Preface

The purpose of this instructor’s manual is to provide instructor’s who are using Alberto and Troutman’s *Applied Behavior Analysis for Teachers, 9th Edition* supplementary activities and resources for their lectures and assignments. Each of the chapters in this manual corresponds with the chapters in the text. Each chapter in this manual contains the following:

- **Chapter objectives**: Contains instructional objectives pertaining to the chapter. These objectives may be used in the development of a course syllabus.

- **Chapter summary and outline**: Contains a brief summary of the text chapter and a basic content outline

- **In-class activities**: These are suggested activities to include in class lectures. Corresponding slides and/or materials are also identified for their use in class.

- **Homework assignments**: Each chapter contains suggestions for corresponding homework assignments for students that supplement chapter content and lecture information. These assignments are designed as a supplement to class readings and lectures.

- **Videos, Internet resources, Additional resources**: These are teacher and/or student resources that provide additional information or practice using concepts presented in the text.

- **PowerPoint Slides**: PowerPoint slides are provided that highlight major concepts provided in each chapter.

- **Handouts**: Chapters also contain corresponding handouts that may be used for student homework assignments or review.

- **Test Questions**: Finally, each chapter in this manual concludes with a bank of test questions that may be used for assessing student learning. Corresponding answers for each test may be found at the end of this manual.
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Chapter 1
Roots of Applied Behavior Analysis

Chapter Objectives

After reading this chapter, students will have an understanding of:
1. The criteria required for identifying explanations of behavior that are useful and meaningful
2. The historical development of applied behavior analysis
3. The contributions of physicians, psychiatrists, scientists, and psychologists in the study of human behavior
4. The impact different interpretations of human behavior have influenced practitioners and teachers

Chapter Summary and Outline

This chapter discusses the requirements for meaningful and useful explanations of human behavior. It then describes several interpretations of human behavior that have influenced large numbers of practitioners, including teachers. The discussion includes tracing the historical development of a way of understanding and predicting human behavior called applied behavior analysis. The chapter concludes by providing several examples of applied behavior analysis in action.

I. The Usefulness of Explanations
   - Why are explanations for behavior important?
   - What requirements must be met in order to make an explanation useful?
     - Inclusiveness
     - Verifiability
     - Predictive Utility
     - Parsimony

II. Biophysical and Biochemical Explanations
   - How have theorists searched for explanations for human behavior within the physical structure of the body?
     - Biophysical Explanations (Genetic and Hereditary Effects)
     - Biochemical Explanations (Brain Damage)
   - Usefulness of Biophysical and Biochemical Explanations

III. Developmental Explanations
   - What theories attempt to explain behavior based on fixed, innate developmental sequences?
     - Psychoanalytic Theory
     - A Stage Theory of Cognitive Development
   - The Usefulness of Developmental Theories

IV. Cognitive Explanation
   - What theory attempts to explain behavior based on people’s perception of reality?
     - Gestalt Psychology
   - The Usefulness of Cognitive Theory

V. Behavioral Explanation
   - What principles does the behaviorist apply to explain the development of both typical and atypical human behavior?
     - Positive Reinforcement
     - Negative Reinforcement
     - Punishment
     - Extinction
• Antecedent Control
• Other Learning Principles
  ➢ The Task of the Behaviorist
  ➢ The Usefulness of the Behavioral Explanation

VI. Historical Development of Behaviorism
  ➢ Where did behaviorism originate?
  ➢ Historical Precedents
  ➢ Psychological Antecedents
    1. Respondent Conditioning
       • Ivan Pavlov
    2. Associationism
       • Edward Thorndike
    3. Behaviorism
       • John Watson
    4. Operant Conditioning
       • B.F. Skinner

