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ABSTRACT
        This module cluster enables (a) students to
operationally define various classroom behaviors; (b) define and
utilize behavioral principles; and (c) correctly employ measurement
methods which facilitate information gathering, monitoring, and
management of academic and/or "problem" classroom behaviors. It
contains modules in the following ten areas: (a) operationally
defining behavior, (b) defining operant terms, (c) basic operant
principles, (d) analysis of behavior in operant terms, (e) operant
measurement techniques, (f) specifying the situation in which
measurement takes place, (g) measurement of a discrete response, (h)
measurement of a continuous behavior, (i) examples of operant
studies, and (j) modification of social behavior (or inappropriate
behavior). Each module is broken down into (a) objective, (b)
prerequisite, (c) pre-assessment, (d) uniform instructional
activities, (e) supplementary instructional activities, (f)
post-assessment, and (g) remediation. Many of the modules include
behavioral examples which have been carefully selected to reflect the
kinds of problems teachers frequently report as warranting
"modification." (MK)

Module Cluster: TTP - 005.00 (GSC)

Applied Behavior Analysis

Principles

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R. Vukelich

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State of New Jersey

GLASSBORO STATE COLLEGE
GLASSBORO, NEW JERSEY 08028

August, 1975

Dear Colleague:

Our involvement in the GSC/Camden Teacher Corps Project has resulted in the development of several module clusters. The clusters are the primary mode of instruction in this competency-based teacher education program. The program follows the guidelines set forth by the U.S. Office of Education, Department of H E W.

Many of these modules are based on a list of teacher competencies which has been developed by members of the Elementary Education Department. The list represents the core competencies and is intended to be representative of a behavioral approach to teaching. These competencies comprise the nucleus of Glassboro's teacher education program.

All GSC modules specify competencies and describe a scenario for self-paced learning in a field oriented setting. Clearly this is a process which is in marked contrast to the accumulation of credits acquired primarily in college classrooms.

We invite your use, criticism, and refinement of these modules as a means of joining us in creating a more generative climate for developing effective inservice teacher education programs.

Sincerely,

Frank Goodfellow
Director - GSC/Camden
Teacher Corps Project
Chairperson, Elementary Education Dept.

FG/db

Reference System Designation: TTP - 005.00 (GSC)

Program: Tenth Cycle Teacher Corps Program
            at Glassboro State College,
            Glassboro, N.J.

Component: Teaching Theories and Practices

Module Cluster: Applied Behavior Analysis Principles

Developers: G. Brent, D. Fitzmaurice, R. Vukelich

Date of Development: Summer, 1975

TTP - 005.00 Applied Behavior Analysis Principles

General Objectives of the Module Cluster

This module cluster enables students to:

1. operationally define various classroom behaviors
2. define and utilize basic behavioral principles and
3. correctly employ several measurement methods which facilitate information gathering, monitoring and management of academic and/or "problem" classroom behaviors.

It should be noted at the onset of this module cluster that the emphasis is thoroughly classroom oriented. Many modules have behavioral examples which have been carefully selected to reflect the kinds of problems teachers have frequently reported as warranting "modification." Consequently, many of the examples (and their solutions) should be of direct interest to you as classroom teachers.

Prerequisites to the Module Cluster

This module requires students to have only those competencies which typically would be considered as program entrance requirements.

Modules Within the Module Cluster

This module cluster contains the following modules:

TTP - 005.01	Operationally Defining Behavior
TTP - 005.02	Defining Operant Terms
TTP - 005.03	Basic Operant Principles
TTP - 005.04	Analysis of Behavior in Operant Terms
TTP - 005.05	Operant Measurement Techniques
TTP - 005.06	Specifying the Situation in Which Measurement Takes Place
TTP - 005.07	Measurement of a Discrete Response
TTP - 005.08	Measurement of a Continuous Behavior
TTP - 005.09	Examples of Operant Studies
TTP - 005.10	Modification of Social Behavior (or inappropriate behavior)

TTP - 005.01 Operationally Defining Behavior

Objective

After reading Sulzer and Mayer, Students will be given various,
"non-behavioral" social and academic behaviors. The requirement
will be to define these behaviors according to three criteria.
The behaviors must be observable, measurable, and readily
accessable to reliability by an outside observer.

