Educational Objectives

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EDUCATIONAL OBJECTIVES

1. Identify Needs
2. Establish Goals
3. Devise Programs
4. Evaluate Programs
5. Implement Programs
6. Examine Alternatives
7. Revise and/or Recycle

WRITE OBJECTIVES
IN-SERVICE TRAINING OBJECTIVES

1. Participants of this in-service training program on objectives will display a knowledge of the elements of objectives as measured by a minimum score of 70% on Test 1 taken at the end of a three hour session.

2. Participants of this in-service training program on objectives will apply the elements for developing objectives at the conclusion of a three hour session as measured by a perfect score on Test 2.
ABBREVIATED OUTLINE FOR
EDUCATIONAL OBJECTIVES

I. Institutional Variable. (Of whom is the behavior expected?)
   A. Student
   B. Teacher
   C. Administrator
   D. Specialist
   E. Family
   F. Community
   G. Organization (People)

II. Behavioral Variable. (What behavior is desired and/or is expected to occur?)
   A. Cognitive Domain. (Behaviors which place primary emphasis on the mental or intellectual processes of the learner.)
      1. Knowledge
      2. Comprehension
      3. Application
      4. Analysis
      5. Synthesis
      6. Evaluation
   B. Affective Domain. (Behavior which primarily emphasizes attitudes, emotions, and values of the learner.)
      1. Receive
      2. Respond
      3. Value
      4. Acceptance
      5. Characterization
   C. Psychomotor Domain. (Behavior based on the concept of coordination.)
      1. Imitation
      2. Manipulation
      3. Precision
      4. Articulation
      5. Naturalization

III. Instructional Variable. (To what instructional variable will the behavior be related?)
   A. Organization (Arrangement)
   B. Content
   C. Method
   D. Facilities
   E. Cost
   F. Activity

IV. Measurement Variable. (How will the behavior be specifically measured?)

V. Time Variable. (What is the time needed to bring about the expected behavior?)

VI. Proficiency Variable. (What is the expected proficiency level?)
OUTLINE
GOAL AND OBJECTIVE

A. Goal. (Statement of broad direction, general purpose, or intent)

B. Objective. (Precise descriptions of educational goals. Objectives should be one-sentence statements which contain at least one component of each of the six variables listed below.)

1. Institutional Variable. (Of whom is the behavior expected?)
   a. Student. The student can be described in terms of the following:
      (1) Age
      (2) Grade level
      (3) Mental health
      (4) Sex
      (5) Familial variables
      (6) Socioeconomic variables
      (7) Physical health
      (8) Achievement
      (9) Ability
      (10) Interest
      (11) Relationship to program
      (12) Other
   b. Teacher. The teacher can be described in terms of the following:
      (1) Identification data
         (a) Age
(b) Sex
(c) Race, nationality, religion
(d) Physical health
(e) Personality characteristics

(2) Educational background and work experience:
(a) Undergraduate major and minor
(b) Graduate major
(c) Highest degree held
(d) Number of years educational experience
(e) Experience outside education
(f) Grade level taught

(3) Environmental factors:
(a) Professional salary
(b) Professional affiliations
(c) Nonprofessional affiliations
(d) Socioeconomic status of residence
(e) Professional and nonprofessional reading habits
(f) Leisure activities outside professional work time

(4) Degree of involvement in program

(5) Other

c. Administrator. The administrator can be described as a person who is usually responsible for the educational program, i.e., superintendent, principal, director, etc.

(Same items [1 - 5] as for teacher)

d. Specialist. The specialist can be described as a person who performs a role unique only to a particular instructional setting, i.e., a curriculum coordinator, remedial reading teacher, etc.

(Same items [1 - 5] as for teacher)
e. Family. The family can be described as parents or legal guardians of the child including brothers and sisters and in terms of the following:

(1) Degree of involvement with program:
   (a) Have children in school; all affected by the program
   (b) Have children in school; some affected by, some not affected by the program
   (c) Have children in school; none affected by the program
   (d) Have no children in school (these are treated under descriptive items in the Community variable)

(2) General characteristics:
   (a) Ethnic/national/linguistic
   (b) Size
      i. Total
      ii. Siblings
      iii. Other relatives present
   (c) Age distribution
   (d) Marital status
   (e) Pattern
      i. Nuclear
      ii. Extended
   (f) Income
      i. Approximate level
      ii. Number of wage earners
      iii. Source
      iv. Occupation
(g) Residence
   i. Urban
   ii. Suburban
   iii. Rural
   iv. Cost range
   v. Home
   vi. Apartment
   vii. Rent

(h) Education
   i. Approximate formal level
      (i) Parents
      (ii) Siblings
      (iii) Other relatives present
   ii. Informal
      (i) Industrial
      (ii) Military
      (iii) Community service
      (iv) Other

(i) Affiliations
   i. Religious
   ii. Political
   iii. Social
   iv. Professional
   v. other

(j) Mobility
   i. Parents' place of origin
ii. Length of time in community
iii. Frequency of moving
iv. Extent of traveling

f. Community. The community can be described as the P.T.A., service clubs, religious organizations, political groups, etc.