VII. Summary

VIII. Discussion Questions

In Class Activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>Resource</th>
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<tbody>
<tr>
<td>Provide an overview of the chapter.</td>
<td>Slide 1.2: Overview of Chapter 1</td>
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<tr>
<td>Define the terms inclusive, verifiable, predictive utility, and parsimony.</td>
<td>Slide 1.3: Usefulness Criteria</td>
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<tr>
<td>Provide an overview of the biophysical explanation of human behavior; introduce dominant and recessive genetic inheritance.</td>
<td>Slide 1.4: Biophysical and Biochemical Explanation of Human Behavior</td>
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<td>Describe how dominant genetic traits are passed from parents to their child.</td>
<td>Slide 1.5: Dominant Genetic Inheritance</td>
</tr>
<tr>
<td>Describe how recessive genetic traits are passed from parents to their child.</td>
<td>Slide 1.6: Recessive Genetic Inheritance</td>
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<td>Provide an overview of biochemical explanation of human behavior.</td>
<td>Slide 1.7: Biophysical and Biochemical Explanation of Human Behavior</td>
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<td>Discuss the usefulness of the biophysical and biochemical explanation of human behavior using the criteria inclusiveness, verifiability, predictive utility, and parsimony.</td>
<td>Slide 1.8: Usefulness of Biophysical and Biochemical Explanation of Human Behavior</td>
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<td>Introduce the second explanation of human behavior, developmental explanation. Briefly discuss the two developmental theories that address human behavior.</td>
<td>Slide 1.9: Developmental Explanation of Human Behavior</td>
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<tr>
<td>Describe Jean Piaget’s Stage Theory of Cognitive Development. Define assimilation, accommodation, and equilibration.</td>
<td>Slide 1.9: Developmental Explanation of Human Behavior</td>
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<td>Activity</td>
<td>Resource</td>
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<tr>
<td>Compare and contrast the Psychoanalytic Theory and Stage Theory of Cognitive Development.</td>
<td>Slide 1.10: A Comparison of Freudian and Piagetian Theories</td>
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<td><strong>Handout 1.1:</strong> A Comparison of Freudian and Piagetian Theories</td>
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<td>Discuss the usefulness of the developmental explanation of human behavior using the criteria of inclusiveness, verifiability, predictive utility, and parsimony.</td>
<td>Slide 1.11: Usefulness of Developmental Explanation of Human Behavior</td>
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<tr>
<td>Define how Gestalt psychology has influenced education. Ask students to summarize what useful information they may gain from cognitive information about their students.</td>
<td>Slide 1.12: Cognitive Explanation of Human Behavior</td>
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<tr>
<td>Discuss the usefulness of the cognitive explanation of human behavior using the criteria of inclusiveness, verifiability, predictive utility, and parsimony.</td>
<td>Slide 1.13: Usefulness of Cognitive Explanation of Human Behavior</td>
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<td>Identify the fourth explanation of human behavior, the behavioral explanation. Discuss the focus of a behavioral explanation of human behavior.</td>
<td>Slide 1.14: Behavioral Explanations of Human Behavior:</td>
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<td>Discuss and define the following important concepts in the behavioral explanation: positive reinforcement, negative reinforcement, punishment, extinction, antecedent control, stimulus control, setting events, modeling, and shaping.</td>
<td>Slide 1.15 to 1.16: Important Concepts of Behavioral Explanation</td>
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<td>Discuss the usefulness of the behavioral explanation of human behavior using the criteria of inclusiveness, verifiability, predictive utility, and parsimony.</td>
<td>Slide 1.17: Usefulness of Behavioral Explanation of Human Behavior</td>
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<td>Review the 4 theoretical explanations of human behavior using the criteria of inclusiveness, verifiability, predictive utility, and parsimony.</td>
<td>Slide 1.18: Usefulness of Explanations of Human Behavior</td>
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<td><strong>Handout 1.2:</strong> Usefulness of Explanations of Human Behavior</td>
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<td>Discuss the historical development of behaviorism from respondent conditioning through to operant conditioning.</td>
<td>Slide 1.19 to 1.20: Historical Development of Behaviorism</td>
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<td>• His Own Best Subject: A Visit to B.F. Skinner’s Basement. VHS. San Luis Obispo, CA: Davidson Films Inc. 20 min.</td>
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<td>Define the term applied behavior analysis.</td>
<td>Slide 1.21: Applied Behavior Analysis</td>
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<td>Discuss the 7 characteristics of research that is classified as applied behavior analysis by Baer, Wolf, &amp; Risely (1968).</td>
<td>Slide 1.22: 7 Characteristics of Research to Qualify as Applied Behavior Analysis</td>
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Homework Assignments

