Behavior can be modified because it is governed by its consequences.
Observable behavior, excluding its causes, is modified by the application of
techniques derived from B.F. Skinner's operant learning theory. Optimum effects can
be achieved only after thorough knowledge of the child is gained, particularly in the
area of his capabilities. The reinforcers which influence the child must be discovered
by observation. A positive reinforcement schedule is then employed, rewarding the
desired behavior in various ways. Shaping may be used, in which partial or
approximate behaviors are rewarded until the actual desired behavior occurs.
Decreasing undesirable behavior occurs when an incompatible desirable behavior is
shaped by: (1) securing the desired response, (2) shaping small segments of the
desired behavior, (3) using a high reinforcement ratio, and (4) gradually decreasing
the reinforcement. The concept of contingent results must be clearly understood. A
case study is given in which operant learning theory is applied to modify the behavior
of a seventh grade boy. (AE)
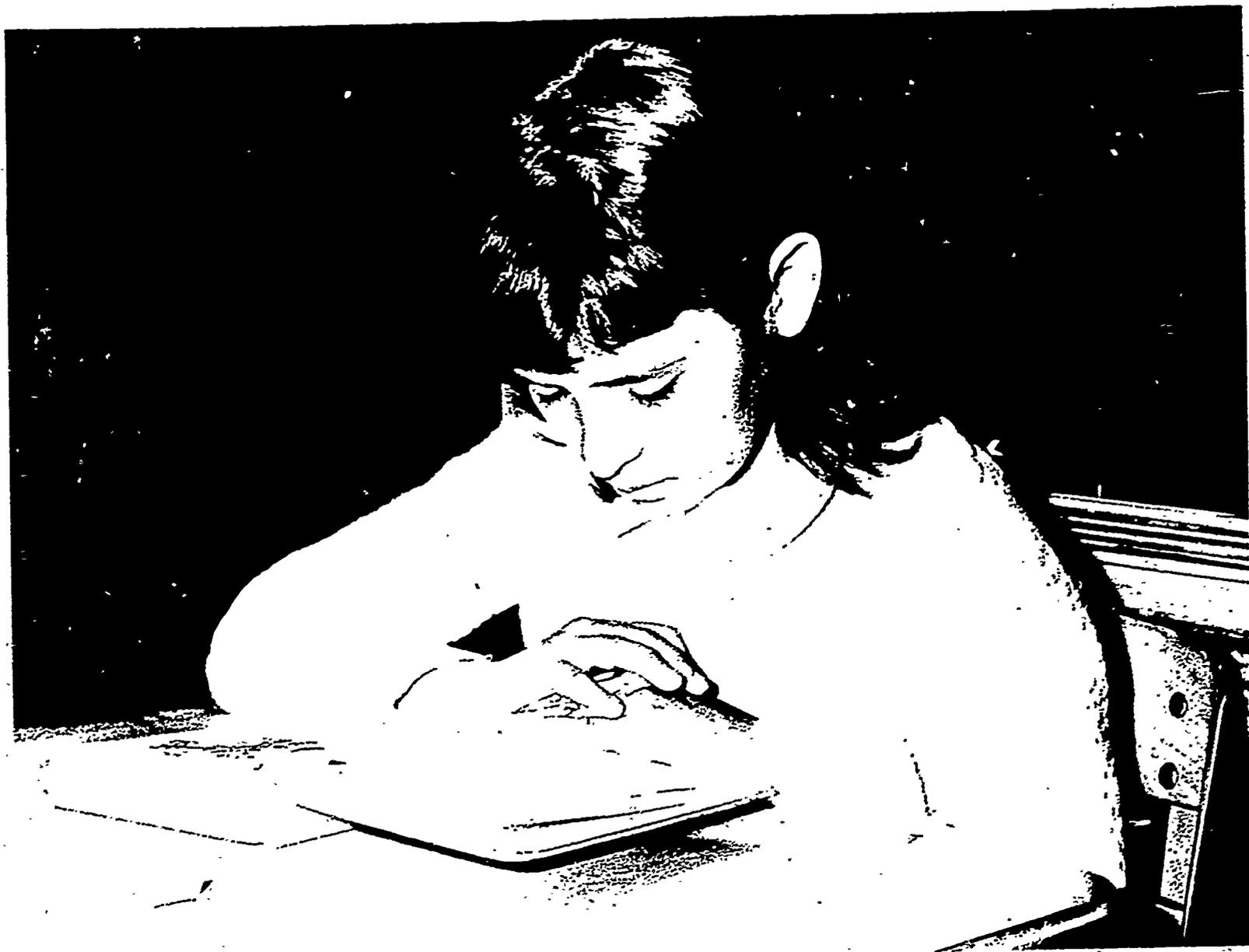
BEHAVIOR MODIFICATION
BY LEO MUNOZ

