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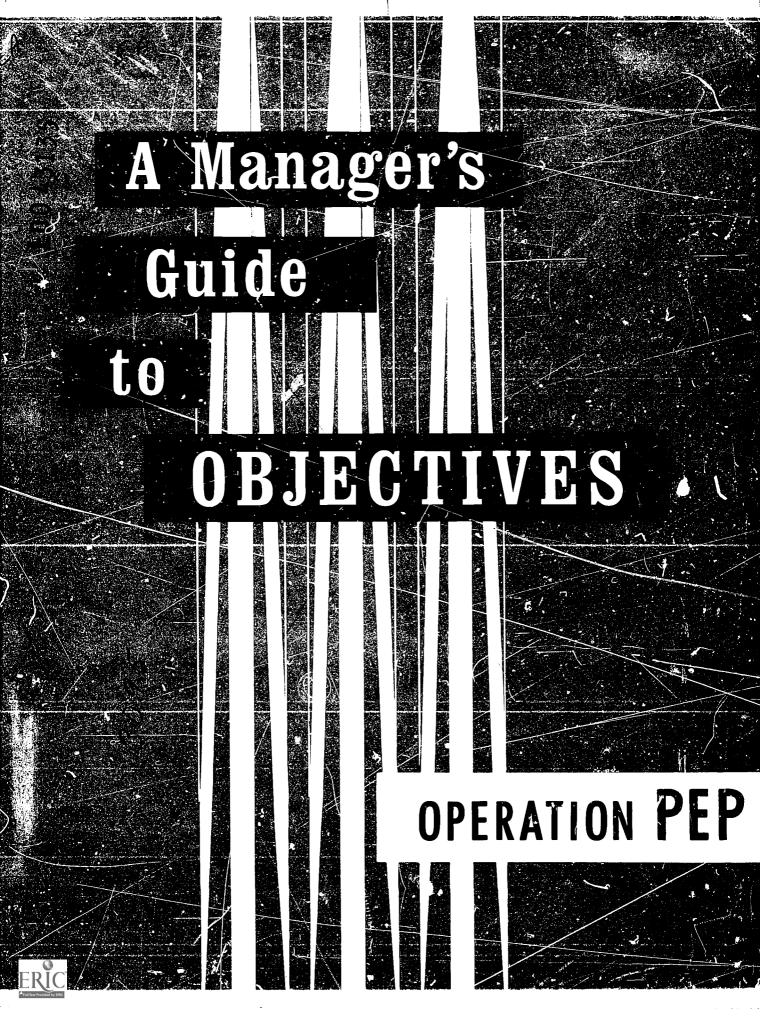   Philosophy, *Educational Planning, Educational
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ABSTRACT

        This guide, focusing on participative management and
the requirements of public decision-making in education, is designed
as a management referent for the development and use of verifiable
performance objectives. In addition to an indexed main section, the
volume contains an analysis matrix for educational objectives; formats
for and examples of verifiable policy, program, curricular, and
instructional objectives; and embryonic statements of verifiable
instructional objectives for childcare and nursery schools,
kindergartens, primary and intermediate schools, and junior and
senior high schools. The work reported in this volume was performed
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A Manager's Guide to OBJECTIVES

OPERATION PEP

ED0 43135

A MANAGER'S GUIDE TO OBJECTIVES

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PREFACE

This document had its origin in an earlier edition prepared for
OPERATION PEP by Larry Harty and Bruce Monroe. The current edition is
a completely revised version using feedback from OPERATION PEP partici-
pants. This edition focuses upon participative management and the
requirements of public policy decision making in education. It is
designed as a management referent for the development and use of verifi-
able performance objectives in education.

The primary mission in development was to prepare a basic anage-
ment referent detailing selected considerations and procedures that can
be used by practicing educational leaders in the development, appraisal
and use of verifiable performance objectives.

A series of secondary missions were used in development. They
include:

   --To establish a basic philosophical position for the use of verifi-
     able performance objectives in the management of education

   --To present a series of internally consistent definitions for key
     concepts related to verifiable performance objectives

   --To present guidelines for managing objective-setting processes in
     educational organizations

   --To present guidelines for deriving and specifying verifiable per-
     formance objectives for education

   --To suggest possible uses for verifiable performance objectives in
     managing educational performance

   --To present supplementary materials that have been designed for use
     in setting educational objectives

The Guide has been indexed using tables of contents. The primary table of contents indexes the sections of this document and their principal sub-sections. Each section has a table of contents that presents a more detailed index of the sub-sections presented. Where it was deemed necessary, cross reference notations were used to direct user attention to other areas of content presented in the Guide.

The Guide was developed under the leadership of Donald R. Miller who was primarily responsible for writing the materials presented in the Introduction, Section 1.0, Section 3.0 and APPENDIX A. Virginia Carroll and Lynne Svenning were primarily responsible for development of Section 2.0. Section 4.0 was developed primarily by Richard Wehe. Sheldon Varney and Allen Buckner developed Section 5.0. Ted Rogers and Donald Kase were responsible primarily for the development of APPENDIX B. Drafts produced in all stages of development were critiqued by all members of the staff.

Donald R. Miller

Burlingame, California
October 1969

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INTRODUCTION

Human societies are purposive in nature. Individuals organize and direct their collective efforts toward the achievement of societal purposes. One of the most basic and common societal purposes is the establishment and maintenance of an educational system; societies are maintained and/or renewed through the growth and development of their individual members.

Underlying the educational processes in democratic societies are the following assumptions:

1. The individual is important: An individual human being is the basic unit of structure and function in society. The unique capabilities of a society's membership constitute its survival potential at any given point in time. Thus, the survival of any society through time depends upon the capabilities of its individual members.

2. Participation is necessary: A democratic society requires active and effective participation by each of its individual members. All participation is sanctioned by the characteristic set of values (pluralistic in nature) dominant in the society at a specific point in time.

3. Education helps develop individual potential: A democratic society depends upon formal and informal educational processes to renew continuously its human resource potential and to maintain an enlightened public.

Educational organizations must define purposes that represent a satisfactory integration of the needs and desires of the varied societal aggregates that comprise the societal whole. The assessment of societal and organizational needs and the continuous renewal of delineated purposes in light of these needs are vital management functions in healthy

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organizations. Likert states:

> Neither the needs and desires of individuals nor the
> objectives of organizations are stable and unchanging. The
> desires of individuals grow and change as people interact
> with other people. Similarly, the objectives of organiza--
> tions must change continuously to meet the requirements of
> changed technologies, changed conditions, and the changes
> in needs and desires of those involved in the organization
> or served by it. The interaction process of the organiza-
> tion must be capable of dealing effectively with these
> requirements for continuous change.
>
> In every healthy organization there is, consequently,
> an unending process of examining and modifying individual
> goals and organizational objectives as well as considera-
> tion of the methods for achieving them. The newer theory
> specifies that:
>
> (1) The objectives of the entire organization and of its
> component parts must be in satisfactory harmony with
> the relevant needs and desires of the great majority,
> if not all, of the members of the organization and of
> the persons served by it.
> (2) The goals and assignments of each member of the organi-
> zation must be established in such a way that he is
> highly motivated to achieve them.
> (3) The methods and procedures used by the organization and
> its subunits to achieve the agreed-upon objectives must
> be developed and adopted in such a way that the members
> are highly motivated to use these methods to their maxi-
> mum potentiality.
> (4) The members of the organization and the persons related
> to it must feel that the reward system of the organiza-
> tion--salaries, wages, bonuses, dividends, interest pay-
> ments--yields them equitable compensation for their
> efforts and contributions.[1]

The actions of organizations should be objective-oriented and managed

toward the achievement of preferred consequences. Educational managers

must integrate statements of purpose that are responsive to the needs and

desires of people located both within and outside the organization. The

integrative, objective-setting process is complicated by differing indivi-

dual perceptions of fundamental societal values and issues relevant to

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[1]Rensis Likert. New Patterns of Management (New York: McGraw-Hill
Book Company, 1961), p. 116.

education. The following questions raise some of the currently relevant

issues:

1. In what kind of world and social environment will the current
    and future learners live?

2. What capabilities and competencies will be needed for success
    and effective participation in that world?

3. Which of these capabilities and competencies should be made the
    responsibilities of public education?

4. What instructional programs and learning environments are required
    to develop desired societal capabilities and competencies?

5. What present organizational factors must be changed to develop,
    install and operate necessary instructional programs and learning
    environments?

Individual differences with respect to educational values, beliefs,

goals and expectations bring to the fore another set of issues:

1. What benefits does society and/or should society reasonably
    expect to receive as outputs from educational organizations?

2. Why does society and/or should society expect to receive such
    outputs and/or valued benefits?

3. What societal factors should be considered and what procedures
    should be followed in the derivation of educational purposes?

4. Who is responsible and/or who should be made responsible for
    setting educational goals and objectives?

5. What pattern of human involvement is required to set responsive
    and responsible educational objectives in a particular society?

6. What criteria can be used to determine the validity, relevancy,
    feasibility and acceptability of educational purposes?

7. What trade-offs should society be willing to make relative to
    valued societal benefits, alternative choice-consequence relations
    and organizational capabilities to produce the benefits?

Conflicts are bound to arise when such questions are considered

because different individuals, groups and organizations use different

sets of criteria to determine purposes and preferred courses of action.

Conflict and differences of opinion always exist in a healthy, virile organization, for it is usually from such differences that new and better objectives and methods emerge. Differences are essential to progress, but bitter, unresolved differences can immobilize an organization. The central problem, consequently, becomes not how to reduce or eliminate conflict, but how to deal constructively with it. Effective organizations have extraordinary capacity to handle conflict. Their success is due to three very important characteristics:

1. They possess the machinery to deal constructively with conflict. They have an organizational structure which facilitates constructive interaction between individuals and between work groups.

2. The personnel of the organization is skilled in the processes of effective interaction and mutual influence. . . .

3. There is high confidence and trust among the members of the organization in each other, high loyalty to the work group and to the organization and high motivation to achieve the organization's objectives.[2]

Conflict, and the resolution thereof, can stimulate growth. The nature and quality of available information, communication and management action determines whether conflict facilitates or impedes progress. Statements of goals and objectives must be constantly constructed, negotiated and revised by concerned members of both educational organizations and society. When participation from divergent populations is encouraged, conflict becomes inherent. The management of this conflict toward mutually acceptable statements of goals and objectives determines the responsiveness of the educational system to the many and various publics it serves.

Participation must be encouraged in all types and at all levels of operation. For example, at national, state and local levels of political organization, many policy decisions are made which affect education. Executive, legislative and judicial powers of government influence educational activities. Education in its totality has become so involved,

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[2] Ibid., p. 117.

complex and encompassing that no single group, institution, organization nor division of government can provide sufficient inputs to cope with all of the major problems.

Major problems extend across established boundaries for jurisdiction, authority and responsibility. New patterns of planned interdependency, involvement and new methods-means for achieving maximum productivity must be developed to achieve valued benefits and desired levels of performance effectiveness. The derivation of educational purposes and the management of educational organizations and processes cannot be isolated from related activities taking place in other sectors of American life.

Before educational organizations can function effectively in the context of American society, they must engage in strategic planning. This process requires the careful deliberation and consideration of societally-relevant philosophies, purposes, priorities and policies and results in explicit statements of educational philosophies, purposes, priorities and policies. These planning statements are especially important when viewed from an evolving management perspective (including Planning-Programming-Budgeting and Executive Information Systems) that is oriented to pre-specified purposes and improved levels of effectiveness.

Strategic planning focuses upon the development of verifiable statements of goals and objectives. These planning products enable the organization to:

1. Make the most progress in the shortest possible time.

2. Assess and evaluate its capacities, capabilities, opportunities, requirements and risks.

3. Maintain an effective balance between performance and societal values, expectations, purposes and changing requirements.

4. Improve policy, managerial and operational decision-making judgements by comparing performance to plans and expectancies.

5. Encourage members to think and act toward common purposes and to understand and appreciate efforts and progress being made elsewhere.

6. Provide an output rationale for policy decision making and, thereby, stimulate determination of priorities in terms of product, service and/or benefit requirements.

7. Develop critical insights to and a basis for communication both within the organization and with its environment.

8. Produce alternative responses which may be used to alleviate internal and external stresses, conflicts and crises.

9. Initiate pressures for growth, development and renewal.

10. Provide bases for management actions which are consistent with societal philosophies, purposes, priorities and policies.

Educational managers must learn to: (1) manage objective-setting processes; (2) derive relevant information and construct verifiable statements of objectives; (3) appraise performance objectives; and (4) use objectives as communication referents and as guides for action. It is toward the achievement of these ends that A Manager's Guide to Objectives is designed.

Contents of Section 1.0

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The definitions presented in this section have been arranged in an
ordered sequence beginning with statements of ge ral definitions and
ending with specific definitions of verifiable performance objectives.
In most of the sub-sections, alternative statements of definition are
presented. Each statement is intended to convey basic conceptual informa-
tion regarding the concept being defined. Users of this Guide should
appraise the ideas presented and formulate their own definitions.

1.0   DEFINITIONS RELATED TO VERIFIABLE PERFORMANCE OBJECTIVES IN EDUCATION

The significance of verifiable performance objectives in educa-
tional management may not be readily apparent to most observers.
When viewed from the perspectives of strategic planning and accounta-
bility, the importance of such objectives becomes more obvious.
Strategic planning is the conscious determination of alternative
courses and/or methods of action that afford maximum support for
policy decisions. Generally in educational organizations, these
decisions are made relative to the attainment of valued societal goals
or targets in light of relevant conditions, future probabilities and
perceived consequences. The products of strategic planning are clearly
and cogently stated philosophies, purposes, priorities and policies.

Accountability is a reciprocal feedback-control relationship
that is established between levels of authority in organizations for
the effective, efficient and responsible management of performance.
It is based as much on democratic ideals, faith in one's fellowmen
and trust as it is on surveillance and managerial control. The key
level of authority in an accountability framework is the operational
level of performance where task-level achievements result in incremental

progress toward desired goals.

1.1 Definitions of STRATEGIC PLANS

Strategic plans are developed to assure that significant organization-society relations will be maintained. These plans include: philosophies, purposes, priorities and policies.

1.1.1 Definition of PHILOSOPHY

A philosophy is a system of beliefs, concepts and attitudes that serve to guide the actions of individuals, groups, organizations and/or societal systems. Generally, a philosophy is specific to a particular area of human endeavor (for example, education, psychology, religion, anthropology, etc.) where is serves as a framework for the specification of purposes. Explicit statements of philosophy are necessary prerequisites for the management of actions or change. In any complex societal system, a hierarchy of philosophical statements usually exists for each organized area of human endeavor. Reciprocal interaction-influence relations exist between philosophies of related areas of human endeavor. In organizations, the philosophical positions of higher levels of authority influence the philosophical positions of lower levels. The same type of influence exists between the philosophical positions of informal leaders in the school-community and their respective followers.

1.1.2 Definitions of PURPOSES

A purpose is an intended end and/or end state of
action or change. Alternative definitions of purpose
include:

    --a statement characterizing a valued and/or desired
      outcome for an individual, a group, an organization
      and/or a societal system

    --a statement of intent to achieve a specified result,
      product and/or benefit

    --a statement delineating an intended service to be
      performed or an intended change in behavior to be
      effected

Statements of purpose can be classified as goals or objec-
tives.

1.1.2.1 Definition of GOAL

A goal is a universal, continuing purpose
that provides a sense of broad direction through
time. It is general to a wide area of human
endeavor and the range of individuals, groups and
organizations operating within that area. Gener-
ally, the uncertainties, risks and difficulties
associated with its attainment cannot be defined
beyond the issue or problem level. A goal is sug-
gestive of a range or set of corresponding alterna-
tive objectives.

1.1.2.2 Definition of OBJECTIVE

An objective is a target for action or change
having temporal limitations and definable parameters.

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It may be general or specific but in either
instance the input and performance require-
ments for its achievement can be specified with
some degree of certainty. Its achievement
advances the individual, group and/or organiza-
tion toward a corresponding goal.

An integrated, time-phased hierarchy of goals
and objectives that reflects the multi-level set-
ting of an organization constitutes its master
plan for action or change.

1.1.3 Definition of PRIORITY

A priority is any individual, group, organizational
and/or societal system consideration that has been defined
to have precedence in time, position or value. It is a
subjective judgement which establishes the significance of
action or change alternatives. Priorities are usually
determined by the application of political, social, economic,
legal and/or technical rationality to a range of choice-
consequence alternatives. Priority setting requires the
definition of criteria and methods-means for determining
precedence. It requires a strategic (master plan) or
analytical framework for establishing priority ranks and
weights that can be used by selected judges to assign
priority ratings.

1.1.4 Definition of POLICY

A policy is a preferred course and/or method of

action or change that has been selected and defined from a range of alternatives. It is selected in light of relevant philosophies, purposes, priorities and conditions to guide behavior and determine present and future decisions. Policy statements tend to constrain actions or change toward the achievement of preferred consequences.

1.2 Definition of PERFORMANCE

Performance is the behavioral actions of individuals, groups and/or organizations. It can be demonstrated, observed and/or measured. In organizations, performance is defined usually as the planned, controlled and evaluated execution of assigned duties or responsibilities and authority. It involves managed expenditures of effort toward pr specified purposes that can be appraised using criteria of relevance.

1.3 Definition of VERIFIABLE PERFORMANCE TERMS

Verifiable performance terms are concepts that can be used to detail the qualitative and quantitative aspects of performance. They are semantic constructs that can be used to characterize actions, objects and their cause-effect relations. These constructs include:

- --Verbs which denote the actions to be taken. They define what actions are to be demonstrated, observed and/or measured.

- --Nouns which define the object of the action to be taken. They specify the object toward which change effort is to be managed.