Prerequisite

None

Pre-Assessment

The student will (1) define the term "operational definition"
and (2) when presented with an instructor-chosen "non-behavioral
term," define the behavior according to the three criteria listed
in the Objective section above.

Uniform Instructional Activities

1. Read pp. 4 - 6 by Sulzer and Mayer.
2. Attend a scheduled seminar on identifying academic/behavioral
   problems for purposes of modification.

Supplementary Instructional Activities

Using the objective of this module and the Sulzer/Mayer reading
as a guide, restudy and supplement with the following source
numbers under Appendix A, Book List: 1,7.

Post-Assessment

Post-assessment procedures consist of the alternate form of the
pre-assessment.

Remediation

No remediation activities have been predetermined. Generally,
students who do not successfully complete the post-assessment will
be recycled through one of the supplementary activities.

Pre-Assessment TTP - 005.01.

Briefly define the term "operational definition"

For the following behaviors, briefly present an operational definition which meets the three basic criteria put forth by Sulzer/Mayer and which is reiterated in the Objective section of this module.

1. withdrawn; frequently fantasizes

2. overly-aggressive; overtly disruptive

3. uncooperative; unwilling to share

4. select one: lying, stealing, cheating

5. requires improvement in spelling skills

TTP - 005.02 Defining Operant Terms

Objective

The student will be able to define and give examples of the following operant terminology.

1. operant (behavior)
2. contingency
3. primary reinforcer
4. secondary reinforcer
5. generalized reinforcer
6. continuous reinforcement
7. intermittent reinforcement
8. schedules of reinforcement

    -fixed ratio
    -variable ratio
    -fixed interval
    variable interval

9. shaping/fading
10. Premack principle.
11. reinforcer sampling
12. token reinforcement
13. punishment
14. extinction
15. response cost
16. time-out
17. discrimination
18. discriminitive stimulus (SD)
19. generalization

Prerequisite

TTP - 005.01

Pre-Assessment

Same

Uniform Instructional Activities

1. Read Managing Behavior 2 by Hall.
2. Read GSC handout, "Operant Study Guide."
3. After completing Managing Behavior 2, attend a scheduled seminar on the definitions of basic operant terms.
   (Responsive Teaching Transparencies #26 - #45.)

Supplementary Instructional Activities

1. Using the objective of this module and <u>Managing Behavior 2</u> as a
   guide, restudy the same material by using any appropriate source.
   Some of these sources include numbers 1, 2, 5, 7, 12 in Appendix A.

Post-Assessment

Post-assessment procedures consist of the alternate form of the
pre-assessment.

Remediation

No remediation activities have been predetermined.   Generally,
students who do not successfully complete the post-assessment will
be recycled through one of the supplementary instructional activities.

Pre-Assessment TTP - 005.02

I. Write the corresponding letter in front of each statement.

A. reinforcer   C. extinction   E. punishment

B. shaping   D. primary reinforcer F. Premack principle

1. _____ The procedure of following a behavior by a consequence which
         decreases its strengths.

2. _____ A procedure of differentially reinforcing successive
         approximations step by step, until the desired terminal
         behavior is achieved.

3. _____ Any event that increases the strength of the behavior it
         follows.

4. _____ The process of removing reinforcers until behavior returns to
         low levels.

5. _____ Does not depend upon previous conditioning for its reinforcing
         power (unconditioned).

6. _____ A high rate behavior is made contingent upon the occurrence of
         a low rate behavior, i.e., you must eat your potatoes before
         having desert.

II. Fill in the blank with the most appropriate answer.

7. When behavior that has previously been reinforced by a parent at home
   occurs at a high rate in school, the process referred to as _____
   has occurred.

8. A _____ is a specified relationship between a response and a
   reinforcer.

9. A form of punishment in which an individual is removed from ongoing
   classroom activities contingent upon disruptive behavior is referred
   to as _____.

10. A procedure used to reduce a previously reinforced behavior (i.e.,
    negative comments consequented by attention) by withdrawing the
    reinforcer (attention) is called _____.

11. Whenever an aversive consequence such as a verbal reprimand is made
    contingent upon inappropriate student comments and the behavior is
    observed to decrease, the process is referred to as _____.

12. If a teacher suggested to a student that access to the music center
    was contingent upon the completion of a science project, you would
    recognize this arrangement as the _____ principle.

13. _____ and _____ procedures are forms of punishment
   since they are intended to decrease the occurrence of a response.