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Monograph Series I

NORTHERN ARIZONA SUPPLEMENTARY EDUCATION CENTER

BEHAVIOR MODIFICATION

BY

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OCTOBER 11, 1968

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PREFACE

If we are to be successful teachers and parents we must come to under-
stand the very powerful influences which the environment exerts on all behavior.
After all, teachers and parents are not only themselves important elements in
a child's environment, they have the principal responsibility for arranging
the elements of that environment to achieve their teaching and rearing aims.

Our knowledge of environmental influences has burgeoned enormously as
the powerful techniques of scientific inquiry have been directed toward
human behavior. The literature is broad, comprehensive, complex, and growing.
Yet there are many important principles which even now can help those whose
task is to affect and in some way modify human behavior.

In this monograph, Mr. Munoz identifies some of the principles which
are being applied in many practical situations. Not written in difficult
scientific terms, the material suggests several techniques which the reader
might develop in his everyday handling of children. Some may seem like
common sense, others may not. The reader may think of many applications of
these ideas which he has made or might make in his work. The sharing of
these ideas, their application, and their evaluation may make the behavior
manager's task both exciting and rewarding.

<div align="right">

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RJW:mw

Table of Contents

INTRODUCTION TO BEHAVIOR MODIFICATION

Behavior modification as a field of interest concerns behavior change. It includes the study of attitudes, social movement, environmental influences, drug conditioning, instrumental learning and many other topics.

It is encouraging to note that an ever increasing amount of knowledge gained from behavior modification programs is being put to use in pre-schools, mental health centers, public schools, special education classes, state hospitals and a variety of other settings. The focus of attention in behavior modification is on the observable events of a situation. The events are defined in terms of the behavior being observed. If a child has a tantrum, is a bed wetter, or is frequently absent from school, we focus directly on that behavior, rather than on an assumed cause such as anxiety, needs, hostility, lack of security, or the like. A great deal of information now indicates that tantrums, bed wetting, and absenteeism can be stopped.

Behavior modification has to do with: (1) teaching and learning; (2) treatment and remediation; and (3) experimentation and research.

Behavior modification is the systematic application of learning theory and reinforcement principles. The basic premise is: Behavior is governed by its consequences. Only observable behavior is dealt with; fantasies, ego strength, dreams, anxiety, needs, the unconscious, etc., are not considered. They are not observable data.

We may note that a young child develops skills in hitting a ball with a bat. In general, responses that produce hitting grow

stronger as do responses which produce praise from coaches, peers, and parents. All of these are observable events. If we were to say that the child learns to hit the ball with the bat because of an inner urge to grow up or because he wants to be like a star baseball player, we would be referring to the unobservable data of the "urge" and the "want."

The observable components of behavior must be defined. Teachers in discussing children tend to consider behavior in terms of that which is least tolerable to them: "the child has behavior problems"; "the child has an uncooperative attitude"; or "the child is untidy." All of these considerations are in the realm of behavior modification, but they are too general. In order to modify the child's undesirable behavior one would have to define the actual components of the behavior more specifically. If a child learns more slowly than most, we focus our attention on the observable events of the situation. We must ask what can he do? What can he not do? What do we want him to do? And, what educational planning is necessary to get him to the specific goal desired?