- Have students observe a young child and identify the developmental stage at which the observed child is functioning according to Freud and Piaget.
- Write a 1-2 paragraph example and explanation of the following sentence: “Learning occurs as a result of the consequences of behavior.”
- Have students research instructional strategies teachers use to establish stimulus control. Strategies include: antecedent cues, picture prompts, and auditory prompts.
- Have students review a study found in the *Journal of Applied Behavior Analysis*. Ask students to identify the behavior targeted for change, the intervention used by the investigator(s), and whether a functional relation between the two was established. Have students present their findings in class.

Video Resources


Additional Text Resources


## A Comparison of Freudian and Piagetian Theories

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<th>Freud’s Psychoanalytic Theory</th>
<th>Piaget’s Theory of Cognitive Development</th>
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<td><strong>AGE</strong></td>
<td><strong>STAGE</strong></td>
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<td>Birth to 2 years</td>
<td>Oral Stage: Gratification centered around the mouth</td>
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<td>2 to 4 years</td>
<td>Anal Stage: Child derives gratification from withholding and controlling feces. This corresponds with toilet training.</td>
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<td>4 to 6 years</td>
<td>Phallic Stage: Gratification centers around genitalia. Child becomes attached to parent of the opposite sex and develops hostility to parent of the same sex.</td>
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<td>6 years to puberty</td>
<td>Latency Stage: Child identifies with the parent of the same sex and play primarily with other children of the same sex in sex-stereotyped activities</td>
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<td>Puberty</td>
<td>Genital Stage: Child becomes interested in members of the opposite sex.</td>
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Usefulness of Explanations of Human Behavior

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<th>Predictive Utility</th>
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<td>Fair</td>
<td>Poor</td>
<td>Poor</td>
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<tr>
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<td>Good</td>
<td>Poor</td>
<td>Fair</td>
<td>Poor</td>
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<tr>
<td>Cognitive</td>
<td>Good</td>
<td>Poor</td>
<td>Poor</td>
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<tr>
<td>Behavioral</td>
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<td>Good</td>
<td>Good</td>
<td>Good</td>
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Chapter 1 Test Questions
Roots of Applied Behavior Analysis

True-False Questions

1-1. Developmental theories verify and prove that inappropriate and maladaptive behavior can be explained by a failure to reach or pass a particular stage.

1-2. Certain genetic characteristics may increase the probability of certain behavioral characteristics.

1-3. According to the psychoanalytic theory, most people fixate at a certain stage thus becoming overeaters, smokers, verbally abusive and/or anal-retentive.

1-4. Gestalt psychology's emphasizes humans imposing structure on their environment and seeing relationships rather than individual objects or events as separate entities.

1-5. John Watson first distinguished operant from respondent conditioning.

1-6. A parsimonious explanation of behavior includes explanations distant from observed behavior and its relationship to the environment.

1-7. The Gestalt psychology cognitive explanation for behavior meets the criterion of inclusiveness, predictive utility, and parsimony for explaining behavior.

1-8. Biophysical explanations of behavior include theories based on genetic or hereditary factors.

1-9. Freud’s Psychoanalytic Theory provides a strong cognitive explanation of behavior.

1-10. Developmental theories are difficult to verify and prove that the causes of behavior may be attributed to passage through a certain developmental stage.

1-11. Gestalt psychology emphasizes that learning is a process of imposing structure on perceived information.

1-12. Reflexive behaviors that are not under voluntary control are associated with operant conditioning.

1-13. Behaviors that are voluntary in nature rather than reflexive are usually associated with operant conditioning.