III. The following graphs are examples of what type of schedule (Variable
   Ratio or Fixed Interval)? Explain how the two schedules of
   reinforcement are different i.e., what is the essential difference in
   terms of the student's behavior?

14. _____

TTP - 005.03 Basic Operant Principles
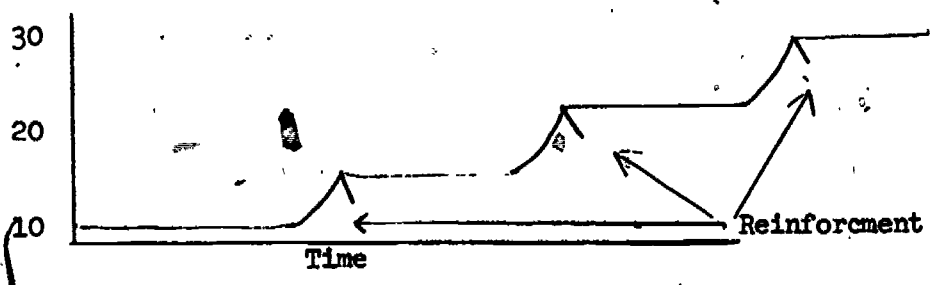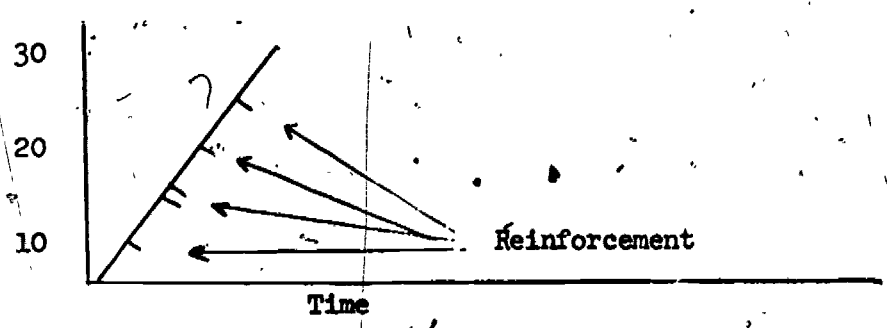
Objectives

The student will be able to -.

1. identify how operant behavior is modified, managed, or controlled.

2. determine when a consequence is a reinforcer or a punisher.

3. identify the conditions for which continuous and intermittent reinforcement are appropriate.

4. present the three essential steps in the shaping process.

5. state the Premack principle and provide an example of how it may be used in a classroom setting.

6. describe what a "token system" is and provide two reasons for its implementation.

7. list four advantages token reinforcement may have when compared to a traditional classroom setting.

8. identify the two basic punishment operations.

9. describe two classroom conditions in which punishment would be the procedure of choice and two situations in which it would not be used beneficially.

10. indicate through a classroom example how discrimination and generalization produce learning.

11. identify the most effective procedure (combination) to reduce inappropriate behavior.

12. utlizing the punishment operations of time-out and response cost, indicate how each of these procedures may be used in the classroom.

13. provide a classroom illustration indicating an inappropriate use of time-out and response cost.

Prerequisite

TTP - 005.02

Pre-Assessment

The student has the option of:

completing the requirement listed in the objective above either orally or in writing
    OR
completing the written pre-assessment test with 90% accuracy

Uniform Instructional Activities

1. Read <u>Managing Behavior 2</u> by Hall.

2. After completing <u>Managing Behavior 2</u>, attend a scheduled seminar on Basic Operant Principles. (Responsive Teaching Transparencies #26 - #45.)

Supplementary Instructional Activities

1. Using the objective of this module and <u>Man</u>   <u>ior 2</u> as a guide, restudy the same material by using any oth_   ropriate source. (Several appropriate sources may be found in the appendices.)

Post-Assessment

Post-assessment procedures consist of the alternate form of the pre-assessment.

Remediation

No remediation activities have been predetermined. Generally, students who do not successfully complete the post-assessment will be recycled through one of the supplementary instructional activities.

9.

Pre-Assessment TTP - 005.03

I. Fill in the blank with the correct answer(s).

      cording to Hall, behavior is learned, maintained and modified as a function of: _____

    _____

2. The determining factor in establishing whether a consequence is a reinforcer or a punisher involves _____

    _____

3. Continuous and intermittent reinforcement are essential in managing behavior. However, the use of both forms of reinforcement are frequently determined by the behavior to be established. Explain this statement by using classroom examples as illustrations.