--Modifiers (words and/or phrases) which clarify and refine actions, objects and/or their relations. They serve to assure reliable interpretation of intent by elaborating the characteristics of relevant performance factors.

1.4 Definition of VERIFIABLE PERFORMANCE OBJECTIVE

A verifiable performance objective is a target action for change that has been specified using terms which enable change efforts and achievement to be demonstrated, observed and/or measured. Its temporal limitations and performance parameters are defined to an extent sufficient for its replication.

Verifiable performance objectives consist generally of operationally-stated components that define the purposes, relations and actions relevant to future performance. Separate verifiable statements are used to characterize the performance (1) outcome, (2) rationale, (3) requirements, and (4) criteria. Additional phrases may be necessary to achieve clarity. These statements constitute the narrative of the verifiable performance objective.

1.5 Definitions of VERIFIABLE PERFORMANCE OBJECTIVE COMPONENTS*

The individual components of a verifiable performance objective must be specified using terms which enable them to be verified and/or replicated. Once specified in isolation the components and narrative are integrated as a verifiable performance objective.

_____   _____

*Formats which can be used in learning to specify the components of verifiable performance objectives are presented in APPENDIX A.

1.5.1 OUTCOME COMPONENT

--a statement defining the expected or desired outcome,
  end, end state, result, product and/or benefit to be
  achieved

--the operational target, goal or purpose toward which
  change efforts will be managed

1.5.2 RATIONALE COMPONENT

--a statement that justifies and/or validates the expected
  or desired outcome, communicates the intent of organized
  effort, provides an incentive for involvement and/or
  motivates people to participate in the achievement of an
  objective

--a statement that defines the relevance of present pur-
  poses, relations, actions and events in terms of probable
  future states and requirements. It must be tailored in
  terms of the operational requirements and experiences of
  individual performers who are to participate

1.5.3 REQUIREMENTS COMPONENT

--a statement defining the requisite conditions that must
  be managed, met and/or maintained in performance

--a statement detailing requisite conditions predicated
  by the nature of things, circumstances or defined purposes

--a statement delineating (a) the limits that are operative,
  (b) the constraining forces (constraints) which must be
  managed and (c) the specifications that define the planned
  entry, enroute and evaluative state or end conditions of
  performance

    ·LIMITS are boundaries and/or boundary conditions that
     act in terminating, circumscribing or confining per-
     formance capabilities and the operational context

    ·CONSTRAINTS are forces operating within and/or across
     the boundaries of the operational context affecting,
     directly and/or indirectly, purposive efforts toward
     achievement

    ·SPECIFICATIONS are precise, verifiable statements
     defining the nature and qualities of operational
     conditions, available inputs, performance contexts,
     operational activities and expected outputs

1.5.4 CRITERION COMPONENT

—a statement defining the standards to be used in measuring achievement, degree of change, rate of change, type of change, direction of change, commitment to change and other factors in performance

—a statement defining the standards by which incremental achievements toward prespecified purposes will be measured

1.5.5 NARRATIVE

—words, phrases or statements that elaborate significant aspects of the course and/or method of planned change not defined in the outcome, rationale, requirements and/or criterion components

—words, phrases or statements included to assure reliable interpretation of intentions in replication experiences

1.6 Definitions of CATEGORIES OF VERIFIABLE PERFORMANCE OBJECTIVES IN EDUCATION*

The most prominent categories of verifiable performance objectives in education are: (1) policy objectives, (2) program objectives, (3) curricular objectives and (4) instructional objectives. The significance of these categories can be established by explaining the roles and relations of each type of objective in the accountability framework of an educational system.

An accountability framework features a closed-loop pattern of reciprocal performance relations that extends from policy decision makers to individuals who receive the benefits of performance. In essence it is a political framework encompassing the multi-level aspects of the educational system. Defined nationally, an

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*See APPENDIX A for specific examples of each type of verifiable performance objective defined in this sub-section.

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educational system encompasses federal, state, county and local
levels of jurisdiction. Defined organizationally, it encompasses
policy making or strategic planning, managerial and operational
levels of performance.

Realizing that an educational system includes an integrated
hierarchy of political jurisdictions and organizations, the
accountability framework becomes somewhat complex. Within the
framework, hierarchies of relations among educational purposes,
priorities, policies and programs can be investigated in terms
of specific philosophical positions. Since educational systems
are responsible for managing desired behavioral transformations
in individuals, categories of objectives should be designed to
fulfill this requirement.

1.6.1 Definitions of POLICY OBJECTIVE

A policy is a preferred course and/or method of
action or change that has been selected and defined from
a range of alternatives. It is selected in light of
relevant philosophies, purposes, priorities and conditions
to guide behavior and determine present and future decisions.

Policy objectives define the performance commitments
of an organization. They are derived from the objectives
of higher levels of organization and/or political jurisdic-
tion. They define significant ends and/or end states that
must be achieved to fulfill both external (societal) and
internal (organizational) requirements. They include such
alternatives as:

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--a statement defining a preferred choice and/or a
proposed plan of action for an organization. The
choice and/or plan is selected from among avail-
able alternatives, in light of given conditions and
probable consequences, to guide and determine pre-
sent and future organizational decisions

--a statement defining expected benefits, useful pro-
ducts and/or services which promote the well-being
of society. The definitions are derived from
societal goals for education, social change require-
ments, policy decisions made at higher levels of
organization, demands for educational services,
educational needs of specific human target popula-
tions and ultimately the values of society

1.6.2 Definitions of PROGRAM OBJECTIVE

A program is a group of closely related and inter-

dependent inputs, activities and events that are managed

according to plan and which contribute collectively to the

achievement of prespecified societal and/or organizational

purposes. It is a major, mission-oriented endeavor that

is developed, installed and operated to achieve, or sup-

port the achievement of, societally-valued benefits, pro-

ducts, services and/or other performance outcomes.

Program objectives can be defined as:

--statements, derived from policy objectives and/or
higher level purposes, defining valued societal
targets toward which a group of related and inter-
dependent organizational inputs, activities and
events are to be managed

--statements, derived from policy objectives and/or
higher level purposes, defining valued societal
targets that are to be achieved, directly and/or
indirectly, as a result of organizational accomplish-
ments in a major, mission-oriented endeavor

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1.6.3 Definitions of CURRICULAR OBJECTIVES

A curriculum is a systematic group of planned learning experiences featuring alternative learning pathways and environments which are made available to individuals under the guidance of an educational organization or cluster of organizations. Curricula are developed to fulfill specific educational program requirements and achieve related societal benefits. They constitute methods-means for effecting planned behavioral change in individuals.

Curricular objectives are derived from program and policy objectives set at higher levels of organization and/or political jurisdiction. They define societally-relevant ends toward which a systematic group of planned learning experiences will be managed. Curricular objectives may be defined as:

--statements defining societally-valued capabilities and competencies, personal qualities, states and conditions of being and/or levels of proficiency to be achieved by individuals through education for successful participation in some future society and/or world

--statements defining societally-valued benefits, services, products and/or other performance outcomes that are required to fulfill specific educational program requirements

1.6.4 Definitions of INSTRUCTIONAL OBJECTIVES

Instruction is a planned sequence of teaching-learning processes that are designed to effect specific behavioral changes in individuals. Instruction can be appraised in terms of relevant: (1) learning environments, (2) intellectual and sociological processes of

learners, (3) qualitative and quantitative aspects of
learning, and (4) significant relations among components
(1), (2) and (3). Instruction and instructional objectives
relate to a planned continuum of entry, enroute and
evaluative states and performance conditions that contri-
bute collectively to the achievement of curricular and
program objectives. Alternative definitions of instructional
objectives include:

> --statements that define what the individual is to
> know, be able to do and/or will be able to
> demonstrate as a consequence of his learning
> experiences during a course and period of planned
> change which was designed to effect specific
> behavioral transformations

> --statements that define what members of the instruc-
> tional staff are to know, be able to do and/or
> will be able to demonstrate in fulfillment of
> professional requirements associated with their
> assigned roles and responsibilities of guiding
> processes of planned change for individuals

> --statements that define prespecified performance
> products, outputs, services, ends, end states and/or
> societally-valued benefits to be achieved by indivi-
> duals as a result of their experiences in managed
> instructional sequences

Contents of Section 2.0

MANAGING OBJECTIVE-SETTING PROCESSES IN ORGANIZATIONS

2.0 MANAGING OBJECTIVE-SETTING PROCESSES IN ORGANIZATIONS

The following assumptions are made regarding organizations and

the management of objective-setting processes in organizations:

--organizations have particular qualities as formal segments
  of society

--these qualities are functions of organization-society-environment
  relations and changes in these relations

--changes in these relations are especially relevant for educa-
  tional organizations in that they produce new requirements for
  success

--objectives are necessary prerequisites to the management of
  planned change in organizations because they specify desired
  outcomes, rationales, requirements and criteria

--objective-setting processes can be managed

--a participative style of management offers promise of effec-
  tiveness in objective setting and objective achievement

2.1 Developing a Management Perspective for Objective-Setting Processes
     in Organizations*

A management perspective for objective-setting processes in

organizations requires a view that emcompasses:

--the past, present and future states of the organization

--the self-renewal qualities of organizations

--internal relations (actions, patterns and structures)

--participative management

--external relations (organizational, societal and environ-
  mental)

Without an eye toward all of these factors, the objective-setting

process will become just another procedure to bog down the intricate

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*Based on Warren G. Bennis, Changing Organizations (New York: McGraw-
Hill Book Company, 1966).

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functionings of the organization. From a perspective which
includes all of the aforementioned factors, specified organiza-
tional objectives will reflect (1) a realistic assessment of
the organization's role in the larger society, (2) a realistic
assessment of organizational and member needs and (3) organiza-
tional growth and change activities that are responsive to the
needs of the organization, its members and its environment.

2.1.1 Trends and Qualities of Present Organizations Can Be
      Appraised and the Nature of Future Organizations Can
      Be Projected

Organizations are formal segments of society that
are created to achieve desired benefits. Present societal
and organizational trends can be appraised to determine
their implications for organizational renewal. The nature
of future organizations can be projected by:

--reviewing expected changes in the environment and
  forecasting their effects on the organization

--reviewing population and demographic characteristics
  and the implications of such information

--analyzing trends in organization ⊥ requirements,
  goal setting and functions

--analyzing management roles required in organic-
  adaptive organizations

--predicting the structure of future organizations

The appraisal of societal and environmental trends pro-
vides a basis for projecting future qualities of organi-
zations. The results of such appraisals enable managers
to achieve a better perspective for objective-setting
process.

2.1.2 Objective Setting is a Vital Process in Organizational Renewal

The trends outlined above are relevant to education in at least two ways. It is obvious that they will affect the kinds of competencies, skills and abilities desired of citizens in our society and, correspondingly, the kinds of demands placed upon educational organizations.

Education is an arena where adaptation to external stress is critical for success, and it will require creativity and innovativeness for satisfactory response to changing conditions. If educational organizations are to renew themselves and be responsive to the changing needs of society, then objective-oriented methods-means are required to search for, assess and solve problems and, thereby, adapt the organization and its objectives to changing goals. Such conditions as the following can be expected to make organizational achievement more difficult:

--reduced real time available for decision making

--increased demands for establishment of time horizons

--increased need to limit time in execution of plans

--limited resource availability

--increased cost of operation

--increased competition for available talent

--increased complexity of educational requirement and tasks

--increased demands for quality performance in achievement

These conditions will constrain organizational efforts

in renewal. Organizations must establish and maintain
formal and continuous provisions for objective setting.
The objectives developed are used as performance guides
in renewal and as referents for progress evaluation.

2.1.3 Objective Setting is an Integral Component of the Internal
Relations of an Organization

The structures, patterns and actions of an organiza-
tion influence and are influenced by the objective-
setting process. For example, objectives are the opera-
tional statements that provide a reference base for
organizational decision making. Decision-making struc-
tures and actions are supported by a time-phased, inte-
grated hierarchy of objectives. Therefore, objective-
setting processes encompass the policy-making or strategic
planning, managerial and operational levels of performance.

2.1.4 Participative Management and Objective Setting

A management perspective for objective-setting based
on a philosophy of participative management is more likely
to yield objectives that are consistent with the signifi-
cant aspects of the larger environment. If educational
organizations are to set objectives which are solidly
grounded in the realities of the local environment and
which are consistent with higher level educational deci-
sions, then the efforts of more than one individual are
required. The varied inputs and outputs that occur as
a result of several individuals participating in the

objective-setting process ensure objectives that are
more consistent with societally, organizationally and
individually valued outcomes and benefits.

Participative management offers new opportunities
for management in organic-adaptive* organizations. The
importance of objective setting in such organizations
cannot be overemphasized. Effective problem finding,
problem solving and decision making require objectives.
An organization cannot know where it is, where it's
going, how it's going to get there, or how well it's
progressing without objectives. More importantly, the
members of that organization cannot function effectively
without knowledge of organizational objectives.

2.1.4.1 Participative management emphasizes or can be
characterized by:

--motivation based on satisfactions intrinsic
to tasks

--undistorted lateral and vertical communi-
cation

--an organizational climate supporting trust
and openness in interpersonal relations

--decentralized decision making

--problem finding and problem solving as foci
for organizing and obtaining information

--decisive action

_____

*Organic refers to the living or dynamic qualities of organizations
that are adaptive or able to change to fulfill new requirements, satisfy
changing needs and/or achieve new purposes.

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--effective leadership styles based upon
goal emphasis, planned interaction-
influence, work facilitation and sup-
portiveness

It is based on the principle of supportive rela-

tionships which Likert states as follows:

> The leadership and other processes of the
> organization must be such as to ensure a
> maximum probability that in all interactions
> and in all relationships within the organi-
> zation, each member, in light of his back-
> ground, values, desires, and expectations,
> will view the experience as supportive and
> one which builds and maintains his sense of
> personal worth and importance.[3]

2.1.4.2 Participative management assumes:

--high performance goals

--a well-organized plan of operation

--high technical competence

2.1.4.3 Within the realm of participative management, one

can expect variance in the type and amount of

involvement, interaction and influence exhibited

by an organization's members.

2.1.4.4 Several considerations temper the effectiveness

of participative management. They include:

--leadership ability of the manager

--past experience, knowledge, skills and
attitudes of participating members

--the nature of the task (some tasks are more
amenable to group efforts than others)

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[3]Ibid., p. 103.

--organizational climate

--the environmental setting of the organi-
zation

Objective setting is a task that is uniquely
suited to group processes. The more individuals
are involved in determining organizational goals
and objectives, the more enthusiastic they are
likely to be in carrying through to the achieve-
ment of those objectives. Furthermore, the varied
inputs of several individuals are prerequisites
for effective objective setting. Therefore, a
management perspective that includes participa-
tive management facilitates effective objective-
setting processes.

2.1.5 Objective Setting is Influenced by and Influences the
External Relations of an Organization

The relationships between an organization and other
organizations, society, and the environment are important
factors in the objective-setting process. The present and
futures states of these external forces must be taken into
consideration. Section 3.1 of this text provides guide-
lines for assessing these external factors.

2.2 Defining Roles and Responsibilities in the Objective-Setting
Process

2.2.1 Legal Roles and Responsibilities in Education

2.2.1.1 The state legislature and state, county and local
boards of education possess primary legal

responsibility for setting educational objectives.

2.2.1.2 State, county and local superintendents of schools, as executive officers of their respective boards, have legal responsibilities for executing policy decisions.

2.2.2 Delegated Roles and Authority

2.2.2.1 The local superintendent of schools, as executive officer of the board of education, is responsible for managing objective-setting processes in the local educational agency. Among his objective-setting responsibilities are:

--mobilizing and integrating objective-setting task forces

--checking and balancing involvement to assure representative participation

--managing (personally) the development of policy objectives

--determining the quality of objectives as organizational guides to action

2.2.2.2 The local superintendent of schools usually delegates objective-setting managerial authority to subordinates in the areas of:

--program objectives

--curricular objectives

--instructional objectives

2.2.2.3 The superintendent cannot delegate his responsibility for managing the objective-setting process. The process proceeds most effectively when it takes place at levels of organization where influence from three different factors is appropriately applied. The

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influence from each factor is congruent with the
other two as follows:

(1) The influence of positional authority
is congruent with

(2) the influence of personal or group compe-
tence. The influence of both 1 and 2 are
congruent with

(3) the influence of organizational informa-
tion required to make the decision.

2.3 Setting Objectives in Organizations--A Group Process

From the discussion of participative management, it should be
obvious that objective setting is more likely to be effective, valid,
reliable and relevant when carried out within the context of a group.

2.3.1 Mobilize an Objective-Setting Task Force

2.3.1.1 Draw many and varied individuals into the objective-
setting group pooling the experience, information,
expertise and judgement of the individuals. A group
(particularly one in which most members are knowl-
edge workers with strengths in different disciplines
and/or functional areas) will increase:

--the range of meaningful alternatives presented

--the probability that predicted outcomes are
valid, relevant and accurate

-the organization's sensitivity to external
and internal realities

--the probability of successful implementation

--the commitment of its members

2.3.1.2 Determine who should be involved

There are two obvious groups of individuals who
should be considered for involvement in the objective-
setting process--those within the organization and
those outside the organization.

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Organizational members who will be required
to implement the objectives should be involved in
the objective-setting process. Individuals
located in the school community are also demanding
involvement in the objective-setting processes of
educational organizations.

The involvement of the implementors and com-
munity representatives is necessary if educational
objectives are going to reflect societally-
valued outcomes and serve as acceptable guides to
action.