Behavior modification techniques stem from operant learning theory--a theory whose applications are easily taught and demon-strated, elegantly simple and striking in effect. The application of the theory through behavior modification techniques can be as simple or as complex as an individual wants it to be.

Behavior modification is a powerful tool. Used poorly or for purposes other than the betterment of the individual, it can do harm. The teacher who chooses not to use reinforcement principles systematically in his classroom or home does not cease to be a

shaper of behavior. It is well established that anyone who has contact with children and adults illustrates reinforcement principles every day. Our concern should be to use the most effective procedures already in existence. For example, if approval is a positive reinforcer for Jack and you say, "Boy, that book report was really good," when he turns in a book report, he will be more likely to turn in another good book report.

If nothing different happens, new and different behavior will not occur.

THE NEED FOR RELEVANT INFORMATION

Educators and other members of the helping profession have been greatly concerned about children, their handicaps, disabilities and limitations. If the helping professions continue to be only aware of and concerned about what children cannot do rather than what they can do, we are not likely to provide optimum learning conditions. The implications of these facts as expressed by a number of educators and psychologists are that we must develop a more skillful arrangement of the environment to produce learning of new behavior rather than continue to be preoccupied with children's disabilities or lack of behavior.

We have the skills and the instruments to describe the child's limitations, handicaps, and disabilities. It is often the case, however, that such a description provides us with little more than a rationalization for the child's low achievement. If we were to give an equal amount of attention to our methods of teaching we would accomplish more. In the last ten years significant changes have occurred; we have learned that teaching can be profitably examined as an interaction between teacher and pupil.

Children vary greatly in what they can do and what they can't do. No single category, no single description is adequate to explain a child's social and academic school problems. Most often the information that is gathered by our schools about a particular child includes a school history, family data, developmental profile, achievement record and a medical history. If we ask what the child does in a classroom situation that is descriptive of the child, we are very likely to hear that the child is "bright" or the child

is "slow," the child is well-dressed or poorly dressed; or, we may be provided with intelligence scores and some historical background. Unfortunately, we have failed to gather the behavioral data that are most relevant to the teaching situation. Teachers need pertinent data to organize, to design, and to plan better teaching. The idea is to provide the kind of information that is useful to the teacher to do teaching. The question we must ask ourselves is--what relevant information will provide the best basis for educational planning?

THEORETICAL CONCEPTS AND APPLICATION

What are behavior modification techniques? The task of modifying behavior or bringing about behavior change is accomplished by altering the consequences of behavior.

One technique is to determine the events which reinforce and arrange for them to occur when a desired behavior is approximated. Reinforcement theory holds that any behavior which results in reinforcement will be likely to recur.

You can determine a child's reinforcers by carefully observing his behavior. Usually you can find many reinforcers for every child. It is also possible to determine the most effective to the least effective of the reinforcers. In most cases you must specify accurately those reinforcers which have been determined by observation and/or inquiry.

There are two general types of reinforcement schedules used to modify behavior. The first is a <u>positive</u> <u>reinforcement</u> <u>schedule</u> characterized by such reinforcers as praise, attention, frowns, smiles, which are social reinforcers; and privileges, money, food, television also powerful reinforcers in our culture. Changes in behavior taught by positive reinforcement are relatively rapid and durable. The second type of reinforcement schedule is an <u>aversive</u> <u>schedule</u> <u>of</u> <u>reinforcement</u> characterized by reinforcers such as threats, physical punishment, confinement, ridicule, ostracism, withdrawal of rewards and privileges. This type of reinforcement modifies behavior but the modification will not be long lasting and has several undesirable side effects.

Psychologists have shown that behavior changes promoted on an aversive schedule tend to be relatively limited and temporary. There are many undesirable elements built into an aversive reinforcement schedule. The first is that the punisher can not predict the behavior of the child being punished. The second is the child will avoid the punishing situation: he may lie, run truant, or do a number of other things to avoid punishment. The third is that an aversive schedule will breed counter aggression and not teach the desired long-lasting behavior.

