Since there are more cars coming into the world people will build more roads and so there will be less open land.	More cars means more roads which means more buildings being removed which might mean some candy stores will be closed. This trend will go down slightly.
More RECYCLING	Recycling would increase even more because of the old cars are recycled and less cars will be made.		People use H₂O for recycling so the less clean water trend will continue.	More recycling plants mean less open land but also less dumps so this trend stays the same	No Effect
Less Clean Water	No Effect	More upset people about less clean water might mean more recycling of H₂O therefore more recycling. This trend is on the increase.		As you pollute water you pollute land. Therefore, people sell their land and make this trend increase.	There will be even less candy stores because there won't be enough clean water to make candy. This trend will continue to increase.
LESS OPEN LAND	With less open land there, people will probably build more roads. So in the end there will be more cars.	If there is less open land there won't be enough land for recycling plants so there will be less recycling. A decrease.	There won't be any room for clean water because there will be less open land. The clean water is decreasing.		If you have less open land there will be even less room for candy stores. This trend will continue.
Less Candy Stores	No Effect	There will be less things to recycle if there are less candy stores.	With less candy stores there will be more clean water.	There will be more open land maybe, if there are less candy stores.	

DRAWINGS

Events in My Future

Events in the Future of the World
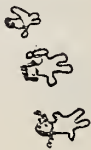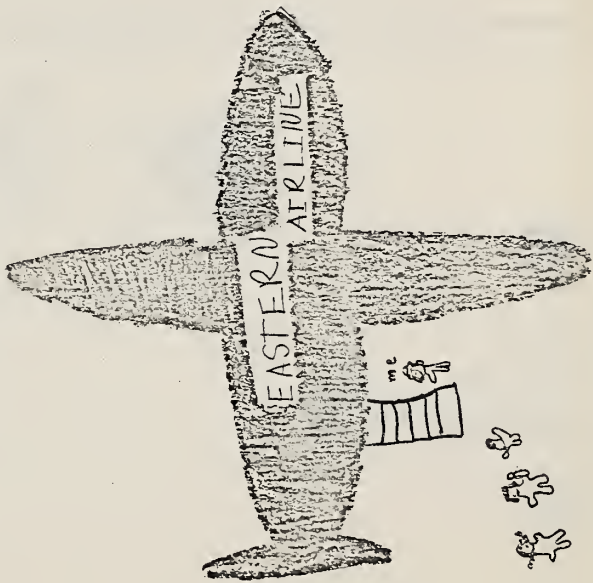

First and Second Grade Students from Boston
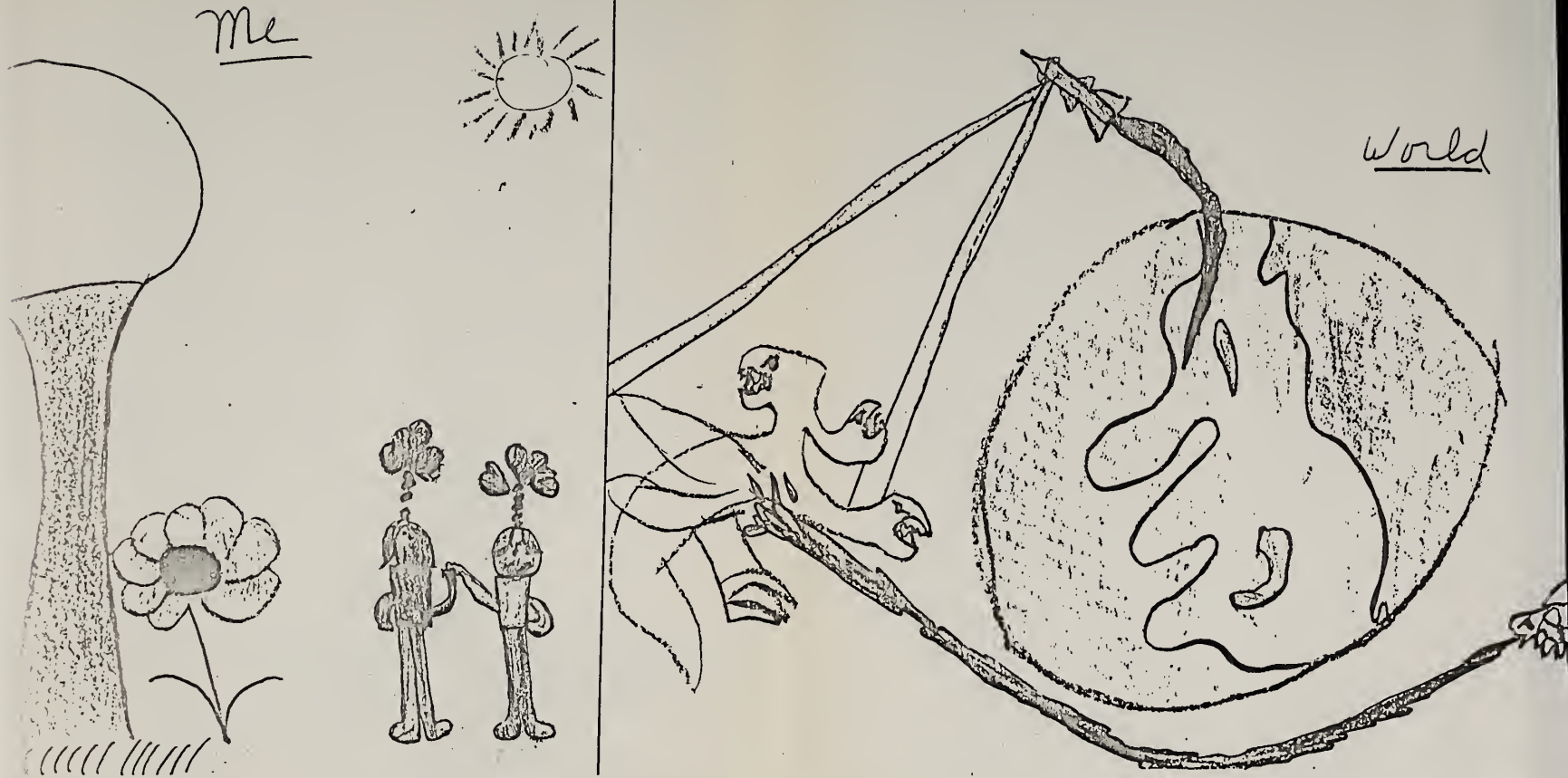
The need to understand that the futures are related.
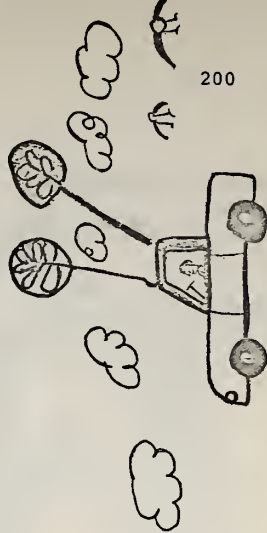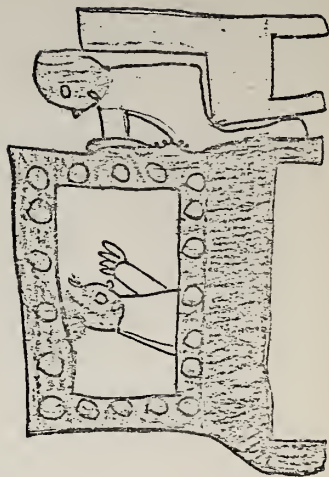
FUTURE-ME PAMELA M.
STEWARDESS

