
This booklet, the second of three dealing with educational accountability, instructs the professional staff of the school in establishing measurable objectives that will lead toward the accomplishment of the school's goals, proposing solutions, selecting the most likely solution to implement in a field test, implementing the solution in such a way as to insure its fullest success, and evaluating the process. (Author/MLF)
FROM GOALS TO ACTION

SECOND EDITION: 1974

ERNEST A. POORE
SUPERINTENDENT
FRESNO COUNTY DEPT. OF EDUCATION
FROM GOALS TO ACTION

Your school has set goals.

Now, what?

Fresno County Department of Education
ERNEST A. POORE, Superintendent

Kenneth L. Biggs

1st Edition; 1972: Bob King, Ed. D
FORWARD

California’s Joint Legislative Committee on Goals and Evaluation has encouraged all public schools to adopt educational goals.

California’s State Department of Education has implied that a modified budgeting system will be instituted.

The California School Boards Association has urged us to “Make the establishment of new educational goals a top priority item . . .”

The Stull Bill (California’s AB 293) represents a new approach to certificated personnel evaluation in that it requires a school district to adopt evaluation standards with specific guidelines locally formulated and also requires that evaluation of certificated personnel be linked to student progress.

There appears to be little room for doubt that the establishment of goals locally is essential to meeting legal and other mandates.

Many schools and school districts have established goals through use of one process or another.

Now, how can these statements of goals be developed into vital courses of action that will make for a better educational offering for our children?
ACKNOWLEDGEMENT

As was the case in the original publication, the basis for much of this material was developed by interaction and exploration—putting ideas to a test in live, practical situations. We are indebted to the staff of the former Fresno County Pace Center (EDICT), Dr. Bob King, and members of the Consultant Staff who have utilized the document in their work and have provided invaluable feedback.

We also acknowledge the enthusiastic assistance of administrators and staff of several districts in Fresno County whose pleasurable experiences in setting goals with community involvement and then the staff doing something about the goals have set a positive course of action to follow.

THE AUTHORS
# CONTENTS

Why the Problem Solving Approach? ............................................... 1
The Problem Solving Approach ................................................... 2
Impetus, Needs and Goals ......................................................... 4

Objectives
- Definitions .......................................................... 6
- Examples ......................................................... 6
- Where to Start .................................................. 7
- Elements of a Well-Stated Objective ......................... 10

Solutions
- Sources of Solutions ............................................. 12
- Elements or Issues ............................................. 12
- Selection of One or More Solutions for Field Testing .... 13

Implementation
- Proposed Steps for an Implementation Plan ............... 15
- Reassessing the Problem and Solution .................... 16
- Outlining the Major Activities ............................... 16
- Considering Groups and Agencies Which Will Be Affected 16
- Identifying Remaining Constraints ...................... 17
- Identifying Activities and Persons Responsible .......... 17
- Plotting Calendar Assignments and Activities ............ 17

Evaluation
- Objective Criteria ............................................... 19
- Means of Measurement ....................................... 19
- Tools and Techniques ......................................... 22

Appendices
- A - Examples of Goals, Goal Indicators and Objectives in the Three Domains 24
  Affective Domain ............................................... 24
Psychomotor Domain .................................................. 25
Cognitive Domain ....................................................... 26
B - Grid to Assist in the Selection of Solution Strategies .......... 28
C - Plotting Calendar Assignments and Activities ................... 31
WHY THE PROBLEM SOLVING APPROACH?

The Fresno County Department of Education is committed to an approach to problem solving beginning with analysis of needs, for the following reasons:

The approach is readily understandable.

The approach is logically arranged.

The approach is compatible with educational practices.

The approach is consistent with the Department's belief that there must be community involvement in the affairs of a school or school district if there is to be a high quality educational offering.

The approach is consistent with the intent of the California State Department of Education to make an accountability system an integral part of public education. Wilson Riles has stated that California's accountability system will be based on the following principles:

Goals, specific objectives and resource allocations will be defined.

It will involve the broadest possible spectrum of the community.

It will be diagnostic as well as comparative and geared toward the improvement of instruction.

It will provide a system for meaningful assessment of the quality of education.
The model adopted by the Fresno County Department of Education is diagrammed at the left.

**IMPETUS**

The starting point is a locally felt need or an externally applied mandate. No matter what started it all, the next step is the examination of local practices, facilities and attitudes to determine where there are discrepancies between what is and what should be. These are described as areas of need.