Two additional concepts are necessary in order to describe sound principles of behavior modification.

Shaping - is a term used to describe steps, or more technically, approximations to the desired behavior. In other words, when a desired behavior is specified and all the responses that approximate the desired behavior are positively reinforced and all other responses are not being reinforced the principle of shaping is being used. For example, when an otherwise capable child is getting grades of fours and fives in school work, one should not immediately ask for grades of one's. Instead, it is more advantageous to reinforce the child for the four grades and all the behaviors necessary for academic success such as attending class, opening book, completing some homework assignments, etc. Once all grades of fours are attained the reinforcing criteria should be toward grades of three, then two's then one's.

The shaping concept is applicable to numerous situations. The process is the same for discrepant social behaviors. For example, a child who fights frequently should initially be reinforced when he does not fight. The child's schedule of

reinforcement for not fighting should be gradually reduced to the point where he is being reinforced for going a full day without fighting, then two days, then three days and so on, until it is evident the child has now learned new ways of relating with other children.

In shaping desirable classroom behavior, we have two significant tasks before us. The one is decreasing the frequency of undesirable classroom behavior, and the second is increasing the frequency of desirable classroom behavior.

The best procedure for decreasing the frequency of undesirable behavior is to shape an incompatible desirable behavior which will inhibit the undesirable behavior. In shaping a desirable behavior, there are four major steps:

1. Securing the response you want so that it may be reinforced. Sometimes this is done by modelling or telling the child what is desired. Sometimes it is done by waiting for the desired response to occur and;

2. Gradual shaping the desired behavior. When data or the child's behavior indicates that he does not complete the desired terminal behavior, we work with small segments of the desired behavior as cited in the example above.

3. Providing a high ratio of reinforcement is necessary for initially shaping any new behavior. The new behavior should be reinforced each time it occurs. Once it is well established, we can decrease the ratio of reinforcement to;

4. Gradually decreasing the amount and rate of reinforcement to levels normally provided by the environment. At

this point the child should be receiving reinforcement from the written page of the book, his peers and the school. This allows for the continuation of the desirable behavior after the artificial reinforcement situation has ended.

Contingency - the concept of contingency is necessary to understand the principles of operant theory. Contingency means that the results of behavior are made dependent upon whether or not the desired behavior occurs. For example, the teacher who tells a student he may go to the library once he completes his assignment means that going to the library is contingent upon completing the assignment. It has been found that failure to understand the significant relationship of reward and punishment on contingency is detrimental to the learning process.

A CASE IN BEHAVIOR MODIFICATION

The following case from the Behavioral Research Project
supported by the Office of Juvenile Delinquency and
Youth Development Welfare Administration, Department of
Health, Education, and Welfare, Washington, D. C.
illustrates the actual application of learning theory
and reinforcement principles.

Mark is a seventh grade boy referred by the local juvenile
court for: (1) incorrigibility--refusing to do chores, dis-
obedient, defiant; (2) destructiveness--toys and family property
were often impulsively destroyed; (3) stealing--both at school and
at home; and (4) poor peer relations--he has few friends and fre-
quently fights with his siblings. He lives with his natural parents
and two younger sisters.

The case is particularly interesting because of the great
difficulty the staff had in gaining parental cooperation. The
mother and father seemed to be people who derived little from
experience. The father handled all discipline problems with a
combination of extended lectures and punishment. His whippings
were commonly followed by some destructive act by Mark, but the
father still would not reduce his corporal punishment. The mother
was also prone to lecture Mark, as well as being quite vague and
inconsistent in her expectation of him. The destructive acts
around home were serious enough to require immediate attention.
Money, praise (especially from father) and a new bicycle were found
to be highly reinforcing to Mark. His allowance had been placed

entirely contingent on report card grades at school, which meant long periods of nonreinforcement.