A number of positive attitudes results from
involvement in the objective-setting process.
Once action is initiated toward achieving the
objectives, those who participate are more likely
to feel that:

  --the objectives set are clear

  --the objectives set are practical

  --there is effective coordination of parts
    of the organization in implementing the
    objectives

  --tasks directed toward achieving the objec-
    tives are being performed without undue
    burden or dependence on the manager for
    direction, instruction and/or clarification

The unique capabilities and strengths of
different people in the organization and outside
the organization should be utilized in structuring
a group to set objectives. People with different

interests, cognitive styles, disciplinary strengths
and talents are needed to achieve a balanced pat-
tern of group involvement. They will contribute
differently to such functions as writing and
structuring the statement of the objective,
clarifying and justifying intent, checking feasi-
bility and keeping the group moving and working
well together. A suggestive list of such capa-
bilities follows:

    --people with different cognitive styles,
      including those:

        •who can write and think with semantic
         clarity and conciseness

        •who are uninhibited by set ideational
         patterns

        •who think critically about all details
         of a problem

        •who think well deductively

        •who think well inductively

        •who can conceptualize in such areas as
         organizational development and renewal,
         management and operations

    --people with expertise in and/or knowledge
      about:

        •learning and learning environments

        •psychological and sociological pro-
         cesses of learners

        •child growth and development

        •society and cultural environments

        •methods-means-media and instruction

        •target populations to be served

· school-community relations

· inputs available and outputs expected

--group members who are:

· task-oriented

· supportive of other group members

· skilled in sensing the environment

· skilled in listening and reacting to
thoughts and ideas of others

· providers of tension relief in a group

2.3.1.3 Develop a plan for balanced involvement and repre-
sentation in the objective-setting process

Although many advantages accrue from the parti-
pation of a wide range of people in the objective-
setting process, care must be taken to achieve
balance among different points of view. Recognize
that different people will have different personal
value preferences. Try to ensure that all are
represented so that bias and weighted opinions
introduced by one source can be balanced by off-
setting bias and opinions from other sources.

2.3.1.3.1 Secure inter-organizational representation

The views of higher levels of organi-
zation in the educational system must be
represented. Occasionally, they may be
represented personally by consultants
from federal, state or county agencies.

More often, group members will have
to be attuned to requirements and
opportunities provided by other levels
of organization which will affect
objective-setting processes at lower
levels. Examples include:

--the United States Congress

--the Department of Health, Edu-
cation and Welfare

--the United States Office of Edu-
cation

--the State Legislature

--the State Board or Commission
of Education

--the Regents and Trustees of
Institutions of Higher Education

--the Institutions of Higher Edu-
cation

--the Intermediate or County
Boards of Education

--the Intermediate or County Edu-
cation Agencies

2.2.1.3.2 Secure extra-organizational repre-
sentation

Special interest groups in the
school community often want to be given
an opportunity to be heard on the topic
of policy, program and curricular objec-
tives. The following are examples of
such interest groups:

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--parents and patrons (taxpayers)

--learners and organizations or
   agents representing them

--community action groups

--community advisory groups

--business, industries and/or
   their representatives such as
   chambers of commerce, manufac-
   tures' associations, etc.

--employees' agents and organiza-
   tions

--private, parochial and special
   schools

--county, city and regional plan-
   ning agencies

2.3.1.3.3   Secure intra-organizational representation

Among the groups who shall be repre-

sented within the organization are:

--students and their parents or agents

--certificated and classified staff
   members

--administrators and managers

--policy makers or board members

2.3.1.3.4   Secure balanced rationality in decision

making

Any of the individuals, groups or

levels of organization which are repre-

sented in the objective-setting process

may give undue emphasis to one type of

decision-making rationality to the

exclusion of others. It is best if
the following decision-making rationales
can be balanced in structuring a group
to set objectives:

--technical

--economic

--social

--legal

--political

The objective-setting task force
resulting from the mobilization effort
should be well balanced in terms of view-
points, attitudes, skills, knowledges
and abilities to work in the group
situation.

2.3.2 Define Roles and Responsibilities of the Group Leader(s)

In every instance of objective-setting, someone must
assume roles and responsibilities necessary for moving the
group toward its prespecified ends. The following is a
list of some of the important leadership behaviors which
will facilitate group objective-setting processes. The
leader:

--plans for the involvement of organization members
  who will add unique capabilities to the group

--acquires and organizes material resources and
  facilities to be used in the process

--defines the problem with which the group must be
  concerned

--delegates tasks and responsibilities involved
in the objective-setting process to individual
group members and helps others in the group to
appreciate individual strengths and contributions

--facilitates interaction among group members and
draws out various attitudes and ideas

--facilitates the gathering and dissemination of
all information relevant to the objective-setting
task

--provides standards for evaluating group progress
and assumes responsibility for orienting the group
to the task

--provides goal emphasis and high expectations for
the group

--finds and protects a regular time period for the
group to work

- makes sure that inputs have been received from
all relevant sources and the proposals of interests
external to the group are documented and represented

The following guidelines may help the group leader to

fulfill the roles and responsibilities outlined above:

--be sensitive to guarded expressions of resentment--
don't be blinded by concentrating on the line of
thought under discussion at any particular moment

--use long pauses, when necessary, to encourage group
members to take a more active part in the discussion

--accept expression of feelings. Do not reject, dis-
agree or argue with such individual expressions

--listen attentively and strive to understand each
participant's thoughts, positions and feelings with-
out evaluating them

--ask other members of the group if they understand
the points being made or the issues raised for dis-
cussion

--request illustrations when points or issues seem
ambiguous

--question the person who expresses an unusual idea
in order to encourage expansion of his intentions

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--ask exploratory rather than judgmental questions

--separate idea collection from idea evaluation

--periodically review those points on which group
  members agree and disagree

--periodically summarize group activities to help
  the group stay on the track

2.3.3 Define Roles and Responsibilities of Group Members

After accepting the opportunity to participate in
the objective-setting process, group members are responsible
for operating in a manner conducive to the expression of
differing opinions and the specification of mutually agree-
able objectives. Behavior in the group should reflect a
willingness to contribute information and opinion, a
toleration of viewpoints differing from one's own, a
willingness to compromise and cooperate to achieve an end
state that is acceptable to all.

The following is a list of group-member behaviors
and indicators of effective group process:

--Members openly give and ask for orientation and
  information. They willingly repeat, clarify and
  confirm their positions.

--Members openly give and ask for opinion, evaluation,
  analysis and expression of feelings.

--Members listen carefully while others are speaking.

--Members openly give and ask for suggestions and
  direction.

--Members demonstrate the ability to release tension
  when it arises.

--Members show solidarity, raise other members'
  status and give assistance.

--Members help assume the responsibilities of moving
the group toward its goals.

--Members show a willingness to tolerate opinions
different from their own. That is, they accept
the divergent beliefs and roles of others as
valid phases of group process.

--Members attempt to understand one another and
work together without destroying one another's
differences.

--Members demonstrate the ability to mutually modify
their views.

--Members demonstrate a commitment to group goals and
objectives and value their group membership.

--Members demonstrate a spirit that indicates they
are motivated to effectively resolve the problems
before the group.

Both members and leaders are responsible for main-

taining a group atmosphere that is conducive to good com-

munication and that permits constructive resolution of con-

flicts within the group. Conflict cannot be dealt with

constructively unless:

--There is open confrontation on the issue.

--The discussion is focused on the task and the
decisions to be made.

--Confidence and trust pervade group relationships.

--Group-process problems are dealt with as soon as
they surface. Resolution of group process conflicts
is necessary to maintain the group's working effec-
tiveness.

2.3.4 Disseminate Information Regarding Objective-Setting Activities

Good communication is necessary to achieve effectiveness

in objective setting. There should be open communication

within the organization, as well as between the organization

and the larger society. In order to assure representa-
tion of all relevant viewpoints and complete, accurate
and timely information, communication networks must be
established and utilized. They should be designed and
maintained to keep participants and the public informed
of objective-setting activities and facilitate contribu-
tions.

2.3.4.1 The procedure to be followed by the objective-
         setting group is made visible through advanced
         announcement of hearings reports, reviews and
         meetings. Each group meeting should have a
         specific purpose which is announced in advance
         with details about where and when it will occur.

2.3.4.2 Meetings should be scheduled regularly and fre-
         quently enough that discussion can occur in a non-
         pressured atmosphere.

2.3.4.3 Memos describing the results of each meeting
         should be circulated to all interested groups
         and individuals.

2.3.4.4 Information-feedback linkages that will provide
         the objective-setting group with information rele-
         vant to their task should be established between
         the group and other members of the larger society.

2.3.4.5 Concerned outsiders should be informed of the

purpose and content of scheduled meetings, as
well as details of time, place and the procedure
they should follow to get their views heard.
Such communication should be sent in time for
them to react without completely disrupting
their own scheduled activities and to enable
considered preparation of their position.

2.3.4.6   Within an organization there are likely to be
several objective-setting groups. Competing
and conflicting objectives are somewhat reduced
when all groups within the system receive com-
munication about the other group's objectives.

2.4   Reviewing Management Considerations in Objective Setting

2.4.1   Order in Objective Setting

The order in which objectives are developed affects
the effectiveness of the entire process. Higher order
objectives set the frame within which others are developed.
Policy objectives are necessary prerequisites for defining
program, curricular and instructional objectives. Get
them set first.

2.4.2   Level of Organization and Objective Setting

The amount of time and effort necessary to ensure
cogently and clearly-stated objectives varies directly
with the level at which the objectives are being set.
More time and effort is required in deriving policy

objectives because it is at this level that significant

economic, technical, legal, social and political issues

must be dealt with and strategic decisions made.

2.4.3 Record Ancillary Ideas Presented During Objective Setting

During the process of specifying performance objec-

tives, many ancillary ideas will be produced by group

members and others. Many future problems may be identi-

fied and possibly averted when the organization strives

to achieve its stated objectives. Encourage this, and be

sure to see that such ideas are recorded, classified and

stored for easy future retrieval.

2.4.4 Record Irrelevant Ideas Presented During Objective Setting

Many ideas which surface during the objective-setting

process will be judged irrelevant. They should be sorted,

classified and stored for future reference. They may

come up again and again unless they are explicitly stated

together with corresponding statements defining criteria

that were used to judge their irrelevance.

2.4.5 Influence of Priorities and Time on Objectives

Don't consider the task of objective setting finished

until priorities are set and time periods have been allocated

for their achievement. This will bring out latent disagree-

ment, and it is particularly critical that differences of

opinions have been brought to the surface and negotiated.

2.5 Integrating Objective-Setting Processes with Other Management
    Functions

    2.5.1 Objective Setting as the First Stage of Management Action

          The statement of an objective which proposes a

    state of improved functioning for an organization achieves

    nothing alone. Action must be initiated to overcome

    organizational inertia and stimulate movement toward the

    achievement of desired outcomes. Control procedures must

    be instituted to maintain order, method and/or uniformity

    in performance. In fact, the objective-setting process

    is just the beginning. All the qualities of a management

    system which are necessary to activate and regulate pro-

    gress toward the effective and efficient achievement of

    the objective must be developed and installed before

    action toward achievement can begin.

    2.5.2 The Influence of Objectives on Organization Members

          Inevitably, not everyone will be involved in the

    derivation of all different types of objectives. Many

    people at the operational level may experience diffi-

    culty with objective-setting procedures. Unless higher-

    level objectives are properly introduced, they can easily

    be perceived as personal threats because they increase the

    visibility of the "job which must be done" and emphasize

    the fact that it is not satisfactory to allow things to

    proceed as they are at present. It is the manager's

    responsibility to involve the staff in the derivation of

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their own objectives. This allows them to realize the

potential benefits of using objectives and to experience

their use as measures of control and evaluation rather

than as higher-level threats.

Contents of Section 3.0

DERIVING AND SPECIFYING VERIFIABLE PERFORMANCE
OBJECTIVES FOR EDUCATION

3.2.4   Negotiate Verifiable Statements of Educational Outcomes

3.2.5   Construct Statements of Objectives Using Verifiable
        Performance Terms

3.0 DERIVING AND SPECIFYING VERIFIABLE PERFORMANCE OBJECTIVES FOR EDUCATION

3.1 Deriving Performance Requirements and Relevant Information for Construction of Verifiable Performance Objectives

The construction of verifiable performance objectives requires information which can only be secured through derivation. Derivation is a deliberate process involving: (1) search for and appraisal of issues, alternatives, consequences and relations, (2) assessment of pertinent variables, (3) evaluation of each variable to determine its significance, and (4) interpretation of data and results to decide its pertinency in future performance. The process requires that past and present performance factors be identified, analyzed, defined, interpreted and evaluated to determine their implications for future performance. The nature and quality of future performance, states of being and performance conditions must be simulated based upon available evidence of current trends and expected changes.

3.1.1 Assess Changes in the Physical, Cultural and Ecological Aspects of the Environment

The environment exhibits the effects of man's exploitation and natural evolution. Environmental changes influence the behavior of human societies living within that environment. A system of interaction-influence* relations can be defined between a society and specific aspects in its environment.

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*Interaction-influence is a process of reciprocal exchange between two or more entities that has the possibility of leading to a modification of present participant states.

3.1.1.1 Assess the interaction-influence of physical

aspects of the environment:

--gravity, time and space

--water, land ard atmosphere

---climate and weather

--natural resource.

--cultural products (materials, physical
structures and improvements)

3.1.1.2 Assess the interaction-influence of cultural

aspects of the environment:

--non-material culture

·knowledge (concepts, principles,
disciplines, etc.)

·social organizations (families,
clan, peer group, etc.)

--life styles and statuses

--social modes and states

--political modes and states

--technical modes and states

--economic modes and states

--legal modes and states

3.1.1.3 Assess the interaction-influence of ecological

aspects of the environment:

--human life space and habitat

--factors in the biological context

--society-environment relations

3.1.2 Assess Reports of Present and Probable Future Society-
Environment Relations

Many problems evolve as a result of human impact
(both specific and general) on the environment. Specific
effects are usually local in nature while general effects
produce world-wide influences. Many technical reports
are available as aids for assessment. They present cri-
tical evidence that bears directly or indirectly on
education. Among the most important society-environment
relations are the following problem areas:

--radioactivity and radio-active fallout

--water and air pollution

--exploding world populations

--greenhouse effect of increased atmospheric carbon
  dioxide

--intersocietal aggression

--cultural evolution

--depletion of natural resources

--land and water use management

--renewal of human resource potentials

--social and political unrest

3.1.3 Analyze, Evaluate and Interpret Forecasts of Probable
Alternative Future States to be Experienced by Society

Many different types of periodic forecasts are developed
to meet the planning requirements of specific social organi-
zations, fields of study or areas of concern. They center
upon the strategic interests of sponsoring agencies and
are based on evidence derived, using various analysis

techniques. The evidence, insight and intuition gained
during analysis are used to build models, formulate
hypotheses, simulate future states and make specific
predictions. Such forecasts characterize significant
aspects of possible alternative future states to be
experienced by society. They should be analyzed, evalu-
ated and interpreted for their educational implications.

3.1.3.1 Analyze, evaluate and interpret ideological
forecasts

The body of orderly knowledge passed on
through education is constantly subject to
change. Many ideological innovations are pre-
sented in forecasts made by scientists in the
disciplines which contribute to educational
theory. Educators must analyze, evaluate and
interpret information presented in forecasts in
such areas as the physical, biological, behavioral
and ecological sciences for their educational
implications.

3.1.3.2 Analyze, evaluate and interpret technological
forecasts

Many technological innovations are presented
in the forecasts of the applied sciences. Tech-
nical methods-means which may have significant
implications for education and learning are often

reported. Architecture, engineering, controlled
environment planning and construction provide
many innovations each year. Correspondingly,
electronics, furniture and other manufacturing
industries disseminate many new product forecasts
that specify innovative products soon to be on
the market. Many firms develop technological
forecasts related specifically to educational
needs. Even though they are often biased, these
forecasts provide additional evidence for con-
sideration.

3.1.3.3   Analyze, evaluate and interpret human affairs
forecasts

Changes and trends in human affairs are
predicted each year. Factors of human geography
and demography are reported in statistical terms.
Legal, social, political and economic trends and
conditions are reported in forecasts developed
by scientists in their respective fields. Changes
in human values, expectations, needs, goals and
demands for change are reported in various societally-
based forecasts. Forecasts in the areas of career
and occupational trends, cultural anthropology,
social psychology, management, sociology and human
factors research provide evidence that can be used
by educational planners.

3.1.4   Assess Societal Philosophies, Purposes, Priorities and Policies

Public policy decision making is a complex human interaction-influence process that is based upon perceptions of significant values, beliefs, goals, preferences and needs. Policy assessment will provide little insight unless it is preceded by assessments of societal philosophies, purposes and priorities. The purposes of policy assessment are to:

--define a value framework for decision making

--develop an intuitive grasp of individual perceptions of reality

--construct an acceptable model of the present and of expected future reality

--specify and order societal values that are relevant to public education

--define goals and objectives for public education

--determine priorities among these goals and objectives

--develop educational policies that are internally and functionally consistent with societal values

3.1.4.1   Assess societal philosophies

Identify, analyze and define societal systems of belief, concepts and attitudes that serve as frameworks for the negotiation and specification of purposes and as guides to action.

3.1.4.2   Assess societal purposes

Identify, analyze and define the intended ends and/or end states of action or change in

society. They are targets or objects (goals and objectives) to be achieved which provide a sense of direction through time, serve as communication referents and constitute guides to successful achievement.

3.1.4.3 Assess societal priorities

Identify, analyze and define societal considerations which have precedence in time, position or value. They are subjective judgements which establish the significance of "facts", "values" and "actions".

3.1.4.4 Assess societal policies

Identify, analyze and define courses and/or methods of action that have been selected by society from among alternatives and in light of given conditions to guide and determine present and future decisions.

3.1.5 Assess the Societal Context, Requirements and Formal Provisions for Public Education

Systems of public education are established and maintained within various societal contexts to fulfill the educational requirements of society. The nature and quality of the context affects the fulfillment of requirements and influences the quality of societal provisions for public education.

