ABSTRACT
                The State Educational Needs Assessment Project
(SENAP) conducted in Arizona had the following puposes: (1) to
investigate and identify critical educational needs in Arizona in
both cognitive and affective domains and in the psychomotor areas;
(2) to develop or modify a model for needs assessment which would
encompass selection and codification of existing data, development of
dialogue, including varied populations of Arizona, and assembly of
information reflecting State Department of Public Instruction
educational activities relative to the state's educational needs; and
(3) to provide for evaluation of the model. This volume is comprised
of six sections that contain the major elements of the report as well
as a summary, conclusions, and recommendations. The six sections are
as follows: I. Background for the Project, II. Methods and Procedures
in SENAP, III. The Model, IV. Activities Resulting from Use of the
Preliminary Model, V. The Findings, and VI. Summary, Conclusions and
Recommendations. (For related document, see TM 003 139.) (DB)

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Mc win Deever

BUREAU OF
EDUCATIONAL RESEARCH
AND SERVICES

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Director

College of Education
Arizona State University

Report of the State Educational Needs

Assessment Project of Arizona

August, 1970

VOLUME I

Dr. G. D. McGrath, Project Coordinator

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FOREWORD

The Bureau of Educational Research and Services of Arizona State University is pleased to submit this report of the assessment of educational need in Arizona. It presents information, analyses and recommendations which should prove helpful and useful. It is our hope that leadership in the State Department of Education can plan many worthwhile projects referred to in this report which will bring equitable education of the highest quality to the people of Arizona.

The Bureau has had a major role in more than 100 exciting projects of educational nature in Arizona. In most instances, the strengths and weaknesses of educational practices were carefully assessed. The considered judgements of a host of specialists and consultants were brought to bear on the problems under study. So, too, in this project, a very large number of individuals with great capabilities in the educational world were active participants. In addition, a segment of the citizenry not directly related to the educational program was consulted for opinions and reactions.

It is the hope of members of the Bureau staff that this is the beginning of a continuous long-range program of assessment of educational need which will provide the stimulation, the direction and the method-procedure for great advancement in quality of education. The Bureau pledges its constant concern, its cooperation and its assistance in team work with the State Department of Education as educational problems or needs are attacked.

Respectfully submitted,

R. Merwin Deever, Director
Bureau of Educational Research
and Services

ACKNOWLEDGEMENT

Much credit should go to the many individuals who participated in this project. Their contributions and assistance are gratefully acknowledged. A special note of appreciation is given the staff-team, the consultants, and those from the State Department of Education, all of whom were most helpful. In addition, many coordinators of Title III throughout the nation, a large number of public school personnel and professors of education contributed in a large measure to this document. Scholars in the field of measurement, members of this project advisory councils and members of the State Advisory Council to Title III were of great assistance. Mr. Joe Smith, Mr. John Tanner and Dr. George H. Smith were most helpful throughout the time they were related to Title III activities. Finally, a collective note of gratitude is extended to all others who assisted, especially lay citizenry and graduate students in education. There was magnificent cooperation all along the way from all who were involved. Their dedication toward helping, wherever possible, to take a step forward for provision for the best possible educational opportunity for all youth in Arizona, is most commendable.

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G. D. McGrath
Coordinator of the Project
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Volume I

INTRODUCTION

Education is Arizona's most important business. The
most significant asset of the state is its youth. Arizona
was regarded as the newest state for so long, until Hawaii
and Alaska were admitted to the Union, that there was a tendency
to excuse the lack of solution to a myriad number of problems
on the basis that it was so new. In other words, Arizona has
not yet come to grips with many critical educational problems
which have had envisioned attention in the Mid-west for a
quarter of a century or more.

Unquestionably, a good approach toward finding solutions
to educational problems or needs is via needs assessment
projects. These assessment approaches must be, of necessity,
long-range, continuous and adaptable, if they are to be
successful. This project represents a start in this direction.
Hopefully it is but the first step in a series of projects
which will help raise Arizona's educational sights each
year during the foreseeable future.

This project was authorized by the State Board of
Education after careful consideration of the need for such
a study by personnel of the, then, State Department of
Public Instruction and the members of the State Advisory
Council to Title III, ESEA.

A tremendous amount of information and material was
amassed during this project. An effort has been made

to keep the coverage of this document to modest scope. Thus, much pertinent material has been deleted from the report. There is minor overlap or duplication wherever the replication is needed for interpretation or clarification.

This report is presented in two parts: Volume I and Volume II. Volume I contains six sections containing the major elements of the report as well as summary, conclusions and recommendations. Volume II contains supplementary information, arranged as the appendix sections referred to in Volume I. All of the appendix material is considered important as a frame of reference to that which is included in Volume I.

SECTION I.   BACKGROUND FOR THE PROJECT

Introduction

Section I has been organized into a series of topics
designed to develop an understanding of what a state
educational needs assessment project is all about. a
rationale for attacking the problem, and an attempt to
acquaint the reader with the multi-faceted approach to
a very complex problem.

Emergence of the Assessment Concept

During the past three decades, and, especially, in
the period from 1960 to 1969, there has been a tendency
to use "fad" words to characterize emphases in American
Public Education. In some instances, there was an "in"
word or expression for each year. For example, such words
or expressions as relevant, viable, innovative and change
agent have each had a period of heavy usage which lasted
approximately one year. However, early in 1969, a word
that carried more impact, and which has lasted longer
than many others came into abundant usage. This key word
was accountability. One of the stickiest problems in
education has always been the problem of fixing respon-
sibility. Among the causes of this difficulty is the
real hang-up in measuring pupil achievement, especially in
schools which emphasize diversity for meeting individual
differences. Much controversy exists with respect to the

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feasibility and capability of measuring pupil achievement, and it has been apparent that complete agreement on how to proceed in this important realm of activity will probably never be achieved.

If the public is to consider fully the problem of designating responsibility in education, it follows, directly that it must provide continuously for broad-scoped assessment of what has transpired in learning activities. Adequate assessment can provide at least two specific avenues for study:

1. A panorama of progress and accomplishment.

2. A picture of educational needs which exist.

The concept of assessment of educational need is of major importance in setting the stage for accountability. Much has been written and many discussions about the nature of assessment have taken place. In spite of the difficulties encountered, a national assessment of educational achievement is underway, and expansion of the program is planned. The effort in national assessment has been well-organized, and there has been much input from highly competent individuals. It, thus, will undoubtedly bring forth results which will be very helpful in determining accountability. However, it may be several years before extensive data will be available from this source. Thus, again there is great need for on-going assessment studies.

Additional evidence of concern about American Public Education

appears in the increased 'tivity to strengthen instruments

for evaluating schools. Several publications which include

evaluative criteria have come forth after considerable refinement

and up-dating. Some of these are listed in the working bibliography

or reference list in Volume II of this report. These have been studied

carefully as a preliminary activity in the preparation for this

project.

Impact of Title III, ESEA

Of major significance in the field of assessment of educational

need is the stimulation and thrust of Title III, ESEA. A specific

requirement in each state plan is mandated for a comprehensive

assessment of educational needs in the state. Thus, all of

the states are engaged in a heavy effort to set into motion

a major operation of assessment of educational need. Assessment

is necessary before realistic goals for innovative programs

to meet crucial needs can be set. Each state has franchise

to develop its own format and procedures, and no probability

of a sterile sterotype is observable. Rather, each state is

committed to give its best effort in the assessment of educational

need, irrespective of how other states attack the problem.

Developments in Arizona

Several important developments in the direction of educational

needs assessment have occurred in Arizona.

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Despite this, as in other states, much remains to be done. Generally speaking, the efforts in Arizona might well be alluded to as stages. It could be asserted that there are three specific stages completed or comtemplated, with the hope that there will be an additional stage, for each of the next 10 or 15 years or more: and yet there is some reason to feel that none of the stages will ever be truly completed, and that efforts will constantly be made to retrieve something of value from an earlier stage. It follows directly that, by design, there are not hard and fast lines of demarcation between various stages. Rather there has been and will continue to be a degree of inter-play between stages, making for easier transition from one to another. Also, there has not been an exact time limit for any one stage, or any specific target date for completion. Instead, every intent has been to go as far as possible on each aspect or task of each stage, as long as there were rewarding dividends. There have been simultaneous inputs in two different stages at times along the way. Thus, although not officially designated as such, it has been helpful to refer to sequences of time and activity as stages. Each stage will probably last approximately one year after the earlier trial stages are completed.

Stage I covered the period from July 1, 1968, through June 30, 1969. Stage II was scheduled from July 1, 1969, through August 31, 1970. It is anticipated that Stage III might run from September 1, 1970, through June 30, 1971.

The first major effort of Stage I was the Arizona
Assessment of Needs Survey, released under date of March 19,
1969, under the direction of Dr. Fred L. Bedford. (See Appendix
A for copy). This instrument went to superintendents, principals
and teachers with the express purpose of developing information
which would meet the requirements of Title III, ESEA, and which
would yield information which might help educators in Arizona
ascertain objectives and establish priorities for the schools
in the years ahead. This project was well designed and comprehensive
in nature. It provided an abundance of information on educational
needs in Arizona as visualized by educators.

The most important data from the 1969 study were summarized
in a document entitled, "Critical Educational Needs in Arizona,"
issued in May of 1969. (See Appendix B). In this release,
the educational needs indicated in the study concluded in April,
1969, are reported. The report covered three areas of assessment:
(1) programs, services, and activities currently in existence
in Arizona schools, (2) results of critical educational needs,
and (3) the opinion of the sub-groups. Although the critical
needs listed appear almost overwhelming in nature, the study
has served a most useful purpose in focusing attention on Arizona's
educational problems.

All of the information produced in the 1969 studies referred
to in the foregoing paragraphs was carefully studied and analyzed
as a springboard for Stage II, or, in order to detect any spin-
off segments which should be reinforced.

A second preliminary step was taken in preparation for Stage II. For several years, Arizona was engaged, along with seven other states, in a major project entitled, "Designing Education for the Future." Particularly, the published documents of this project were assayed for any possible contribution toward assessment of educational needs in Arizona. Five books and three pamphlets from several published by the Designing Education for the Future project were carefully analyzed for use in this program of assessment. The chief titles of help were these: (See listing in reference list section)

1. PROSPECTIVE CHANGES IN SOCIETY BY 1980

2. IMPLICATIONS FOR EDUCATION OF PROSPECTIVE CHANGES IN SOCIETY

3. PLANNING AND EFFECTING NEEDED CHANGES IN EDUCATION

4. THE SCOPE AND QUALITY OF OUR PUBLIC SCHOOLS

5. EMERGING DESIGNS FOR EDUCATION

6. REPORT OF RECOMMENDATIONS

As a next step in the development in Arizona, careful scrutiny was given all of the documents obtainable which related to guidelines and materials submitted as a part of state plans which had reference to assessment of educational need. From the contents of these publications, a working matrix was developed for an attack on assessment of Arizona's educational needs.

Under the numerical index of 2.3.1, all needs assessment materials in all Arizona state plans submitted to date were analyzed, as well as all pertinent replies or evaluations from the Title III ESEA office in Washington.

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This with all that could be ascertained from the guidelines,
formed a backdrop and a sense of direction for launching
Stage II.

Developing a Proposal and Agreement

In February of 1969, several conferences with the Coordin-
ator of Title III, the staff of the Bureau of Educational
Research and Services of A.S.U., and some members of the
State Advisory Council to Title III were held which were
aimed at taking a big step toward an objective assessment
of educational needs in Arizona. A pre-proposal was drawn
up for discussion with the State Superintendent of Public
Instruction and the State Board of Education (see appendix
C). After considerable reconstruction and re-study, a memorandum
of agreement was made on June 27, 1969, which officially
launched a period informally referred to as Stage II. (See
Appendix D.)

The project was tentatively called, "State Educational
Needs Assessment Project," hereinafter referred to as SENAP.
The salient features of SENAP provided for the following:

1. To investigate and identify critical educa-
   tional needs in Arizona in both cognitive and
   affective domains and in pychomotor areas.

2. To develop or modify a model for needs
   assessment which would encompass selection
   and codification of existing data, development
   of dialogue, including varied populations of

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Arizona, and assembly of information reflecting
State Department of Public Instruction educa-
tional activities relative to the state's
educational needs.

3. To provide for evaluation of the model.

The underlying intent was to set the stage for a long-

range process to identify critical educational needs, to

stimulate development of some special programs to meet some

of those needs, and to encourage greater participation in

meeting educational needs by the State Department of Education,

the legislature, Federal agencies, school boards, school

personnel, professional membership groups, the general adult

citizenry and students.

A furthur interpretation of the agreement, with respect

to responsibilities or objectives, suggests or emphasizes

the following important considerations:

"This contract deals with the first phase of a comprehensive
appraisal of Arizona educational needs and the specific areas include
the following:

The model will be developed for assessing educational
needs and codifying the data in a usable form as a basis
for curriculum development and program modifications.