The parents were persuaded to reinstate the allowance contingent on daily nondestructive behavior at home. If he did destroy or damage something, he would lose money for that day plus having to pay for repairs. In addition, Mark could earn points each day for the successful completion of chores at home, and these points would accumulate toward the purchase of a bicycle in about six months. Regular assignments were encouraged from school so that Mark could be rewarded for studying at least thirty minutes after school. When father would arrive home from work he praised Mark for studying. Should he study each day of the week father would "bonus" him with extra allowance or special weekend outings together. Father was to ignore Mark on any day that he did not study. The parents kept daily records on these behaviors, which were collected every other week.

At the end of seven weeks Mark had not committed a single destructive act, there had been no reports of stealing, he rarely missed completing a day of his chores, and he was studying at least one-half hour six nights a week. The parents were pleased but informed the Project that Mark didn't need to be praised and rewarded for appropriate acts--this was just "bribery." It was so alien to the nature of these parent to use rewards to shape behavior that they were seriously considering droping the plan inspite of its considerable success. Fortunately, report cards came out at this time and Mark showed improvement in both academic and behavior grades. Therefore, it was possible to persuade them to continue.

A disaster did occur several weeks later, though. Mark broke his eyeglasses. This prevented any studying for a week, but worse still it precipitated an infuriated reaction in his father because of the expense. Mark was castigated and the bicycle point-chart was indefinitely suspended.

Some six weeks passed before any consistent plan of action wa reinstated. School work, intermittently reinforced with father's praise, was maintained at its prior high level. Two minor acts of destructiveness occurred at home (he broke some bathroom tile and a toy) and he exhibited some defiant behaviors towards his mother. Completion of chores began dropping again, and probably was most responsible for the parents again accepting the suggestion to make a chart for the chores and reward completion of them. The "back-up" (reward) would be interaction with father plus his praise. Earning money and the bicycle were still not allowed by the parents.

About five weeks were spent in keeping a daily chart on Mark's completion of chores. He would place a star on the chart and them the parents would praise him. The frequency of chore completion soon rose to 100 percent and this so pleased the father he decided to reinstate the bicycle point-chart. Completion of chores and obedient behaviors would then earn points, and when an arbitrary total was accumulated he would get a new bicycle. Mark got the new bicycle in thirty-four days. In this period he had 170 individual behaviors that could earn points, and he was reinforced on 168 of them.

The parents are fully persuaded as to the importance of making rewards contingent, and the efficacy of shaping behavior with positive reinforcement. No daily charts are now kept on Mark and a six week follow-up shows no return to previous misbehaviors. Originally, he had earned two 4's and a 5 in eight subjects on the mid-term report card. His final report card had no mark below a 3.

GLOSSARY OF TERMS

CONTINGENCY - The conditional relationship between a behavior and some following event. The event does not occur unless the behavior occurs. A reward or punishment may be contingent on a behavior which occurs.

OPERANT LEARNING THEORY - B. F. Skinner's version of learning theory which puts emphasis on the effects of the enviornment on behavior, especially the consequences of behavior (rewards and punishments). Sometimes referred to as learning theory, reinforcement theory, behavioral theory, Skinnerian theory.

REINFORCEMENT - An event which occurs after a behavior and which affects the occurance of that behavior. Rewards are reinforcers which strengthen behavior. They provide reinforcement.

REINFORCEMENT SCHEDULE - The characteristic relationship between behavior and its consequences. Punished behavior is thought of as an aversive schedule. Rewarding behavior is a positive schedule of reinforcement.

REINFORCEMENT/SOCIAL - Reinforcers characterized by words, smiles, frowns, attention and looks.

SHAPING BEHAVIOR - Reinforcing bits of behavior toward that which is ultimately desired. Also known as the method of successive approximations.

THINNING THE SCHEDULE - Reducing the amount and rate of reinforcement. Decreasing the number of reinforced responses. To reinforce a behavior every third occurance rather than every one and so on down the line until no extra special reinforcement if given.

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