1-14. Applied behavior analysis may be defined as the process of applying behavioral principles to improve behaviors while simultaneously evaluating whether noted changes may be attributed to the application of those principles.

Multiple Choice Questions

1-15. In explaining behavior, a useful theory must be:
   a. inclusive and justifiable
   b. inclusive, verifiable, and justifiable
   c. verifiable, exclusive, and predictable
   d. inclusive, verifiable, have predictive utility, and be parsimonious

1-16. Information concerning a child's brain damage:
   a. can be useful in the teacher's selection of behavior management techniques
   b. helps teachers determine who should be in school and who should not
   c. can cause teachers to have low expectations of students and give them excuses not to teach
   d. none of the above
1-17. A genuine scientific explanation must:
   a. be inclusive of all behaviors
   b. predict one behavior to the exclusion of all other behaviors
   c. a and b
   d. none of the above

1-18. A relationship among events in which the rate of a behavior’s occurrence increases when some environmental condition is removed is:
   a. differential reinforcement
   b. reinforcement
   c. positive reinforcement
   d. negative reinforcement

1-19. To the behaviorist, punishment occurs only when:
   a. the preceding behavior decreases
   b. the preceding behavior increases
   c. both a and b
   d. neither a or b

1-20. The focus of the behavioral approach is:
   a. observing and predicting
   b. facilitating behavior change
   c. recording and verifying aberrant behaviors
   d. all of the above

1-21. Pairing stimuli so that an unconditioned stimulus elicits a response is known as all of the following EXCEPT:
   a. Pavlovian
   b. classical
   c. respondent conditioning
   d. shaping

1-22. “Jack can’t learn because he has Down syndrome” is an example of what explanation of behavior?
   a. biophysical explanation
   b. developmental explanation
   c. cognitive explanation
   d. behavioral explanation

1-23. An antecedent stimulus is:
   a. an event occurring before the behavior is performed
   b. an event occurring after the behavior is performed
   c. a and b
   d. none of the above

1-24. To qualify as a behavior, something must be:
   a. observable
   b. quantifiable
   c. a and b
   d. none of the above

1-25. Behaviorists are LEAST concerned with the following:
   a. functional relation
   b. observable behaviors
   c. present events
   d. past events
1-26. For an explanation of behavior to be “verifiable” it must
   a. account for a substantial quantity of behavior
   b. provide reliable answers about what people are likely to do under certain circumstances
   c. provide the simplest explanation
   d. be testable

1-27. Operant conditioning deals with _________ behaviors.
   a. emotional
   b. trained
   c. reflexive
   d. voluntary

1-28. When a previously reinforced behavior is no longer reinforced and its rate of occurrence decreases, what behavioral principle is being used?
   a. Punishment
   b. Positive Reinforcement
   c. Positive Punishment
   d. Extinction

1-29. When a student is given a pleasant consequence to a behavior and it results in an increase in the behavior’s rate of occurrence, what behavioral principle is being used?
   a. Negative Reinforcement
   b. Positive Reinforcement
   c. Punishment
   d. Stimulus control

1-30. An event is described as _________ if the rate of occurrence of a preceding behavior decreases.
   a. Negative Reinforcement
   b. Positive Reinforcement
   c. Shaping
   d. Punishment

1-31. What is known as a “demonstration of behavior”?
   a. Modeling
   b. Shaping
   c. Positive Reinforcement
   d. Operant Conditioning

1-32. The behavior principle that describes a relationship between behavior and an antecedent stimulus rather than behavior and its consequences are known as:
   a. Stimulus control
   b. Respondent conditioning
   c. The Law of Effect
   d. Principle of Parsimony

1-33. For an explanation of behavior to have predictive utility it must
   a. account for a substantial quantity of behavior
   b. be testable
   c. provide the simplest explanation
   d. provide reliable answers about what people are likely to do under certain circumstances