This model will serve the purpose of providing data
for ongoing and periodic assessment of Arizona educational
needs.

The model will be tested and refined using the procedure
indicated below.

Areas of critical educational needs in Arizona will
be identified. From the critical educational needs in Arizona
identified above one or more of the major areas of educational
needs will be assessed using available data from the State
Department and local school districts. This assessment will
provide information for program implications and for the
refinement of the model.

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The concepts of self-correcting factor should apply in the model development, priority determination, and assessment of respective critical educational needs.

The application of the model will include more specifically, four classifications: (1) data collection and codification, (2) dialogue development, (3) assembly of educational activities correlation information, and (4) evaluation of the model and of the application of the model. (Approximately 7.5% of the contract will be applied to evaluation.)

The Bureau of Educational Research and Services, Arizona State University, as primary contractor, will be responsible for the direction of the project and coordination of all consultants and other resources incident thereto.

Resources of the State Department of Public Instruction, Arizona State University, Northern Arizona University, and The University of Arizona will be united in cooperatively assessing the educational needs within Arizona public schools."

Concurrently with the launching of Stage II, but not as part of SENAP, the State Advisory Council to Title III recommended completion of a contract for an assessment of the educational needs of Indian students in the State of Arizona. This contract called for a unique approach on assessment of need and was prepared especially for the Title III ESEA State Advisory Council. In its noteworthy report under date of December, 1969, a number of significant recommendations were made. All of these were taken into account as supplementary material in this SENAP report.

Also studied in detail was a report containing suggestions for improvement of Arizona's assessment of educational need, from the Title III Office in Washington,

D. C. This was primarily helpful in focusing on general

inadequacies of previous State Plan provisions for assess-

ment of educational need, with specific indications of areas

which should be strengthened.

It should be re-emphasized at this point that some activity

is virtually continuous in parts of each of three stages.

This is to say, that while the major focus of this report

is on Stage II, there are occasional efforts referring to

Stage I and some preliminary planning for Stage III going

on simultaneously.

Development of a Philosophical Basis for
    Assessment of Need

Early in an attack on assessing educational needs,

it is apparent that a rationale for needs assessment must

be established. This means that a clear and emphatic

focus on defensible educational outcomes must be made.

Needs assessment, then, should carry freight in delineating

unmistakably those areas of educational deficiency most

logical for amelioration. Thus, educational needs assess-

ment becomes a process or technique for identifying

educational objectives which stand in highest priority for

accomplishment in the total learning situation. In a

simple equation, the desired learner outcome minus the

current learner status equals an educational need. It

should be relatively easy to identify a large number of

needs, inasmuch as our society demands so much from its

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schools. A major diffculty arises in establishing priority
or in ranking the needs so that major attack can be directed
toward the most important ones.

To be sure, there are many needs and many desirable
outcomes which go beyond so-called intellectual achievements.
It, thus, becomes imperative for all of those working in
the needs assessment arena to identify needs in all three
recognized domains of learner behavior. Moreover, it is important
to establish some scope or limitations for each of these
domains. In this consideration, cognitive refers primarily
to the purely intellectual types of learning, while affective
pertains to attitudinal, valuational or emotional types of
outcomes. Psychomotor needs are associated with a learner's
physical and motor skills.

Obviously, there is a tremendous challenge in imple-
menting a needs assessment in the three domains. The
big task rests with deciding what the public wants the
educational product to be like. Educators should be able
to say to the supporting public, "We'll provide these
experiences and your children should emerge with these
capabilities. Is this what you want?"

In any event, it becomes necessary to spell out the
educational goals to be established. Almost with equal
difficulty, is the problem of ascertaining where the
learner is when schools start with him, in terms of
desired educational outcomes. In the thinking of many,

educators have relied far too heavily on achievement test
scores to tell this story. If it were possible to come
up with defensible means of deciding the educational status
of the learner, there would yet remain the requirement of
subtracting this from a theoretical level of where the
public wants him to be, in order to indicate an educational
need. One of the popular approaches in attacking the afore-
mentioned problem is to attempt to develop or select instruc-
tional objectives stated in behavioral terms and measur-
able with reasonable reliability and validity. Unquestion-
ably, teachers need much assistance in selecting or con-
structing the objectives as well as in developing criterion-
referenced measuring devices which would indicate the
degree of realization of the objective. In fact, there
is much agreement on the point that a prime prerequisite
for improvement in the classroom is to shift toward establish-
ment of behaviorally stated objectives in nearly all
learning activities.

SECTION II. METHODS AND PROCEDURES IN SENAP

Introduction

Very near the outset of starting on SENAP, a model consisting
of 44 items was drawn up as a tentative procedure. A PERT
(Program Evaluation and Review Technique) was constructed
to go with this as a visual means for a systems flow chart.
The intent was to get started as soon as feasible, to go as
far down the road on each item as possible, and to break
down each item into its logical components with a time allot-
ment for completion. All of this was accomplished during the
first two weeks of activity on the project. There was full
intent to test this model, to refine it, to coalesce steps
and to provide a more functional guideline. It became evident
at the outset that, in all probability, several models would
be produced, with each successive one hopefully, a distinct
improvement over the former.

Procedures

Actually, a dozen models were produced, each with a concerted
effort not to lose sight of essential ingredients of former
ones. (Selected samples of the models without descriptive
sheets for the items are included in Appendix E).

It was admitted, at the outset, that completion of each
item was not mandatory in terms of the agreement signed with
the State Department of Public Instruction.

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It was intended, however, to explore each item in depth and to test the feasibility of each item for an all-out attack in later years. Unquestionably, some of the items would be discarded after adequate dialogue, or field testing. It was decided to state the items in the past tense as though completed, even though it was the intent only to consider doing each item as time, resources, and logic permitted.

As a springboard, the 44 items were listed as propositions to attack, many simultaneously, and some in sequence. These follow:

1. Project Staff from A.S.U., U. of A., and N. A. U. Selected

2. Agreement for Outside Audit Negotiated

3. Preliminary Model Design Established

4. State Advisory Committee Selected

5. Internal Advisory Committee Selected

6. Plan to Identify Educational Goals Developed

7. Plan to Identify Prior Educational Needs Developed

8. Educational Goals from Literature and Research Identified

9. Educational Goals from Arizona Plan Identified

10. Educational Goals from Other State Plans Identified

11. Educational Needs from Literature and Research Identified

12. Educational Needs from Miscellaneous Groups or Individuals Identified

13. Educational Needs from Arizona Plan Identified

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14. Educational Needs from Other.State Plans Identified

15. Previously Unstated Needs Identified by Educators

16. Educational Goals Classified and Restated

17. Educational Needs Classified and Restated

18. Educational Needs Compared with Educational Goals

19. Model Design Refined

20. Measurable Objectives and Test Items to Measure Them Identified

21. Survey Instruments Developed

22. Survey Instruments Evaluated by Advisory Committee

23. Survey Instruments Revised

24. National Jury Selected

25. Revised Survey Instruments Evaluated by National Jury

26. Survey Instruments Revised; Defensible Samples Selected

27. County School Superintendents Surveyed

28. State Department Divisions Surveyed

29. District Superintendents Surveyed

30. Teachers Surveyed

31. Pupils Surveyed (Urban, Rural, Ethnic Groups)

32. Citizens Surveyed; Ethnic Groups Included

33. Survey Results Analyzed

34. Accuracy Checked: Audit Group, Advisory Councils and State Coordinator

35. Validity Tested

36. Reliability Appraised

37. Needs List Revised--Most Critical Needs Ranked Highest

38. Final Evaluation by Advisory Committee Completed

39. Final Revision of Critical Needs List Completed

40. Product Submitted to State Title III Office

41. Evaluation by Outside Auditor Completed

42. Outside Auditor's Evaluation Analyzed

43. Design for Continuous Assessment for Future
    Years Submitted

44. Design for Continuous Assessment Approved by
    Advisory Committee

Perhaps the most profitable aspect of this first step

was preparation of a detailed delineation as an attachment

sheet for each item. On the attachment sheet was a time

allotment, assignment of personnel, and a complete description

of what was intended for each item. In some instances, as

many as five pages were required to cover the full description

of the event in the item.

Preliminary Guidelines

Succeeding and refined models had 52, 46, 39, 36, 29,

227, 25, 20, and other numbers of items. As these were developed,

several general ideas began to emerge from consultations

with the advisory councils, the consultants, and various

other educators:

1. Make the model as simple as possible with as
   few items as can be used to meet the require-
   ments.

2. Combine items but spell out each one as
   definitively as possible.

3. Keep the model as close to the specifications
   of the agreement as possible.

4. Avoid any consideration of requirement of a
   massive testing program in the model.

5. Assume that there may not be full agreement on the effectiveness of any model, or on how valuable the activities prescribed in it will be.

6. Accept the fact that public reactions are important, and that data obtained from activities should be as learner oriented or derived from the learner as much as possible.

7. Insure that any studies under the framework of the model must relate to learner reactions and learner attitudes about the effectiveness of his or her educational experiences.

Throughout the first ten months of the project, there was a mixture of dialogue, discussion, development, and testing of models, and a motley array of other activities. A basic guideline or set of activities was developed by the team and by the advisory councils as an attempt to provide direction, to coordinate approaches, and to systematize efforts and energies. These 15 guidelines or activities follow:

1. Collation of assessment of need plans and programs from 21 states for careful scrutiny and study.

2. Visitation in six states to learn first hand what they had experienced in the needs assessment approach.

3. Identification of 10 exemplary state programs and extensive correspondence with them for suggestions in needs assessment procedures.

4. Invitation to six nationally eminent consultants to come for intensive analysis and reaction to needs assessment activities.

5. Discussion and dialogue with a dozen or more distinguished scholars in the field of measurement.

6. Contact with several groups engaged in assessment, and in offering contractual services to ascertain educational needs in several states.

7. Contact with several groups engaged in developing behaviorally stated objectives and in measuring outcomes via criterion-referenced test items.

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8. Attendance at and participation in a regional Title III conference and workshop.

9. Development of a major reference list (bibliography) on needs assessment.

10. Dialogue and reaction with state and local advisory councils on all aspects of the project.

11. Extensive dialogue with educators (professors of education) on ingredients for a needs assessment program.

12. Extensive dialogue with school administrators on how to successfully attack a needs assessment project.

13. Extensive dialogue with citizenry of the state.

14. Extensive dialogue with pupils and students from upper elementary, secondary, and tertiary levels.

15. Extensive dialogue with graduate students in education who wished to study some aspect of needs assessment either for dissertation or individual research approaches.

In all, over a period of ten months, more than 1,000 hours of time by the coordinator of the project were invested in the foregoing list of activities, while an equal amount of time by other members of the team was directed toward abstracting and refining salient points to consider which came out of these activites.

All of this was backdrop for the ultimate objective,-- that of producing the best possible model for Arizona, and to complete as many items as possible before termination of Stage II. It would be easy to write a hundred or more pages from notes on the fifteen activities listed above, but this would be too burdensome on the reader, since the major attempt of this report is to present and des- scribe the model which was ultimately developed. Some of

the more pertinent highlights from these activities will
be included in the descriptive sheets for each item of
the model and will be summarized or offered as part of
the recommendations.

SECTION III. THE MODEL

Introduction

A quick review of the SENAP agreement stresses that
a model should be constructed which would provide for
collection and codification of data, and which would yield
information about the state's educational needs. Presumably,
a follow through of the model activities should yield a list
of the top educational needs of Arizona, backed up by data
from pilot studies and should present a list of recommendations
for activities from which the State Advisory Council for
Title III could recommend contractual arrangements for ser-
vices designed to accomplish the desired results.

Although a preliminary model was designed to serve
as a guideline for Stage II activity, the ultimate model
to be the major contribution of this report is designed
for Stage III, starting approximately in September of
1970. All of the trail models between the first model
and the one presented in this section were steps toward
improvement or refinement for a final model. Many ideas
were tested before the final two or three were developed.

Characteristics of a Model

There are no hard and fast descriptive elements as to
what the essential characteristics of a good model consist of.
Throughout the United States, that which constitutes a

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model for some, would be unacceptable to others. For

purposes of this report a _model_ is thought of as a comprehensive

plan which states goals, purposes and tentative procedures.

It includes a series of items in systematic order for attack.

It includes a PERT which illustrates a smooth and orderly

progression of steps in relation to each other. It serves

as a guideline for attack or as a systems analysis flow chart.

It crystallizes action. It provides alternatives of action

and possible alternative steps. If goals are not achieved,

there are different approaches and the ultimate progress is not

too adversely affected. Thus, it is highly adaptable and

ajustable. From another viewpoint, a model suggests steps

and things to be done; it encourages those performing the tasks

to think through the logical steps and the relationships or

interdependence of the steps, each to all others.