    _____

    _____

    _____

4. Select a behavior not presently in a student's repertoire. Using the three steps in the shaping process, indicate how you would reinforce successive approximations toward your final performance.

    _____

    _____

    _____

5. Illustrate through classroom example the Premack principle.

    _____

    _____

    _____

6. A token economy may assume many forms some, of course, being quite complicated. Describe how a modest token economy may operate in a classroom. Suggest two reasons why you, as a teacher, may want to implement such a system.

    _____

    _____

7. Frequently, traditional classrooms are operated in a manner which is not conducive for developing fully the skills of particular children. Specify 4 advantages a token economy may have in improving any aspect of the teacher, student, curriculum, classroom relationship.

    _____

    _____

Pre-Assessment TTP - 005.03

8. Punishment may be administered as a procedure in two distinct ways. Explain the two functional operations of punishment. _____

_____

_____

9. Select two classroom behavior problems one of which a punishment procedure would act as an effect deterant to that behavior, the other illustrating a situation where punishment would produce undesirable side effects.

_____

_____

_____

10. Generalization and discrimination are both necessary for efficient learning to take place because _____

_____

_____

TTP - 005.04   Analysis of Behavior in Operant Terms

Objective

Given a description of classroom behavior or several behavior problems, the student will be able to analyze it in operant terms.

Prerequisite

TTP - 005.03

Pre-Assessment

The student has the option of:

completing the basic principles final examination (pp. 53-56) in Hall's Managing Behavior 2 with 90% accuracy.
       OR
completing the written pre-assessment test with 90% accuracy

Uniform Instructional Activities

1. Read Managing Behavior 2 by Hall.

2. After completing Managing Behavior 2, attend a scheduled seminar on analysis of behavior in operant terms.

Supplementary Instructional Activities

1. Using the objective of this module and Managing Behavior 2 as a guide, restudy the same material by using any appropriate source. (Several appropriate sources may be found in the appendices.)

Post-Assessment

Post-assessment procedures consist of the alternate form of the pre-assessment.

Remediation

No remediation activities have been predetermined. Generally, students who do not successfully complete the post-assessment will be recycled through one of the supplementary activities.

Pre-Assessment TTP - 005.04

Donna's teacher noticed that she was leaving her seat often. While she was out of her seat, Donna would often disrupt the other children in the class. Donna's teacher tried to coax her into staying in her seat by calling her back every time she got up and stopping the lesson until she returned to her seat.

1. What behavior is probably being reinforced in this situation?

2. What is a possible reinforcer for it?

3. Suggest another possible approach the teacher might use. (Include a positive reinforcer and an extinction process.)

Select two of the three problem behaviors and operationally define the problem. Provide tenable solutions utilizing three or more operant procedures. Use a combination of procedures where necessary and explain step by step how these procedures would be utilized and the intended effect of the procedure. Remember, don't say, "I would use time-out", rather describe fully the situation leading up to the procedure as well as what occurs from your behavioral standpoint during and after implementing this procedure.

> withdrawn/isolated behavior
> agressive behavior
> lying; stealing; cheating
> negative self-concept

TTP - 005.05   Operant Measurement Techniques

Objective

The student will be able to:

1. provide a rationale for the measurement of behavior as a prerequisite to behavior change/management

2. provide examples of discrete and continuous behavior

3. identify and describe three different general measurement procedures

4. indicate which measurement procedure is utilized with discrete/continuous behaviors

5. prepare a properly labelled graph for frequency and time point sampling procedures

Prerequisite

TTP - 005.04

Pre-Assessment

The student has the option of:

completing the requirements listed in the objective above either orally or in writing
    OR
completing the written pre-assessment test with 90% accuracy.

Uniform Instructional Activities

1. Read Managing Behavior 1 by Hall.

2. After completing both of the above readings, attend a seminar on operant measurement techniques.

Supplementary Instructional Activities

1. Using the objective of this module and Managing Behavior 1 as a guide, restudy the same material by using any appropriate source. (Several appropriate sources may be found listed in the appendices.)

Post-Assessment

Post-assessment procedures consist of the alternate form of the pre-assessment.

Remediation

No remediation activities have been predetermined. Generally, students who do not successfully complete the post-assessment will be recycled through one of the supplementary activities.