FUTURE-World
fly cars

FUTURE - WORLD
SEE THREW
TELEPHONE

FUTURE - ME

rich
man

A P P E N D I X   E

Needs of Students of
the Future

NEEDS OF STUDENTS OF THE FUTURE

I - Thinking needs and skills:

   1. The need to think critically.

   2. The need to create new definitions.

 *3. The need to speculate freely, to explore the future.

   4. The need to develop a sense of causation (models, systems, dynamic feedback systems).

   5. The need to be grounded in common skills for human communication and social integration (learning, relating, choosing).

   6. The need to learn, unlearn, relearn for human adaptability (discard old ideas when appropriate).

 *7. The need to locate oneself in time and space (expand one's time horizon).

 *8. The need to anticipate the future.

   9. The need to develop a basic set of values and to clarify these values.

*10. The need to actualize creative alternatives (get out of present).

 11. The need to understand one's heritage.

 12. The need to develop logical thinking.

 13. The need to change categories, move from concrete to abstract.

* Needs that should specifically be considered in future studies programs.

II - Psychological needs:

1. The need to "fit in," as societal groupings be-
   come increasingly larger and more complex.

*2. The need to have more certainty about one's
   control over one's destiny.

3. The need to feel involved.

*4. The need for a realistic role image, one you feel
   can be self-actualized.

5. The need to develop a filter system for the over-
   bombardment of choices.

6. The need to know how to learn (classify, reclassify,
   evaluate).

7. The need to feel confident about making decisions
   about your own needs.

*8. The need to have a positive self image, hope and
   the ability to surpass feelings of insecurity
   and powerlessness in relation to the future.

9. The need to have copeability and adaptability,
   when it is favorable.

10. The need to have control over more aspects of
    your learning.

11. The need to see a direct link between learning and
    the real life environment.

*12. The need not to fear change.

13. The need to see means for effecting the direction
    of change.

* Needs that should specifically be considered in future studies programs.

III – Concepts, Knowledge and Content needs:

    1. The need to be conversant about contemporary problems.

    2. The need to achieve proficiency levels for all students in new areas.

    3. The need to understand how to use new forms of communication (computers).

    4. The need to be able to communicate in new ways (visual).

    5. The need to know about new and different occupations as well as new possibilities for old ones.

    6. The need to have more exposure to knowledge in the form of problem oriented academic disciplines.

  *7. The need to develop a heritage with the future.

    8. The need for both sexes to get the same messages in school.

    9. The need to start understanding the constraints and advantages of freedom (the Commons).

 *10. The need to learn planning techniques.

  11. The need to understand and be tolerant of other political and social systems.

IV – Behavior:

    1. The need to enjoy free time (leisure).

    2. The need to experience the advantages of cooperative, colloborative and not competitive behavior.

    3. The need to learn from and accept older (and younger)

* Needs that should specifically be considered in future studies programs.

members of society.

V - Communication and Cooperation:

   1. The need to learn how to relate.

  *2. The need to share assumptions about the future.

   3. The need to develop a tolerance to different conflicting and contrasting viewpoints.

   4. The need to understand the power of communication and cooperation and that it can make a difference.

VI - Cosmopolite Student:

  *1. The need to gain a sense of a global perspective.

  *2. The need to be conversant and to understand problems relating to growth and limits.

   3. The need to make sense out of the environment, to understand your place in relation to the ecosystem.

   4. The need to understand scientific principles and social implications behind ecosystem stability.

   5. The need to develop a sense of perceiving the world as the focus of loyalty (an environmental or global ethic).

* Needs that should specifically be considered in future studies programs.