It is obvious that a model should include descriptive

sheets (attachment sheets) for each item on the model. These

should help the researcher or investigator to see a total

picture for each item with its time requirements, the person

or persons who will be responsible for carrying forth the

activity, and, in some instances, suggestions for completion

of the activity. The chart helps one to visualize the total

process a step at a time and which steps can be carried on

simultaneously. Finally, the model should have a preface

or introductory narrative description.

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Criteria for a Good Model

For purposes of this report, 20 criteria for a good
model were developed. These follow:

1. Is the model adjustable?

2. Is the model self-correctable?

3. Is the model designed for long range use,
   especially to fill information gaps?

4. Is the model designed against establishment of
   a sterotype among the states?

5. Is the model geared to the unique situation in
   which it is to be used?

6. Is the model pupil-oriented, capitalizing on
   pupil opinion about educational needs?

7. Is the model designed to develop a list of
   critical educational needs, supported by
   reasonable data?

8. Is the model designed to develop a reasonable
   list of recommendations for action which can be
   used by the Advisory Council to Title III?

9. Is the model designed to identify some needs
   which the State Department of Education could
   use to mount special programs to attack them?

10. Is the model designed to develop special needs
    which are learner oriented--related to pupils in
    contrast to institutional needs?

11. Is the model designed to identify needs from
    other sources than data produced within the
    model, and to mount some programs to get at
    them via Title III funds or SDE funds?

12. Does the model provide for utilization of top
    talent within the state in a task force approach?

13. Does the model make specific provision for
    participation by professional education member-
    ship groups or societies?

14. Does the model have latitude and alternatives
    based on which proposals or projects are
    selected for action?

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15. Does the model have a built-in mechanism for
    continuity and easy transition to a succeeding
    model for the next page?

16. Does the model take into account or build upon
    the previous attempts at educational needs assess-
    ment within the state or region?

17. Does the model involve consultants of high capabil-
    ity, both in research aspects and in planning?

18. Is the model concerned with learner needs, in
    cognitive, affective, and psycho-motor domains?

19. Does the model give adequate emphasis to methods
    of treating data to ascertain validity and
    reliability?

20. Does the model specify procedures and criteria
    for determining criticality of educational needs?

It is obvious that a model, no matter how carefully

developed, may not meet adequately all of these criteria.

However, the criteria can serve as sensors for the direction

a model should take. Actually, these criteria can serve

well also as guidelines throughout the model development.

Other Guidelines

As a result of the extensive consultations and

dialogue growing out of the 15 preliminary guidelines or

activities listed previously, and as an outgrowth of

consideration of the criteria for a good model, several

suggestions emerged virtually as a concensus which might

serve as other guidelines to be used along the way. In

this instance, there is some repetition of ideas expressed

earlier in this document, but these reinforced the product

of distillation to yield the following:

1. Do not rely heavily on comprehensive testing or
   other forms of "hard" data to develop the
   needs list. In fact, it would be better at

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the outset to avoid reliance on hard data (test
scores) altogether.

2. Capitalize on opinions of populations (citizenry)
    from all strata.

3. Relate heavily to pupils and to the general public
    in soliciting information which can be translated
    into need.

4. Keep all instruments as simple as possible.

5. Strive to help all respondents feel that their
    opinions are important, are respected, and will
    be very helpful. In short, sell the idea that
    participation and assistance are very much needed,
    and will be very much appreciated.

6. Make the major thrust toward mounting some programs
    (even if only pilot-run) to meet felt needs so that
    there is some sense of action or something worth-
    while being done.

7. Set in motion some follow-up evaluation or appraisal
    to see how well schools are meeting some of the
    needs the public identified, or develop a full
    report on plans to meet these needs.

8. Push vigorously to enlist the support of as many
    professional membership societies or groups as
    can be obtained, in accepting responsibility
    for helping to identify needs, and then assist in
    making those needs.

9. Centralize all efforts toward meeting needs and toward
    identifying needs continuously through the State Department
    of Education.

10. Sell the idea that this is a long range program
    (perhaps 15 or more years) from the very outset.

11. Establish a series of task forces to attack
    specific problems in a continuous process.

12. Break down needs into reasonable "bites to
    chew" and solicit help from a variety of
    agencies (primarily university bureaus of
    educational research and services, or consulting
    groups) with attack simultaneously on several
    problems.

13. Document needs as a responsibility of the
    state, seeking legislative appropriation via
    the State Department of Education.

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14. Wherever feasible, indicate the similarity of crucial needs of one state with another in the same region (e.g. -- western states as a group). This tends to gain support from leaders in education and from legislative groups.

15. Attempt to show patterns of needs from several types of sources and emphasize similarities, comparable aspects and wide deviations, if any.

These were helpful as a frame of reference in putting the components of the model together. It should be noted at this point that two different titles for the same governmental body have been used. In Arizona, for many years, the chief state school department has been known as the State Department of Public Instruction. This type of title has been used in many states. In 1970, the chief state school department in Arizona became the State Department of Education. From this point forward, the latter title will be used exclusively when referring to this body.

The Model

If this model is accepted and implemented, many, if not all, of the items contained therein will be accomplished during Stage III. The language is deliberately couched in future tense as activities for Stage III. These, for the most part, grow out of pilot studies which were completed in the preliminary model for Stage II.

All three universities in Arizona will be involved as
participants in this endeavor. The Bureau of Educational
Research and Services, Arizona State University will serve
as the central coordinator for the total project prescribed
in the model. It will assume the responsibility for carrying
forth the requirements specified in the model, serving as
prime contractor for the project. However, some important
tasks indicated in the model are clarified in paragraphs
to follow.

An agreement will be reached with a consulting agency,
not connected with the project, to evaluate the plans and
progress of the project. The agreement will be reached early
so that the outside audit can follow through the entire project.

Three advisory councils will be selected to provide
continuous evaluation and counsel for the project. An internal
advisory council composed of people located near or within
Arizona State University will be selected to provide a check-
up by people close to the project. The group will meet monthly
in a general advisory and consultative capacity and will
be selected largely from faculty of the College of Education
of A.S.U. A state advisory council will be selected to provide
continuous evaluation and advisement for the project. At
their monthly meetings, all project developments will be
reviewed, ideas will be tested, and recommendations will be
made. In addition, a third advisory council, made up of citizen
council representatives will advise and evaluate the progress
and activities of the project.

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A considerable amount of time will be spent in developing objectives, goals, and needs for this SENAP. All of the project participants will help to create a working dictionary of terms. This reconciliation on dialogue should channel the thinking and efforts of the staff toward common objectives and goals in the assessment of educational needs for Arizona.

The basic strategy of the assessment of the present educational status in Arizona will be aimed toward the gathering of identifying information rather than providing evidence of the harm of any educational programming. The underlying premise will be that relevant change in education can be made and can be measured only when relevant change begins at a known base-line and moves in a direction toward some set objectives agreed upon by those parties involved in the educational process.

Since the model for SENAP is self-correcting, one of the primary steps will be to look at other assessment models for possible guidelines. An attempt will be made to obtain more than twenty assessment models from other states for study. Consultants will be utilized to provide information and alternatives upon which to base decisions relating to model formation.

Educational literature and educational research will be inventoried and analyzed in order to find educational goals which might pertain to an Arizona assessment model. Assessment literature from the Arizona Plan and other state plans will also be used to meet this end.

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The Delimitations   The delimitations of the proposed research

are identified as follows:

1. This study will be applied only to the public
   schools in the State of Arizona; no attempt will
   be made to produce an educational needs assess-
   ment model for the junior college system, the universities
   of the state, or for any private entity.

2. This study will be limited to the development of
   a management tool for decision making which could
   be used in evaluational and comparative studies
   of the educational needs of children in Arizona's
   public schools.

The Assumptions   The assumptions inherent in the study include

the following:

1. Relevant change in education can be made and
   measured only when this relevant change begins
   at a known base-line and moves in a direction
   toward some set objectives agreed upon by those
   parties involved in the educational process.

2. A baseline of information is necessary for
   overall state coordination of evaluation.

3. Statewide assessment of educational needs must
   be limited to a maximum of one each twelve
   months.

4. Assessment is a continuing process of defining
   and refining educational needs which should
   enccurage the participation of the State Depart-
   ment of Education, school districts, and
   citizens.

5. A critical educational need is more easily
   identified than an educational need that
   has not reached critical proportions.

6. Efficient assessment of educational needs
   provides school management with necessary
   information for making competent decisions.

7. The ultimate decision as to which needs are
   attacked with vigor on a statewide basis rests
   with the Superintendent of Public Instruction.

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<u>General Background</u>   The preliminary mod:1 design for
Stage II was refined more than 10 times along the way.
Its scope was narrowed and targets were more finely
pinpointed. Selected coordinators of state plans and
directors of educational needs assessment projects
were visited and their evaluation and reaction to the
tentative model were noted.

A chart of all special events for the current years's
activities was developed. Such events as regional assess-
ment conferences were attended.

For the model proposed for use in Stage. III, full recognition
of the less desirable aspects of questionnaires and an awareness
of the impracticality of interviewing all Arizona citizens
was noted. A plan was developed which will be based on stratified
sampling procedures.

The sampling plan will be based on the identification
and stratification of the state in terms of educational
programs. The sampling methodology will be based on a
random sample of several units of the population and a
saturation sample of the population when the number of
sample units is small enough that this is feasible.

The sampling processes planned will require a
stratification of the state into twenty or more basic
strata. Three factors will be indentified for strati-
fication of the samples. The variables on which the
strata will operate will be: (1) terrain of the state,
(2) population, and (3) economic level. The terrain
of the state will be divided into <u>three</u> geographic

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areas. Behind this rationale is the belief that the
terrain of the states determines the difficulty of trans-
portation and the economy of the area. Industrial and
commercial opportunities of the area are affected as well
as educational programming.

The second of these variables will be the density
of population. Density, defined as people per square
mile, influences the size and administrative organization
of the schools, the instructional offerings, and the outlook
of the peoples of the area.

The third variable will be economics. School programs
are affected by economic influences. This influence on
school programming demands more knowledge of and about
factors related to poverty areas. The three stratification
variables will be interlocked. The first one will be
stratified over three basic regions, the second over
three units of population, and the third one will reflect
two units of economic levels. Interaction of these three
will produce a stratification of 24 basic strata, if
carried to ultimate proportions.

The sampling will be processed by the application of
instruments to specified population groupings. Opinionnaire
instruments will be developed form the previous Arizona
Plan in the Stage II Model and other state plans. It
is proposed that there will be 20-25 critical need items and
a "write-in" section will be provided. It will be given
to a random sample of school board members and professional
educators. From the results of this survey, those needs

items of highest priority will be extracted. These extracted
items will be used to produce an identification matrix
relating problem area priorities to more specific educational
needs. A space will then be provided to associate the
identified needs with specific arbitrarily selected popu-
lations. During the year's assessment, the resulting
instrument will be administered to a random sampling of the
state legislators of Arizona, to all non-clerical members
of the Arizona State Department of Education, and to a
random sampling of school district superintendents in
Arizona. Many other groups will be included in future
assessments and will include at least the following:

1. High school principals

2. Elementary school principals

3. Public school teachers

4. Public school students

5. Professional educational groups

6. Nationally known educators

7. Lay citizens

8. School board members

9. Public school supervisors of instruction

10. County school superintendents

11. The State Board of Education

12. Education professors from Arizona's teacher
    preparation institutions

13. Business and industrial leaders

14. Student teachers

15. Drop outs

In addition to the needs assessment questionnaire, other data will be gathered to provide a more complete description of the context within which educational needs are considered. Many of these data will be obtained from the data processing division of the State Department of Education. These will include, insofar as they become available, the following:

1. Public school attendance by classroom ADA

2. Public school membership by classroom ADA

3. Vocational educational information on individual students

4. Adult basic education data on individuals and the courses they are taking

5. Public school finance information

6. Statewide textbook inventory

7. Title I information on individual students

8. Curriculum data on high schools and elementary schools

9. Public school budgets and expenditures compared

10. School personnel information

The Governor's Report should also contribute much information for this study as well as various recent dissertations and studies on state or local educational issues and problems.

Measurable objectives and test items to measure them will be identified and will be incorporated into a set of instruments to assess the educational needs of public schools of Arizona. Consultants will be used to develop instruments which possess utility and relevancy. Validity

and reliability of the instruments will be assessed by the staff and consultants.

All other pertinent data from all possible sources will be collected as input for SENAP. This includes information from State and County offices, school districts, data processing, and many others.

The staff will prepare the instruments for mailing to the various groups. Tabulation procedures will be developed and accomplished as the instruments are returned. A detailed plan for analysis and interpretation of the data will be developed.