3.1.5.1   Assess the societal context

Identify, analyze and define educationally
relevant situations, conditions and character-
istics of a given societal context. A societal
context is a designated portion of society that
exists within definable boundaries and consists
of a set of interrelated and interacting variables,
activities and events. Contextual situations are
the domains of circumstance (including external,
internal and interface actions and relations) in
which the context is located. Contextual condi-
tions are the states or modes in which the context
exists or which gave rise to the context. Char-
acteristics are descriptive, qualifiable and
quantifiable features which can be used to define
the precise nature of the context.

3.1.5.2   Assess societal requirements for public education

Identify, analyze and define educationally-
relevant societal conditions that are necessitated
by the nature of society-environment relations,
states of being, societal purposes, defined priori-
ties and policy decisions. Assessment of require-
ments is performed to define significant limits,
constraints and specifications for public education.

3.1.5.3   Assess formal provisions for public education

Identify, analyze and define formal provisions

for public education in a particular society.

Assessment considerations include:

    --the multi-level organizational setting
      of education

    --hierarchies of educational goals and
      objectives

    --societal inputs and educational outputs

    --managerial and operational activities

    --strategic planning information

3.1.6   Assess the Educational Needs of Particular Target Populations
        In Society

An educational need of a particular target population
is a common behavioral discrepancy that can be defined in
relation to specific societal requirements, goals and/or
policy decisions. The discrepancy is specified as the
difference between "what is" and "what should be" the
behavioral capabilities of individual members of the
target population. Each need must be identified, analyzed
and defined in an effort to develop successful need-
satisfaction procedures. The following educational variables
must be defined in relation to these procedures:

    --alternative learning environments

    --the nature and quality of necessary psychological
      and sociological processes

    --the qualitative and quantitative aspects of learning

    --alternative learning experiences and sequences

    --the nature of required instructional relations and
      actions

3.1.7   Analyze, Evaluate and Interpret Legal, Political, Social,
        Economic and Technical Issues that are Relevant for Public
        Education

        Issues are publicly disputed matters of controversy.

The analysis, evaluation and interpretation of relevant

legal, political, social, economic and technical issues

will provide timely information for educational decision

making.   Each area of concern represents a type of deci-

sion-making rationality.   Issues in these areas influence

the deliberations of decision makers who decide public

policy in education.

3.1.7.1   Analyze, evaluate and interpret legal issues

          Legal issues are matters of controversy

          founded on law or which have a formal status

          derived from law.   Among the issues affecting

          education are school desegregation, constitutional

          rights of students and negotiation and grievance

          procedures.   Educators must analyze, evaluate and

          interpret precedent-setting actions of legislative,

          executive and judiciary bodies of government for

          their educational implications.

3.1.7.2   Analyze, evaluate and interpret political issues

          Political issues are matters of controversy

          relating to government, policy decision making,

          politics and the activities of political bodies.

          Examples of political issues affecting education

          include: the doctrine of "one man-one vote",

types of majorities required in school elections, political jurisdictions in education, public policy decision-making activities, political power movements and avenues of political redress.

3.1.7.3 Analyze, evaluate and interpret social issues

Social issues are matters of controversy relating to human society, relations and inter- actions between members and the well-being of individuals and society as a whole. They include such issues as poverty, morality, public welfare, public health, public housing, urban renewal, population mobility, uniformity in education and rehabilitation.

3.1.7.4 Analyze, evaluate and interpret economic issues

Economic issues are matters of controversy relating to the economy of the nation, the pro- duction, distribution and consumption of goods and services and the conservation and management of available resources. Among the economic issues affecting education are: the availability of adequate funds from federal, state and local sources to finance education, demands for greater effectiveness and efficiency in educational manage- ment, worth of education to individuals and increasing costs of education.

3.1.7.5 Analyze, evaluate and interpret technical issues

Technical issues are matters of controversy relating to the application of technological innovations in educational methodology. They include individually-prescribed instruction, controlled environments, computer-assisted instruction, instructional and educational technology and other methods-means-media considerations.

3.1.8 Analyze, Evaluate and Interpret Expected Societal Changes and Corresponding Societal Change Requirements

Many expected societal changes can be anticipated by surveying the evidence produced in activities 3.1.1 through 3.1.7. Educational managers will be required to analyze, evaluate and interpret expected societal changes in an effort to assess corresponding societal change requirements. Degrees of change, rates of change, types of change, directions of change, commitments to change and implications of change for educational performance all must be determined. The manager must establish logical relations between these aspects of societal change, societal change requirements and public education. By analyzing, evaluating and interpreting these relations, new actions, patterns and structures for public education can be assessed for policy consideration.

3.1.9 Define Societally-Valued Educational Outcomes, Performance Requirements and Criteria

The derivation process used to decide performance

requirements and relevant information for constructing
verifiable performance objectives is outlined in acti-
vities 3.1.1 through 3.1.9. Definition of societally-
valued educational outcomes, performance requirements
and criteria constitutes summary activities. The evi-
dence, insight and intuition developed by educational
managers performing the foregoing activities will prove
invaluable in the definition process. Educational out-
comes must be defined in terms of societal change
requirements and societally-valued benefits to be achieved.
Performance requirements define requisite organizational
and individual conditions of performance that can be
associated with managing and effecting planned change.
The definition of criteria depends upon the specification
of acceptable evidence of needs-satisfaction and indica-
tors of effectiveness.

3.2 Specifying Verifiable Performance Objectives

The specification of verifiable performance objectives
depends upon effective assessment, evaluation and interpretation
of societally-valued educational outcomes, performance require-
ments and criteria. Societal purposes and priorities set at
higher levels of organization must be appraised to determine
priorities among alternative educational outcomes. Verifiable
performance terms must be selected to characterize performance
variables. Statements of societally-valued outcomes must be
negotiated by representatives of interested groups and

organizations. Performance specifications and criteria must

be defined for each priority outcome selected for consideration.

An integrated hierarchy of performance relations and actions

must be developed relative to the achievement of priority out-

comes. Finally, verifiable statements of objectives must be

constructed and negotiated.

3.2.1 Analyze Statements of Societally-Valued Educational Out-
comes, Performance Requirements and Criteria

An analysis of the definitions developed in activity

3.1.9 is performed to secure relevant information for the

objective-setting process. The definitions were con-

structed to be internally and functionally consistent with

societal values and change requirements. Each statement

of definition can be analyzed into an array of relevant

educational information, using relevant criteria. Cri-

teria can be derived through analysis, evaluation and

interpretation of relevant:

--organizational philosophies, purposes and priorities

--generalized goals of public education

--policy decisions and policies

--social and educational programs

--results of need assessment programs

3.2.1.1 Analyze societally-valued educational outcomes

The societally-valued educational outcomes

defined in activity 3.1.9 can be considered as

alternative missions and can be analyzed using

mission analysis techniques. The missions or

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outcomes can be logically subset into an array of alternative functions, tasks and methods-means for mission accomplishment.

3.2.1.2 Analyze performance requirements

The performance requirements defined in activity 3.1.9 define requisite societal conditions which must be met, managed and/or maintained while executing the mission. They can be analyzed and developed into arrays of performance limits, constraints and specifications.

3.2.1.3 Analyze relevant criteria

The criteria defined in activity 3.1.9 represent societally-acceptable indicators that can be used to judge the quality and effectiveness of performance. The criteria can be analyzed into an array of standards that correspond to relevant aspects of outcomes and requirements.

3.2.2 Determine Priorities Among Alternative Educational Outcomes

The relevant information produced in activity 3.2.1 can be used by educational organizations to assess, refine and clarify existing purposes and priorities. Information regarding educational outcomes must be appraised to determine its significance using organizational preference measures. To determine priorities, each organization must:

--define a priority-setting framework

--develop and install priority-setting procedures

--appraise alternative educational outcomes

--set priorities for action

3.2.2.1   Define a priority-setting framework

A master plan is a time-phased, integrated
hierarchy of goals and objectives. Priorities
are purposes which are defined to have precedence
in "value", "position" or "time". The master
plan is an effective priority-setting framework
since educational purposes are specified to
reflect the criticality of societal "values".
The plan facilitates definition of "position" by
placement in the hierarchy. Finally, the plan
extends across the time horizon of the organiza-
tion facilitating the definition of "time"
precedences.

3.2.2.2   Develop and install priority-setting procedures

The development of priority-setting procedures
depends upon analysis of the priority-setting
framework and definition of priority-setting
specifications and criteria, objectives, plans and
strategies. Methods for determining criterion
ranks and weights must be established. Priority-
assignment judges must be recruited, selected and
assigned. Priority-setting methods must be
developed and installed.

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3.2.2.3 Appraise alternative educational outcomes

Priorities cannot be established in a
vacuum. Current statements of educational
outcomes must be appraised in relation to
potential outcome statements elaborated in
3.2.1.1. Match-mismatch comparisons must be
conducted using priority-setting criteria as
referents in the analysis and evaluation of
current and potential outcomes. The results of
appraisal are recommendations for policy deci-
sion making.

3.2.2.4 Set priorities for action

Priority-setting is a policy decision-making
activity in educational organizations. This acti-
vity must be supported by managerial recommenda-
tions and complete, accurate, relevant and
timely information. Decision makers must consider
the significance of alternative choice-consequence
relations and select a preferred course and/or
method of action for the organization.

3.2.3 Select Verifiable Performance Terms to Characterize Edu-
cational Outcomes, Performance Requirements and Criteria

Verifiable performance terms are semantic constructs
used to characterize objects, actions and relations in a
manner that allows them to be identified, observed and/or
measured. Performance terms should be selected for their

communicative value in expressing verifiable aspects of
performance and achievement. The following criteria
should be used in selection:

--validity is a measure of the term's ability to
communicate significant aspects of actual opera-
tions to be performed without error or misinter-
pretation

--relevancy is a measure of the term's pertinence
to performance situations, relations or issues

--reliability is a measure of the accuracy with which
a term communicates message elements to receivers
in different instances of use

3.2.3.1 Select verifiable performance terms to character-

ize educational outcomes

Statements of educational outcomes define

desired individual and organizational performances

and/or products. The performances and/or products

must be specified, using carefully selected terms

which enable them to be identified, observed

and/or measured. Outcomes may be direct (demon-

strated and/or produced during a specific learning

sequence or experience) or indirect (demonstrated

and/or produced at or by some point in future time).

They may be tangible (skills, knowledges, compe-

tencies, etc.) or intangible (attitudes, aspira-

tions, motives, etc.) in nature. They can be

classified as: (1) direct tangible, (2) direct

intangible, (3) indirect tangible and (4) indirect

intangible outcomes (FIGURE 3.1).

	DIRECT	INDIRECT
TANGIBLE	DIRECT TANGIBLE	INDIRECT TANGIBLE
INTANGIBLE	DIRECT INTANGIBLE	INDIRECT INTANGIBLE

FIGURE 3.1 - Classification Scheme for Outcomes

Verifiable performance terms should be
selected and organized into phrases which char-
acterize the educational outcomes whatever
their nature. As we move up in the hierarchical
levels of operation, the specification of edu-
cational outcomes may be more difficult as they
are more likely to fall in the realm of the
intangibles. It is as important to state
expected changes in learner attitudes, beliefs,
aspirations, motives, etc., as it is to mention
expected changes in skills, knowledge and com-
petencies resulting from a specific learning
experience or group of learning experiences.
Once expected outcomes (even if intangible) have
been delineated there is an opportunity to deter-
mine if these specified learning experiences can
be correlated with the specified outcomes. At
the instructional level of operation, verifiable per-
formance phrases should answer questions of the
following sort:

--What behavioral changes will be effected
  in the learner?

--What verifiable actions will be demonstrated
  by the learner?

--What verifiable products are to be developed
  by the learner?

--What performance parameters are to be
  verified?

--What cognitive, affective and psychomotor
  aspects of learner behavior will be affected?

3.2.3.2   Select verifiable performance terms to characterize

requirements

Requirements should be characterized using

phrases and/or statements comprised of verifiable

performance terms. These conditions must be

specified in order that they may be appraised

continuously in relation to outcome achievement.

Requirements can be defined in relation to educa-

tional outcomes, external or environmental fac-

tors, inputs, operational contexts, operational

activities and management factors. They may be

expressed as operative limits, constraints and

specifications that must be managed, met and/or

maintained. At the instructional level of opera-

tion, questions of the following sort are pertinent:

--What environmental and instructional condi-
  tions will be present in the learning
  situation?

--What are the planned entry, enroute and
  evaluate state conditions of the learning
  experience?

--What will the learner be provided?

--What will the learner be denied?

--What psychological and sociological conditions will be established and maintained in the learner and learner environment?

3.2.3.3 Select verifiable performance terms to characterize criteria

Criterion statements define standards which can be used to verify incremental progress toward the achievement of specified outcomes. Criteria are specified using verifiable performance terms which relate to significant dimensions or aspects defined in corresponding statements of educational outcomes and performance requirements. Absolute criteria define arbitrary, prespecified standards of performance against which individual performance is measured. Relative criteria specify performance levels of a student as measured against the performance level of other students or student norms.

All statements of objectives should contain a statement of absolute criteria, and may contain a statement of relative criteria. At the instructional level of operation, questions of the following sort are relevant in selection:

--What identifiable, observable and measurable actions will be accepted as evidence that the learner has achieved specified outcomes?

--What minimum levels of proficiency are acceptable as demonstration of achievement?

--What specific quali:ies should be evi-
denced in learner products?

--What behavioral indicators may be used
to judge the effectiveness of instruction?
(organizational acceptance)

--What evidence of need-satisfaction is
acceptable to client populations? (environ-
mental acceptance)

3.2.4   Negotiate Verifiable Statements of Educational Outcomes

Early attempts to negotiate verifiable statements of

educational outcomes are marked by two questions:

--Why should this educational outcome be achieved?

--What is the precise nature of the learners to
be involved and relevant performance factors?

In an effort to answer these questions, two additional

component statements should be specified in the construc-

tion of verifiable performance objectives.

3.2.4.1   Select verifiable performance terms to character-

ize performance rationales

The rationale statement justifies and/or

validates the specified behavioral outcome, com-

municates the intent of organized effort, pro-

vides an incentive for involvement and/or motivates

people to participate toward the achievement of

specified outcomes.   At the instructional level

of operation, it answers questions of the follow-

ing sort:

--Why should the learner be expected to
achieve the specified outcome?

--Of what relevance is the outcome to the
learner's probable future states of being?

--What precedence factors ("values", "posi-
tion" and "time") are relevant to achieve-
ment of the specified outcome?

--Why is the organization advocating the
specified alternative learning outcome?

3.2.4.2 Select verifiable performance terms to character-

ize other performance factors

The narrative fragments elaborate details

regarding the course and period of planned change.

They further refine relevant aspects of the

course and/or method of planned change defined in

outcome, requirement, criterion and/or rationale

statements. Narrative is included to assure a

more reliable interpretation of intentions. At

the instructional level of operation, narrative

fragments help elaborate answers to such questions

as:

--What are the significant characteristics of
individual learners for whom the specified
outcome is intended?

--What is the learner expected to know and
be able to do to qualify for the instruc-
tional sequence?

--What is the precise nature of the learning
experience and its corresponding instruc-
tional strategy?

--What are the expected characteristics of
learners at the beginning, during and near
the end of the learning experience?

3.2.4.3   Negotiate verifiable statements of educational
outcomes

Provision of verifiable statements of
rationale and narrative components leads to
further negotiation of specified educational
outcomes. Negotiation involves cooperative
consideration and requires the reaching of common
agreement on statements of verifiable educational
outcomes. The verifiable statements of outcome
must be designed in the best interests of society,
the learner and the school community.

Six basic assumptions underlie all negotia-
tions: (1) there must be free flow of information;
(2) there must be free and open discussion of the
issues; (3) the people involved must be willing
to bargain in good faith without coercion or
threat of coercion; (4) the people involved must
accept reciprocity as a requisite condition; (5)
each individual must feel satisfied with the end
agreement; and (6) all individuals involved must
be motivated by a desire to achieve the maximum
agreement possible consistent with their beliefs
and convictions.

The following guidelines are relevant for
the management of negotiation processes:

3.2.4.3.1 Listen productively

Each individual should carefully listen to and analyze the statements, inquiries and responses of other group members in an effort to understand the reasons for their respective positions. When someone is talking, everyone else should be listening. Self and self-centered thoughts should be put aside. Each member should concentrate on what is being said at the moment.

3.2.4.3.2 Explore the positions of others

Draw out other members of the group and encourage them to state their positions. Build on their responses in an effort to clarify their points of view for both yourself and others in the group.

3.2.4.3.3 Maintain a healthy skepticism

Realize that any belief or conviction that is held too rigidly becomes a barrier to successful negotiation. Beliefs and convictions are important, but one should be ready and willing to reassess them when weaknesses are made evident. Each person should recognize his own fallibility.

3.2.4.3.4 Establish relations between different
           viewpoints

           Each individual should strive to
establish relations or common grounds
between the varying points of view held
by members of the group. Agreements on
commonalities mark the first stages of
successful negotiations and provide
baselines for further negotiation.

3.2.4.3.5 Eliminate extraneous causes of dispute

           Each individual should be made to
realize that the most common cause of
extraneous dispute is the tendency of
people to reduce discussions to a per-
sonal level. Every precaution should
be instituted to avoid the establish-
ment of focus upon individuals and
their personal integrity.

3.2.4.3.6 Keep the group focused on its goal

           Acceptable goals of negotiation
behavior should be clearly established
at the outset of group deliberation.
Each member should do his part in keep-
ing the group on a goal-oriented track.

3.2.4.3.7 Focus on areas of agreement

Each individual should strive to
localize areas of disagreement. They
should make the most of whatever areas
of agreement are obtainable and work
to expand them. Periodic summaries of
progress stimulate expansion of these
areas of agreement.