(1) Geographical setting:
   (a) Location
   (b) Environment--general

(2) Historical development

(3) Population characteristics
   (a) Demographic data
       i. Population size
       ii. Population density
       iii. Marriage and divorce rates
       iv. Birth and death rates

(4) Economic characteristics:
   (a) Commercial/industrial organization and development
   (b) Occupational range
   (c) Sources/range of individual incomes
   (d) Sources/range of tax base

(5) Social characteristics:
   (a) Institutions and organizations
       i. Government/political
       ii. Educational
       iii. Religious
       iv. Service
v. Social
vi. Commercial/financial
vii. Labor
viii. Professional
ix. Recreational
x. Protection

(b) Power structure

(c) Socioeconomic stratification

2. Behavioral Variable. (What behavior is desired and/or is expected to occur?) The sixteen terms under the three domains of the Behavioral Variable are arranged in a hierarchy from simple levels of behavior to levels that are more complex or abstract. In the scheme presented below only these terms are utilized to describe behavior.

a. Cognitive Domain. (Behaviors which place primary emphasis on the mental or intellectual processes of the learner.)

(1) Knowledge (Level 1)

Involves the recognition and recall of facts (i.e., defining terms, recalling names, dates, persons, identifying words, etc.).

(2) Comprehension (Level 2)

The learner interprets, translates, summarizes, or paraphrases given material. The person can organize the material into another language or form of communication (i.e., reading a book or musical scores, grasping the thought of material studied, ability to describe something in one's own words, etc.).

(3) Application (Level 3)

Involves the use of material in a situation which is different from that situation in which it was originally learned (i.e., the use of abstract ideas, principles, or theories in problem-solving).
(4) Analysis (Level 4)

Involves separating a complex entity into its parts, drawing comparisons and relationships between the elements (i.e., ability to recognize assumptions, to distinguish cause and effect relationships, reorganization of biases or points of view, etc.).

(5) Synthesis (Level 5)

Involves combining elements to form a new original entity. It involves a process of working with pieces, parts, elements, etc., and arranging them in a structure that was not clearly evidenced before (i.e., ability to produce a play, music, art forms, design products, or formulate solutions).

(6) Evaluation (Level 6)

Involves acts of decision-making, judging, or selecting based on a given set of criteria. These criteria may be objective or subjective (i.e., ability to indicate fallacies, compare a work or an idea with known standards, etc.).

b. Affective Domain. (Behaviors which primarily emphasize attitudes, emotions, and values of the learner.)

(1) Receive (Level 1)

The learner is aware of, or passively attending to certain phenomena and stimuli (i.e., listening, being attentive to, etc.).

(2) Respond (Level 2)

The learner complies to given expectations by attending or reacting to certain stimuli or phenomena (i.e., obeys or participates as expected, etc.).

(3) Value (Level 3)

The learner displays behavior consistent with a single belief or attitude in situations where he is not forced to comply or obey (i.e., demonstrates a definite preference, displays a high degree of certainty and conviction, etc.).
(4) Acceptance (Level 4)

The learner is committed to a set of values as he displays or communicates his beliefs or values (i.e., develops a rationale for a set of values, makes judgments about sets of values, is organized).

(5) Characterization (Level 5)

The total behavior of the learner is consistent with the values he has internalized (i.e., develops a consistent philosophy of life, exhibits respect for the worth and dignity of human beings, etc.).

c. Psychomotor Domain. (Behaviors based on the concept of coordination.)

(1) Imitation (Level 1)

When the learner is exposed to an observable action, he begins to make covert imitation of that action. Such covert behavior appears to be the starting point in the growth of psychomotor skill. This is then followed by overt performance of an act and capacity to repeat it. The performance, however, lacks neuromuscular coordination or control, and hence is generally in a crude and imperfect form (i.e., impulse, overt repetition).

(2) Manipulation (Level 2)

Emphasizes the development of skill in following directions, performing of selected actions, and fixation of performance through necessary practice. At this level the learner is capable of performing an act according to instruction rather than just on the basis of observation as in the case at the level of imitation (i.e., following directions).

(3) Precision (Level 3)

The proficiency of performance reaches a higher level of refinement in reproducing a given act. Here, accuracy, proportion, and exactness in performance become significant (i.e., reproduction, control, errors reduced to a minimum).
(4) Articulation (Level 4)

Emphasizes the coordination of a series of acts by establishing appropriate sequence and accomplishing harmony or internal consistency among different acts (i.e., performance involves accuracy and control plus elements of speed and time).