Job orders will be activated using the Testing Service at Arizona State University to perform the data analysis. Total data analysis will include analysis of all input as well as that from the mail-outs. Consultant services will be used to aid the staff in this endeavor. Educational needs for the current year will be determined from the results of the total data analysis. These educational needs will then be interpreted and tested against reactions of related groups. Finally, the outcomes will be refined for inclusion in the final yearly report on SENAP, Stage III.

For the continuous assessment of educational needs, a proposed design for the next year's model will also be developed. Many of the previous guidelines will be used and much of the procedure and machinery will be maintained. However, some new personnel in both staff and

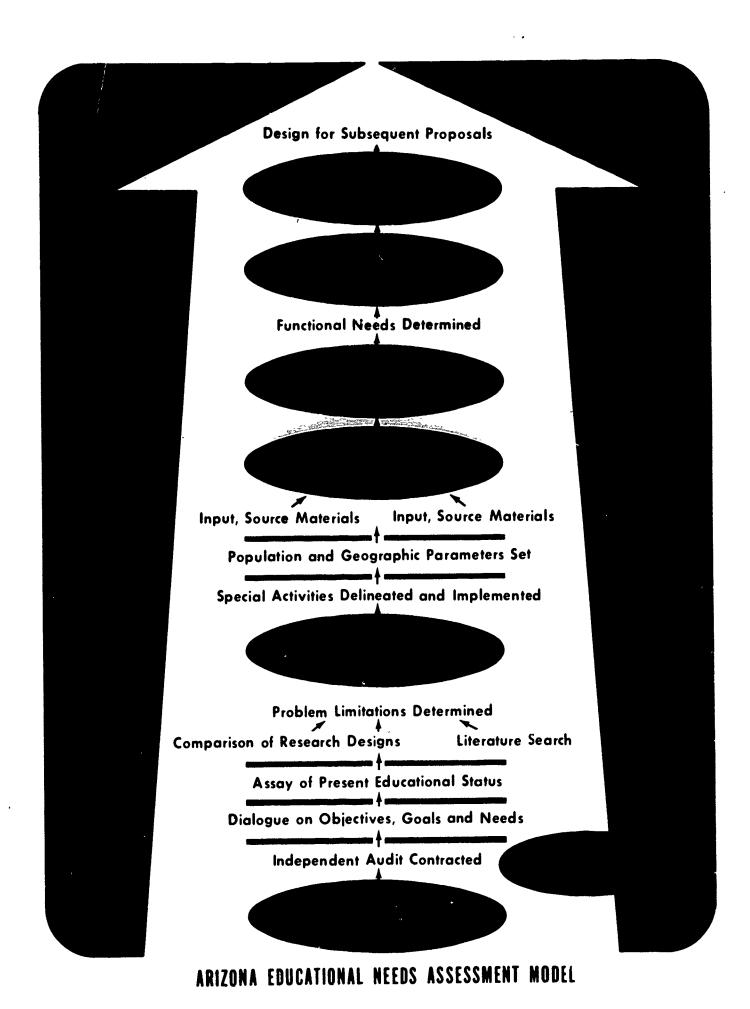consultant capacities will be injected into SENAP to keep
it dynamic.

The proposed SENAP model for Stage III is presented on the
following page.

General Rationale for Supplemental Attachments Sheets for Items in the Model

The purpose of the attachment sheets is to project a
tentative working framework for each item. In some instances,
the probable time requirement and the assignment of individuals
to work on the task are listed. All of these sheets will be
refined and extended as the project moves along.

In a sense, each of the 20 items becomes a separate goal.
Thus, in many instances, especially in the last half of the group,
they are expressed as items which must be completed before the
project is finished. They are framed in the reference as having
been completed, even before effort is launched. This means that
when this model is adopted and implemented, these items should
have been completed before termination of Stage III.

It should be re-emphasized that all resources will be
utilized to the maximum extent in each item covered by an
attachment sheet. This means that consultants, all advisory
council members and all other resource personnel will be used
not only in exploratory capacities, but in reaction and refinement
activities as well. Moreover, as a product of this total
interaction, items may be modified in the light of experience
along the way. This is a feature of the model self-correction
mechanism.

Design for Subsequent Proposals

Functional Needs Determined

Input, Source Materials   Input, Source Materials

Population and Geographic Parameters Set

Special Activities Delineated and Implemented

Problem Limitations Determined

Comparison of Research Designs   Literature Search

Assay of Present Educational Status

Dialogue on Objectives, Goals and Needs

Independent Audit Contracted

ARIZONA EDUCATIONAL NEEDS ASSESSMENT MODEL

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Item 1.   <u>Cooperative Activities of Three State Universities</u>
<u>Determined</u>

Time allotment: Month of September

Responsibility: Coordinator and team members of the project

The project coordinator will meet with the three deans of

the Colleges of Education in Arizona (or their designates) to

discuss the overall participation of universities in the project.

The unique resources available to the project's needs will be

examined in depth. A central liaison faculty member from each

university will be selected on recommendation from each dean.

Responsibilities and opportunities for service for each

individual to be involved in the project will be delineated.

Efforts will be made to develop a team approach much like a

consortium with all three universities participating fully.

Of particular significance, will be the development of a summary

of research work done at each university which has pertinence

for the project. Remuneration schedules for services will be

developed and approved.

Item 2.   <u>Contract for Outside Audit Negotiated</u>

Time allotment: Month of September

Responsibility: Coordinator of project

It is axiomatic that the concept of accountability held as

important for needs assessment should extend also to SENAP.

Therefore, several consultant firms with expertise in conducting

an outside audit of this type of project will be contacted and

invited to submit a bid for providing an outside audit. The

primary focus should be to determine whether or not the conditions

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of the agreement (contract) were fully met, and whether or not the project staff completed satisfactorily the tasks they set out to do, as required by the agreement. The maximum amount of money allocated for this should not exceed seven and one-half percent of the contract price for the project.

The outside audit group should begin its activities early and should follow through every step of the way, periodically taking stock of progress toward fulfilling the terms of the agreement.

Item 3. Three Advisory C ncils Selected

        Time allotment: Month of September

        Responsibility: Coordinato of project

There is a great need for three different types of advisory councils. One should be composed of professional educators, selected on a statewide basis. Membership should include the three deans of colleges of education (or their designates), three professors of education, three school administrators, three representatives from junior colleges, and three representatives from the State Department of Education.

The advisory council of internal nature should include nine specialists in measurement and/or research design largely from the A.S.U. College f Education.

The advisory council from memberships in community action councils (such as LEAP) should include twelve members, two each from the six most active community action councils in Arizona.

Each council should meet monthly, October through May. A definite schedule for the remainder of the academic year should

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be developed at the October meeting. The purpose of each council

would be to provide dialogue and reaction on each activity in

SENAP. Ideas would be tested and outcomes would be weighed

for pertinence. Any input which would be fruitful for the

project would be considered as "fair game" activity of each

council. The Coordinator of SENAP should serve as chairman of

all three councils.

Item 4. <u>Dialogue</u> <u>on</u> <u>Objectives</u>, <u>Goals</u>, <u>and</u> <u>Needs</u> <u>Developed</u>

    Time allotment: Months of September, October, and November

    Responsibility: Coordinator and team members of the
                       project

Extensive work copies should be developed by the team members

to include objectives, goals and needs for reaction and discussion

by each of the advisory councils during each of their first three

meetings. Plans for extensive dialogue should be made with

professional membership groups, educators, consultants, citizen

groups, school pupils, and all others where ideas could be tested.

Wherever feasible, a philosophical background for needs assessment

and delimitations of assessment procedures should be brought

into the discussion.

Item 5. <u>Assay</u> <u>of</u> <u>Present</u> <u>Educational</u> <u>Status</u> <u>Begun</u>

    Time allotment: Months of November and December

    Responsibility: Coordinator and team members of the
                       project

This should include a total assay of State Department of

Education activities, the data it possesses, and the activities

it is promoting for meeting the need. Also, total effort
should be directed toward collating all achievement test
scores which school districts have. In addition, any data
from special regional testing programs should be added to
the profile.

Every pertinent factor which would describe the present
educational status in Arizona should be built into the
total panorama in order to provide the most accurate pic-
ture of what actually obtains in Arizona.

Item 6.   <u>Literature</u> <u>Including</u> <u>Other</u> <u>State</u> <u>Plans</u> <u>Reviewed</u>

      Time allotment: Months of September through November

      Responsibility: Coordinator and team members of
                      the project

The reference list developed in Stage II should be reviewed
with deletion of less pertinent entries. A thorough review
of the literature since January 1, 1970, should be made with
inclusions of all related material. This total bibliography,
as revised, should be carefully annotated.

A review of reports of assessment of educational
needs from 15-20 states, including high visibility ones,
should be conducted. Salient ideas should be collated
for testing with the advisory councils at their November
and December meetings.

The total bibliography and the highlights from their
state assessment of need plans should be reviewed periodically
by the advisory councils. Ideas, concepts, and activities
from all of these sources should become input for use throughout
the project, wherever pertinent.

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Item 7.   **Comparisons of Various Possible Research Designs**
          Studied

          Time allotment: Month of December

          Responsibility: Coordinator and team members of
                            the project

     It becomes urgent to review the various research designs

or models developed in Stage II, those of other states, and

those recommended by consultant groups and other professional

educators, to look for possible improvements in this

model. Also to be taken into account. would be anything

suitable for possible modification from conferences, work-

shops, advisory councils and any other contributions

toward refinement of this model. However, this activity

should not interfere with an on-going effort in items of

the model. There will be, of necessity, activity on several

items simultaneously and progress should not be impeded

while waiting for possible refinements of the model

currently used as a guideline. Any model should be

sufficiently adjustable and self-correctable to provide

for improvements, refinements, or re-direction along

the way as it emerges. This is tied to items 8 and

9, following, and there will be re-statement of this

intended activity as a part of items 8 and 9.

Items 8 and 9.   **Problem Delimitations, Assumptions and**
                 Hypotheses Determined; Model Design Refined

                 Time allotment: Months of December and
                                   January

                 Responsibility: Coordinator and team
                                   members of the project

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In these steps, there should be reviewed the delimitations, identification of needs and goals, assumptions and hypotheses as refined from all previous items in the model. This should focus somewhat on a clarification of changes and refinements prior to the final model design which will be operational for the remainder of Stage III. In fact, all that has come to bear on the project from whatever activity should be reviewed for possible ramifications on model change. Although additional changes on the model might conceivably be made after this point, it would be better to direct these self-corrected refinements toward the working model for Stage IV.

It should have been assumed that some field testing of the model would have occurred prior to December, and any changes growing out of this activity would have been made prior to December.

Item 10. <u>Special</u> <u>Activities</u> <u>for</u> <u>the</u> <u>Year</u> <u>Delineated</u> <u>and</u>
<u>Implemented</u>

Time allotment: Months of September through January

Responsibility: State Advisory Council

In addition to the general tasks indicated in the model, there should be considerable option for the State Advisory Council to Title III to select extensive projects which are designed to meet some of the great educational needs of Arizona. It would appear advisable to study all of the needs coming within their purview, and then select projects which would meet some of these needs. Also, the Superintendent of Public Instruction should constantly attempt to mount projects which would make positive impact on the ever increasing educational needs.

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It is readily admitted that the State Advisory Council may wish to seek professional advice on which, if any, projects it should recommend for funding. Obviously, funds are limited and the Council will wish to be as effective as possible in launching well-conceived projects.

Item 11.   Population and Geographic Parameters Set

> Time allotment: Month of January.
>
> Responsibility: Coordinator of project

The total unique nature of Arizona's population should be reviewed with special emphasis on the nature of its several sub-populations. The sociological, economic and psychological factors of pertinence should be blended in. This will vary from year to year as better understandings of the nature of Arizona's citizenry are developed.

Item 12.   Instruments to Carry Out Special Activities Developed

> Time allotment: Months of January and February
>
> Responsibility: Coordinator and members of the team

Too much emphasis cannot be placed on developing efficient instruments for data collection. At best, there will likely be weaknesses which will mitigate against the effectiveness of the data collection operation. It behooves the principals involved to engage the very best consultants and experts available in developing these instruments. Decisions should be made early about the need for and how best to field test, to validate, to use juries of expert thinkers to help refine, as well as to use all other means of producing the best possible instruments.

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Item 13.   Other Pertinent Data from All Sources Collected as
           Input

           Time allotment: Months of October through April

           Responsibility: Coordinator and members of the team

      This is a highly-complex, never-ending process. Hard

data about the total setting, information from testi··· ograms

both state-wide and local districts, State Department of Education

data, county superintendent data and other pertinent data

all play important parts in this step. The sources of information

are unlimited, and each new day may bring forth data unavailable

on a previous day, but which should be included. Thus, there

is no logical cut-off date or target date which can be firm

with respect to data collection. The investigators will have

to exhibit flexibility. There is also great likelihood that

there will be spin-off of smaller studies as some data become

available which will tend to be so attractive that they may

shunt efforts aside temporarily from the central effort.