1-34. The Law of Effect is associated with what behavioral principle?
   a. Reinforcement
   b. Extinction
   c. Punishment
   d. Antecedent prompting
1-35. For an explanation of behavior to be parsimonious, it must
a. account for a substantial quantity of behavior
b. be testable
c. provide the simplest explanation
d. provide reliable answers about what people are likely to do under certain circumstances

1-36. Who is associated or responsible for the use of the term “behaviorism?”
a. Skinner
b. Watson
c. Darwin
d. Pavlov

1-37. _______ conditioning deals with behaviors that are voluntary rather than reflexive.
a. Operant
b. Respondent
c. Reflexive
d. Overactive

1-38. What is the major purpose of applied behavior analysis?
a. to provide a process of systematically applying specific principles to facilitate behavior change
b. to provide a systematic means of determining whether changes in behavior may be attributed to the application of behavioral principles.
c. none of the above
d. both a and b

1-39. Which of the following is NOT one of the criteria set forth by Baer, Wolf, and Risley (1968) as the qualifications for research to be considered applied behavior analysis:
a. the behavior must be socially important
b. the behavior must be objectively defined
c. a functional relation must be demonstrated
d. must be an aberrant behavior

1-40. Which of the following influenced the behaviorist movement?
a. cognitivism
b. functionalism
c. constructivism
d. none of the above

1-41. John was scheduled to take a spelling test each Friday. His mother told him if he received 90% correct or better for three out of four spelling test he would get to buy a new video game. His mother was employing which of the following behavioral techniques?
a. punishment
b. negative reinforcement
c. shaping
d. positive reinforcement

1-42. Which of the following is attributed with the Stage Theory of Development?
a. Jean Piaget
b. Sigman Freud
c. Ivan Pavlov
d. B. F. Skinner
1-43. Ms. Sims was having difficulty getting Tia to sit during morning circle. She decided that she would reinforce Tia’s attempts to sit during circle time. She began by reinforcing Tia when she was standing next to her chair, then when she had one knee on her chair. She continued this process until Tia remained seated during morning circle time. Ms. Sims employed which of the following behavioral techniques?
   a. modeling
   b. shaping
   c. positive reinforcement
   d. negative reinforcement

1-44. Operant behaviors are ______ voluntarily, whereas respondent behaviors are ______ by stimuli.
   a. elicited, occasioned
   b. emitted, elicited
   c. occasioned, emitted
   d. none of the above

1-45. Circumstances which temporarily alter the power of a reinforcer are known as ________.
   a. models
   b. negative reinforcers
   c. setting events
   d. positive reinforcers

1-46. Theorists who explain human behavior based on physical influences employ which of the following explanations?
   a. cognitive
   b. biophysical
   c. cognitive
   d. behavioral

1-47. Which of the following theorists is credited with classical conditioning?
   a. B.F. Skinner
   b. Jean Piaget
   c. Ivan Pavlov
   d. none of the above

1-48. __________ is the process of using successive approximations to teach a new behavior or skill.
   a. stimulus control
   b. shaping
   c. modeling
   d. generalization

**Short Answer Questions**

1-49. What is meant by extinguishing a behavior?

1-50. List three qualifications research must have in order to be considered Applied Behavior Analysis.

1-51. What is meant by stimulus control?

1-52. Define and give an example of modeling.

**Essay**

*1-53. Discuss how Skinner’s distinguishing of operant from respondent conditioning impacted the study of applied behavior analysis.*

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*1-54. As a behaviorist working in a school of teachers who believe very strongly in developmental theory, how would you convince them that a behavioral approach may be more appropriate for some of their students?

*1-55. Based on the criteria set forth by the usefulness explanation of human behavior (inclusiveness, verifiability, predictive utility, and parsimony) compare and contrast behaviorism with one of the following proposed explanations of human behavior: biophysical, developmental, or cognitive.

*1-56. Define and differentiate between positive reinforcement, negative reinforcement, and punishment. Give an example of each.

*1-57. List and discuss the contributions put forth by three behaviorists and explain how their contributions furthered the field of behaviorism.