3.2.4.3.8 Utilize interaction-influence

Members of a negotiation group
have unique points of view. Each mem-
ber should utilize his interaction-
influence abilities in an effort to
persuade others to accept his point
of view. Each should, in turn, be
receptive and attentive to the per-
suasion attempts of others. All argu-
ments should be rational and objective.

3.2.4.3.9 Strive to maximize understanding

Each member of the negotiation
group should be responsive to the need
for reaching common understanding. Each
individual should exercise responsibility
for the clarification of agreements and
the definition of areas of disagreement.
This requires the establishment of

empathetic relations between indivi-
duals and the conscientious and continu-
ous deliberation of all group members.

3.2.4.3.10 Reach common agreement

Negotiations terminate when a com-
mon agreement is reached. Such agree-
ments are seldom final but they do
represent tentative acceptable states
which satisfy individual group members.
The agreement may not be the "best"
logical alternative; rather it is a
compromise alternative that is satis-
factory to the many publics who are
represented in negotiation.

3.2.5 Construct Statements of Objectives Using Verifiable Per-
formance Terms

Verifiable performance objectives cannot be stated
usually in one sentence. They may require several sentences
or paragraphs for complete expression. The verifiable
component statements developed in activities 3.2.3.1,
3.2.3.2, 3.2.3.3, 3.2.4.1 and 3.2.4.2 must be integrated
during construction. The components may be arranged in
any order. Rationally, they can be arranged as:

--outcome component

--rationale component

--requirements component

--criterion component

--narrative

The aim in construction is to develop a communication referent that will serve to integrate policy decision making, management and operational activities. Objectives should be constructed to serve as guides to action in organizations. They should orient members of the organization to the actions, patterns and structures required in achievement.

Construction should begin with the specification of verifiable phrases or short statements for each of the individual components. No attempt should be made to integrate a composite statement. When the objective-writing group is satisfied with the comprehensiveness of the ideas specified, the components should be elaborated and integrated as a composite objective statement.

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4.0 APPRAISING THE ADEQUACY OF VERIFIABLE PERFORMANCE OBJECTIVES IN EDUCATION

In an organization which is be g managed by objectives, members must appraise statements of objectives during the derivation and speci- fication stages of the objective-setting process. Continuous appraisal and revision of existing objectives must be a concurring process. The purpose of these appraisals is to determine each objective's signifi-- cance and compatibility with other strategic plans of the organization. The appraisal process enables the organization to refine, clarify and cogently state its goals and objectives and, thereby, to improve the responsiveness of the organization to the needs and desires of its members and clients.

The information secured during objective appraisals is used by management to integrate a logical and temporal hierarchy of goals and objectives. The hierarchy must be made consistent, both externally and internally, with relevant philosophies, purposes, priorities and policies. The integrated, time-phased hierarchy of goals and objec- tives constitutes the organization's master plan for action. Goals and objectives should be appraised, within the context of the hier- archy, to determine the interrelations and interdependencies each goal and objective has with other goals and objectives and, thereby, with the societally-valued outcomes to be achieved.

4.1 Appraising Component Statements of Verifiable Performance Objectives

Each component of a verifiable performance objective should be appraised for its adequacy in terms of:

--the definitions presented in Section 1.0

--the definitions and descriptive materials presented in sub- sections 3.2.3 and 3.2.4

The aim of such appraisals is to refine and clarify individual
statements of objective components using the most relevant and
cogent verifiable performance terms.

4.1.1   Analyze and Evaluate the Adequacy of the Outcome Component

Does the objective define the expected or desired
outcome, end state, benefit, product and/or behavior to be
achieved? (See sub-section 3.2.3.1)

4.1.2   Analyze and Evaluate the Adequacy of the Rationale Component

Does the objective specify a rationale for outcome
achievement which validates and/or justifies involvement
and performance? (See sub-section 3.2.4.1)

4.1.3   Analyze and Evaluate the Adequacy of the Requirements
        Component

Does the objective specify contextual, input,
output and performance conditions that must be met,
managed and/or maintained during the course and period of
planned change? (See sub-section 3.2.3.2)

4.1.4   Analyze and Evaluate the Adequacy of the Criterion Component

Does the objective delineate standards which can be
used to measure relevant aspects of change and incremental
progress in achievement? (See sub-section 3.2.3.3)

4.1.5   Analyze and Evaluate the Adequacy of the Narrative

Does the objective elaborate on the significant

aspects of the course and/or method of planned change to

an extent that assures reliable interpretation of intentions

by those engaged in replication experiences?   (See sub-

section 3.2.4.2)

4.2   Testing the Adequacy of Verifiable Performance Objectives as
Statements of Purpose

As defined previously, verifiable performance objectives are

statements of purposive intent that are specified using verifiable

performance terms which enable achievements to be demonstrated,

observed, measured and/or replicated.   Each objective specified

can be appraised for its adequacy as a statement of individual,

group and/or organizational purpose.

4.2.1   Testing the Validity of Verifiable Performance Objectives

Validity is a measure of the extent to which an objec-

tive is grounded on principles, facts or evidence which

enables the objective to withstand criticism.   Valid

objectives facilitate the management of planned change.

Among the guidelines to validity testing are:

--Has complete, accurate and timely information been
acquired and utilized in the derivation and speci-
fication process?

--Has the manager of the objective-setting process
acquired the suggestions, advice and other talents
of a cross section of those people affected by the
objectives in order to ensure a balanced set of
objectives?

--Have the bias, interests and/or prejudices of those
involved in the derivation and specification process
been identified, weighed and provided for in order
to ensure the validity of the objective?

The adequacy of an objective may also be measured by

the expected outcome or benefit to be achieved as defined
in the outcome component. If the expected outcome is
achieved, the objective is said to have a high degree of
validity. But if the expected outcome does not correspond
with what in fact results, the objective is said to be
invalid. The following questions represent some requisite
considerations for performing this type of validity test:

--Have the actual results been systematically and
   unbiasly evaluated to permit accurate comparison
   with the specified outcome?

--Has the criterion component been specified to pro-
   vide measures for accurate evaluation of achievement?

--Have provisions been made to compare expected
   results with current performance and achievements?

4.2.2   Testing the Relevancy of Verifiable Performance Objectives

Relevancy is a measure of an objective's pertinence
to other strategic plans, organization-society-environment
relations and/or performance requirements, situations and
activities. An objective must be germaine, pertinent and
applicable to the individuals, groups and/or organizations
for whom it has been specified. The following two criteria
may be associated with relevancy testing:

--Appropriateness is a measure of an objective's
   suitability for use as an instrument to guide change
   in a particular organization or performance context
   in light of existing performance situations and
   conditions.

--Criticalness is a measure of an objective's assigned
   priority rating for achievement which is usually
   defined relative to its perceived qualities and
   capabilities for facilitating satisfaction of intense
   needs and/or resolution of significant problems,
   crises and/or conflicts.

The following questions represent some guides to

relevancy testing:

> --Is the expected and/or desired outcome applicable to the present and expected future performance requirements, situations and activities of the individuals, groups and/or organizations for whom it was specified?

> --Is the specified outcome and/or behavior desirable in terms of present and expected future states, values, expectations, demands, needs and goals?

4.2.3   Testing the Feasibility of Verifiable Performance Objectives

Feasibility is a measure of the extent to which an objective can be successfully achieved within a given performance context by a defined performance capability. The following criteria may be associated with feasibility testing:

> --Probability is a measure of the extent to which an objective can be predicted to facilitate achievement of valued benefits and/or desired outcomes based upon relevant performance evidence.

> --Practicability is a measure of the extent to which an objective is possible of achievement and/or capable of facilitating achievement of a valued utility or benefit under given performance situations and conditions using a defined performance capability.

Guidelines for feasibility testing include:

> --Is the objective achievable in light of external and internal limits and constraints?

> --Does the organization have access to sufficient inputs to make achievement of the objective possible?

> --Is it feasible in light of the existing legal, economic, technical, political and social requirements, situations and actions?

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4.2.4 Testing the Acceptability of Verifiable Performance Objectives

Acceptability is a measure of the extent to which an objective receives a favorable and endurable response from those who will be involved in its achievement. It is closely related to individuals' perceptions of relative advantage that they associate with achievement of the objective. Acceptability is affected by the adaptability, diffusibility and communicability of the objective. These criteria may be defined as:

--Adaptability is a measure of the extent to which an objective can be modified for a specific instance of use and/or adjusted for use in another performance context. It is constrained by the degree to which the objective can be sub-set into an array of sub-components (divisibility).

--Diffusibility is a measure of an objective's compatibility, complexity, trialability and observability. Compatibility is a measure of the degree of agreement an objective has with other strategic plans of the organization. Complexity is a measure of the involved nature of the objective as perceived by those who are involved in its achievement. Trialability is a measure of the perceived difficulty that can be associated with trial attempts to achieve the objective. Finally, observability is the quality of an objective that causes it to be highly visible as an organizational guide for action.

--Communicability is a measure of an objective's effectiveness in eliciting specific, desired and/or necessary responses from those individuals, groups and/or organizations involved in its achievement.

The following guidelines can be used in acceptability testing:

--Has the objective been specified with due consideration for how valid, relevant and feasible it appears to those who will be involved in its achievement?

--Has the objective been specified with due regard for

perceptions of relative advantage, adaptability and
diffusibility?

--Does the objective, when used as a guide for action,
effectively elicit specific, required and/or necessary
responses from those individuals, groups and/or
organizations involved in its achievement?

4.2.5 Testing the Reliability of Verifiable Performance Objectives

Reliability is a measure of the accuracy with which an

objective can be used to facilitate achievement of similar

results in different instances of use in corresponding per-

formance contexts. Among the guidelines for reliability

testing are:

--Does the objective possess those qualities of vali-
dity, relevancy, feasibility and acceptability
necessary for generalized use in a variety of corre-
sponding performance situations and conditions?

--Have the probable and actual performance results and
incremental achievements been appraised using care-
fully designed simulation, analysis and evaluation
procedures under conditions of controlled investi-
gation?

4.3 Testing the Consistency of Verifiable Performance Objectives

Consistency is a measure of the degree to which a hierarchy

of goals and objectives is free from elements of discord and/or

there is an absence of contradiction among the statements of goals,

objectives and objective components. It implies agreement or

harmony among the goals and objectives included in the hierarchy.

4.3.1 Testing the External Consistency of Objectives with
Relevant Societal and Environmental Factors

The objectives of an organization must be consistent

with relevant societal values, needs, expectations, issues,

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trends and/or demands for change. They must be consistent

with priority society-environment problems and the strate-

gic plans of other organizations. External consistency

testing parallels lines of significant organization-

society-environment relations and interactions. Guidelines

for external consistency testing include:

> --Are statements of objectives sensitive to signifi-
> cant organization-society-environment policy
> decision making, managerial and operational
> relations?

> --Are statements of objectives sensitive to the
> multi-leveled organizational structures and over-
> lapping political jurisdictions which are involved
> or will be affected in its achievement?

> --Are statements of objectives sensitive to the extra-
> organizational and inter-organizational communication
> requirements of the organization as one component of
> an educational system in society?

4.3.2   Testing the Internal Consistency of Objectives with Other
        Strategic Plans and Elements in the Master Plan for Action

Internal consistency testing involves appraising the

adequacy of the objective in terms of its agreement with

the philosophies, purposes, priorities and policies of the

organization. It also involves appraising the adequacy of

the objective in relation to the master plan for action or

established goals, objectives, relations and dependencies

among goals and objectives and the time horizon of the

organization.

Related components of policy, program, curricular and

instructional objectives should be structurally consistent.

As an illustration, the following guidelines can be used

to test the structural consistency of the criterion

component of objectives in a hierarchy:

--Are the standards or criteria specified in an
instructional objective designed to measure the
same type of performance, achievement or change as
the criteria delineated in the related or curricu-
lar objective?

--Are the standards or criteria specified in the
curricular objective designed to measure the same
type of performance, achievement or change as the
criteria delineated in the related program objec-
tive?

--Are the standards or criteria specified in the
program objective designed to measure the same type
of performance, achievement or change as the criteria
delineated in the related policy objective?

--Are the standards or criteria specified in the policy
objective designed to measure the same type of per-
formance, achievement or change as the criteria
delineated in social change requirements?

Similar guidelines for testing the structural consis-

tency of the outcome component, the rationale component,

the requirements component and the narrative can

be designed using the above illustrated format.

Another test of related components in policy, program,

curricular and instructional objectives is functional con-

sistency. Functional consistency refers to the harmonious

nature in which the actions to be taken at various levels

in the organization, as reflected in the hierarchy, support

the desired outcomes at lower and higher levels. The

following are guidelines for testing the functional consis-

tency of related objectives in a hierarchy.

--Will the activities performed in accordance with the
instructional objective support the outcomes speci-
fied in the curricular objective? Correspondingly,
will the expected and/or desired outcomes specified
in the curricular objective be a guide to action in

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initiating activities for achieving the related
instructional objective?

--Will the activities performed in accordance with
curricular objective support the outcomes deline-
ated in the program objective? Correspondingly,
will the expected and/or desired outcomes speci-
fied in the program objective be a guide to action
in initiating activities for achieving the related
curricular objective?

--Will the activities performed in accordance with
the program objective support the outcomes deline-
ated in the policy objective? Correspondingly, will
the expected and/or desired outcomes specified in
the policy objective be a guide to action in initi-
ating activities for achieving the related program
objective?

--Will the activities performed in accordance with
the policy objective support the outcomes deline-
ated in the social change requirements? Corre-
spondingly, will the social change requirements
be a guide to action in initiating activities and/or
achieving the related policy objective?

4.3.3 Testing the Consistency of Objectives with Governing Ration-
alities in Decision Making

The governing rationalities in decision making include

political, legal, social, economic and technical ration-

ality. Significant consistency testing guidelines can be

specified for each rationality. They include:

4.3.3.1 Political rationality

--Does the objective specify outcomes or
behaviors which are compatible with demo-
cratic decision-making structures?

--Will the achievement of the objective pre-
serve and/or correct the decision-making
structure?

--Has the objective been derived after con-
sideration of all the various facts, values
and norms of relevant alternatives?

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--Has consideration been given to the conse-
quential effect on the differentiated
decision-making structure if the objective
is achieved?

4.3.3.2 Legal rationality

--Is the objective consistent with relevant
legislative and judicial intent?

--Have applicable rules, laws, statutes,
ordinances and judicial decisions been
considered in deriving and specifying
objectives?

--Are the proposed performance activities or
the specified outcomes within the lawful
jurisdiction of the organization?

--Will the proposed objective violate any
existing precedent within a given educa-
tional jurisdiction? And, if so, is such
an objective necessarily appropriate or
proper?

4.3.3.3 Social rationality

--When the objective describes an expected
or desired outcome or end state, has con-
sideration been given to the moral-ethical
and political-social dimensions of the
specified end state?

--Is the behavior or end state to be developed
socially valid and relevant?

--To the extent, if any, that an objective
deviates from existing purposes of the
organization, has the desirability of the
deviation been assessed and has the amount
of reorganization needed to correct any
resulting disequilibrium been appraised?

--Has the effect of possible community reaction
to the objective been taken into account
where the objective deviates from community
values and beliefs?

--Have the strengths of special interest groups
been measured and have strategies been
designed to meet and satisfy their criticisms

and/or fears?

--Are qualified personnel available for the
roles implied or stated in the objective?

--Are roles implied in objectives consistent
with the existing roles in the organization?

--Are there mechanisms to protect the end
states in the objectives against external
and internal pressures until they are
stabilized?

4.3.3.4 Economic rationality

--Is the objective realistically achievable
and utilitarian?

--Have the needs, organizational capacities
and costs for men, money, material,
machines and time been assessed and evalu-
ated?

--Have alternative programs been assessed and
evaluated?

--Has the period of time before the desired
benefit accrues been determined?

--Has the probability for success in
achieving the objective been assessed?

4.3.3.5 Technical rationality

--If technical resources are required for
achievement of the objective, have their
availability, accessibility and adaptability
been determined?

--Has consideration been given to the cost of
training existing personnel in the required
new technology?

--In determining the desirability and feasi-
bility of a given objective, has the poten-
tial benefit been appraised against the
available resources required to achieve the
objectives?

4.4 Testing the Quality of Verifiable Performance Objectives as Management Tools

Verifiable performance objectives serve as referents and guides for policy-making, managerial and operational activities in an organization. As such, they must be clearly, concisely and cogently stated using verifiable performance terms to facilitate achievement of societally-valued outcomes. The following tests can be made to determine the quality of verifiable performance objectives as management tools:

4.4.1 Testing Objectives as Communication Referents

--Do the words utilized in the objectives accurately convey the intended message to different sets of receivers in different situations? Do the words have as much universality as possible?

--Is the information contained in the objective adequate to ensure proper utilization of the objective?

--Is the objective so stated as to communicate the overall intent of its creators?

--Does the objective meet the following criteria:

· Does the statement describe the learner behaviors that will demonstrate achievement of the objective?

· Does the statement specify the important conditions under which the learner must demonstrate his competence?

· Does the statement delineate standards by which the learner's performance proficiency can be judged?

· Do the action words used in the objective preclude misinterpretation?

· Has the objective been delineated in sufficient detail to assure that the expected behavioral outcome can be recognized?

•Does the objective contain a statement
 justifying and/or validating the expected
 or desired outcome?

•Have separate statements been detailed for
 each objective to be achieved?

4.4.2 Testing Objectives as Guides to Action

--Is the objective a vehicle through which action
  can be directed?

--Does the objective facilitate decision making by
  assisting managers in selection of the most desir-
  able alternative courses of action?

--Does the objective suggest the pattern of human
  involvement required to achieve the specified
  outcome?