(5) Naturalization (Level 5)

A high level of proficiency in the skill of performance of a single act is required. The behavior is performed with the least expenditure of psychic energy. The act is routinized to such an extent that it results in automatic and spontaneous response (i.e., performance becomes natural and smooth).

3. Instructional Variable. (To what instructional variable will the behavior be related?)

a. Organization

Organization refers to the manner in which students are organized for learning (i.e., self-contained classroom, departmentalized, non-graded, etc.).

b. Content

Content is defined as a body of knowledge topically described (i.e., algebra, American problems, reading, etc.).

c. Method

Method can be described as:

(1) Teaching activities (i.e., lecture, inquiry, demonstration).

(2) Types of interaction (i.e., teacher-student, student-student, student-media).

(3) Learning principles or theories (i.e., operant conditioning, field, Gestalt).
d. Facilities

Facilities can be described as equipment, space, or expendables to support a given educational program (i.e., reading laboratories, language laboratories, projectors, dittos, etc.).

e. Cost

Cost is necessary to completely evaluate educational programs. Cost in terms of input and output should be considered (i.e., money spent in the total educational operation).

4. Measurement Variable. (How will the behavior be specifically measured?)

5. Time Variable. (What is the time needed to bring about expected behavior?)

6. Proficiency Level Variable. (What is the expected proficiency level?)
**ACTIVITY I**

Sixteen terms have been introduced describing the levels of the _behavioral_ variable. Correctly match the behavioral domains on the right with the levels of behavior on the left.

| _______ | 1. Evaluation               | A. Affective        |
| _______ | 2. Acceptance               | B. Psychomotor      |
| _______ | 3. Receive                  |                      |
| _______ | 4. Comprehension            |                      |
| _______ | 5. Imitation                |                      |
| _______ | 6. Knowledge                |                      |
| _______ | 7. Application              |                      |
| _______ | 8. Respond                  |                      |
| _______ | 9. Manipulation             |                      |
| _______ | 10. Value                   |                      |
| _______ | 11. Analysis                |                      |
| _______ | 12. Characterization        |                      |
| _______ | 13. Synthesis               |                      |
| _______ | 14. Precision               |                      |
| _______ | 15. Articulation            |                      |
| _______ | 16. Naturalization          |                      |
**ACTIVITY II**

Match the variables on the right with the correct component on the left.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<tbody>
<tr>
<td>1</td>
<td>Cognitive</td>
</tr>
<tr>
<td>2</td>
<td>Organization</td>
</tr>
<tr>
<td>3</td>
<td>Student</td>
</tr>
<tr>
<td>4</td>
<td>Content</td>
</tr>
<tr>
<td>5</td>
<td>Affective</td>
</tr>
<tr>
<td>6</td>
<td>Community</td>
</tr>
<tr>
<td>7</td>
<td>Cost</td>
</tr>
<tr>
<td>8</td>
<td>Facility</td>
</tr>
<tr>
<td>9</td>
<td>Teacher</td>
</tr>
<tr>
<td>10</td>
<td>Family</td>
</tr>
<tr>
<td>11</td>
<td>Method</td>
</tr>
<tr>
<td>12</td>
<td>Specialist</td>
</tr>
<tr>
<td>13</td>
<td>Administrator</td>
</tr>
<tr>
<td>14</td>
<td>Psychomotor</td>
</tr>
</tbody>
</table>

A. Behavioral Variable
B. Instructional Variable
C. Institutional Variable
ACTIVITY III

DIRECTIONS: Classify each statement below by writing the correct letter in front of the statement according to the following scheme: (C) Cognitive, (A) Affective, and (P) Psychomotor.

1. is able to evaluate accurately the best of two solutions to a geometry problem using standards given by the teacher.
2. responds with tolerance for others by displaying good manners toward minority groups.
3. has knowledge of the names and contributions of the five key curriculum workers as described in class.
4. reaches a level of precision necessary to execute properly a backward flip according to gymnastic criteria specified by Smith.
5. will receive an awareness of certain prejudices.
6. demonstrates application of instructional principles properly in planning daily lessons.
7. imitates properly the tennis serve of his instructor.
8. displays comprehension of the Gettysburg Address.
9. will analyze a graph depicting amounts of rainfall.
10. displays a value for higher mathematics by attending lectures on the subject.
11. is able to manipulate a microscope.
12. will be articulate in the skill of typing.
13. demonstrates an acceptance of music by taking an active role in music activities.
14. demonstrates his ability to synthesize three topics in algebra to derive a certain formula.
15. demonstrates a naturalized ability in shooting free throws on a basketball court with 90% accuracy.
16. is characterized by his total abstention from drugs.
On the line to the left of each objective write the level of behavior emphasized.