**NEEDS**

The analysis of the location and extent of areas of need should be a cooperative venture between the community and the professional staff. Either point of view would alone be inadequate.

**GOALS**

Once needs have been determined, it is a simple matter to convert needs to statements of goals. Goals developed in this manner may not be all-inclusive because they are in direct response to problem areas; they are problem oriented and should be recognized as such.

**OBJECTIVES**

From goals, one proceeds to the establishment of program objectives. It is recommended that school-wide goals be developed first into school-wide objectives. Once the school’s objectives are established, it is not difficult to proceed on to objectives for a department or classroom, then to objectives for the individuals with that classroom. School-wide goals and objectives provide the framework for those of classrooms and departments within a school.

**SOLUTIONS**

The proposing of solution strategies which will enable an individual or organization to meet the criteria of stated objectives is the next logical step.

**IMPLEMENTATION**

After consideration of constraints, resources and local preferences, the most likely strategy or strategies are adopted and placed into effect for field testing.

**EVALUATION**

During and at the conclusion of the field test, evaluation takes place to determine the extent to which criteria as stated in the objectives are being, or have been met.

**RECYCLE**

Then the cycle begins again, since circumstances and accordingly the needs, will have changed.
THE PROBLEM SOLVING APPROACH - IMPETUS, NEEDS AND GOALS

The impetus, needs and goals, which are the preliminary steps in the problem solving approach, are the topics of the following publication:

School and Community: Partners in Education
Published by the Fresno County Department of Education
Second Edition: July 1, 1973

School and Community: Partners in Education is a description of a process or technique for involving the school staff, student body, and a large, representative group from the community in a needs assessment and goal setting process. The technique is efficient and requires a minimum of time and produces statements of needs and goals which are related to the local educational process as seen by those closest to it. Resultant goal statements are then the logical starting place for a problem solving procedure.

The process not only provides the desired end-products—needs and goals—but also allows the emergence of priorities, feedback, and a high degree of enthusiasm by the participants. Because they have not been asked for their ideas in the past, the most dominant question is whether the goals are going to make any difference. Making a difference is what this publication is all about.
OBJECTIVES

needs

goals

objectives
THE PROBLEM SOLVING APPROACH - OBJECTIVES

Once goals have been set, the next step is to establish measurable objectives which will lead toward the accomplishment of the school's goals. The school's goals and objectives will later be of use to departments or classroom teachers as they proceed to establish related objectives for their own operation.

DEFINITIONS:

GOAL—A statement of broad direction, general purpose or intent. A goal is general and timeless and is not concerned with a particular achievement within a specified time period. (Ed. Code Section 7562)

GOAL INDICATOR—An occurrence or state of being that would be in effect should a goal have been met. A fact or factor that will illustrate or amplify the goal statement. An indicator within the goal which will assist in establishing the objective.

OBJECTIVE—A devised accomplishment which can be verified within a given time and under specified conditions which, if attained, advances the system toward a corresponding goal. (Ed. Code Section 7563)

EXAMPLES OF GOALS AND OBJECTIVES:

EDUCATIONAL GOAL:

Reading instruction in our school will be significantly improved.

RELATED OBJECTIVE:

By the close of the 1973-74 school year, at least 90% of the students will be reading at or above grade level as verified by at least two standardized tests.
OBJECTIVES (Continued)

NON-EDUCATIONAL GOAL:

I will improve my bowling game.

RELATED OBJECTIVE:

By June 1974, I will score at least 200 points, in at least one game, in bowling at the Fresno lanes.

Where to Start:

The establishment of program objectives is the sole responsibility of the professional staff of the school. It requires a knowledge of student needs, of community and staff desires plus considerable knowledge of the educational process.

Depending upon the size of the school and the degree of enthusiasm for the project, the group working on objectives may be made up of the entire staff or of a smaller and representative group.

The process is not difficult, provided minds are open and can be future-oriented.

The following steps are recommended: (Examples are on the following pages)

1. Select the goal to be considered. This may be the number one goal on the community’s priority list or may be another one that the staff feels it can adequately handle.