Item 14.   Instruments Mailed or Distributed

           Time allotment: Month of March

           Responsibility: Members of the team

      The categories of the total population should be determined

for distribution of instruments, or those to be included in the

interview process. The design for sampling should be developed

prior to March and the mailing lists should be prepared. It is

recommended that approximately 25 categories of citizens be used

for the mail out, an increase over the 21 used in Stage II, and

that the interview technique be used with about half of these

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categories to obtain some comparison of response. The
total number of instruments to be administered should
run in the range of seven to ten thousand.

Item 15.   Instruments Returned and Data Analyzed
            Time Allotment: Month of May
            Responsibility: Members of the team
    This approach should provide for ·proper programming
for computer analysis of the data.

Item 16.   Total Data Analysis from All Sources Completed
        (same programming as item 15; can be combined with
it as one operation) Heavy emphasis should be placed on
reliability, validity, correlations and comparisons, use
of percentages, and other statistical treatment which
would be helpful.

Item 17.   Educational Needs Determined from Total Results
            Time allotment: Month of June
            Responsibility: Coordinator and team members
    In a series of team seminars, the results of data
analysis should be studied to derive a list of the
15-25 most critical educational needs for Arizona.

Item 18.   Educational Needs Interpreted and Tested Against
            Reaction of Related Groups
        (Continuation of item 17 extending into July.)

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Item 19.   Final Outcomes Refined for Inclusion in
           Comprehensive Report

(Continuation of Item 18 with concentration on

completion by end of July). The outside audit-evaluation

should be analyzed and noted in the comprehensive report.

Item 20.   Design for Next Year's Proposal Developed

           Time allotment: Month of August

           Responsibility: Coordinator and team members

All refinements from activities during Stage III should

be blended into a new proposal for Stage IV. The prime

emphasis should be directed toward continuity, easy

transition and consistency. The most important requisite

would be to set the stage to mount some programs to

alleviate some of the most critical educational needs of

Arizona. Also, it would be very important to blend in

some new directions and some new thinking as a result of

what has happened in Stages I, II & III.

In general, the purpose has been to present a model

with explanation of each of its items. This is the chief

requirement of the agreement. The primary approach has

been to build a new and better model from experience with

previous models. In any event, emphasis has been placed on

providing ample latitude and flexibility to try new ideas

and to test new concepts.

SECTION IV.

ACTIVITIES RESULTING FROM USE OF THE PRELIMINARY MODEL

Introduction

The preliminary model was tentatively adopted as a
plan of operation for Stage II of SENAP. It was decided
to conduct pilot studies, to do field testing, and to exploit
dialogue and discussion as extensively as possible within
the scope of resources available. It appeared logical to
use the preliminary model as a guide for activities in an
attempt to bring together as much material as possible as
backdrop for development of a refined workable model for
future use and to set the platform for Stage III. All of
this activity proved to be helpful in the total project.
The attempt here will be to review highlight activities associated
with each of the 44 items on the preliminary model as deemed
appropriate for this general report.

Procedures

The preliminary model for Stage II (see Appendix F)
served as a helpful frame of reference or guideline. The
items were not necessarily taken in direct sequence, inasmuch
as it became necessary to work on many simultaneously and to
skip about to such items as number 21 near the outset of
the project. In addition, it was decided along the way to
combine some steps, to add new ones, and to expand coverage

of the instrument to include a dozen or more additional groups.
All of this was discussed in advance on three separate occasions
with the State Coordinator of Title III (Arizona) and was
approved by him. Also, approval was indicated by both SENAP
Advisory Councils and was recommended by consultants for
the project.

Inasmuch as major emphasis in the agreement (contract)
and in subsequent discussions with the Coordinator of Title
III was to conduct extensive dialogue with as many different
groups or individuals about the critical educational needs
in Arizona as was possible, there was heavy effort in this
direction.

The major activities in the preliminary model used in
Stage II were grouped under several general headings. Other
activities, not included in these, are self-explanatory or
were not attempted. The nine major groups follow:

1. Review of strategies for assessment--discussions
    and dialogue.

2. Review of general directions and plans.

3. Development of major reference list (bibliography).

4. Summation of specific activities deemed necessary
    for project completion.

5. Development of and testing of instruments.

6. Distribution of and collection of instruments.

7. Collation and analysis of information from
    all sources.

8. Development of needs list and of general
    recommendations.

9. Development of plans for the future.

The first step in the development of the preliminary
model design was to review strategies for assessment.

Fifteen questions were posed with extensive discussion of

each one by the consultants and advisory councils:

1. Is it necessary to include all three domains --
    cognitive, affective, and psychomotor?

2. How much pre-planning is necessary before actual
    pursuance of the meatier aspects of the
    project?

3. How definitive is the agreement which was
    negotiated and how much deviation or
    substitution could or should apply?

4. Who and how many should be involved in the
    planning and in the execution of the project?

5. What total resources are necessary to conduct
    the project and from which sources of supply
    can they be expected?

6. What special competencies and capabilities will
    be required among personnel participating in
    the project? · (e.g. -- expertise in systems design,
    statistics, measurement, sampling, data processing
    and research design)

7. What special components should be emphasized in
    actual design of strategy? (e.g. -- including entire
    spectrum of student achievement--all kinds of
    students in all areas of learning at all levels
    of achievement)

8. What general components should be included in
    the actual design of strategy?

    a. development and selection of learning
        goals and behavioral objectives

    b. depiction of perceptions about relevance of
        objectives and development of criterion-
        referenced test results of achievement of
        the objectives

    c. development of a design to assure relevance
        and importance of objectives and extent to
        which realization of them was achieved
        (via analysis of data)

    d. provisions for submitting the data to the
        educational leadership charged with policy
        development and with decisions as to
        which actions are to be taken.

9. What should be the nature and design of instruments
    to be used for data selection?

10. What should be the scope and coverage in the selection of information or data?

11. How much emphasis should be given selection of "hard data" as contrasted to "soft data"?

12. What approaches should be made for ultimate analysis of data in order to derive maximum benefits? (also what steps should be taken to determine reliability and validity of data?)

13. What means can be used to translate and interpret information collected into a list of critical or crucial educational needs?

14. What can be done to indicate where and how these needs can best be met -- which agencies should be responsible and which courses of action should be recommended?

15. What are the time constraints for each facet of needs assessment and how can these be reconciled with long-range continuous needs assess·ent projects?

All of these and other questions were probed in depth with a large number of administrators, other educators, and a motley array of individuals who might have some knowledge of or concern about an educational needs assessment approach. Throughout this phase, a heavy focus was directed toward developing perspective for what might be most profitable in Stage III as well as in Stage II, both in model development and in activities which should be promoted.

It appeared logical that the team working on this had four major responsibilities, even though all of them could not be consummated within Stage II:

1. To develop a major long-range plan for needs assessment.

2. To set the stage to develop and select needs, goals, and objectives.

3. To plan for a means of testing students to determine the extent to which the needs, goals and objectives have been met.

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4.   To formulate plans for continuity of the needs assessment project over a period of years as well as how to expand or extend the concept of assessment to more meaningful concepts.

A second phase of the preliminary discussions brought forth a general adoption of the oft-used four basic tenets of American Public Education as philosophical guidelines:

1.   Education is for _all_ youth.

2.   Education is _everybody's_ responsibility.

3.   Schools _belong_ to the people and are their agency to transmit their culture to generations yet unborn.

4.   Schools should take each child _where_ _he_ _is_ and help him go as far as his capabilities permit.

The third phase of the preliminary discussions set as goals the following activities:

1.   Development of a model in conformity with the agreement.

2.   Development of a list of projects to recommend to be inaugurated to help Arizona catch up with other states on needs assessment.

3.   Development of a list of the most critical educational needs of Arizona supported by soft data (opinionnaire) from a broad segment of the citizenry.

4.   Development of a broad picture of the hard data available in Arizona which might have limited use in a needs assessment project.

5.   Development of a list of educational needs (in general terms) as conceived by professional educators (these would not be supported by extensive back-up data).

6.   Decision to go as far down the road as possible on as many items as feasible of the preliminary model, irrespective of requirements in the agreement.

During the first four months of the project, a large number of general assumptions or postulates were collected from workshops, conferences, consultants, advisory council members, and other sources. These were taken into account as the total activity progressed, but were not used as delimiting pictures in pursuit of any item.

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Some of the more pertinent ones summarized from a list of
80 and which were the results of more extensive dialogue
follow: (some of these were given or alluded to earlier under
another topic).

1. The educational needs in one state will probably
   approximate, in general, the needs discerned in many
   other states, even though economic, population and
   sociological differences exist among various states.

2. It might be worthwhile to have a master task force
   develop an overall needs assessment for the 50 plus
   states and territories with a built in means of
   adjustment to meet the needs of a given state.

3. The basic and crucial educational needs of most states
   are already known, but supportive data will give
   decision makers more back-up to proceed toward meeting
   them.

4. The major efforts should be directed toward mounting
   programs to alleviate key needs which are presently
   known.

5. The validity of criterion-referenced tests is greater
   in terms of what students really know than it is for
   standardized achievement tests.

6. Needs assessment should be a continuous process, but
   reports on assessment should be limited to one each
   twelve months.

7. The educational needs of each state are overwhelming;
   the focus should be only on the most critical needs
   wherein the deficiency leads to some degree of crisis.
   The never-ending process may get to needs of low
   criticality, eventually.

8. In all assessment processes, there should be a positive
   approach toward gathering information which can be used
   constructively rather than gathering information which
   would tend to document the harm or malpractice of any
   educational program.

9. It must be assumed that relevant changes in education can
   be made in an orderly manner.

10. Emphasis should be placed on student involvment in the
    collection of information.

11. Information collection should concentrate on opinion-
    naires, questionnaires, checklists and interviews
    with little effort on collection of hard data in the
    initial stages of assessment.

12. Each assessment project should begin where the students are (used as a baseline), and should move toward realization of agreed-upon objectives.

13. The total activity for assessment should be held in line with resources available. This probably means that interviews as a technique should be limited in number and that sampling techniques should be abundantly employed.

14. It is highly recommended that a special task force be employed to devise the instruments to be used and to plan how the data will be treated and interpreted.

15. Every effort should be made to cooperate fully with all national or regional assessment programs, but their data should be used with discretion.

16. A great need exists to mount regional attacks via independent consulting organizations to develop behaviorally stated objectives and criterion-referenced tests to measure their degree of realization. At the local level, teachers should be trained in selection or modification of objectives, and in use of criterion-referenced items to measure what happened to the child.

17. Task forces should be an integral part of the assessment design. These should be set at three levels - local district, State Department of Education and institutions of higher learning.

18. Public opinion, including student opinion, is tremendously important in the early rounds of needs assessment, and possibly on an increasingly significant basis in long-range activities.

Review of General Directions and Plans

Throughout the project, the general thrust and plans to move forward were reviewed and re-cast more than a dozen times. All of these were tested with nationally eminent consultants, with distinguished scholars in the field of measurement and research design, with state and local advisory councils, with educators, administrators, adult citizenry and students. The intent was to develop

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guidelines for actions in identifying goals and needs for

the education of Arizona's young people. A number of

working papers were developed as a basis for dialogue with

the above-listed groups. In all, more than 100 documents or

working papers were xeroxed for discussion purposes for these

groups. The approach here was to "talk out" every possible

ramification of the project which would be helpful, and to

prepare a good seed bed for later activity. All of the

groups listed above participated in these discussions with

a total involvement of more than 500 hours of dialogue.

Development of a Working Reference List

A great amount of time was invested by the team in

drawing together a comprehensive reference list (bibliography)

which might prove useful in SENAP. Particular emphasis was

directed toward studies which had been completed in Arizona

and on materials which were particularly applicable in Arizona.

Highlight ideas or contribution were abstracted by the team

for discussion with all individuals participating in the

project. In fact, many of the statements in the working

papers were reflections of ideas found in the reference list.

This form of bibliography, only partially annotated, (to save

space) is included in Appendix G. It is called a working

reference list (bibliography) because it is designed to be

useful quickly and does not necessarily follow standard

bibliographical format.

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Miscellaneous Activities

There were many important activities throughout the project which do not fall under a major category with a specific product.

The team or staff put in an average of 120 hours per week working on such significant items as writing behavioral objectives, excerpting material from the literature, refining models, planning and carrying out hundreds of important tasks associated with the project.

A contract was developed and signed with Mountain States Consultants, Inc., for an outside audit. There was continuous interchange of information on how the project was proceeding. Their principal officer for this project audit came to Tempe to obtain details, and the coordinator of the project made three trips to Denver to report progress along the way. The principal responsibility for the outside audit was to ascertain whether or not SENAP had accomplished the requirements of the agreement with the SDE, and whether or not those working in SENAP had done what they agreed to do to meet fully the conditions of the agreement. A copy of the agreement for the outside audit is found in Appendix H.