1. At the completion of a sixteen-week class in American Problems, a twelfth grade student will display his ability to analyze the political structure of the United States as measured by a ten-minute oral report in which he correctly indicates at least three interrelationships between the Judicial, Executive, and Legislative branches of the Federal Government.

2. At the completion of Unit 1 in the book, Working with Science, students in the non-graded elementary program at Miles School will display their ability to apply the science concept of gravitational force by correctly answering the question: "Why would you weigh less on the moon than on earth?"

3. At the end of the semester, the eleventh grade student enrolled in American Government will display his ability to evaluate the accuracy of statements in relation to situations in governmental settings by correctly indicating the truth or falsity of at least 16 out of 20 statements which describe various responsibilities of office holders in the three branches of government.

4. At the completion of the 4-6 reading program at XYZ School, a student will comprehend reading materials found in Seeing Through Reading--Level 6 by paraphrasing in writing three randomly selected stories which he has previously read, using approximately 500 words.

5. At the completion of the topics of Binomials, Factoring, and Completion of the Square, the 9th grade Algebra student will demonstrate his ability to synthesize the content of these three topics by correctly deriving the quadratic formula when given \( ax^2 + bx + c = 0 \).

6. At the completion of General Mathematics 4, the student will demonstrate his knowledge of computational skills (add, subtract, multiply, and divide) by at least an 80% accuracy score on the arithmetic computation section of the Stanford Achievement Test--Intermediate Battery.
ACTIVITY V

(Affective)

On the line to the left of each objective write the level of behavior emphasized.

1. At the completion of the program at Smith University which focuses on Educating the Culturally Deprived, the graduating student will be devoted to the task of improving the education of culturally deprived children as measured by his total commitment to serve in an agency, such as the Peace Corps, for a period of at least two years.

2. Upon completion of a pre-service program in the teaching of modern mathematics, a teacher will respond positively toward the materials outlined by Jones in *The Teaching of Introductory Algebra* as measured by a 75% use of these materials as observed on ten randomly recorded video tapes of the teacher teaching algebra.

3. At the completion of the first week of a class in music, the elementary student will receive an awareness of the different types of music presented as measured by his ability to identify the types of music that were presented during the week.

4. Upon completion of a series of in-service programs entitled: The Effects of Individualized Instruction on the Achievement and Attitudes of Children, teachers will display an acceptance of the content of those in-service programs as evidenced by each teacher developing plans to implement the individualized approach in his classroom.

5. Upon completion of a teaching methods course on the inquiry technique, the teacher will display a value toward the inquiry technique of teaching as measured by a statistically significant (0.5 level) increase in the use of the inquiry approach in his teaching as observed on video tapes prior to and after taking this teaching methods course.
ACTIVITY VI
(Psychomotor)

On the line to the left of each objective write the level of behavior emphasized.

_____ 1. After having completed the first week of class, the seventh grade student will have reached a level of precision in typing that, when given a picture of ten randomly ordered letters, the student will be able to type the same order with a 90% accuracy without looking at the keyboard.

_____ 2. After observing the teacher writing a "l" on the chalkboard, the student will imitate this action by correctly writing ten "l's" on a piece of paper according to Palmer's criteria found in Handbook III.

_____ 3. At the end of ten weeks of typing class, the student will have reached a level of articulation that will enable him to type at least 25 correct words a minute when given a typing speed test.

_____ 4. At the completion of a semester of typing, the seventh grade student will have become naturalized to the act of typing so that when given a typing speed test, he will type at least 60 correct words a minute.

_____ 5. After having been directed to press the letter "r" with his index finger on the typewriter, the seventh grade student will display the ability to manipulate his index finger by correctly typing the letter "r" ten times.
ACTIVITY VII

Match the following:

<table>
<thead>
<tr>
<th>COGNITIVE LEVELS</th>
<th>1. Knowledge</th>
<th>E. Develop a new idea.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Comprehension</td>
<td>S. Judge or select.</td>
<td></td>
</tr>
<tr>
<td>3. Application</td>
<td>U. Relate or compare.</td>
<td></td>
</tr>
<tr>
<td>4. Analysis</td>
<td>V. Recall or recognize.</td>
<td></td>
</tr>
<tr>
<td>5. Synthesis</td>
<td>L. Use in new situation.</td>
<td></td>
</tr>
<tr>
<td>6. Evaluation</td>
<td>A. Interpret or translate.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AFFECTIVE LEVELS</th>
<th>7. Receive</th>
<th>E. Compliance or obedience.</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. Value</td>
<td>N. Total behavior consistent with beliefs.</td>
<td></td>
</tr>
<tr>
<td>10. Acceptance</td>
<td>L. To be aware.</td>
<td></td>
</tr>
<tr>
<td>11. Characterization</td>
<td>A. Belief and worth.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PSYCHOMOTOR LEVELS</th>
<th>12. Imitation</th>
<th>R. Skill in following directions.</th>
</tr>
</thead>
<tbody>
<tr>
<td>15. Articulation</td>
<td>G. Lacks neuromuscular coordination or control.</td>
<td></td>
</tr>
</tbody>
</table>
CRITIQUING OBJECTIVES