2. Write a list of goal indicators. An open and receptive attitude, such as that prevalent in a good seminar, will help the staff come up with one or more indicators which can be readily converted to objectives. One of the best ways to get at it is to pose the question, “What would be the circumstances should this goal be effectively met?” or, “If, by the close of this year (or next year), we had satisfactorily met this goal, what would things look like?” (See examples on the next page and in Appendix A)

3. Decide the degree to which the desired competencies or events would exist should the goal have been met.

4. Derive the objective from each of the indicators.
OBJECTIVES (Continued)

<table>
<thead>
<tr>
<th>STEP</th>
<th>EXAMPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Select the Goal</td>
</tr>
<tr>
<td></td>
<td>Students will exhibit a more positive attitude toward school.</td>
</tr>
<tr>
<td>2.</td>
<td>List the Indicators</td>
</tr>
<tr>
<td></td>
<td>Absenteeism will be reduced.</td>
</tr>
<tr>
<td></td>
<td>Classroom participation will increase.</td>
</tr>
<tr>
<td></td>
<td>The number of dropouts will decrease.</td>
</tr>
<tr>
<td></td>
<td>School clubs and other activities will be better attended.</td>
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<tr>
<td></td>
<td>More students will run for school offices.</td>
</tr>
<tr>
<td></td>
<td>Parents will attend and participate in group discussions.</td>
</tr>
<tr>
<td></td>
<td>Parents will come to parent-teacher conferences.</td>
</tr>
<tr>
<td>3.</td>
<td>Degree of Achievement Desired</td>
</tr>
<tr>
<td></td>
<td>Absenteeism - reduce 25% per year.</td>
</tr>
<tr>
<td></td>
<td>Participation - increase in 9 out of 10 classrooms this year by teacher judgment.</td>
</tr>
<tr>
<td></td>
<td>Dropouts - decrease 25% per year.</td>
</tr>
<tr>
<td></td>
<td>Club attendance - up 10% per year.</td>
</tr>
<tr>
<td></td>
<td>Running for office - increase 20% per year.</td>
</tr>
<tr>
<td></td>
<td>Parent participation - will increase over the previous year.</td>
</tr>
<tr>
<td></td>
<td>Parents will come to parent-teacher conferences - increase to 90% by close of the year.</td>
</tr>
<tr>
<td>4.</td>
<td>Write the Objectives</td>
</tr>
<tr>
<td></td>
<td>Student non-illness absenteeism in the school will be reduced at least 25% per year as measured by attendance records.</td>
</tr>
<tr>
<td></td>
<td>Classroom participation in discussions will increase in 9 out of 10 classrooms by the close of the school year as judged by classroom teachers.</td>
</tr>
<tr>
<td></td>
<td>The number of student dropouts will decrease by 25% annually as measured by attendance records.</td>
</tr>
<tr>
<td></td>
<td>Attendance at school-sponsored clubs and at other extracurricular activities of the school will increase by at least 10% annually, as measured by club and/or sponsors' records.</td>
</tr>
</tbody>
</table>
The number of candidates running for offices in school-related activities will increase by at least 20% annually, as measured by club and/or sponsors' records.

Parent participation in group discussions will increase over the previous year as judged by PTA records and an evaluation form.

Attendance of parents at regularly scheduled and special parent-teacher conferences will be at least 90% by the close of the school year, as measured by the records of classroom teachers.

NOTE: The above are examples of a process and are not necessarily desirable objectives for a given school. Although percentages are predominantly used in the above examples, other methods of measurement may be used.

See Appendix A for examples of goals, goal indicators and objectives in each of the domains (Affective, Psychomotor, and Cognitive).
The Elements of a Well Stated Objective:

**WHO (will do)**

**WHAT**

**HOW WELL**

**WHEN**

**UNDER WHAT CONDITIONS**

**HOW VERIFIED?**

Examples:

<table>
<thead>
<tr>
<th>WHO (will do)</th>
<th>WHAT</th>
<th>HOW WELL</th>
<th>WHEN</th>
<th>UNDER WHAT CONDITIONS</th>
<th>HOW VERIFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>will reduce absenteeism</td>
<td>25%</td>
<td>per year</td>
<td>non-illness absenteeism</td>
<td>attendance records</td>
</tr>
<tr>
<td>Students</td>
<td>will increase participation</td>
<td>in 9 of 10 classrooms</td>
<td>this year</td>
<td>in discussions and projects</td>
<td>teacher estimate</td>
</tr>
<tr>
<td>Students</td>
<td>dropout rate will decrease</td>
<td>25%</td>
<td>per year</td>
<td></td>
<td>attendance records</td>
</tr>
<tr>
<td>Students</td>
<td>will attend activities</td>
<td>10% more</td>
<td>per year</td>
<td>school-sponsored activities</td>
<td>sponsor records</td>
</tr>
<tr>
<td>Students</td>
<td>will run for office</td>
<td>20% more</td>
<td>per year</td>
<td>school-related activities</td>
<td>sponsor records</td>
</tr>
<tr>
<td>Parents</td>
<td>will participate in group discussions</td>
<td>increase</td>
<td>over previous year</td>
<td>attend and participate</td>
<td>PTA records and evaluation form</td>
</tr>
<tr>
<td>Parents</td>
<td>will attend conferences</td>
<td>90%</td>
<td>by end of year</td>
<td>regular and special parent-teacher conferences</td>
<td>teacher records</td>
</tr>
</tbody>
</table>
Sources of Solutions

Possible solutions to a given problem may be derived from many sources. Some sources are:

- A search of the literature
- A review of the experiences of members of the group
- A survey of similar districts with similar problems
- Attendance at conferences dealing with the problem
- A probing of minds to come up with new solutions

Too often we find ourselves saddled with tunnel vision, pet projects, or missionary zeal for ideas expounded by others. The former says that nothing is wrong with our program. It is the fault of money, students, homes—somebody other than we collectively. The latter says that we should do something new for the sake of change.

In either case there is a need to ask the question of WHY. Why do we have grade-levels? Why do we act as if all students learn in the same way? Why aren’t we more specific about our expectations? Why did Peachtree School want open space for instruction? Why is the State requiring each new teacher to have training in the teaching of reading?

Groups of ten or twelve persons, gathered around tables, may come up with dozens of ideas in a short period. Record should be kept of all the ideas for solutions. Then, analyze these solutions for common, basic elements or issues. Some of these elements or issues are:

- Time or USE OF TIME
- Number of adults to help students
- Methodology
- Curriculum
- Doing better with what we have
- Methods of evaluating student progress
- Inservice education

This analysis will aid in determining whether more possible solutions should be added. Keep in mind that more than one suggested solution can have the same basic element.

Re-arrange the list of suggested solutions so those which are alike are together. It may be possible to use them together as one solution.

**The Selection of One or More Solutions for Field Testing**

No matter from what sources the several possible solutions may have come, one or more should be selected for field testing. In making this choice or choices, consideration should be given to the following factors.

- Costs
- Attitudes of students, staff, and community toward the solution
- Availability of resources (materials, staff talent)
- Successes of similar ventures
- Time needed to implement
- Other constraints or positive factors

The choice of a solution may be obtained by consensus or an independent rating scheme. (See Appendix B)
IMPLEMENTATION
THE PROBLEM SOLVING APPROACH - IMPLEMENTATION

We have now identified our needs, stated our goals, derived our objectives, proposed solutions and selected the most likely solution to implement in a field test. We know where we want to go and how we want to try to get there. The next job is that of implementing the solution in such a way as to insure its fullest success.

A new reading program? A new way to organize classes? A new administrative structure? A continuous progress program? No matter what the solution, there must be a carefully planned implementation schedule in order to assure optimum results.

Proposed Steps for an Implementation Plan

1. Reassess the problem and solution.

2. Outline the major activities.

3. Consider all the groups and agencies which will be affected by the program.

4. Identify remaining constraints.

5. Identify all the activities and sub-activities and the persons who will be responsible for carrying out each of these.

6. Plot the calendar assignments and activities. Include target dates. A PERT diagram or other easily understandable chart is helpful and clarifies areas of responsibility.
Reassessing the Problem and Solution

Before proceeding further, look back and see if this is all what you really had in mind. Is the problem clearly stated? Is there consensus that this is the problem? Are the problem and goal related? If the criteria stated in the objectives are met, will the goal have been met? Is there general satisfaction with the solution strategy that is to be tried? Can you round up the necessary resources?

If the answers are yes, then proceed . . .

Outlining the Major Activities

The proposed solution must be understood if there is to be any hope of success. The plan of action must be clearly stated and responsibilities assigned.

A flow chart, such as the example on the preceding page, is one of the best ways to clarify actions and responsibilities.

Considering Groups and Agencies which will be Affected

What are the likely reactions of individuals, organizations, the press? How will the students react? Their parents? Teacher organizations? The School Board? These will have been considered as the solution was selected, but now it's time to reassess attitudes toward the project and obtain support and legitimization for the project.