4.4.3 Testing Objectives as Tools for Controlling and Evaluating
       Effectiveness

--Does the objective contain a statement which
  defines the standards or criteria that can be used
  in measuring achievement, degrees of change, types
  of change, directions of change and other factors
  that demonstrate effectiveness?

--Does the objective specify a standard against which
  effectiveness can be determined and controlled?

4.4.4 Testing Objectives as Organizational Challenges

--Is the objective based on the perceived needs and
  goals of the target population so that the expected
  or desired outcome is ambitious enough to be
  challenging?

--Is the objective sufficiently demanding and moti-
  vating?

--Does the objective stimulate the imagination?

4.4.5 Testing Objectives as Tools Sensitive to Both External and
       Internal Requirements

--Does the objective suggest that the operational
  limits or boundary conditions of performance have

been identified?

--Does the objective suggest that the constraining forces which must be met, managed and/or maintained have been delineated?

--Does the objective suggest that the prerequisite, initial, interim and terminal conditions of performance have been specified?

4.4.6 Testing Objectives as Tools Responsive to the Goals and Objectives Set at Higher and Lower Levels of Organization

As previously discussed, there are four main categories of objecitves: policy objectives, program objectives, curricular objectives and instructional objectives. Related performance objectives can be derived and specified for each category in a descending sequence. The following logical set of questions should be considered when examining the relations and dependencies among a given set of objectives:

--Are program objectives related to policy objectives?

--Are curricular objectives related to program objectives?

--Are instructional objectives related to curricular objectives?

--Are the end states specified in the instructional objective consistent with policy objectives?

--Do the end states specified in the instructional objecitves cause change in future policy objectives and thereby maintain continuous renewal in the hierarchy of objectives?

Contents of Section 5.0

<u>USES OF VERIFIABLE PERFORMANCE OBJECTIVES IN</u>
<u>THE MANAGEMENT OF PUBLIC EDUCATION</u>

5.1 Uses of Objectives as Components in an Organization's Master Plan for
     Action

5.2 Uses of Objectives in Policy Management

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5.5 Uses of Objectives in Instructional Management

5.0 USES OF VERIFIABLE PERFORMANCE OBJECTIVES IN THE MANAGEMENT OF PUBLIC EDUCATION

The purpose of this section is to suggest possible uses for objectives in relation to organizational master plans and the categories of verifiable performance objectives presented in sub-section 1.6. The statements of use presented are general in nature and may be applicable to more than one sub-section. However, each statement is delineated in that sub-section in which it has primary significance for educational management.

5.1 Uses of Objectives as Components in an Organization's Master Plan for Action

5.1.1 To develop, install, operate and determine the effectiveness of an organizational master plan for action or change

5.1.2 To provide a basis for comparing organizational performance to organizational and societal goals in terms of organizational capacities, capabilities, opportunities, requirements and risks

5.1.3 To maintain an effective balance between organizational performance and societal values, expectations, purposes and changing requirements

5.1.4 To improve policy, managerial and operational decision-making judgements by comparing performance to plans and expectancies

5.1.5 To establish and maintain a reciprocal feedback control relation between levels of authority and responsibility in the organization for the effective, efficient and responsible management of performance

5.1.6 To stimulate determination of priorities in terms of product, service and/or benefit requirements by providing an output rationale for policy decision making

5.1.7   To initiate pressures for and give direction to the growth,
        development and renewal of the organization

5.1.8   To stimulate alternative responses which may be used to
        alleviate internal and external stresses, conflicts and
        crises

5.1.9   To develop critical insights to and a basis for communication
        both within the organization and with its environment

5.1.10 To stimulate all people within and outside the organization
        to think about and take positive action toward common
        purposes

5.1.11 To develop an awareness, understanding and appreciation of
        efforts and progress being made at various levels within
        the organization

5.1.12 To aid the organizational problem finding process by
        assessing areas in which objectives have not been developed

5.2   Uses of Objectives in Policy Management

5.2.1   To specify the benefits that society does and/or should
        expect to receive as outputs from the organization

5.2.2   To analyze, evaluate and interpret the intent and/or
        requirements of higher-level policy decisions

5.2.3   To provide evidence that balance between the attainment
        of organization-society goals is being and/or will be
        maintained

5.2.4   To specify valued and desired outcomes for an individual,
        a group, an organization or a societal system

5.2.5   To influence and/or give direction to philosophical posi-
        tions in program, curricular and instructional objectives

5.2.6   To provide a sense of broad direction and regulatory
        instruments through time

5.2.7 To determine and assign priority ratings for the organization

5.2.8 To constrain actions toward the achievement of preferred consequences

5.2.9 To facilitate and establish a process for considering the relevance of statements of program, curricular and instructional objectives

5.3 Uses of Objectives in Program Management

5.3.1 To assess closely related and interdependent inputs, activities and events that must be managed and which will contribute collectively to the achievement of prespecified societal and/or organizational purposes

5.3.2 As a motivating and communicating tool, to solicit, stimulate, plan for and control participative involvement for the purposes of:

--determining and specifying requirements for achieving desired and/or required outcomes

--appraising organizational input needs and capabilities

--determining time, cost and technical requirements

--refining, clarifying and cogently specifying ideas for present and future use

--assessing the total physical and human setting of education

--conveying educational purposes to be attained

--conveying information relative to requirements, input needs, capabilities, rationale for performance, criteria for evaluation and the planned course and/or method of change

--following-up and controlling actions in planned change

--soliciting and gathering ideas from the organization's membership

--assessing, evaluating and maintaining an effec-
tive leadership style and organizational climate
for achievement

5.3.3 To provide direction and focus for developing curricular
objectives

5.4 Uses of Objectives in Curricular Management

5.4.1 To assess and fulfill specific educational program require-
ments and to achieve related societal benefits

5.4.2 To motivate, communicate and otherwise manage transforma
tion of planned behavioral changes in individuals

5.4.3 To establish bases for identifying discrepancies between
planned and on-going operational activities within the
organization

5.4.4 To establish bases for continuously appraising the opera-
tional activities as to worth and value and to search
for alternative methods-means-media for achieving desired
and/or required outputs

5.4.5 To establish bases for selecting preferred instructional
alternatives from among a range of available alternatives
that will facilitate achievement of prespecified purposes

5.4.6 To provide direction and focus for the development of
instructional objectives

5.5 Uses of Objectives in Instructional Management

5.5.1 To establish bases for managing incremental task-level
progress toward the achievement of prespecified performance
objectives

5.5.2 To manage behavioral transformations in individuals toward
the attainment of societally-valued benefits

5.5.3   To develop, install and operate an evaluation program that
        encompasses a continuum of entry, enroute and evaluative
        states and performance conditions that contributes col-
        lectively toward the achievement of curricular and program
        objectives

5.5.4   To develop a communication referent for feeding relevant
        information back to higher levels of management to facili-
        tate the continuous revision and evaluation of policy,
        program and curricular objectives

5.5.5   To establish guides for action in the development, instal-
        lation and operation of instructional programs

5.5.6   To provide educational managers with an array of valid and
        relevant performance statements which facilitate appraisals
        of the scope, sequence, content and conditions of instruc-
        tional programs

Contents of APPENDIX A

An Analysis Matrix for Educational Objectives

Formats for Specifying Verifiable Policy, Program, Curricular and Instructional Objectives

    FORMAT A: Specifying Policy Objectives

    FORMAT B: Specifying Program Objectives

    FORMAT C: Specifying Curricular Objectives

    FORMAT D: Specifying Instructional Objectives

Examples of Verifiable Policy, Program, Curricular and Instructional Objectives

    Examples of Verifiable Policy Objectives

    Examples of Verifiable Program Objectives

    Examples of Verifiable Curricular Objectives

    Examples of Verifiable Instructional Objectives

AN ANALYSIS MATRIX FOR EDUCATIONAL OBJECTIVES

LEVELS OF ORGANIZATION

MANAGERIAL
LEVEL OF ORGANIZATION

POLICY MAKING OR
STRATEGIC PLANNING
LEVEL OF
ORGANIZATION

OPERATIONAL
LEVEL OF ORGANIZATION

OBJECTIVE COMPONENTS

NARRATIVE	CRITERION COMPONENT	REQUIREMENTS COMPONENT	RATIONALE COMPONENT	OUTCOME COMPONENT

POLICY OBJECTIVE

PROGRAM OBJECTIVE

CURRICULAR OBJECTIVE

INSTRUCTIONAL OBJECTIVE

CATEGORIES OF OBJECTIVES

FORMAT A: SPECIFYING POLICY OBJECTIVES*

Description of the Policy Area or Issue

_____

_____

_____

_____

_____

Component Statements

_____

1. Outcome

_____

_____

2. Rationale

_____

_____

3. Requirements

_____

_____

4. Criterion

_____

_____

5. Narrative

_____

_____

*Consult Sections 1.4, 1.5, 1.6 and 3.2 before filling out this format.

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FORMAT B: SPECIFYING PROGRAM OBJECTIVES*

Description of the Program Area or Issue

_____

_____

_____

_____

Component Statements

_____

1. Outcome _____

_____

_____

2. Rationale _____

_____

_____

3. Requirements _____

_____

_____

4. Criterion _____

_____

_____

5. Narrative _____

_____

_____

*Consult Sections 1.4, 1.5, 1.6 and 3.2 before filling out this format.

FORMAT C: SPECIFYING CURRICULAR OBJECTIVES*

Description of the Curricular Area or Issue

_____

_____

_____

_____

_____

Component Statements

_____

1. Outcome _____

_____

_____

2. Rationale _____

_____

_____

3. Requirements _____

_____

_____

4. Criterion _____

_____

_____

5. Narrative _____

_____

_____

*Consult Sections 1.4, 1.5, 1.6 and 3.2 before filling out this format.

FORMAT D: SPECIFYING INSTRUCTIONAL OBJECTIVES*

Description of the Instructional Area or Issue

_____

_____

_____

_____

_____

Component Statements

_____

1. Outcome _____

_____

_____

2. Rationale _____

_____

_____

3. Requirements _____

_____

_____

4. Criterion _____

_____

_____

5. Narrative _____

_____

_____

*Consult Sections 1.4, 1.5, 1.6 and 3.2 before filling out this format.

EXAMPLES OF VERIFIABLE POLICY, PROGRAM, CURRICULAR
AND INSTRUCTIONAL OBJECTIVES

Examples of Verifiable Policy Objectives

The _____ School District will develop, install and
operate educational programs that help each individual to develop to the
maximum of his potentialities and to function as a responsible member of a
viable, democratic society. The District shall direct its educational
efforts toward the attainment of the following goals for public education:

1. Intellectual Discipline

2. Economic and Vocational Competence

3. Citizenship and Civic Responsibility

4. Competence in Human and Social Relations

5. Moral and Ethical Values

6. Self-Realization and Mental and Physical Health

To facilitate attainment of the goal of intellectual discipline, the
schools of this district will:

--Provide all children with knowledge of the traditionally accepted
  fundamentals, such as reading, writing and arithmetic in the early
  elementary grades, accompanied by studies in higher mathematics,
  science, history and English as they progress through the upper
  grades.

--Help each child to develop the power to think constructively, to
  solve problems, to reason independently, and to accept responsi-
  bility for self-evaluation and continuing self-instruction.

--Help each child gain access to the accumulated culture and knowledge
  of man.

Among the most important aspects of goal attainment in this area are
development of: (1) essential communication skills; (2) inquiry, investi-
gation and problem-solving skills; (3) intellectual growth and self-evaluation
skills; and (4) skills in life-long learning and change. Therefore, it shall

be the continuous policy of this school district that the foregoing skills

will be developed by each individual to the maximum of his potentialities.

These essential educational outcomes are to be achieved by each

individual enrolled in the schools of this district under conditions that

are prevalent and unenriched. This policy will be implemented through the

use of internally consistent program, curricular and instructional objec-

tives and corresponding plans and operational activities that are designed

to facilitate goal-attainment.

The following criteria shall be used in determining successful attain-

ment of the goal of intellectual discipline:

1. Does the individual provide acceptable evidence that he has
    learned how to learn by demonstrating his capability to design
    his own learning strategies?

2. Can the individual attack new problems by demonstrating a
    logical approach to problem solving?

3. Does the individual demonstrate a capability for acquiring new
    knowledges as determined by application of orderly inquiry and
    information retrieval strategies?

4. Can the individual use rational processes in handling information
    as determined by his ability to structure analytical frameworks
    and use it to secure complete, accurate, relevant and timely
    information for decision making?

5. Has the individual developed an abiding interest in learning as
    judged by his individual plans for continued self-instruction
    and education?

6. Can the individual explore the range of values present in new
    experiences by demonstrating his ability to withhold judgment,
    accept others' viewpoints, maintain a healthy skepticism, etc.?

7. Does the individual demonstrate an understanding of concepts
    and principles in an area of discipline as judged by his ability
    to apply them to "real-life" situations and use them to explain
    object-action and/or cause-effect relations and conditions
    present in the situation?

8. Can the child demonstrate minimum levels of basic skills compe-
    tencies as judged by established minimum standards adopted by the
    school district in the respective areas of intellectual discipline?

The foregoing criteria must be regarded as final evaluative state performance specifications for individuals enrolled in the senior high school education program and a series of incremental entry, enroute and evaluative state performance specifications will be defined for lower level programs.

Examples of Verifiable Program Objectives

A program of intermediate education for individuals ranging in age from nine (9) years through twelve (12) years will be developed, installed and operated in the _____ _____ School District. The program will be designed to facilitate attainment of defined School District Goals with due respect for the District's Educational Philosophy. In addition, the program will be responsive to other strategic plans for the District that are delineated in the District's Policy Handbook.

As one area of goal emphasis, the program will make adequate and continuous educational provisions for facilitating attainment of intellectual discipline by each individual who is enrolled in the program. One of the most important aspects of goal-attainment in this area is the development of essential communication skills that are required for an individual's effective participation in our democratic society.

The following essential communication skills will be developed by each individual:

1. reading the mother tongue

2. writing the mother tongue

3. spelling the mother tongue

4. reading and writing numbers and working with number relations

5. listening to and discriminating sounds, vibrations, shock waves, etc.

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6. observing and discriminating colors, lines, forms, etc.

7. expressing one's self musically, dramatically and/or artistically

8. developing skills in the use of foreign languages

9. developing skills to effectively communicate ideas and feelings

The School District Master Plan will contain an integrated, time-phased hierarchy of goals and objectives relevant to the development of communication skills by this age group of individuals. A corresponding Program Plan of Evaluation will be developed to secure information for decision making and determine performance effectiveness in terms of goals and objectives and corresponding plans and operational activities. Among the criteria that will be used to determine program effectiveness are:

1. Does the individual demonstrate an ability to read the mother tongue as evidenced by comparison of his reading skills to defined school district age-level reading development standards for basic interpretation and comprehension skills and word perception skills (phonetic analysis, structural analysis and dictionary and glossary usage)?

2. Does the individual demonstrate an ability to write the mother tongue as evidenced by comparison to defined school district age-level handwriting development standards for legibility (letter and word form, size, shape and slant), ease and speed, neatness and attractiveness of written work?

3. Does the individual demonstrate an ability to spell the mother tongue as evidenced by comparison to defined school district age-level spelling development standards for word meanings, phonetic clues, capitalization, use of apostrophes, homonyms, syllabication and formation of plurals and possessives?

4. Can the individual demonstrate age-level abilities to read and write numbers and use number relations as evidenced by comparison to school district development standards for concepts and skills in the use of: (1) sets; (2) number; (3) numeration systems; (4) addition and subtraction; (5) multiplication and division; (6) properties of operations; (7) order, relations and mathematical sentences; (8) problem solving; (9) measurement; (10) geometry; (11) graphing; and (12) statistics?

5. Does the individual demonstrate age-level abilities to listen and discriminate language sounds as evidenced by comparison to school district development standards for auditory acuity, auditory

discrimination and quality of demonstrated attention and listening as judged by: (1) sequence of ideas, (2) accuracy, (3) main points, (4) theme, (5) meanings of unfamiliar words from context, (6) contradictions, (7) unsubstantiated statements, (8) evidence of prejudice and (9) obsolescence?

6. Can the individual demonstrate age-level abilities to observe and discriminate colors, lines and forms as evidenced by comparison to school district standards for visual acuity, visual discrimination and qualities of observation and seeing in the areas of: (1) explanation of object-action relations, (2) object size, shape and structure, (3) accuracy, (4) visual characteristics, (5) color discrimination, (6) interpretation of lines, forms and patterns and (7) visual perspectives?

7. Does the individual demonstrate age-level abilities to express himself musically, dramatically and/or artistically as evidenced by comparison to school district development standards for: (1) listening to musical selections, singing, rhythms, playing instruments and reading music; (2) dramatic play and drama; and (3) cartooning, carving, ceramic clay, coloring, cutting and pasting, design, dioramas, drawing and painting, figure drawing, finger painting, holiday decorations and gifts, landscape, lettering, marionettes, masks, mobiles, mosaics, mural-making, papier mache, perspective, poster-making, print-making, puppets, sculpturing, stenciling, still life, stitchery, weaving and special art techniques?

8. Does the individual demonstrate age-level abilities to read, write, speak and spell a foreign language as evidenced by comparison to school district development standards for: (1) aural understanding, speaking, reading, writing and spelling; (2) communication; (3) cultural appreciation; (4) knowledge of foreign civilizations and literature; and (5) stimulated individual interests in world geography, history, cultures and institutions?

9. Can the individual demonstrate age-level abilities to communicate his ideas and feelings as evidenced by comparison to defined school district development standards in the areas of: (1) social interaction; (2) communication; (3) interpersonal expression; (4) empathetic skills; and (5) other communication skills?