Variables of Objectives:

1. Institutional (Of whom is the behavior expected?)
2. Behavioral (What behavior is expected to occur?)
3. Instructional (To what instructional variable will the person's behavior be related?)
4. Measurement (How will the behavior be specifically measured?)
5. Time (What length of time is needed for the expected behavior to occur?)
6. Proficiency Level (What is the desired proficiency level of the expected behavior?)

Examples:

1. Students will achieve in **reading**. (Note: a description of behavior (2), the method of measurement (4), the time (5), and the proficiency level (6) are missing.)

2. At the **completion of the first grade**, the **students** will demonstrate an increase between pre- and post-test scores in **reading comprehension** equivalent to one grade placement year as indicated by the norms established for the **Iowa Reading Test**. (Note: All six items are included.)

3. Ninety percent of the **children** in the public schools of Mississippi who begin school in grade one will respond favorably to the **school programs** in the State by remaining in the schools until a diploma is received twelve years later as evidenced by comparing the appropriate **statistical records** in the State Department of Education.
ACTIVITY VIII
(Critiquing Objectives)

Complete the following ten items by placing the missing components on the line to the left of each statement and underlining each variable. (Note: The first sentence has been completed.)

(1) (2) (3)

4,5,6 1. The student will attain a working knowledge of the history of electricity and magnetism.

2. After having read Silas Marner, the student will demonstrate his understanding of the novel by tracing its structure in an account page, omitting no more than three parts of its structure.

3. After having completed Mechanics II, when given a written description of a defective automobile, a vocational auto student will diagnose the difficulty and state the repair that would be necessary to produce a properly functioning automobile.

4. The student will display knowledge of the three major causes of World War II; minimum acceptable performance of 70 percent.

5. Knowledge of communication skills will produce greater openness in class as measured by category 3 of the Interaction Analysis Observation System.

6. The student will respond positively toward interaction with his peers after one week as measured by a score of 90% or above on the Wiley Attitude Inventory.

7. At the completion of a workshop on objectives, the participants will display their knowledge of objective critiquing as measured by their ability to correctly respond to at least eight of these ten items.

8. Upon completion of the sixth unit in foreign languages—Section III, the student will be able to demonstrate his comprehension of Spanish and French translating with no errors 500 words of teacher selected text from French to Spanish.

9. As a result of attending the conference (Staff Interpersonal Relationships), each principal in the Smith Elementary School District will display a positive value toward the establishment of sound interpersonal relationships on his staff by setting up weekly meetings for the rest of the school year during which the teachers can provide each other with suggestions as to how they might improve their teaching.

10. Students must achieve 73% in order to progress on to the next grade level.
EXAMPLE OF A GOAL AND AN OBJECTIVE

Goal.

Since 57.5 percent of the children who begin school in Mississippi do not complete the full twelve-year program which culminates in the issuance of a high school diploma, the goal of this project is to drastically reduce this loss of students before high school graduation.

Objective.

(6) proficiency level  (1) institutional
Ninety-five percent of the fourth grade students enrolled during the 1971-72 school session in four selected school districts will continue to be affective-respond
enrolled in school at the end of the 1973-74 school session after experiencing a concept whereby failure is completely eliminated from their academic programs and as determined by comparing their attendance reports at the beginning of the 1971-72 school session to their attendance reports at the end of the 1973-74 school session.

(2) behavioral-  (5) time
measurement

(3) instructional-method-learning theory

(4) measurement
Statement of Objective:

As needs are discovered in the local schools and school systems of the state, the Mississippi State Department of Education will make efforts to plan and implement programs which have potential for meeting these basic needs.

(1) By June, 1972, the personnel in the Office of Planning and Evaluation will have responded to the educational needs of local school systems by having submitted to each superintendent of all 150 districts a list of identified needs evident in his school district as determined by checking the appropriate records.
EXAMPLES OF OBJECTIVES

State Level

1. Ninety percent of the students in Mississippi completing the first six years will demonstrate cognitive achievement in math, social studies, and communicative arts equal to the sixth year norms as measured by the S.A.T.

2. Ninety percent of the students in Mississippi completing grades six and twelve will display positive affective behavior toward school equal to state norms as measured by scores on state selected attitude inventories.

3. Ninety percent of the students in Mississippi completing grades six and twelve will demonstrate selected psychomotor skills related to pre-determined content equal to growth norms as measured by the Psychomotor Development Scale.