Individuals and groups should be contacted and involved. Channels of communication should be recognized and respected. Be sure you are ready, willing to listen, and able to answer questions.

Communications must be two-way, in order that reactions may become known before things reach a state of crisis. A simply-stated reply may preclude a blow-up that could wipe out the entire project.
IMPLEMENTATION (Continued)

Identifying Remaining Constraints

Again, constraints will have been considered as the solution strategy was selected for trial. Remaining constraints, plus any new ones which may have arisen, must be considered and handled.

At this stage the major constraints will be those of availability of resources, such as classroom space, time, money. Most will have been previously identified, but new ones may arise as the implementation plan unfolds.

Identifying Activities and Persons Responsible

What happens first? Who does it?

Who is the project director? Who will help him? From whom does he get approval to proceed? Who is responsible for each phase or activity? Who handles public relations? Who manages in-service education for the staff? Who handles budgetary matters?

An organizational chart showing lines of responsibilities will help.

A listing of activities in the order of their probable occurrence will also help. The organizational chart and the listing of activities may be linked for added clarity. And better yet, these may be attached to a calendar for even greater clarity . . .

Plotting Calendar Assignments and Activities

Placing activities and responsibilities on a calendar may be done with a PERT chart or other easily understandable device. Such charts are often required for governmental projects and can readily be adapted for complex or simple projects.

See Appendix C for examples.
THE PROBLEM SOLVING APPROACH - EVALUATION

We now have assessed our needs, we have decided upon where we wish to go, we have set some specific objectives which include criteria, we have set a course of action and we have begun the field test of a likely solution. The next job is to ascertain how well we're accomplishing (or have accomplished) what we have set out to do.

According to those who work extensively in the use of a systems approach, the greatest problem lies in the formulation and administration of the evaluative phases of the process. Designers and users of the systems approach encounter difficulty in stating a rationale for and in planning the evaluative phases of the process. Yet its use is by no means complete if the evaluation is left to chance or guesswork.

And it's not that difficult!

IF objectives have been well written, the evaluation of the project is built in. IF all the elements of a well-stated objective (see page 10) are present in the project's objectives, we know exactly what is expected.

IF we know what's expected, we can use the proper yardstick and measure it. This may sound like an oversimplification, but it works! The key lies in properly stating objectives in the first place.

The most common problem is learning to write properly stated objectives centered around the evaluative elements—HOW WELL and HOW VERIFIED. The first portion of the problem is getting these elements into each objective. In contrast to an objective written 30 years ago, an objective in today's context is not complete without these valuative elements.

The second, but related portion of the problem is whether in writing an objective any consideration has been given to the means of measurement. Just getting a measurable criterion in the objective is not the whole story. Are the methods of measurement feasible? For example:

-If an objective refers to measuring an "increase" or "growth," some baseline data is necessary. Is this data available? Is it to be generated? If so, how?

-If an objective refers to a statistical term such as quartiles, stanines, grade-level equivalent, etc., the implication is the use of a standardized test from which any of these terms is discernible. Although it is a legitimate means of measurement, a teacher-made test will not produce these terms.

-If an objective refers to a teacher-made test, some indication as to its minimum length should be given.
It's not always appropriate to wait until it's all over to see how a curriculum innovation or other field test has met the criteria established for it. Look at signposts and warnings along the way.

Many objectives (summative) state what the circumstances should be at the close of the project. However, success is more likely to be achieved when checkpoints along the way are also examined as the process unfolds (formative evaluation).

SOME EXAMPLES

| OBJECTIVE: | Student non-illness absenteeism in the _____ school will be reduced at least 25% per year as measured by attendance records. |
| EVALUATION: | Last year's number of non-illness absences will be compared with that of this year. (Last year, there were 28 per day, this year, there are 21 per day. Or, last year, there were 2,000 such absences during the year. This year, we have 1,500 such absences.) Did we make it? |
EVALUATION (Continued)

Objective: Attendance of parents at regularly scheduled and special parent-teacher conferences will be at least 90% by the close of the school year, as measured by the records of classroom teachers.

Evaluation: The criteria of this objective do not require a comparison with any time in the past. No baseline data are required. We need merely to compare the number of invitations to conferences with the number of persons who came. (2500 invitations sent, 2300 came.) Did we make it?