Examples of Verifiable Curricular Objectives

In order that the _____ School District may facilitate attainment of its goals for public education, a systematic group of planned learning experiences are made available to individuals in the

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discipline areas of:

1. Art, Drama and Music

2. Foreign Language

3. Science and Conservation

4. Industrial Arts and Occupational Skills

5. Language Arts

6. Physical Education, Health and Recreation

7. Social Studies

8. Mathematics

These discipline areas are to be ada ted to the unique educational require-
ments of individuals by using them as methods-means bases in the development
of alternative learning pathways and corresponding learning environments.

Recognizing the unique language communication skill requirements of
intermediate-aged individuals from homes in which languages other than
English are spoken, the _____ School District will
develop, install and operate curricular experiences and opportunities in
bilingual education. The professional staff will develop during the current
school year curricular opportunities in English and languages other than
English that are designed to meet the bilingual education needs of indi-
viduals representing minority cultures in the school community. The
curricular opportunities are to be installed on a trial basis during the
next school year and be made operational throughout the district within
a three-year time period.

The following developmental objectives are to be achieved during the
current school year:

1. The School District will identify those intermediate-aged
   individuals coming from homes in which a language other than
   English is spoken.

2. The School District will assess the bilingual educational needs of those intermediate-aged individuals who are identified as being bilingual.

3. The School District will develop bilingual curricular experiences and opportunities by integrating appropriate learning sequences in the foregoing areas of discipline. This systematic group of planned alternative learning pathways and environments will be made available to eligible individuals. These curricular experiences and opportunities will be designed to achieve specific instructional objectives that emphasize:

   --The history and culture associated with each language.

   --The remediation needs of individuals in learning to speak, read and write English as a second language.

   --The coordinative aspects of both languages.

   --The conversational and occupational uses of both languages.

   --The educational opportunities associated with proficiency in English as a second language.

   --The psychological, sociological and cultural problems and needs of bilingual individuals.

The following design criteria will be used in development of Portuguese-

English curricular experiences:

1. Individuals will make proportionate progress in the use of English based upon their individual potentialities and prespecified age-level standards as determined by a series of entry, enroute and evaluative state measurements of English language proficiency. The prespecified age-level standards will be structured using corresponding age-level school district development standards in the Foreign Languages.

2. Individuals will make proportionate progress in the use of Portuguese based upon their individual potentialities and prespecified age-level standards as determined by a series of entry, enroute and evaluative state measurements of Portuguese language proficiency. The prespecified age-level standards will be structured using corresponding age-level school district development standards in the Language Arts.

3. Individuals will benefit from bilingual education opportunities by exhibiting proportionate progress in essential communication skill development based on their individual potentialities and prespecified age-level standards as determined by a series of entry, enroute and evaluative state measurements. These measurements will test communication skill development using the areas

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and criteria specified in the foregoing program objective.

4. Individuals will make proportionate progress in the development of their unique modes of cognitive and affective functioning based on their individual potentialities and prespecified age-level standards as determined by a series of entry, enroute and evaluative state measurements. The prespecified age-level standards will be structured using corresponding profiles of cognitive and affective development in individuals.

Examples of Verifiable Instructional Objectives

The _____ School District will develop verifiable performance objectives that are internally consistent with the defined educational philosophies, purposes, priorities and policies of the School District as delineated in the Policy Handbook. The objectives set and decisions made at higher levels of organization in the District will be respected at the operational level of instruction.

Among the verifiable instructional objectives that can be specified for bilingual education are those related to the various levels of cognitive functioning. A group of verifiable performance objectives in the cognitive domain are presented as:*

1. Knowledge

--Given a list of words appropriate to their learning level, 90% of the students will be able to identify them in English [O] and Portuguese [P] by June _____.

--90% of the students will be able to identify 25 displayed cross-cultural objects appropriate to their age in spoken English [O] and Portuguese [P] by June _____.

_____

*The following objectives are taken from the Portuguese Bilingual Demonstration Project of the ABC Unified School District, Artesia, California. Notation [P] represents Portuguese and [O] represents languages other than Portuguese. Appropriateness is defined as consistent with age-level school district development standards of ABC Unified School District.

--Given a list of 100 words appropriate to their learning level,
students in grades 1-12 will be able to define them in English
[0] and Portuguese [P] by June _____.

2. Comprehension

--Given at least five verbal directions in Portuguese [P] and
English [0] appropriate to their age level, 90% of the students
will be able to do as directed by June _____.

--90% of the students will be able to respond orally in English
[0] and Portuguese [P] to ten oral questions by June _____.

3. Application

--90% of the students will be able to respond orally to functional
questions in Portuguese [P] or English [0] at least ten times
by June _____.

--90% of the students will be able to read an article in a Portu-
guese [P, 0] newspaper and translate it into English.

--90% of the students will be able to ask for directions in English
[0] and Portuguese [P] and apply given responses appropriate to
their learning level by June _____.

4. Analysis

--Junior high and Senior high school students will be able to
identify the components of sentence structure on a comparative
basis between the English [0] and Portuguese [P] languages by
June _____.

--Junior high and Senior high school students will be able to
present an analysis of five major Portuguese contributions to
the United States in Portuguese [P] and English [0] in a three-
minute speech by June _____.

--Given five incorrect statements in English [0] and Portuguese
[P] commensurate with their learning level, 90% of the students
will be able to correct them.

--90% of the students will be able to orally describe this project
in English [0] and Portuguese [P] commensurate with their
learning level and offer suggestions for improvement.

5. Synthesis

--50% of the students [P, 0] will participate in and contribute
to the development and planning of a Bilingual Cultural Resource
Center.

--25% of the students will produce an original written communication

in English [0] and Portuguese [P] by June _____.

--50% of the students will be able to tell a personal experience in English [0] and Portuguese [P] appropriate to their learning level.

6. Evaluation

--25% of the students will be able to compare this language learning experience with at least one other and describe strengths and weaknesses in English [0] and Portuguese [P] by June _____.

--25% of the students will be able to compare the strengths and weaknesses of the Portuguese and United States cultural systems in oral Portuguese [P] and English [0] by June _____.

The foregoing verifiable instructional objectives are to be achieved by individuals enrolled in the indicated educational programs of the District. They are to be achieved in those learning situations and conditions that are unenriched and normal for the District. Each individual objective constitutes an end item in an integrated hierarchy of goals and objectives that can be specified for the District, the programs and the curricular area.

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EMBRYONIC STATEMENTS OF VERIFIABLE INSTRUCTIONAL OBJECTIVES

CHILD CARE AND NURSERY SCHOOL PROGRAMS

KINDERGARTEN PROGRAMS

PRIMARY EDUCATION PROGRAMS

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APPENDIX B

EMBRYONIC STATEMENTS OF VERIFIABLE INSTRUCTIONAL OBJECTIVES

The following statements of verifiable instructional objectives have
been specified for those instructional levels and curricular areas desig-
nated in FIGURE 1. In no instance have the objectives been stated with
precision; rather, they have been designed for use in preservice and in-
service education programs for professional educators. The objectives
presented are "first cut" statements that require further clarification
and refinement. They are intended for use as discussion referents by
OPERATION PEP participants and other educators responsible for leading training
sessions designed to develop skills in the specification of verifiable
instructional objectives.

Child Care and Nursery School Programs

Handwriting

Given large sheets of paper with ten circles 3-1/2 inches in diameter and
ten 3-1/2 inch squares, assorted crayons and a smooth working surface,

the student will fill in the ten circles and ten squares within five con-
secutive days.

No more than one linear inch per circle or square may be colored outside
the figure outlined.

Hand-eye coordination is basic to learning how to write.

FIGURE 1

COVERAGE OF EMBRYONIC INSTRUCTIONAL OBJECTIVES BY SUBJECT AREA
AND OPERATIONAL FUNCTION LEVELS

	HANDWRITING	LANGUAGE	READING	SPELLING	ART	MUSIC	PHYSICAL EDUCATION	HEALTH AND SAFETY	MATHEMATICS	SCIENCE	SOCIAL STUDIES	FOREIGN LANGUAGE	OCCUPATIONAL
CHILD CARE AND NURSERY SCHOOL PROGRAMS	X	X	X	O	X	X	X	X	X	X	X	X	X
KINDERGARTEN PROGRAMS	X	X	X	O	X	X	X	X	X	X	X	X	X
PRIMARY EDUCATION PROGRAMS	X	X	X	X	X	X	X	X	X	X	X	X	X
INTERMEDIATE EDUCATION PROGRAMS	X	X	X	X	X	X	X	X	X	X	X	X	X
JUNIOR HIGH SCHOOL EDUCATION PROGRAMS	X	X	X	X	X	X	X	X	X	X	X	X	X
SENIOR HIGH SCHOOL EDUCATION PROGRAMS	X	X	X	X	X	X	X	X	X	X	X		X

B-3

Language

Given verbally one to three new words from a standard word list,

the student is to tell a story using these words.

Each word will be judged for correct usage by the teacher. At least
one of the assigned words must be used in the story.

Increased vocabulary is required for communication and for the student
to better express his own ideas.

Reading

Given a paper containing two rows of pictures of objects familiar to the
student, with an object in the first row already circled,

the student will, when asked by the teacher, circle the object in the
second row that is exactly like the object that was pre-circled in the
first row.

No error is allowed.

This objective is of value in improving visual discriminations as a basic
readiness skill for reading.

Spelling

No objective

Art

Given six objects of exactly the same shape and size, and each of a
different color--red, blue, yellow, orange, green and purple--and after
the teacher names a color,

the student will be able to point out the object having the named color.

The student will be able to point out each of the six colors without error.

This activity increases awareness of color for learning by association,
and also begins the process of developing identification skills.

Music

Given a preschool-age recording the students appear to enjoy

the students will clap hands in time to the music being played.

All students are to try to clap hands in time to the music. Any rhythm is satisfactory, but the students must clap.

Experience and practice with rhythms are essential for fully experiencing music as an art form and in order to progress in music.

Physical Education

Given a flat, hard-surfaced area, at least thrity feet square,

the student will hop five yards on the right foot, and five yards on the left foot,

without falling down, or toucning hands or other foot to the ground.

Coordination and balance are necessary components for any physical activity.

Health and Safety

The student will be shown a large colored picture of a traffic light that is common to the area.

The student will verbally identify the signals for "stop," "go" and "caution."

No errors are allowed.

Personal safety habits are necessary for the student.

Mathematics

Given twelve blocks of wood of four different shapes and sizes and a wood form with twelve holes of the same sizes and shapes,

the student will place each of the twelve blocks into the holes of similar

size and shape.

All twelve blocks are to be placed into the correct holes within a five-minute time period.

Being able to categorize on the basis of one or more attributes is an important prerequisite to learning mathematics.

Science

Given five 18" x 24" pictures of five barnyard animals and instruction to do so,

the student will vocally reproduce the voice sound of each animal picture shown him.

Each imitation is to reflect the basic voice characteristic of each animal familiar to most people. The student is to make no errors. The maximum time allowed per set of five is five minutes.

Identification and association are important skills for competence in science.

Social Studies

Given an array of animals in the school environment and an animal of the student's choice,

the student will demonstrate the feeding procedures of his selected pet by:

    a. selecting the correct food from an array of pet foods and
    b. portioning and feeding the pet a pre-designated quantity of food.

The food selected and the amount selected must both be correct.

The importance of attention and care required by pets helps the student learn about a common home and family responsibility activity through the child's natural interest in animals.

Foreign Language

Given twelve everyday objects familiar to the child, and the French names of the objects,

the student will name six of these objects in French when asked to do so by the teacher; the student will also hand to the teacher the six remaining

objects requested in French by the teacher.

No naming errors are allowed; the student is allowed one minute per response.

Students who begin to learn another language early in life learn that language more easily, especially when it is associated with objects of importance to the learner. Basic to language development is object naming.

Occupational

Given a set of six blocks and five poles of standard pole-and-block construction materials,

the student is to stick poles into blocks.

The student may choose any design he wishes.

Practice and experience with construction materials provides a basis for further development in industrial arts.

Kindergarten Education Programs

Handwriting

Given an example of ten capital letters by the teacher in a one-to-one teacher-student situation,

the student will trace the form of each letter using a pointer.

Letters must be recognizable by independent observers (e.g., parent, other students, etc.), as well as by the teacher.

Hand-eye coordination is required to learn to write manuscript or print script.

Language

Given verbally three to five new words from a standard word list,

the student is to tell a story using some of these words.

Each word will be judged for correct usage by the teacher. At least two
of the assigned words must be used in the story.

Increased vocabulary is required for communication and for the student
to express his own ideas.

Reading

Given a picture of the student's own choice depicting a dog in action,
the teacher is to observe the picture and ask, "What is the dog doing?"

and the student will tell what he sees in the picture.

Any response that in the teacher's judgment is interpretative about what
the dog is doing is acceptable.*

Using pictures (or objects) of the child's interest and having him prac-
tice in responding verbally to them is important in developing critical
and/or interpretative reading ability.

Spelling

No objective

Art

Given a large sheet of paper and charcoal drawing pencil,

the student will draw a free-form design that contains the three basic
elements of line (curves, straights, angles).

At least one of each of the three elements must be present in the design
and it must be completed in ten minutes.

Development of hand-eye coordination and self-expression are the motivational
components of this objective.

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*No pre-determined response content is being sought because the only
criterion is that the student is responding to the picture in order to learn
the process of perception--interpretation.

Music

Given a recording selected by themselves,

the students will clap in time and sing aloud in accompaniment with the recording.

The teacher will observe that all children are clapping and are trying to sing.

Experience and practice with rhythm and verbal self-expression are essential for fully experiencing music as an art form and in order to progress in music.

Physical Education

Given a standard gym mat,

the student will execute one forward somersault.

The form and body position used by the student will be that which was taught and demonstrated by the instructor. The student's performance will be judged by the instructor.

Achievement of this objective will: (1) improve general body coordination, (2) help students of this age become more confident of their ability in new situations.

Health and Safety

When asked to do so by the teacher,

the student will verbally describe five of the school's rules for playground safety.

The completeness of description and adequacy of reasons for why the rules have been imposed will be judged by the teacher.

Knowledge of safety procedures are necessary for health and survival of self and others.

Mathematics

Given an array of no more than ten objects (e.g., play blocks) placed

before the student ten times within a five-day period, and each placement
containing a different number of objects as per the following sample
schedule:

	Trial 1	Trial 2	
Day 1	1	3	objects
Day 2	7	4	objects
Day 3	5	2	objects
Day 4	6	9	objects
Day 5	8	10	objects

the student will tell the teacher how many objects have been placed before
him.

No errors are allowed.

Knowing how to count is basic to learning elementary arithmetic.

Science

Given an expedition to a local park to observe common insects in their
natural habitat and, thereafter, five 18" x 24" pictures of five insects
studied at the park,

the student will verbalize the common names of each of the insects when
the pictures are presented one at a time.

No naming errors are permitted. The time limit is ten seconds per picture.

This objective is important for increasing student awareness of the living
things around us and for recall and communication skills necessary for
school achievement.

Social Studies

Given a world globe and a map of the United States and the question, "Which
is used to represent the world?"

the student will point to the globe in response to the question.

No error is permissible.

This objective helps students begin to learn environmental perspective required to define himself in space.

Foreign Language

Given an array of thirty everyday objects familiar to the student and the French names of the objects,

the student will name twenty of these objects in French when asked to do so by the teacher.

No errors are permitted; twelve seconds per student response is allowed.

Students who begin to learn another language early in life learn that language more easily, especially when it is associated with objects important to the learner. Basic to language development is object naming.

Occupational

Given a set of ten blocks and nine poles of standard pole-and-block construction materials and directions from the teacher to make some object using all of the poles and blocks,

the student is to stick poles into block holes in any way the student desires.

The student is to connect all poles and blocks in any way the student desires.

Practice and experience with construction materials provides the basis for further development in industrial arts.

Primary Education Programs

Handwriting

When given an oral instruction to do so and no models to copy from,

the student will be given thirty minutes to write the twenty-six upper and the twenty-six lower case letters of the alphabet in script form.

Results are to be evaluated according to script evaluation standards adopted by the school district.

Knowing how to write the letters of the alphabet is mandatory for cursive writing.

Language

Given a list of 100 words from a standard third grade word list,

the student will write a story using at least ten words of his own choice.

At least ten words must be used correctly as determined by the teacher.

Increased vocabulary is required for effective written communication.

Reading

Given a two-page story (double-spaced on 8-1/2" x 11" paper) that contains four underlined blank spaces in four different sentences to represent missing words and a randomized list of correct and incorrect inference words on a separate sheet of 8-1/2" x 11" paper,

the student will write the correct inference words in the four blanks.

Three out of four correct answers are required.

Practice in inferring the meaning of words is helpful in developing critical and/or analytical reading.

Spelling

Given writing materials and the instruction to do so,

the students will write twenty-five words dictated by the teacher from a standard spelling list for this grade level.

At least twenty-three of the twenty-five words are to be spelled correctly.

Correct spelling helps the student learn vocabulary and improves communication.

Art

Given a set of paints containing only the primary colors and a brush,

the student will mix, in one class period, any two of the three secondary colors.

The paint when dry will approximate the color of standard swatches as determined by at least two fellow students.

This skill is a necessary basic element for self-expression in color.

Music

Given the lyrics to a common children's song on a sheet of paper and the accompaniment of the teacher,

the student will sing with the teacher.

All children are to be observed trying to sing.

Experience and practice with singing are considered essential for experiencing music as an art form and in order to progress in music.

Physical Education

Given a six-foot length of 2" x 4" plank that has been set edgeways and has been anchored so that it does not move,

the student will walk forward along the entire length of the plank

without falling off or touching hands or feet to the ground.

Developing balance and personal confidence in body control are the important factors in this performance as skills for successful physical activity.

Health and Safety

Given instruction in sharing and taking turns and opportunities for the teacher to observe students in the school yard,

the student will demonstrate sharing and taking turns without direction to do so.

Sharing is to be observed at least once a week and taking turns at least once per play period if the situation allows.