4. At the end of twelve years of education, students will display an average increase in cognitive skills in selected content areas equivalent to their grade level as measured by the State testing program.

5. Teachers participating in the Teacher Self-Appraisal In-Service Program will respond positively toward the organizational climate of the school organization as measured by a significant increase between pre- and post-administration of the Halpin-Croft Organizational Climate Description Questionnaire, Form IV.

6. Teachers participating in the Teacher Self-Appraisal In-Service Program will respond positively toward improving their respective curriculums as measured by the amount of time they spent (1) serving on curriculum and instructional committees, and (2) setting up district curriculum guidelines.

7. Teachers participating in the Teacher Self-Appraisal In-Service Program will respond positively toward the content of the in-service program as measured by the amount of time they spend (1) writing behavioral objectives, and (2) meeting with their respective principals for the purpose of discussing and implementing the material presented in the in-service program.

8. Teachers participating in the Teacher Self-Appraisal In-Service Program will respond with acceptance to the problems and values of disadvantaged students as demonstrated by their tallies in categories 1, 2, and 3 of Flanders' Interaction Analysis System and the categories of verbal and non-verbal encouraging expressions of Roberson's Teacher Self-Appraisal Observation System.

9. Students of classroom teachers participating in the Teacher Self-Appraisal In-Service Program will respond positively toward objects in the school environment (organization) as measured by a significant gain on the EPIC Attitude Inventory.
10. Students of classroom teachers participating in the Teacher Self-Appraisal In-Service Program will increase their knowledge of reading as determined by a significant gain in their scores on the Stanford Achievement Test.

District Level

1. At the end of grades five and eight, students in School District #2 will demonstrate their comprehension of selected reading skills, equal to national norms as measured by the California Achievement Test.

2. At the end of grades six and twelve, students in Mississippi School District #3 will respond positively toward school (peers, teachers, content) equal to district norms as measured by their scores on attitude inventories.

3. At the end of grade one, students in School District #4 will demonstrate a precision of eye-hand coordination by forming letters and shaping numbers correctly 80% of the time when measured by a district-developed test.

4. At the end of four years of school, lower elementary students will display an average increase in knowledge of specifics in reading equivalent to the third grade norms found on the Stanford Achievement English Test--Primary I Battery.

School Level

1. At the end of grade one, the students in School #5 will demonstrate knowledge of selected vocabulary words with a minimum of 40% accuracy when measured by a vocabulary test developed by the grade one teachers in School #5.

2. At the end of grade one, the students at School #6 will demonstrate a comprehension of consonants, vowels, and blends with a minimum of 40% accuracy as measured by a teacher-developed test.

3. At the end of first grade, the students at School #7 will apply selected word attack skills (phonics, syllabication, context clues, word clues, picture clues, alphabetizing) with a minimum of 40% accuracy as measured by a teacher-developed test.

4. At the end of grade one, students will demonstrate a knowledge of terminology with respect to visual and auditory association of vowels at a level necessary to begin reading as measured by the McHugh-McParland Reading Readiness Test.
Classroom Level

1. At the end of the first six weeks, 90% of the students in Classroom A will display a knowledge of sets, subsets, and commutative-addition in Algebra I by making 70% or above on a teacher-made test.

2. At the end of the first six weeks, 100% of the students in Classroom A will respond positively to the method of instruction as indicated by their responses to a teacher-made questionnaire.

Individual Level

1. At the end of the first lesson, Bob will display a knowledge of terminology with regard to the visual and auditory association of the vowel "e" by matching the auditory sound of "e" with a visual form of the letter "e" with 100% accuracy.

2. By the end of the first nine weeks, Chad will comply with his teacher's request to complete individual assignments by submitting all assigned tasks as evidenced by comparing the number of checks with the number of tasks recorded in the teacher's grade book.

3. Carol will be able to differentiate between styles of poetry written in iambic pentameter and tetrameter every time she analyzes poetry using either style as measured by a teacher-made exercise within the first two weeks of study on poetry.

4. By the end of one week, Amy will be able to point to at least eight of ten two-digit numbers as observed by her teacher.
EXAMPLES OF OBJECTIVES IN THE BEHAVIORAL VARIABLE

Cognitive

1. Knowledge: Presented with ten pictures of animals, previously studied, the student is able to name correctly seven out of ten of the animals.

2. Comprehension: When given a table of daily rainfall for a five-day period, the student will state the amount of rain that fell in three days.

3. Application: Given a solution of salt and water, the student will be able to devise a procedure for separating the solution into its component parts.

4. Analysis: Given popcorn, oil, and a popcorn popper, students will be able to identify one variable which will influence the proportion of kernels of popcorn that pop.

5. Synthesis: Given seeds which have been grown under various conditions, the student will be able to describe three conditions which appear to be related to optimal growth.