Pre-Assessment TTP -- 005.05

I. For the following measurement techniques indicate:

1. Direct measurement of products; event recording

What is a frequency measure? Provide an illustration
of a behavior or academic task for which a frequency
measure would be most appropriate. Briefly describe
the steps you would use to measure this behavior.

2. Time (point) sampling

What is time (point) sampling? Why is this procedure
used to measure behavior in the classroom? Be sure to
include an illustration of how the data is gathered for
this procedure in a step by step fashion.

II. Operationally define three behaviors: One behavior should be social,
another academic, and a third a behavior problem. Prepare a hypotheti-
cal graph for each behavior which is accurately labelled on both the
horizontal and vertical behavioral profile, i.e. deceleration,
acceleration, highly variable, or stable. Label each graph in terms
of the direction of behavior.

TTP - 005.06 Specifying the Situation in Which Measurement Takes Place

Objective

The student will be able to -

1. identify two situational or environmental factors that must be considered prior to measuring behavior?

2. state procedures to follow when the setting factors change:

   a. in a major way

   b. in a minor way

Prerequisite

TTP - 005.05

Pre-Assessment

The student has the option of:

completing the requirements listed in the objective above either orally or in writing
OR
completing the written pre-assessment test with 90% accuracy

Uniform Instructional Activities

1. Read "A Method to Integrate Descriptive and Experimental Field Studies at the level of Data and Empirical Concept" by Byon, Peterson and Ault, (JABA, 1968, 1, 175 - 191).

2. After completing JABA, 1968, 1, 175 - 191, attend a scheduled seminar on specifying the situation in which measurement takes place.

Supplementary Instructional Activities

1. Using the objective of this module as a guide, restudy the same material by using any appropriate source. (Several appropriate sources may be found in the appendices.)

Post-Assessment

Post-assessment procedures consist of alternate forms of the pre-assessment.

re-Assessment TTP - 005.06

1. Identify two major situational or environmental factors to be considered prior to initiating measurement procedures.

2. The student being observed is in Mrs. Brown's class and is changed to Mrs. Clark's class. State specific changes required in the original study.

3. The student being observed is in the morning reading group. The schedule is changed and reading now takes place in the afternoon for that reading group. State a procedure that will recognize this change.

TTP - 005.07 Measurement of a Discrete Behavior

Objective

The student will be able to select a discrete behavior occuring in a classroom setting and complete the following steps:

1. operationally define the response

2. indicate who is emitting the behavior, where the behavior generally occurs, and when the behavior seems to occur most often.

3. identify the spatial proximity between yourself and the person being measured and the conditions under which you are making your measurement.

4. measure the response for a 1 hour period. Remember, the discrete event (response) will require a frequency count or a rate measure.

5. prepare a properly labelled graph and record your results. Each session should be 5 - 10 minutes in length (the frequency count will be represented as a frequency or rate).

6. present a summary and discussion of your findings. Indicate unusual patterns of behavior; measurement problems, personal comments.

* Note: Be sure to label your measurement as baseline (see readings.) Also, indicate whether your data suggest, if you can attempt to initiate a procedure for behavioral change.

Prerequisite

TTP - 005.06

Pre-Assessment

Same as above objective (project)
Readings from Blackham/Silberman (Observing and Recording Behavior)

Uniform Instructional Activities

1. Read Managing Behavior 1 by Hall.

2. After completing Managing Behavior 1, attend a scheduled seminar on recording operant behaviors. (Responsive Teaching Transparencies #4 - #25 and select from Responsive Teaching Transparencies #50 - #61.)

Supplementary Instructional Activities

1. Using the objective of this module and Managing Behavior 1 as a guide, restudy the same material by using any appropriate source. (Several appropriate sources may be found in the appendices.)

Objective

The student will be able to:

select a continuous behavior occurring in a classroom setting and complete the following steps:

1. operationally define the response.

2. indicate who is emitting the behavior, where the behavior generally occurs, and when the behavior seems to occur most often.

3. identify the spatial proximity between yourself and the person being measured and the conditions under which you are making your measurement.

4. measure the response for a 1 hour period. Remember, the continuous event (response) will require a time interval or time (point) sampling procedure.

5. prepare a properly labelled graph and record your results. Each session should be 5-10 minutes in length with the data being presented as precentage of intervals _____ behavior.