The development of emotional health is one of the primary factors in the overall well-being of the student.

Mathematics

Given fifteen pairs of seven-digit numbers printed on an 8-1/2" x 11" sheet of paper, a pencil and eraser,

the student will add the fifteen pairs of numbers within a forty-minute period.

Only one incorrect answer will be permitted.

Being able to add is a prerequisite for learning other mathematical relationships.

Science

Given twenty minutes to study the solar system using maps, diagrams, pictures and three-dimensional models,

students will be able to list the names of all planets present in our solar system in order of their orbits outward from the sun in ten minutes.

Correct spelling of the names of the planets is mandatory and no errors of any kind are permissible.

An understanding of the position of the earth relative to the other planets in our solar system is necessary for a better concept of time and space relations within our own living area.

Social Studies

Given a standard road map of California and practice in map reading, the name of the student's residence town, the name of a town he frequently visits, a list of the ten largest California towns and instructions to do so,

the student will be able to indicate by use of a pointer the map location of:

    a.   the town in which he lives

b.   the town he frequently visits
    c.   a large city selected from the list of ten cities

No errors are permitted.

This objective helps students learn environmental perspective required to
define himself in space. Students also need to understand how to locate
unfamiliar places they might wish to visit by capitalizing on their interest
in their immediate environment.

Foreign Language

After previous instruction and practice the student will be given the
following list of sentences printed in English on an 8-1/2" x 11" sheet of
paper:

    a.   "I'm hungry, I want something to eat, please."
    b.   "When I get sleepy tonight, I will go to bed."
    c.   "This book was made in the United States."
    d.   "Last year we went to another city to visit my friend."
    e.   "He (she) should be my best friend someday."
    f.   "Everyone in our family likes bread."

The student will translate them orally to the teacher on request.

Two errors of word placement in each sentence are permitted providing they
do not change the meaning of the sentence; changed meaning of any sentence
is unacceptable. No errors of tense are permitted.

Being able to translate from English to French orally in matters of every-
day interest to the child should give him a sense of accomplishment that
simplifies the transition from oral communication to written communication.

Occupational

Given a set of standard wood pole-and-block construction materials and
three-dimensional models that the teacher identifies by name as a cube,
a triangle and a rectangle,

the student will construct from memory any one of the three-dimensional
shapes that he may choose.

The shape must be recognizable to fellow students. For example, the teacher
can ask students, "What shape is that?" or "What is the name of that form?"

Practice and experience with construction materials provide the basis for
further development in the industrial arts.

Intermediate Education Programs

Handwriting

Given a fifty-word paragraph typed on 8-1/2" x 11" paper,

the learner will reproduce the paragraph in cursive script with correct letter formation, relative size, spacing of letters and words, legibility and alignment.

Results are to be evaluated according to script evaluation standards adopted by the school district.

Legible cursive writing is useful for advanced education, filling in basic forms, documents, communication, etc.

Language

Given a list of 100 words from a standard sixth grade word list,

the student will write a story containing at least 250 words that uses at least fifteen words on the list. The student may write about anything he wishes.

At least fifteen of the words must be used correctly as determined by the teacher.

Increased vocabulary is required for effective written communication.

Reading

Given fifteen short statements on an 8-1/2" x 11" sheet of paper containing seven statements that are factual and eight statements that are opinion,

the student will write an "F" for factual or an "O" for opinion in the blanks provided opposite the beginning of each statement within one class period of fifty minutes.

Acceptable performance is six fact and seven opinion statements properly identified.

Being able to differentiate fact from opinion is mandatory for critical reading.

Spelling

Given writing materials and the instruction to do so,

the students will spell twenty-five words dictated by the teacher from a standard spelling list for this grade level.

At least twenty-three of the twenty-five words are to be spelled correctly.

Correct spelling helps the student learn vocabulary and improves communication.

Art

Given a still life made up of similar shapes of varying sizes and five sheets of large drawing paper and a pencil,

the student will reproduce the still life using a line drawing in thirty minutes.

Other students in the class will evaluate the relative size of one object to another and give their approval and/or disapproval based on standards of relative size they have developed and which have been approved by the instructor.

Development of eye to hand coordination is the primary rationale behind this objective.

Music

Given a musical instrument of his choice and the C, F and G scales printed in large manuscript form,

the student will play the C, F and G scales.

Note errors are not permitted but intonation errors are to be ignored.

Knowing basic scales is a building-block for development of instrumental skills.

Physical Education

Given a flat surface covered by a standard 5' x 10' gym mat,

the student will complete ten push-ups in two minutes time using the method demonstrated by the instructor.

The body is to remain rigid and straight during all ten push-ups.

Improvement in cardio-vascular and respiratory functioning, as well as general muscular strength, are important results of this performance.

Health and Safety

Given two willing students and a "dummy" practice victim,

the students will demonstrate the approved method of mouth-to-mouth resuscitation using the "dummy."

Evaluation will be based on teacher observation and student verbal report during the demonstration.

Skill development in methods of assuring the safety of others is the rationale behind this objective.

Mathematics

Given sixteen pairs of fractions in horizontal form and sixteen pairs of fractions in vertical form that vary in magnitudes from 1/2 through 1/64 and which do not contain numbers exceeding two digits in either the numerator or denominator, each sixteen-pair set is to be printed on an 8-i/" x 11" sheet of paper;

the student will first subtract the horizontal fractions within a forty-minute period and then subtract the vertical fractions using no more than forty-five minutes.

Fifteen out of sixteen correct for both sets is satisfactory performance.

Knowing how to add and subtract single fractions is very helpful in solving everyday consumer problems, as well as being necessary for learning more advanced arithmetic.

Science

After instruction and discussion of Newton's Laws of Motion, the student will be given a demonstration involving an inflated balloon that has been suddenly released in the classroom,

the student will, from memory, with pencil and paper, in a ten-minute time period, write which of Newton's Laws of Motion has been demonstrated and will state the law as given in the text.

The student must state the correct number of the law and its textbook description without error.

This knowledge and ability to identify and re-state Newton's third law is required for an understanding of motion and the importance of Newton's contribution to modern science.

Social Studies

Given specific directions, a list of thirty countries, a large globe or world map and instruction in the human geographical aspect of immigration to the United States,

students will indicate, using the globe or map, one country for each of four continents from which there has been large-scale immigrations to the United States during the period 1850-1940.

No errors are permitted.

Students should understand the polyglot nature of our society to better understand the diversity in our cultural heritage.

Foreign Language

Given the six most frequently used verbs in the French language on the chalkboard,

the student will conjugate each verb in order and write the conjugate forms for the past, present and future tenses of them on an 8-1/2" x 11" sheet of paper using no more than six class periods of forty minutes each.

No more than eighteen errors of conjugation are permitted out of the 108 conjugations. No spelling errors or accent errors are permitted.

Being able to conjugate the six most frequently used verbs in the primary tenses provides the student with a minimal working knowledge of the language upon which he may build.

Occupational

Given appropriate wood, rope, steel ball bearings, a six-inch bolt, washer, nut and nails,

the student will construct a "roller coaster" according to specifications given the student by the teacher.

The coaster must roll freely down a three-degree paved slope and be capable of making a ninety-degree turn with the builder at the "wheel." Deviations in size and shape within the foregoing criterion limits are acceptable.

Knowing how to successfully construct simple objects of interest to the student increases his desire for learning to work with wood as a useful and gratifying activity.

Junior High School Education Programs

Handwriting

Given a subject of interest to the student,

the student will write a 500-word composition in cursive script.

Student handwriting will be compared with cursive script standards in the areas of letter and word form, spacing, size and slant as adopted by the school district.

The maintenance and improvement of cursive script is desirable for communication purposes.

Language

Given a list of at least 100 words from a standard junior high school word list,

the student will write a 500-word essay on a subject of the student's choice using at least twenty-five words from the list.

At least twenty-five words from the standard junior high school word list must be used correctly as determined by the teacher.

Increased vocabulary is required for effective written communication.

Reading

Given instruction in the selection of character-trait words, a list of
ten character-trait words on a separate sheet of paper, a 500-word
story that the student selects from a set of fifteen stories and
fifteen minutes to read the story,

the student will circle those individual traits, listed on the paper,
that characterize the main individual in the story. The student will
provide an oral explanation justifying his selections.

No errors of character-trait selection are permissible; the student's
explanation is not to be graded but it is to be used for instructional
purposes. If the student gives patently wrong or illogical reasons for
selecting character traits, correct character traits may have been
guessed.

Practice in inferring character traits of persons in stories is essential
for critical reading and for increasing one's awareness of storytelling
as an art form.

Spelling

Given writing materials and the instruction to do so,

the students will write fifty words dictated by the teacher from a
standard spelling list for his grade level.

At least forty-five of the fifty words are to be spelled correctly.

Correct spelling helps the student learn vocabulary and improves
communication.

Art

Given a large sheet of paper, charcoal, a still life made up of a cube,
a cone and a sphere arranged on a surface that is situated in a strong,
single plane of light,

the student will reproduce the objects giving special emphasis to dupli-
cating light and shade characteristics.

Accuracy will be judged by the student and the teacher in conference.

An awareness of the effect of light and shade on given three-dimensional
forms and a working knowledge of how to represent this effect on a

two-dimensional surface are necessary for further success of self-expression in the field of art.

Music

Given a musical instrument and selection of his own choice,

the student will play the selection at no less than 3/4 of the indicated speed.

Rhythm, intonation accuracy and phrasing standards for the student's proficiency level are to be used as criterion measures. No note errors are permitted and incidental technical passages are to be evaluated.

This objective helps to provide the student with basic skills for subsequent musical development.

Physical Education

Given a measured fifty-yard course and a standard start position,

the student will run the entire fifty yards

in no more than ten seconds.

General body coordination and improved respiratory functions are necessary to the overall physical well-being of the student.

Health and Safety

Given a set of text and reference materials, writing materials and an examination form,

the student will demonstrate general knowledge of the dangers of smoking by listing and describing in written form any two aspects of smoking that are detrimental to human health.

A comparison of the student's listings and descriptions with text material will be performed by the student to ascertain completeness of student knowledge.

An understanding of personal health is the prime component of this objective.

Mathematics

Given a demonstrated interest in purchasing an object of importance to the
student (e.g., bicycle, sewing machine, dress, etc.), and without the aid
of reference,

the student will compute finance interest costs to be incurred when the
object of his choice is purchased on an installment plan. Assuming 25%
down and eighteen equal monthly installments, the student will calculate
simple interest costs for interest rates of 5-1/2%, 6%, 6-1/2% and 7%
during one class period of forty minutes.

The student must demonstrate his ability to structure the problem for
solution and derive correct answers for three of the four problems. Although
no single method for solving the problem must be demonstrated, whatever
method is used must be shown in sufficient detail that the instructor can
verify completeness, appropriateness and accuracy of method.

Knowledge of the "true" dollar cost of time purchases is helpful in learning
how to allocate personal resources.

Science

Given previous instruction and practice in constructing drawings of Bohr-
Rutherford diagrams of atoms,

the student will construct atomic diagrams of chlorine and sodium atoms on
8-1/2" x 11" sheets of paper.

The student is allowed thirty minutes to complete the assignment and the
correctness will be judged by the arrangement of the correct numbers of
neutrons, protons and electrons in the diagram using a Periodic chart of
the elements as a reference.

The importance of this objective lies in student understanding of what is
roday considered to be the basic structure of all matter.

Social Studies

Given definitions of national and cultural areas, a list of thirty nations,
a list of twenty cultures and a form delineating scrambled lists of defi-
nitions and names of nations and cultures,

the student will match seven nations and eight cultures correctly with
their corresponding definitions. In addition, the student will circle one or
more national and/or cultural boundaries which defines the student's heritage.

Six out of seven nations and seven out of eight cultures must be correctly matched. No performance level is required for circling the student's own personal cultural and/or national heritage.

Students must know how to apply definitional criteria to the problem of making distinctions. In addition, students can better understand their heritage through an understanding of national and cultural boundaries.

Foreign Language

Given previous instruction, opportunity to practice and sixty 4" x 6" photographs of common objects,

the student will write in French during one class period of forty-five minutes: (a) the names of at least ten of the objects and (b) how any one of the ten has been, is being and will be used by man in no more than fifteen words per tense.

No naming or spelling errors are allowed; one error per tense ending is allowed (a total of three tense-ending errors).

The ability to make interpretive use of familiar objects in a foreign language provides the student with a feeling of confidence necessary for the continued study of French.

Occupational

Given previous instruction, opportunity to practice and plans for a large (at least twenty board feet) wooden object of the student's choice,

the student will calculate construction material requirements and prepare a detailed list of the materials that are required for construction of the object.

No errors are permissible in either the process of how the student's answer was derived or in the final answer.

Knowing how to calculate construction material requirements is essential for determining alternative construction costs per wooden objects using different qualities of construction materials.

Handwriting

Given a subject of his interest and selection,

the student will write a 1,000-word composition in cursive script within three classroom periods of forty-five minutes.

Student handwriting will be compared with school district grade level cursive script standards in the areas of letter and word form, spacing, size and slant.

The maintenance and improvement of cursive script is desirable for communication purposes.

Language

Given a list of at least 250 words from a standard senior high school vocabulary list,

the student will write a 1,000-word essay on any academic topic of his own choice.

The student shall use at least fifty of the listed words correctly as determined by the teacher.

Increased vocabulary is required for effective written communication.

Reading

Given a selection of his choice from a standard list of classroom reading topics and a list of fifty emotion-characterizing words,

the student will prepare a written description characterizing how a story subject feels in response to a specific teacher-selected event in the story using at least twenty-five and no more than one hundred words.

At least two fellow students in the class must agree that the 25-100 word essay is an emotional reaction conveyed by the author. This is to be judged by the two students underlining the key emotion words which, in turn, must agree with the teacher's underlinings of at least one and no more than four key words.

Students who are able to determine emotional reactions of characters in
a story to specific events are more nearly prepared to read critically
and thoughtfully than are students who are not able to do this.

Spelling

Given an assigned vocabulary list, opportunity to study, writing materials
and instructions,

the student will write the correct spelling of fifty words dictated by the
teacher from a standard senior high school word list for his grade level.

At least forty-five of the fifty words are to be spelled correctly.

Correct spelling helps the student learn vocabulary and improves communica-
tion.

Art

Given a group of different sized cubes arranged and situated at the same
depth plane, a straight edge, pencil, five large sheets of paper and using
the two-point perspective method for representing depth planes,

the student will reproduce the cubes in a two-point perspective line
drawing using no more than the five sheets of paper.

This will be finished in one class period. The instructor will judge the
accuracy of the representation by observation and will evaluate the correct
use of the method previously given the student.

The ability to represent depth on a two-dimensional surface and depth
perception development are two important aspects for achieving correct
visual perspective in drawings.

Music

Given a musical instrument of his own choosing,

the student will play a sonata or concerto of his own choice at no less than
3/4 of the indicated speed.

The student is to report his own relative satisfaction with his performance.

Satisfaction in achievement constitutes the rationale for this objective.

Physical Education

Given a one-meter diving board situated over water eight feet in depth, previous instruction and practice,

the student will perform a simple backward dive of his choice from the diving board into the pool.

The hands and head of the diver must enter the water ahead of his body.

Development of body coordination, grace of movement and confidence are expected outcomes of this activity.

Health and Safety

Using material furnished the student that simulates what to do with make-shift material that would be available in an emergency situation such as branches, sticks, mud, a belt, rope, etc.,

the student will demonstrate on a fellow classmate the correct method of field-setting a broken leg.

The finished simulated set will be judged by the class against criteria suggested in the textbook. A time period of ten minutes will be allowed.

Practice in the procedures of personal safety and the safety of others are two areas necessary for the health and survival of self and one's fellow man.

Mathematics

Given an open book examination, slide rule, Marchant model S-7 calculator and a classroom,

the student will solve by any method of his own choice,

at least nine out of ten problems in elementary simultaneous linear equations assigned during a three-day period.

Being able to solve simultaneous linear equations is required for higher mathematics.

Science

Given instruction in human physiology, a human skeleton, opportunity to study and practice,

the student will explain flexor and extensor muscular actions of the knee joint to his classmates.

The names of all major muscles, bones and tendons involved in the primary action of the knee must be utilized in discussion. The student will be allowed one hour to complete the explanation and it will be evaluated against the explanation presented in the text materials.

The value of this objective is that a basic understanding of the functioning of the human muscular and skeletal systems helps the student understand the physical limitations of his body.

Social Studies

Given a definition of sociology, descriptions and instructions in the use of sociological methods and procedures employed by sociologists to investigate functioning and structural differences among sub-cultures and a one-week extra-class time period,

the student will write a 500-word essay describing how a sociologist would analyze a student-selected component of a sub-culture.

The basic steps to be used in analysis must be stated and an explanation of their values and limitations in analysis must be explained.

An understanding of the methods of science and how they are applied in sub-cultural component analysis is important for critical analysis of contemporary social problems.

Foreign Language

Having read the book entitled Dr. Knock,

the student will write a synopsis of the book in French using at least 250 and no more than 500 words.

No spelling errors are allowed, three grammatical errors of any kind are allowed, no accent errors are allowed; at least the central theme of Dr. Knock must be demonstrated (i.e., that he is a kind of "happy nut") and some indication of the moral theme must be demonstrated (i.e., that "happy nuts" may be rather tragic characters) as determined by the teacher.

This objective when attained should prepare the student for developing a basic appreciation of the French culture.

Occupational

After instruction and practice in blueprint reading, the student will be given a complete set of blueprints for a single family residential dwelling,

the student will list and define each symbol found on the floor plan. All definitions are to conform to standard blueprint specification definitions in the training manual given to each student at the beginning of the semester.

No errors are allowed.

Students must know how to read blueprint symbols in order to successfully recognize objects from working blueprint drawings.

OPERATION PEP