6. Evaluation: After using the English and metric systems for the measurement of various objects, the student will be able to state one commonly accepted advantage of using the metric system.

Affective

1. Receive: After a series of lessons on the behavior of snakes, the child voluntarily holds a harmless snake in his hands without signs of discomfort.

2. Respond: When provided with a choice of extracurricular activities in which to participate, the child chooses to participate in the science club activities.

3. Value: The student reads arguments for and against federal support of scientific research, and writes of his own volition to his Congressman urging legislation in favor of federal support for scientific research.
4. Acceptance: Following a series of lessons on pollution, the student identifies a local industry contributing to pollution and formulates a suggested course of action to convince the industry to take precautions against pollution.

5. Characterization: When in a seminar or small group situation, the student voluntarily and consistently states his reasons for holding a certain view.

Psychomotor

1. Imitation: Within the first week of band all of the seventh grade students in the beginner band at Phillip Junior High School will be able to duplicate the desired note from a pitch pipe for the purpose of tuning their instrument as evidenced by the band leader's observation of the entire band producing a harmonious sound.

2. Manipulation: At the end of the study on acids and bases, eighteen of the twenty chemistry students in fifth period will be able to perform the titration of HCl and NaOH by following the directions provided in the lab manual as measured by their products each having a pH of 7 as shown by an acid-base indicator.

3. Precision: All mechanical drawing students at Blount High School who will advance to Mechanical Drawing II will be able to accurately produce drawings of a house plan to scale at the completion of Mechanical Drawing I as measured by the instructor.

4. Articulation: The top student in the second year golf class will be able to accurately drive the golf ball eight out of ten times more than 230 yards down the fairway as evidenced by the instructor at the end of the second year.

5. Naturalization: During the first football game, the offensive team will skillfully execute the triple option play as evidenced by their ability to gain a minimum of five yards per play as shown on the game film.
## WORKSHEET FOR WRITING OBJECTIVES

<table>
<thead>
<tr>
<th>Components of Objectives</th>
<th>(1)</th>
<th>Identify</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive</td>
<td>(2)</td>
<td>_Affective</td>
</tr>
<tr>
<td>Psychomotor</td>
<td>(3)</td>
<td>Psychomotor</td>
</tr>
</tbody>
</table>