Prerequisite

TTP - 005.07

Pre-Assessment

Same as above objective (project)
Readings from Blackham/Silberman (Observing and Recording behavior)

Uniform Instructional Activities

1. Read Managing Behavior 1 by Hall.

2. After completing Managing Behavior 1, attend a scheduled seminar on recording operant behaviors. (Responsive Teaching Transparencies #4 - #25 and select from Responsive Teaching Transparencies #50 - #61.)

Supplementary Instructional Activities

1. Using the objective of this module and Managing Behavior 1 as a guide, restudy the same material by using any appropriate source. (Several appropriate sources may be found in the appendices.)

TTP - 005.09 Examples of Operant Studies

Objective

Using the standard reporting form detailed in Managing Behavior 1 (pp. 31-32), the student will be able to report on operant studies concerning social and academic behaviors emitted in school settings.

Prerequisite

TTP - 005.08

Pre-Assessment

The student has the option of:

submitting previously completed reports which meet the specifications of the objective and meeting with the instructor to discuss them
OR
completing the written pre-assessment with 90% accuracy.

Uniform Instructional Activities

1. Read p. 31-32 in Managing Behavior 1 by Hall.

2. Read Managing Behavior 3 by Hall.

3. After completing Managing Behavior 1 and Managing Behavior 3, attend a scheduled seminar on operant studies.

Supplementary Instructional Activities

1. Using the objective of this module and Managing Behavior 1 and Managing Behavior 3 as a guide, restudy the same material by using any appropriate source. (Several appropriate sources may be found in the appendices.)

Post-Assessment

Using the standard reporting form and the Journal of Applied Behavior Analysis, summarize one social and one academic study that involves an elementary school setting.

Remediation

No remediation activities have been predetermined. Generally, students who do not successfully complete the post-assessment will be recycled through one of supplementary instructional activities.

Pre-Assessment TTP - 005.09

Using information from any article in <u>JABA</u>, write a report on an operant study concerning a social or academic behavior which follows the format used by (1) Hall and Hall or (2) APA. Number two should contain an assessment of the introduction, method, results, and discussion sections.

TTP - 005.10 Modification of a Social or Problem Behavior

Objective

The student will be able to modify a social behavior and report the results using the standard reporting format (Managing Behavior 1, pp. 31-32) and supporting graphs.

Procedures

Select a student with a behavior problem and:

1. observe the student for approximately one hour and operationally define the student's problem(s).

2. decide how to measure your operationally defined problems. For example, considerations of the use of frequency, rate or age of interval measures; the length of time-intervals for baseline and treatment phases; use of mechanical counters; and check lists of behaviors should be made.

3. observe the child for 2-3 hours and establish a baseline for the specified behavior problems.

4. during the baseline phase, prepare a graph, label it correctly, and begin plotting your data.

5. prepare a procedure to modify the behavior. The procedure chosen should be based on:

  a. The goal you have selected (acceleration, aintanance, or deceleration of the behavior, and

  b. the results of other authors' findings. Use the five articles you have read as a partial rationale for selecting certain operant procedures for behavior change. Your own combination of procedures is acceptable, but some rationale should accompany your selection.

6. apply the procedures and record the results.

7. a change in behavior towards your specified goal suggest the procedures you have selected are appropriate. However, it may be necessary to make modifications to (1) improve your recording techniques, (2) re-arrange your goals for the child, and (3) improve your procedures for more effective behavioral management.

8. lack of, or minimal change in behavior may be due to:

  a. imprecise recording
  b. unsystematic methods used to carry out procedures
  c. ineffectiveness of procedures

In order to insure success in your project, changes may be
necessitated in any one or all three areas. Before three is
considered, points one and two should be examined fully.

Prerequisite

TTP - 005.09

Pre-Assessment

The student may submit graphs previously completed that meet the
specifications included in the objective and discuss them with the
instructor. The instructor will decide if the student is competent
by the standards set forth in Managing Behavior 3.

Uniform Instructional Activities

1. Read Managing Behavior 1 by Hall.

2. Read Managing Behavior 2 by Hall.

3. Read Managing Behavior 3 by Hall.

Supplementary Instructional Activities

1. Using the objective of this module and Managing Behavior 1,
   Managing Behavior 2 and Managing Behavior 3 as a guide, restudy
   the same material by using any appropriate source. (Several
   appropriate sources may be found in the appendices.)