The state advisory council and the internal advisory council met regularly to discuss all materials developed, avenues of activity which should prove to be most fruitful, and ideas or conclusions generated along the way.

Outside consultants were brought in to critique plans and offer advice on proposed procedures. In addition,

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several out-of-state consultants were visited and were queried about best approaches to some of the problems or difficulties which were encountered.

Development of Instruments

One of the major undertakings was the development of instruments to be used for gathering data or information. More than a dozen were developed after considerable study of four successful ones from other states. The instruments were refined by both of the councils, by special consultants, and by specialists in measurement and research design. All were trial-tested by local groups and field-tested to ascertain whether or not they would produce the kinds of information identified as essential in determining critical educational needs in Arizona. In all instances, the intent was to design instruments which would be useable in Stage II and would be a good springboard for use (after further modification and refinement) for Stage III. Samples of the instruments and introductory letters are included in Appendix I.

Distribution of Instruments and Collection of Data

Plans were made for distribution of the instruments, partially on a sampling basis and partially on a total population basis. For example, all of the county super-intendents, all directors of divisions of the State Department of Education, all superintendents, all high

school principals, and all elementary school principals

were sent the instrument, while for all of the other of

the total of 21 categories, a sampling technique was used.

A tentative mailing list of approximately 4,000 was developed.

These were all coded by number or by letter in order to

categorize like groups together for tabulation. In most

cases, the material was mailed to the hoped-for respondent;

in others, it was hand-carried to groups. In the end, some

categories were expanded so that a total of 4,976 instruments

were used. (See Appendix J for the list of categories included).

There was not sufficient time to develop any type of follow-up

device to elicit a higher percentage of returned instruments.

Through returned instruments or through interview using the

instrument, there was a return of 2074, or 41.7 per cent.

Since they were coded by letter or number, all returned

instruments were put in labeled folders to keep those

in the same category together. By category, the response

return varied from a low of seven percent to a high of 66 per

cent, with most of them falling between 30 and 50 per cent.

Much consideration was given to ways and means of

tabulation of data in order to yield the most nearly valid

indication of opinions of a small segment of the citizenry

of Arizona with respect to critical educational need.

Several types of tabulation were given a trial run. In

the end, each category was tabulated separately with respect

to frequency of indication of rank for each general need

and frequency of indication of rank for each specific need.

Then, mean ratings were established for each general need

and each specific need.

The specific needs were ultimately used to interpret the focus or point of emphasis of the general need.

The findings from this activity are reported in Section V, along with other material from other studies. From all of these, a distillation and some recommendations will be presented in Section VI.

SECTION V.   THE FINDINGS

Introduction

From a variety of sources, are presented herewith
Arizona's critical educational needs as indicated in this
project. All of these are from the "soft data" approach.
As was specified earlier, it was decided not to include
highly sophisticated statistical techniques with the use
of test scores during Stage II. K ther, it will be
recommended that this type of study and other studies be
made in Stage III to corroborate or to validate that which
is reported in this section.

All information submitted here is from pilot studies
only. These are preliminary trial runs to ascertain what
would be obtained via these procedures. These should be
helpful in decision-making in Stage III relative to the
intensiveness of the data gathering, to the degree of
sophistication statistically, and to the design of the
instrument which will be required to move further down
the road in needs assessment in Arizona. It is asserted,
unequivocally, that this approach in Stage II is a prior
step for a successful Stage III to follow.

Obviously, the principal findings here will be those
supported by data gathered and interpreted from the two
instruments in Stage II. However, it is considered worthwhile
to include the findings developed from the extensive

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dialogue conducted on many fronts and with many different
groups. Some further distillation, synthesis and coalescence
will occur in Section VI under the recommendations, wherein
a list of 15 educational needs in Arizona will be offered in
decreasing order of priority. Thus, wherever feasible, needs
will be presented with mean ratings for relative importance.
This should be helpful in establishing priorities for
attack, but is not necessarily a sound statistical device
for validating priorities. In the recommendation segment,
specific proposals will be offered to attack problems of
highest priority, taking into account the unique situation
in Arizona, e.g.-finances, school organization, legal
restrictions, and others.

Professional Education Segment

As indicated in Section IV, this instrument was
administered to ten categories of individuals related closely
to professional education in background, training, and
experience. There were approximately 1100 responses
which were tabulated and interpreted. Some did not
respond to all of the top five items in their judgment,
as directed. However, the responses, in general, appeared
to be the product of thoughtful and sincere efforts.

This group of needs is presented as a list in decreasing
order of mean rating value, and it includes tabulation of
write-in needs not listed in the instrument. The list
follows:

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1. Goals   3.79*

    More specific emphasis and improvement on language
    skills, mathematical skills, social skills, and
    values development.

2. Objectives   3.75

    The re-writing of objectives in behaviorally
    stated terms with criterion-referenced measuring
    items.

3. Proficient Staff   3.69

    Improved in-service training, better pre service
    training to cope with modern problems and better
    utilization of special skills which each teacher has.

4. Contemporary Curriculum   3.08

    Geared to modern needs socially, emotionally
    and aesthetically; related closely to area
    needs such as inner-city, rural, urban, and
    others.

5. Adequate Materials and Equipment   3.01

    Improved textbooks and materials; extended use
    of educational technology and instructional
    materials centers.

6. Increased Cooperation Between School   2.97
       and Community

    Specific provision for inter-play of special
    and unique resources, and for full communica-
    tion and mutual assistance.

7. Early Childhood Education   2.96

    Specific provision for more resources for
    kindergartens, nursery schools, and for
    grades 1-3.

8. Accountability   2.88

    Systematic product and process analysis;
    fixing responsibility; curriculvm evaluation;
    cost analysis.

9. Vccational Training   2.86

    Belief in dignity of work; preparation to
    enter the work world.

10. Student Centered Instruction   2.86

    Minimal uniform requirements; flexibility in
    program development and methodology to achieve
    goals.

11. School-Community Coordination   2.75

    Coordination with referral services and public
    service agencies; agencies to inventory needed
    services for youth.

12. Special Services   2.62

    Greater emphasis on counseling, health,
    psychological and mental hygiene services.

13. Delimitation of School Responsi-   2.49
        bilities

    More emphasis on essential skills, problem
    solving abilities with curtailment of
    peripheral services.

14. Leadership Resources   2.43

    Utilizing consultants, professional organ-
    izations, university bureaus and others to
    maximum degree.

15. Effective Teaching of Language Skills 2.41

    Maximum development of total communication
    arts for every child.

16. Early Identification of the Handi-   2.41
        or Exceptional Child

    Maximum utilization of special services   .
    to mee_ his needs.

17. Assessment of Product of Education   2.39

    Tie-in with statewide, regional, or national
    programs of educational assessment to see
    how product rates on national norms.

(*These values are established by tabulating the number of

checks in 1st, 2nd, 3rd, 4th, or 5th choice of rank of

importance. By ascribing a value of 5 to each 1st choice,

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4 to each 2nd choice, etc., and dividing by the total number
of checks, a mean value was developed.)

Lay Citizenry Segment

As indicated in Section IV, this instrument was
administered to eleven categories of lay citizenry (not
directly professionally education oriented). There were
approximately 1,000 responses which were tabulated and
interpreted. There was much greater incidence of write-in
individual choices than in the professional educational
group and a somewhat greater tendency to give vent to
obvious gripes and discontent. However, the responses,
on the whole, appeared to represent a sincere effort to
"tell their story", and it was more difficult to combine
"like responses" as they were often stated differently.
This group of needs, as with the previous case, is presented
as a list in decreasing order of mean value, and it
includes tabulation of write-in needs as encouraged by
the instrument. The list follows:

1. More Competent Teachers   3.91

   Improved preservice and in-service training;
   better use of individual skills.

2. More Effective Teaching of Language   3.60
   Skills

3. More Vocational Preparation   3.58

   More emphasis on training for a job and
   a place in the world of work.

4. Better Discipline   3.20

   Responsible behavior on campus at all
   levels and by all age groups.

5. Better Use of Facilities   3.18

    Longer days, longer terms, more concentrated
    use during the day and evening.

6. Teaching Problem Solving   3.03

    Use of better techniques and methods to
    solve personal and other types of problems.

7. More Individualized Instruction   2.96

    Flexibility in program of study and in
    requirements and methods.

8. Construction of Better School   2.92
       Buildings

    Safer, more efficient buildings, better
    cooling, lighting and ventilation with
    special design for special types of
    instruction.

9. More Emphasis on 3 R's   2.88

    Back to basic fundamentals for all children.

10. More Cooperation Among School,   2.86
       Home and Community

    Greater spirit of working together on
    all fronts.

11. Provisions for Kindergartens   2.84

    Putting kindergartens on tax base of
    operation for all public schools.

12. Better use of Educational Technology   2.74

    Greater use in the newest of educational
    hardware to assist learning.

13. Tuning in to Current Social Needs   2.73

    More emphasis on social needs which
    should be met in Arizona.

14. Greater Provision for Special Needs   2.70
       of Handicapped Children

    More emphasis on special techniques to
    help these children.

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15. Better Education Managment   2.67

     Getting more good out of each educational
     dollar

16. Better Administration   2.40

     Permit creativity and provide opportunity
     to try new ideas by teachers; administration
     by encouragement.

17. More Specialized Education for   2.39
      Minority Groups

     Specialized planning for sub-cultures.

Special Interview Segment

     As sort of a follow-up technique, interviews were

held with educators, administrators, teachers, other

citizenry, including pupils, graduate students, and

people from all walks of life. This was conducted at

approximately the three per cent level of those administered

the instruments. This was not designed as a scientific

approach, but rather, to see what would happen that

might be helpful. The same approach was used as is

currently used by a prominent national poll group (the

coordinator at one time was a trained interviewer for this

national poll).

     The top 17 needs registered by this group follow:

1. Total curriculum reorganization to gear in to
     needs of younger generations.

2. Development of new objectives of learning based
     on needs of youth--stated in behavioral terms.

3. More realistically trained teachers to cope
     with modern educational problems.

4. Better physical plants designed to provide
     atmosphere conducive to modern learning.

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5. Better provision for modern materials and equipment, utilizing the best in modern technology.

6. Greater team approach between school and community.

7. Provision for tax-supported kindergartens.

8. More emphasis on communication skills.

9. Better control of behavior (discipline) throughout the school day.

10. Much greater emphasis on preparing for a specific vocation.

11. Early identification of handicapped child, with special services to meet his needs.

12. More emphasis on fundamental skills (3 R's)

13. More specialized educational opportunity for central city youth.

14. More specialized educational experiences for rural minority groups.

15. More parent instruction, so parents can assist the child while at home.

16. Much better counseling facilities both at elementary and secondary schools.

17. More emphasis on sportsmanship in sports; decreased emphasis on competitive athletics.

Special Reaction Groups

These groups included members of the advisory councils,

special consultants, specialists in assessing educational

needs, and educational scholars visited in various states.

Some from these had participated by responding to one or both

of the instruments utilized in the data gathering process.

This was conducted as an interview with individuals, one

at a time. Care was taken not to suggest needs or identify

needs developed from other sources. Rather, in the course

of the dialogue on crucial educational needs in Arizona, the

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needs which were emphasized were recorded for later scrutiny.
Then the needs which were stressed most often were arranged
in a list of decreasing order of cruciality as indicated
by the discussions. This list follows:

1. Complete revision of the curriculum for language skills, mathematics skills, and social skills via selection of behaviorally stated objectives.

2. Better trained teachers to meet the new school and learning situations which they face.

3. Revised content in all fields of subject matter to make them more relevant to today's problems in living.

4. Better materials for instruction in all fields and at all levels.

5. More provision for early childhood education, especially for kindergartens.

6. More provision for training for saleable skills in the world of work.

7. Greater emphasis on school-community cooperation in all facets of the educational program.

8. More provision for "total-field" counseling services.

9. Greater provision for health services, including undergirding psychological services, mental health services, and physical health training, with special emphasis on availability of effective referral services.

10. Greater emphasis on problem solving experiences, using scientific method, scientific attitudes and high levels of thinking abilities.

State Department of Education Sources

The State Department of Education is the chief
education agency of the State of Arizona and is the
center for leadership, for planning and for execution of
plans for education. For purposes of this study, three

broad areas were investigated for whatever pertinence their activities might have in the general picture of assessment. The three areas were:

Education, Vocational Education, and Vocational Rehabilitation Three specific questions were posed, along with other related matters for d scussion. The three questions were:

1. What kinds of information (hard or soft data) does your office (or division) collate or compile relative to educational need - in all three domains? (How much of this, if any, is computerized?)

2. What plans do you have for the future in this respect?

3. What are the crucial educational needs, as you see them from your vantage point, for Arizona.

It was assured that all discussions or responses would be kept impersonal, if there were any inclusion of them in this report.