### Institutional Behavior

### Instructional Measurement

### Time

### Proficiency

**Statement:**

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**Statement:**

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**Statement:**

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**Statement:**

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<table>
<thead>
<tr>
<th>Cognitive</th>
<th>Affective</th>
<th>Psychomotor</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td>Add</td>
<td>Integrate</td>
<td>Accept</td>
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<tr>
<td>Analyze</td>
<td>Interpolate</td>
<td>Advocate</td>
</tr>
<tr>
<td>Apply</td>
<td>Interpret</td>
<td>Anticipate</td>
</tr>
<tr>
<td>Appraise</td>
<td>Judge</td>
<td>Apply</td>
</tr>
<tr>
<td>Arrange</td>
<td>List</td>
<td>Appreciate</td>
</tr>
<tr>
<td>Assess</td>
<td>Make Use Of</td>
<td>Are Loyal</td>
</tr>
<tr>
<td>Associate</td>
<td>Match</td>
<td>Ask</td>
</tr>
<tr>
<td>Blend</td>
<td>Measure</td>
<td>Attempt</td>
</tr>
<tr>
<td>Calculate</td>
<td>Multiply</td>
<td>Attend</td>
</tr>
<tr>
<td>Classify</td>
<td>Name</td>
<td>Aware</td>
</tr>
<tr>
<td>Combine</td>
<td>Order</td>
<td>Believe</td>
</tr>
<tr>
<td>Compare</td>
<td>Organize</td>
<td>Characterize</td>
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<tr>
<td>Complete</td>
<td>Plan</td>
<td>Comply</td>
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<tr>
<td>Compute</td>
<td>Practice</td>
<td>Condemn</td>
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<tr>
<td>Construct</td>
<td>Predict</td>
<td>Consider</td>
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<tr>
<td>Contrast</td>
<td>Prepare</td>
<td>Continue</td>
</tr>
<tr>
<td>Convert</td>
<td>Prescribe</td>
<td>Control</td>
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<tr>
<td>Count</td>
<td>Produce</td>
<td>Damage</td>
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<tr>
<td>Create</td>
<td>Propose</td>
<td>Defend</td>
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<tr>
<td>Critique</td>
<td>Quote</td>
<td>Discriminate</td>
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<tr>
<td>Define</td>
<td>Rank</td>
<td>Discuss</td>
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<tr>
<td>Demonstrate</td>
<td>Rate</td>
<td>Display</td>
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<tr>
<td>Derive</td>
<td>Read</td>
<td>Encourage</td>
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<tr>
<td>Describe</td>
<td>Recall</td>
<td>Explore</td>
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<tr>
<td>Design</td>
<td>Recite</td>
<td>Express</td>
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<tr>
<td>Detect</td>
<td>Recognize</td>
<td>Follow</td>
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<tr>
<td>Determine</td>
<td>Recommend</td>
<td>foresee</td>
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<tr>
<td>Develop</td>
<td>Record</td>
<td>Further</td>
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<tr>
<td>Differentiate</td>
<td>Relate</td>
<td>Guard</td>
</tr>
<tr>
<td>Discriminate</td>
<td>Rename</td>
<td>Help</td>
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<tr>
<td>Discuss</td>
<td>Repeat</td>
<td>Inform</td>
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<tr>
<td>Distinguish</td>
<td>Round Off</td>
<td>Obey</td>
</tr>
<tr>
<td>Divide</td>
<td>Select</td>
<td>Oppose</td>
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<tr>
<td>Employ</td>
<td>Separate</td>
<td>Participate</td>
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<tr>
<td>Estimate</td>
<td>Show</td>
<td>Praise</td>
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<tr>
<td>Evaluate</td>
<td>Specify</td>
<td>Plan</td>
</tr>
<tr>
<td>Examine</td>
<td>State</td>
<td>Protect</td>
</tr>
<tr>
<td>Explain</td>
<td>Subtract</td>
<td>Protest</td>
</tr>
<tr>
<td>Express</td>
<td>Summarize</td>
<td>Provide</td>
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<tr>
<td>Extrapolate</td>
<td>Supply</td>
<td>Pursue</td>
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<tr>
<td>Find</td>
<td>Solve</td>
<td>Question</td>
</tr>
<tr>
<td>Formulate</td>
<td>Tabulate</td>
<td>Read</td>
</tr>
<tr>
<td>Generalize</td>
<td>Test</td>
<td>Receive</td>
</tr>
<tr>
<td>Grade</td>
<td>Transform</td>
<td>Recognize</td>
</tr>
<tr>
<td>Group</td>
<td>Translate</td>
<td>Report</td>
</tr>
<tr>
<td>Identify</td>
<td>Use</td>
<td>Respect</td>
</tr>
<tr>
<td>Illustrate</td>
<td>Utilize</td>
<td>Respond</td>
</tr>
<tr>
<td>Indicate</td>
<td>Write</td>
<td>Return</td>
</tr>
<tr>
<td>Infer</td>
<td></td>
<td>Seek</td>
</tr>
</tbody>
</table>
TEST I

Match the elements on the left with the correct variable listed on the right, by placing the appropriate letter (A, B, or C) on the space provided.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. facility</td>
<td>A. Institutional</td>
<td></td>
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<tr>
<td>2. content</td>
<td></td>
<td></td>
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<tr>
<td>3. student</td>
<td>B. Behavioral</td>
<td></td>
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<tr>
<td>4. affective</td>
<td></td>
<td></td>
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<tr>
<td>5. specialist</td>
<td>C. Instructional</td>
<td></td>
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<tr>
<td>6. cognitive</td>
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</tbody>
</table>

Sixteen terms have been introduced describing the levels of the behavioral variable. Correctly match the behavioral domains on the right with the levels of behavior on the left.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>7. evaluation</td>
<td>A. Affective</td>
<td></td>
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<tr>
<td>8. acceptance</td>
<td></td>
<td></td>
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<tr>
<td>9. receive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. comprehension</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. imitation</td>
<td>B. Psychomotor</td>
<td></td>
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<tr>
<td>12. knowledge</td>
<td></td>
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<td>13. application</td>
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<td>14. respond</td>
<td></td>
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<tr>
<td>15. manipulation</td>
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<td></td>
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<tr>
<td>16. value</td>
<td>C. Cognitive</td>
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<td>17. analysis</td>
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<td></td>
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<td>18. characterization</td>
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<td>19. synthesis</td>
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<td>20. precision</td>
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<td>21. articulation</td>
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<td>22. naturalization</td>
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</tr>
</tbody>
</table>

23. List the variables of an educational objective.
TEST II

Critique the following objectives by using the following:

1. Institutional
2. Behavioral
3. Instructional
4. Measurement
5. Time
6. Proficiency Level

A. At the completion of grade five, 80% of the students in District #2 will demonstrate reading comprehension equivalent to the grade five placement year as indicated by the norms established for the California Achievement Test.

B. At the end of grade twelve, 90% of the seniors in School #1 will respond positively toward school (peers, teachers, content) equal to district norms as measured by their scores on attitude inventories developed by personnel within the school district.

C. At the end of one week's football practice all players will demonstrate a precision of hand-to-toe coordination exercise as observed by their coach.
REFERENCES