Post- Assessment

The student will have a discussion with the instructor based on the
report and graphs submitted. Procedures employed in the study must
be consistent with operant principles and reported correctly.

Remediation

No remediation activities have been predetermined. Generally, students
who do not complete the post-assessment successfully will be recycled
through one of the supplementary instructional activities.

Appendix A

BOOK LIST - OPERANT CONDITIONING

1. Ackerman, J. (1972) Operant Conditioning Techniques for the Classroom Teacher. Glenview, Illinois: Scott, Foreman.

2. Bandura, A. (1969) Principles of Behavior Modification. New York: Holt, Rinehart.

3. Becker, W. (1971) An Empirical Basis for Change in Education. Chicago: SRA.

4. Becker, W.; Englemann, S.; and Thomas, R. (1971) Teaching: A Course in Applied Psychology. Chicago: SRA.

5. Buckley, N. and Walker, H. (1970) Modifying Classroom Behavior. Champaign, Illinois: Research Press.

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8. Ferster, C. and Skinner, B. (1957) Schedules of Reinforcement. New York: Appleton.

9. Hall, R. (1971) Managing Behavior I, II, III. Lawrence, Kansas: H & H Enterprises.

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11. Haring, N. and Phillips, W. (1972) Analysis and Modification of Classroom Behavior. Englewood Cliffs, New Jersey: Prentice-Hall.

12. Holland, J. and Skinner B. (1961) The Analysis of Behavior. New York: McGraw-Hill.

13. Homme, L. (1971) How to Use Contingency Contracting in the Classroom. Champaign, Illinois: Research Press.

14. Honig, W. (1966) Operant Behavior: Areas of Research and Application. New York: Appleton.

15. Lundin, R. (1969) Personality: A Behavioral Analysis. London: Macmillan.

16. Mager, R. F. (1962) Preparing Instructional Objectives. Palo Alto, California: Fearon

17. Micheal, J. (1967) Management of Behavioral Consequences in Education. Unpublished.

18. Millenson, J. (1970) Principles of Behavioral Analysis. New York: Macmillan.

19. Ramp, E. and Hopkins, B. (1971) A New Direction for Education: Behavior Analysis. Lawrence, Kansas: University of Kansas.

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21. Sidman, M. (1960) Tactics of Scientific Research. New York: Basic Books.

22. Skinner, B. (1953) Science and Human Behavior. New York: MacMillan.

23. Skinner, B. (1969) Contingencies of Reinforcement. New York: Appleton.

24. Skinner, B. (1959) Cumulative Record. New York: Appleton.

25. Skinner, B. (1968) The Technology of Teaching. New York: Appleton.

26. Staats, A. (1968) Learning, Language & Cognition. New York: Holt.

27. Sulzer, B. and Mayer, G. (1972) Behavior Modification Procedures for School Personnel. Hinsdale, Illinois: Dryden.

28. Tharp, R. and Wetzel, R. (1969) Behavior Modification in the Natural Environment. New York: Academic Press.

Appendix B

JOURNAL LIST - OPERANT CONDITIONING

1. <u>Exceptional Children</u> - Volume 35, Number 2, 1968 and Volume 37, Number 2, 1970.

2. <u>Journal of Applied Behavior Analysis</u> - Volume 1 - 5.

3. <u>Teaching Exceptional Children</u> - Volume 3, 1971.

Appendix C

AUDIO-VISUAL AIDS LIST - OPERANT CONDITIONING

1. All My Buttons. Lawrence, Kansas: H & H Enterprises.

2. Reese, H. (1965) Behavior Theory in Practice. New York: Appleton.

3. Reese, H. (1971) Born to Succeed. New York: Appleton.

4. Responsive Teaching Transparencies. (1973) Lawrence, Kansas: H & H Enterprises.

Appendix D

HUMAN RESOURCE LIST - OPERANT CONDITIONING

(Available for seminars and tutoring.)

1.

2.

3.

4.

Appendix E

PROGRAMS - OPERANT CONDITIONING

1. Behavior Analysis Follow Through Projects
   New York, Arizona, Indiana, Missouri, Illinois, Montana, Pennsylvania,
   Massachusetts, New Jersey.
   For addresses, contact Department of Human Development,
                         University of Kansas
                         Lawrence, Kansas 66044

2. Learning Center, Anne Arundel County, Maryland.