In the Education Division (elementary and secondary) some important points were listed as backdrop. The only data regularly collected at this time are those required by statute. However, some data, additionally, are gathered for specific attacks on problems when services are requested by a school district or group of schools within a county.

There are specific plans to extend data collection and processing, via use of the computer, to help develop services that have not been available previously to schools. This will include much information about the learner, a summary of the materials being used in the school, and some evaluation of areas needing improvement. (this latter on request of district only)

There is heavy activity in the Education Division in re-designing curriculum guides, inasmuch as these are now the official state courses of study. The major thrust will be to re-develop the curriculum guides in all fields of subject matter with

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inclusion of four major ingredients -- <u>concepts</u>, <u>methodologies</u>, <u>activities</u>, and <u>resources</u>. This curriculum revision is a hoped-for-by-product of new curriculum guides. The guides will be more flexible to meet differing needs. The approach in development of the guides is expected to be via special task forces in each area of content. There are no means of collecting the masses of hard data needed at the state level at present. Local districts either do not have the hard data or do not transmit them to the SDE to any appreciable extent. Perhaps another task force will be needed to spell out ways and means of bridging this gap.

On the Vocational Education side of the ledger, there is abundant collection of data to be used in program planning. There is a full print out regularly on enrollments, information needed to develop grants-in-aid to districts, job opportunities and a motley array of other important data. This is an extraordinarily complex but efficient system. However, the hard data are helpful primarily in determining the nature and content of vocational education classes, and when and where they should be offered. A summary of this total operation would indicate that all data needed for decision making and program planning are collated, analyzed and used.

The educational needs of Arizona were tabulated as indicated in discussions with several SDE high echelon employees. These people have their fingers on the educational pulse of the state and have distilled off high level considered judgment, even though they may not have back-up hard data to support their premises. Even so, in the realm of opinion, their contributions

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must be considered as of major importance, and these constitute

a significant group of needs which should be taken into account.

The list of educational needs generated from SDE officials

follows:

1. Total curriculum revision with emphasis on behavior-
    ally stated objectives.

2. Greater provision for high quality learning materials
    at all levels.

3. Greater provision for extended counseling services
    at all levels.

4. More emphasis on general education (that education
    profitable for all youth which is relevant to re-
    quirements for living the good life today).

5. Greater provision for the special needs of sub-cultures,
    inner-city children and handicapped children.

6. Better communication and involvement between the parents
    and the schools.

7. Better accountability for education, including all
    phases of management, program planning and evaluation.

8. A revised and re-written body of education statutes in
    tune with present educational circumstances.

9. Greater provision for equipping all youth with a
    saleable skill in the world of work.

10. Greater provision for early identification and treatment
    of handicapped children.

11. Greater emphasis on early childhood education, especially
    on kindergartens with a tax-supported basis.

12. Greater emphasis on a quality of teacher preparation
    especially well-suited to equip teachers to cope with
    problems of the modern school.

13. Better in-service training for teachers, especially in
    outlying areas, with increased use of specialists and
    consultants (as a joint venture between SDE, the univer-
    sities, and the local districts).

14. Plans for school district reorganization to provide
    equitably for all students in the State of Arizona.

15. Reorganization of the SDE with an appointed state
    superintendent of public instruction.

16. Greater emphasis on developing problem solving cap-
abilities among all pupils, using the highest level
of thinking the pupil can achieve.

17. Greater provision for total health services including
education about drug abuse, use of alcohol, and use of
tobacco.

Educational Needs Identified by Other States

Many other states have done a commendable job of assessing

their educational needs. Some educators think that there is

great similarity of educational needs among many of the states.

However, most readily agree that many crucial needs are unique

to a specific state. Irrespective of this, a brief overview

was made of the educational needs identified in states believed

to have similar problems to those in Arizona.

Those which appeared in several state lists and which were

apparently pertinent for consideration in Arizona follow: (Edited

to make like statements fall under one generally stated item.)

1. Provision for a totally revised curriculum with emphasis
on selecting and measuring outcomes of teaching for
behaviorally stated objectives.

2. Provision for an evaluation of the curriculum in terms
of its total effectiveness.

3. Provision for comprehensive counseling services at all
levels.

4. Provision for greater uniformity, state-wide, for scope
and quality of educational opportunity for each pupil.

5. Provision for an individualized curriculum with flexible
requirements, individualized instruction and computer
assisted instruction.

6. Provision for development of a saleable skill in a
respected world of work.

7. Provision for maximum utilization of outstanding
instructional materials.

8. Provision for specialized education for handicapped
    and disadvantaged learners. (early identification
    and remediation procedures)

9. Provision for more adequate teacher preparation for
    instructional excellence in modern schools. (to cope
    with the problems creatively)

10. Provision for major improvements in teaching communication
    skills, especially reading.

11. Provision for greater relevancy of the total content of
    subject matter to the needs of today's pupils.

12. Provision for a master plan for education of all youth.

13. Provision for collating and analyzing (via statistical
    treatment) of data beneficial to the total operation of
    the schools.

14. Provision for specialized education to help prevent
    drop-out, drug abuse and alienated youth.

15. Provision for better relationships between colleges of
    the state and the public schools--sharing, cooperating,
    and helping one another.

Educational Needs Identified from Stage I

In the Stage I study of 1969, there was tabulated a list of

critical educational needs by county and for non-public schools.

By ascribing arithmetic values based on ranking of items by

county, it is possible to arrange the list of needs in a

decreasing order of priority. This, however, is relatively

unimportant, inasmuch as all of the needs are crucial. Much more

important is the breakdown and interpretation of each crucial need.

This report of needs is included in Appendix K. It provides much

food for thought and is a good starting point in identifying crucial

educational needs for Arizona. A list of needs abstracted from

the 1969 study follows:

1. Need for curricula and programs that meet the needs of young people who have widely varying experiences, physical and mental abilities, and interests. ——

2. Need for improved buildings and facilities.

3. Need for comprehensive procedures for teaching personal attitudes and social values.

4. Need for vocational education and vocational guidance programs.

5. Need for compensatory education programs for disadvantaged children.

6. Need for instructional materials and equipment.

7. Need for change of emphasis in the objectives and programs of public education.

8. Need for pupil services such as guidance and counseling, health services, social work, and psychological services.

9. Need for communications between school and community.

10. Need for improved preservice and in-service education (of teachers).

Needs Developed from Other Sources

There are many other sources which have identified critical educational needs in Arizona. Perhaps some of these used less sophisticated means and have less back-up data than others, but it is suggested that their findings are worth viewing. Moreover, there is a tendency to be "mixing apples with lemons" in some of these lists. Irrespective of this, the reports from four other sources are offered to stimulate thinking, to compare with other lists, and perhaps to add to any consistency of needs identified from other sources.

Designing education for the future. Earlier in this report, reference was made to the eight state project

labeled, <u>Designing</u> <u>Education</u> <u>for</u> <u>the</u> <u>Future</u>. This group
published a great deal of material and devoted one major phase of
its activity toward identifying Arizona's critical educational
needs. In a report published January 15, 1968, there were
recommendations for meeting the following needs which had been
synthesized from earlier activities:

1. Need for the State Superintendent of Public Instruction
   to be appointed by the State Board of Education.

2. Need for an Arizona Educational Planning and Coordinating
   Council to be established by the legislature.

3. Need for a thorough analysis and revision of <u>Title</u> <u>XV</u>,
   <u>Education</u>, <u>Arizona</u> <u>Revised</u> <u>Statutes</u>.

4. Need to spell out definitively the duties and responsibilities
   of the State Board of Education.

5. Need to re-organize the office of the Superintendent of
   Public Instruction (responsibilities and functions).

6. Need to develop a comprehensive program of school district
   reorganization.

7. Need to develop an exemplary school for a prototype of
   things to come (model or pilot installation).

8. Need to encourage district school boards to maximize
   educational opportunity by every available resource and
   technique.

9. Need to provide enlightened teacher education programs,
   utilizing new techniques and ideas for improvement.

10. Need for school districts to identify the proper role
    for administrators, teachers, specialists and all other
    school personnel.

11. Need to maximize use of instructional materials and to
    establish systems of evaluation.

12. Need to set the stage so that each student has the right
    to be understood by the school, to have a program which
    best fits his individual needs, and to have the school
    seek solutions to the problems he or she encounters.

   <u>Assessment</u> <u>of</u> <u>the</u> <u>educational</u> <u>needs</u> <u>of</u> <u>Indian</u> <u>students</u>. In
December, 1969, an important study on educational needs of Indian
students was completed. Among the more significant findings (of

needs) of this report are the following:

1. There is a need to establish <u>educator-learner relationships</u> promoting further understanding, respect and communication between students and educators.

2. There is a need for the personnel involved in <u>educational administration</u> to provide the processes by which educational goals are defined and resources coordinated to achieve the goals.

3. There is a need for building the <u>self-image</u> of the Indian student to provide the student with a sense of dignity and pride to foster self-esteem and a sense of identity, encouraging self-confidence and a willingness to compete.

4. There is a need to develop <u>student involvement</u>, encouraging student interest and participation in the learning process, providing experiences of responsibility and authority, and participation in decisions concerning their education.

5. There is a need to promote <u>community involvement</u> and to encourage the participation of the community in the educational system for the purpose of defining and achieving educational goals.

6. There is a need to reorganize <u>curriculum structures</u> in conjunction with re-examining the content of subject matter taught in schools.

From another perspective, it can be stated that there is need for the educational system to allow a student to:

1. Understand himself and appreciate his dignity as an individual and his identity as a member of society.

2. Understand and appreciate different social, cultural, and ethnic groups as well as his own.

3. Achieve basic skills in the use of words and numbers.

4. Obtain a positive attitude towards the learning process.

5. Learn the responsibilities and priviliges of citizenship.

6. Learn good physical health habits.

7. Recognize the opportunity to be creative and follow his own interests.

8. Understand and appreciate accomplishments in the arts and sciences.

9. Be able to adjust to the rapidly changing world of the future.

All of these salient points are discussed in the report. The goals, problems, and needs are well-stated, and any group assessing Arizona's educational needs would do well to make an intensive study of this document.

<u>Assessment</u> <u>of</u> <u>needs</u> <u>by</u> <u>superintendents</u> <u>and</u> <u>principals</u>. Very few school administrators have adequate hard data to back up their assumptions, but nearly all of them have well-developed and thoughtful perception about the items which should be included in a needs assessment list. Discussions were held with approximately twenty school administrators, many of whom would later participate in filling out the Stage II instrument mailed to them. There was quite general concensus on the following needs and some felt they had sufficient hard data to substantiate their conclusions:

1. Need for better prepared school personnel, trained to deal effectively with the strategic and unique requirements of the modern classroom.

2. Need for much greater in-depth means of planning and evaluating the total school system.

3. Need for complete curriculum revision to enhance relevance to 1970 living conditions.

4. Need to re-state the objectivies of instruction in behavioral terms, with means of measuring realization of them by the pupils.

5. Need for accent on individualized instruction with provision for flexible graduation requirements and flexible patterns for programs of study.

6. Need for coordinating all resources and referral services to maximize educational efficiency of the total school operation.

7. Need for extensive improvement in school-community relations with maximum interchange, involvement and participation by both elements.

8. Need for specialized educational opportunities for the gifted, the handicapped, and the disinterested.

9. Need for accent on vocational education to prepare all youth for his or her part in the work world.

10. Need for specialized programs to combat drop-out, drug abuse, use of alcohol and the use of tobacco by pupils enrolled in school.

11. Need for more extensive use of teacher aides, para-professionals and other professional or semi-professional assistants.

12. Need for capitalizing on newer movements in educational methodology which have been tried in recent years. (examples: differentiated staffing, modular or flexible scheduling, team teaching, non-verbal communication, interaction analysis, programmed instruction, computer assisted instruction, information retrieval systems, and others in the current picture.)

13. Need for extensive remedial programs in social studies, communication arts, mathematics and science.

14. Need for greatly increased psychological services.

15. Need for greatly expanded counseling services at all levels.

School surveys. During the past few years, it has been quite popular to have school surveys conducted to assist school boards in meeting their responsibilities. Typically, the survey is conducted via a contract between the school board and a consultant group or university bureau of educational research. There are usually two major segments in a survey: (1) a description of the school system as it exists (the surveyors describe what they find) and (2) a list of recommendations to improve or to meet needs which were discovered after an assessment of the educational picture.

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An examination of 23 school surveys completed in Arizona within the
past decade reveals a rather consistent pattern of need among
schools surveyed. The following needs, interpreted from the
recommendations (often based on test data), are representative of
the most frequent ones listed: (Some members of the Advisory
Council to Title III thought the results of surveys would be
especially pertinent for this study.)