Objective: The number of candidates running for offices in school-related activities will increase by at least 20% annually, as measured by club and/or sponsors’ records.

Evaluation: The numbers of names appearing on last year’s slates of candidates for offices will be compared with the numbers on this year’s slates. (Last year, there were six candidates for student body offices. This year, there are nine.) Did we make it insofar as student body offices are concerned?

Objective: Every request for consultive services will be acknowledged by the Division of Instruction no later than the close of the ensuing work day, as measured by a log of activities.

Evaluation: This is a PROCESS objective rather than a PRODUCT objective and it can be measured by the maintenance of a log of requests and responses to requests. This objective may be (and probably should be) monitored frequently so that any necessary changes in procedures or work loads may be made during the year.
Nothing is as effective as an instrument which is developed for the expressed purpose of measuring the progress of the specific objective under study. To apply a haphazardly selected, unreliable test or measurement device will surely result in unreliable, non-valid findings.

The following list of evaluation techniques and tools may be of assistance to you as you write objectives and plan the evaluation phase of your project:

<table>
<thead>
<tr>
<th>Standardized Instruments</th>
<th>Non-Standardized Instruments</th>
<th>Personalized Techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achievement tests</td>
<td>Anecdotal records</td>
<td>Inspections</td>
</tr>
<tr>
<td>Aptitude tests</td>
<td>Checklists</td>
<td>Interviews</td>
</tr>
<tr>
<td>Attitude scales</td>
<td>Criterion-referenced tests</td>
<td>Observations</td>
</tr>
<tr>
<td>General mental ability tests</td>
<td>Flow charts</td>
<td>Open-ended questions</td>
</tr>
<tr>
<td>Interest inventories</td>
<td>Logs</td>
<td>Sentence completion</td>
</tr>
<tr>
<td>Performance tests</td>
<td>Objective tests</td>
<td>Simulations</td>
</tr>
<tr>
<td>Word association tests</td>
<td>Questionnaires</td>
<td>Situational tests</td>
</tr>
<tr>
<td></td>
<td>Rating scales (product)</td>
<td>Staff critiques</td>
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<td>Records</td>
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<td>Reports</td>
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<td>Sociograms</td>
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<td>Surveys</td>
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<td>Tape recordings</td>
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<td>Video tapes</td>
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</tbody>
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APPENDIX A - EXAMPLES OF GOALS, GOAL INDICATORS AND OBJECTIVES - IN THE THREE DOMAINS

AFFECTIVE DOMAIN

GOAL
Secondary students will gain a positive self-concept.

GOAL INDICATORS
Participation in extracurricular activities will increase. (20% per year)
Students will set higher career aspirations for themselves. (significantly)
Referrals for disciplinary action will decrease. (20% per year) Classroom participation in discussions will increase. (20% per year)

OBJECTIVES
Students' participation in extracurricular school-related activities will increase by 20% per year as verified by club or activity sponsor's records.

Students will score significantly higher in The Choose a Job Inventory as indicated by comparative scores of a pretest and posttest given one year apart.

Referrals to counselors or the administrative staff for disciplinary purposes will reduce 20% per year as indicated by staff records.

Participation in classroom discussions will increase by 20% per year as estimated by classroom teachers.

1The Choose a Job Inventory is one of several instruments described in the Instructional Objectives Exchange's publication, Measures of Self Concept K-12. The Instructional Objectives Exchange, P.O. Box 24095, Los Angeles, California 90024.
### PSYCHOMOTOR DOMAIN

**GOAL**

Students will gain and maintain optimum physical condition.

**GOAL INDICATORS**

- Learners will maintain successive, rhythmic exercise.
- Learners will satisfactorily complete test items in the State Physical Performance Manual.
- Learners will maintain or improve in ability to perform exercises of agility and endurance.

**OBJECTIVES**

- Provided with an elementary set of body conditioning equipment the learner will maintain successive, rhythmic exercise for five minutes without need for rest.
- Given a post State Physical Performance test, the learner will achieve a gain on each of the six test items, of a minimum of ten percentile points.
- Given a Fall physical examination, the learner will maintain or improve the ability to perform stated exercises of physical agility and endurance for an increasingly extended period of time which relates normally to the *Rate of Recovery Index*, when re-examined in the Spring.

### COGNITIVE DOMAIN

**GOAL (Science)**

Students will understand and will regularly make use of the method of scientific inquiry in solving problems in science.