1. Need for remedial programs in all of the basic subject
   matter fields.

2. Need for curriculum revision to bring content more in
   line with the current problems of day-to-day living.

3. Need to re-state objectives in all subject fields in more
   nearly behavioral terms.

4. Need for greatly expanded psychological services.

5. Need for greatly expanded counseling services at all levels.

6. Need for teachers' aides and assistants to permit teachers
   to concentrate on high level tasks of instruction.

7. Need for greatly expanded health services.

8. Need for greatly expanded instructional materials centers
   and use of the latest in educational technology.

9. Need for a greatly expanded in-service training program.

10. Need for improved school-community relationships (including
    the community-centered school).

11. Need for increased usage of newer instructional method-
    ologies.

12. Need for internal research and evaluation services to
    take stock of educational achievement and of promising
    practices elsewhere.

13. Need for greatly expanded vocational education programs.

14. Need for greatly expanded but pertinent programs for
    minority groups.

15. Need to concentrate on learner needs, including social
    skills.

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16. Need to re-cast the program for proper emphasis on general needs, development of good attitudes, and establishment of value systems.

17. Need to identify youth with handicaps or who have been disadvantaged, with special programs to meet their needs.

SECTION VI.   SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

A major project of assessing educational needs of
Arizona was undertaken in the late summer of 1969.   Every
known activity related to a general needs assessment was
reviewed for pertinence in this project.

A preliminary working model containing 44 steps or items
of activity was developed.. The intent was to go through
as many of these steps as resources permitted in an effort
to develop a proposed model for use in Arizona in the next
year, or for several years.   Intensive activity was directed
toward most of the 44 items, and a new model was constructed
after considering the strengths and weaknesses of several
trial models.

As a major part of the total activity, attempts were made
to identify the most crucial or critical educational needs in
Arizona via the soft data approach.   Through dialogue, opinionnaires,
interviews, discussions and assay of other projects, several
lists of crucial needs were developed.   A wide array of
individuals was involved in the total information gathering
process.   This included consultants, advisory council members,
educators, adult citizenry and students.

A huge investment of time and effort was made in weighing,
judging and deciding (deliberative approach) about the importance
and usefulness of information developed in the study.   This

was directed heavily toward attempts to ascertain the degree of cruciality or criticality. Several assumptions were developed which served as guidelines or as limitations in the total procedure. Instruments were designed which had the posture of soft data approach and which were limited to a low degree of statistical sophistication. No attempt was made to defend these as a scientific approach. Rather, it was decided to try this as a pilot study to see what could develop in terms of useful information. The consultants and the members of the advisory councils were especially productive in all of the activities alluded to in this paragraph.

As a general summary, the following were accomplished:

1. A working model, proposed for Stage III, was developed.

2. A list of critical educational needs of Arizona was distilled out of many inherent in the total picture, with back-up information from pilot studies to defend partially their criticality.

3. Several useful items, such as a comprehensive reference list (bibliography) were developed for future use.

4. A list of needed projects, designed to help meet some of the critical needs was developed (to help Arizona catch up in meeting the needs).

5. Several lists of needs from different perspectives or sources were constructed which might serve as a useful frame of reference in planning for the education of Arizona's youth in the next decade.

6. Several limitations were identified along the way which should serve a useful purpose in any future projects to assess educational needs.

7. An extensive list of conclusions was developed from the information at hand in this project.

8. A list of recommendations was developed growing out of information and data collected in this project.

9. All requirements and terms of the agreement, as
    interpreted by the team, were carried out to
    completion and, in many instances, activities
    went a considerable distance beyond the terms of
    the agreement (contract).

Conclusions

Several conclusions appear defensible in the light of

data and findings in this study:

1. A viable, adjustable useful model can be produced which
    should be useful in assessing Arizona's educational
    needs.

2. The educational needs of Arizona are multitudinous and
    are overwhelming in nature.

3. Arizona is far behind many other states in attacking
    critical educational needs.

4. The educational needs identified for Arizona bear
    strong resemblance to critical needs identified
    in several other western states.

5. Projects of this sort can serve a useful purpose in
    helping Arizona re-direct efforts toward meeting
    some of the more crucial educational needs. Attention
    is thus focused on needs which should stimulate the
    educational leadership and the legislature to attack
    more vigorously the most critical needs.

6. Needs assessment projects should be an on-going
    continuous effort, and new ways to gather data, involving
    hard and soft approaches, should be built into the
    projects.

7. The degree of criticality or cruciality many be
    debatable and may vary from year to year, but there
    are sufficient back-up data to justify an all-out
    effort on as many as resources will permit.

8. It is probable that other critical needs exist which
    were not identified in this project, or that new
    ones of great intensity may emerge in the near future
    when more facts are in.

9. In any needs assessment, it is highly important to
    involve and to assimilate the thinking of a large
    segment of the total population of Arizona, a motley
    array of citizenry and of professional educators, with
    very heavy emphasis on student reaction and attitude.

10. There are many ways to gather data for needs assessment projects. A wide variety of approaches should be used during the next few years.

11. There are great and overwhelming educational needs in Arizona in all three domains, and any attack on the needs should be directed toward some needs in each of the three. This is to say that Arizona cannot afford to restrict her efforts to one domain at the expense of the other two.

12. From this type of project, wherein many critical needs become apparent, there was more flow of information to reaffirm previously recognized needs than to identify new ones.

13. The proposed model and plans for Stage III have the endorsement from key educators in Arizona, from consultants, from the advisory councils, and from many others interested in state assessment of educational needs.

Recommendations

A total list of recommendations would be virtually unending, inasmuch as the needs are so great. However, an effort was made in this portion of the report to group many related recommendations together and to combine similar ones as more specific recommendations. All of the activities, including discussions with consultants, advisory council members, educators, and others were put through a distillation-synthesis phase. The information from pilot studies was used as back-up material. The product from this is offered as a basis for a series of recommendations, from the total input, as of this point in time.

I. It is recommended that Stage III of needs assessment be formally identified and that a plan of action for Stage III be adopted.

II. It is recommended that the model developed for Stage
III be accepted for implementation, and that it be
activated at the earliest possible date.

III. It is recommended that the following critic·l educational
needs, synthesized from information and data developed
in this project, but with emphasis on what was derived
from the instruments, be accepted as the most critical
needs at this time, and, further, that every possible
resource available be directed towards meeting these
needs during Stage III:

1. There is needed a complete curriculum reorganization
for improvement of content, especially in communication
skills, mathematical skills, social skills and
values development.

2. There is needed a total re-writing of objectives of
instruction (including selection from and modification
from commercially available lists) in behaviorally
stated terms with criterion-referenced measuring
devices for degree of realization.

3. There is needed a meaningful revision of teacher
preparation to prepare teachers realistically for
the modern classroom and modern student, with more
adequate in-service training along the way.

4. There is need for much greater emphasis on vocational
training to prepare each pupil with saleable skills
to enter gracefully the work world.

5. There is need for more adequate materials and
equipment, utilizing the best in instructional
materials centers and in educational technology.

6. There is a need for much improved school-community
cooperation, as a joint educational enterprise.

7. There is need for greater emphasis on early childhood
education, especially with tax-supported kindergartens.

8. There is need for more student-centered instruction,
individually prescribed, with greater flexibility
in requirements and for more extensive use of newer
methodology.

9.   There is need for greatly expanded counseling and
     psychological services at all levels.

10. There is need for better discipline, characterized
     by responsible behavior at all levels.

11. There is need for better total use of facilities,
     both in heavier community use, and in capitalization
     on unique uses which the facilities can provide.

12. There is need for more specialized education for
     sub-cultures, for handicapped, and for other
     exceptional youth.

13. There is need for greater emphasis on development
     of problem-solving abilities, utilizing the
     highest levels of efficient thinking.

14. There is need for provision for greater uniformity,
     state-wide, for the scope and quality of educational
     opportunity for each student.

15. There is need for better assessment of the product
     of education, cooperating with all pertinent agencies,
     relative to how well the educational operation is
     doing.

It is recommended concurrently that the total list of
different needs, identified from the several sources, be
tabulated to provide a working list for consideration by any
group interested in planning ways and means of meeting one
or more of the needs. This might result in healthy dialogue
about obvious needs which would be missing on such a list,
or challenging the inclusion of some of the needs on the
list. The more discussion that can be stimulated, the
more cognizant Arizona citizens wil' be about their educational
problems. And, perhaps, the more insistent will be the need
for back-up hard data to validate the need.

IV. It is recommended that the following special projects
be studied by the State Advisory Council to Title III,
and that they negcciate an agreement or contract to
carry out as many of these as are feasible at the
earliest possible date: (some are similar in portent
to others).

1. To direct a task force in a "think tank" approach to
assay the very latest developments in teacher
preparation, and to work with the three universities
in iproving teacher education in Arizona.

2. To direct a task force to advise and assist the
State Department of Education on how to mount
programs which will help meet critical educational
needs in Arizona.

3. To direct a task force to start planning Stages
IV and V and to delineate which kinds of activities
should be done via contract with outside consultants
or agencies, which ones with the State universities,
which ones with professional membership groups, and
which ones by the State Department of Education.
Much can be gained in this attack by cross-referencing
with five to ten other states which have achieved
outstanding success in meeting educational needs
in their respective areas.

4. To direct a task force to study feasibility of
six major steps:

   a. joining the Educational Commission of States
   via legislative action

   b. joining the "Popham Project" in a major
   participatory manner

   c. contracting for services in writing amendments
   to the state plan, for dissemination, for
   evaluation of project success, and for predictions
   of potential in funding proposals

   d. assaying the values from joining with the High School
   Visitor's Office and the State Research Coordination
   Office in future needs assessment activities

   e. coordinating efforts with major groups interested
   in needs assessment, including NCATE, AACTE, and
   ERIC (teacher education)

   f. joining a consortium of states in a major
   cooperative attack on needs assessment and
   related problems

5. To direct a task force to prepare special instruments
    to derive a defensible picture on educational needs of
    Arizona via opinionnaire, including consideration of
    validity and reliability of the instruments.

6. To direct a task force to develop strategies to
    cooperate with any state-wide or regional assessment
    programs, and especially with any State Department
    of Education programs of assessment.

7. To direct a task force to develop strategies for
    active participation with and eliciting assistance
    and responsibility for needs assessment projects
    from all active professional membership associations
    in Arizona.

8. To direct a task force to develop strategies for
    involving local districts, the State Department of
    Education and the universities in workshops utilizing
    high visibility consultants for attacks on problems
    of needs assessment.

9. To direct a task force to coordinate activities and
    offer assistance to local districts in their attempts
    to develop testing programs of high stature.

10. To direct a task force to take stock of what has
    gone before, and to develop a creative and comprehensive
    plan for the identification of educational needs
    in Arizona, including the status of education K-12,
    and achievement in the Seven Cardinal Principles of
    Education. Questions should be asked about the
    relevance of educational programs for all sub-populations
    in Arizona and about the total effectiveness. The
    end product would be identification of critical
    needs for education in Arizona. An excellent model
    for this sort of activity is found in the "Plan
    for Study of Educational Needs of Florida" which
    could be adapted to Arizona.

11. To direct a task force to identify the educational
    concerns of citizenry, professional educators,
    business and civic leaders, leadership in State
    Department of Education and students in schools
    at all levels. Assuming that this list of concerns
    might run in the range of 200-500, the task force
    would then categorize them into 20-25 broad categories.
    From the total list of concerns, a list of 50-60
    most urgent concerns would be designated as the
    critical educational needs of Arizona. Excellent
    work along these lines has been done in Utah, and
    their effort could serve well as a frame of reference.

12. To direct a task force to develop a questionnaire on
     the educational needs and construct a plan for its use
     in the state as well as for the treatment of the
     data. The design used in Tennessee is especially
     appropriate as a guideline or frame of reference.
     (a continuation effort built upon past efforts).

13. To direct a task force to assay what has been
     accomplished in other states (from information in
     the public domain) and develop a plan to meet
     the most critical needs of Arizona (assuming that
     the needs in Arizona are, in general, close to
     the needs of some other states).

14. To contract, with an outside consultant agency
     to develop a plan of action for meeting the most
     critical needs as they exist in the thinking
     of the general citizenry and professional educators.

15. To direct a task force to draw up a long range assess-
     ment of need program, distilling the better
     practices utilized in the nation and applying them
     to Arizona.

V.   It is recommended that the following special project

     be set in motion via contract with a university bureau

     as soon as possible:

          To conduct 18 s ecial workshops for teachers
          and administrators designed to assist them
          in selecting or preparing suitable instructional
          objectives stated in behavioral terms; to help
          teachers prepare criterion-referenced items on
          instruments which will measure outcomes from
          the objectives selected.

VI. It is recommended that the State Department of Education

     identify the two or three most pressing problems facing

     education in Arizona, and then bring in consultant help

     to plan, to develop lay-out and design for attack

     on problems, and then to train people in Arizona, pre-

     ferably within the State Department of Education, to

     to the work, (after obtaining hard data to back up the

     criticality of each need or problem to be attacked).