**GOAL INDICATORS**

- Students will formulate questions or problems.
- Students will formulate hypotheses which account for data and are reasonable answers to the problems.
- Students will design appropriate experiments to test hypotheses.

**OBJECTIVES**

- Given a list of qualitative and quantitative observations, the student to the satisfaction of the teacher will: 1) formulate a question or problem from these observations; 2) formulate a
hypothesis to answer the question, or solve the problem; 3) design an experiment to test his hypothesis.

**GOAL** (Electronics)  Students will understand and apply knowledge of magnetism.

**GOAL INDICATORS**  Students will describe properties of electromagnets.  Students will describe properties of the field around a current-carrying conductor or coil.  Students will describe properties of magnets or magnetic materials.

**OBJECTIVES**  Given an incomplete statement describing properties of electromagnets, the student will select, from a list of alternatives, the phrase which best completes this statement.  

Given an incomplete statement describing properties of the field around a current-carrying conductor or coil, the student will select, from a list of five alternatives, the phrase which best completes this statement.  

Given an incomplete statement describing one of the properties of magnets or magnetic materials, the student will select, from list of eight alternatives, the phrase which best completes this statement.  

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¹From the Instructional Objectives Exchange publication, Biology 10-12.  
²From the Instructional Objectives Exchange publication, Electronics 7-12
GOAL
Students will understand the metric system and the English system of measurement.

GOAL INDICATORS
Students will be able to measure length of objects in centimeters.
Students will be able to use the metric conversion tables.

OBJECTIVES
Given an object, the students will measure the object and state its length in centimeters with 80% accuracy. (The criterion could be stated as “within .5 centimeter” if more appropriate for the grade level.)

Given a group of incomplete statements involving the metric system of measurement, the student will complete the statements with 80% accuracy, using the conversion table available.
Assume that the objective of REDUCTION OF THE DROPOUT RATE BY 25% PER YEAR is under consideration.

Assume that the following solution strategies are proposed:

* Provide a regional vocational education program
* Provide for stricter enforcement of attendance laws
* Reduce class size significantly
* Provide more counselors
* Divide year into quarters, have half-day classes
* Have students and staff in learning teams
* Allow student to select any staff member as advisor, pay staff accordingly
  * Forget it - let them drop out if not interested
  * Go on modular scheduling
  * Identify possible dropouts - work with them to establish personal goals.

Assume that possibilities marked with asterisk* are those selected by the group having greatest promise for the school.

Assume it is agreed that each of the solution strategies should be weighed against the best guesses as to the following considerations:

- Staff reaction to the plan
- Community reaction
- Student reaction
- Costs
- Availability of resources
- Time necessary to implement
- Success of similar ventures
Scoring considerations vs. proposed solutions:

Each of the proposed solutions is weighed against each of the considerations and an arbitrary score assigned, using the following scale:

- +4 - Extremely positive effect
- +3 - Strongly positive effect
- +2 - Moderately positive effect
- +1 - Slightly positive effect
- 0 - Little or no effect, or does not apply
- -1 - Slightly negative effect
- -2 - Moderately negative effect
- -3 - Strongly negative effect
- -4 - Extremely negative effect

Example:

Reduction of Class Size vs |
| Staff reaction | Strongly positive | +3 |
| Community reaction | Slightly positive | +1 |
| Student reaction | Moderately positive | +2 |
| Costs | Extremely negative | -4 |
| Availability of resources | People, yes, classrooms no - neutral | 0 |
| Time needed to implement | Not a factor | 0 |
| Success of similar ventures | Slightly positive | +1 |

Score = +3
<table>
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<tr>
<th>Proposed Solutions</th>
<th>CONSIDERATIONS</th>
<th>Staff Reaction</th>
<th>Community Reaction</th>
<th>Students Reaction</th>
<th>Costs</th>
<th>Availability - Resources</th>
<th>Time to Implement</th>
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In the above case the task force elects to propose a regional vocational center and a system in which students may select their own advisors from among all certificated members of the staff. It will also give serious consideration to the establishment of learning teams and realignment of the school calendar to establish a quarter system with half-day classes.
APPENDIX C - EXAMPLE OF IMPLEMENTATION CHART

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From A Consideration of Implementing Activity on Educational Goals and Objectives, a committee report presented to CASA, September, 1970. Roy C. Hill, Chairman.

WNJ:ja

2/74 Rev.