Test Answer Key

Chapter 1: Roots of Applied Behavior Analysis


Short Answer Questions
(Please note that these are just suggestions for key concepts that should be included in the responses.)

1-49. Extinguishing a behavior means to no longer provide reinforcement for a behavior that previously was reinforced and as a result the rate of the occurrence of the behavior is reduced.

1-50. Three qualifications for research to be considered Applied Behavior Analysis: (a) must change socially important behaviors, (b) must be observable and quantifiable behaviors, and (c) must provide evidence of a clear functional relation.

1-51. Stimulus control is the relation between an antecedent and a behavior which causes or occasions a behavior to occur.
1-52. Modeling is demonstration of a behavior. Example: A teacher walks a student through solving a math problem by completing each step of the problem solving process while talking through each step.

**Essay Questions**
(Please note that these are just suggestions for key concepts that should be included in the responses.)

1-53. Skinner’s discrimination between respondent and operant conditioning and effects of the field of Applied Behavior Analysis:
   - movement from examining reflexive behaviors (respondent conditioning) to voluntary behaviors (operant conditioning)
   - focus on establishment of functional relations between behaviors and consequences
   - Skinner’s focus on operant conditioning led to the establishment of early principles of human behavior and the use of these principles to change human behavior resulting in the focus on behavior modification
   - Application of behavior modification principles in real life settings led to the beginning of Applied Behavior Analysis

1-54. The developmental theory focuses on where a student may function within a developmental sequence, but does not provide any information for changing the behavior or moving the student through the developmental sequence. However, the behavioral theory focuses on using behavioral principles to change a behavior while establishing a functional relation.

1-55.
<table>
<thead>
<tr>
<th>Theoretical Explanation</th>
<th>Inclusiveness</th>
<th>Verifiability</th>
<th>Predictive Utility</th>
<th>Parsimony</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioral</td>
<td>(Fair) Focus on observable and quantifiable behaviors but also have examined more complex behaviors such as verbal language</td>
<td>(Good) Behaviorist suggests a theory and then attempt to verify the theory through experimental investigation.</td>
<td>(Good) Focus is on behavior change with clear explanation on the process for behavior change.</td>
<td>(Good) Behavior is described in terms of observable, verifiable, and functional relation.</td>
</tr>
<tr>
<td>Biophysical/Biochemical</td>
<td>(Poor) While some behaviors can be explained through this theoretical explanation, only a small part of human behavior can be explained through this approach.</td>
<td>(Fair) Some explanations verifiable (e.g., Down Syndrome can be verified by examining chromosomes).</td>
<td>(Poor) Evidence of a biophysical or biochemical disorder does not automatically mean a particular behavior will always be present.</td>
<td>(Poor) Not always parsimonious and may provide teachers with an excuse not to teach.</td>
</tr>
<tr>
<td>Developmental</td>
<td>(Good) Inclusive and explains human behavior.</td>
<td>(Poor) Although can verify certain behaviors at particular ages, does not prove a casual relationship.</td>
<td>(Fair) While predicting some behaviors, does not predict or explain all behaviors and does not provide information concerning conditions that predict an individual’s behavior in a specific circumstance.</td>
<td>(Poor) Not the most parsimonious explanation. The simplest explanation for an individual’s behavior is not always explained by referring to developmental stages.</td>
</tr>
<tr>
<td>Cognitive</td>
<td>(Good) Accounts for most of human behavior, including social and intellectual behaviors.</td>
<td>(Poor) All processes take place internally and provide no way to confirm existence.</td>
<td>(Poor) Limited predictive utility. For example, a constructivist viewpoint is that students construct their own learning which does not provide predictive utility for explaining human behavior.</td>
<td>(Poor) Neither intellectual nor social areas are explanations necessary to understanding or predicting behavior.</td>
</tr>
</tbody>
</table>
• Definition: A behavior when followed by a consequence increases the likelihood of the rate of occurrence of the behavior.

• Example: Zoe wants to gain her teacher’s attention. When she raises her hand her teacher walks over to Zoe and begins to engage her in conversation, the attention of the teacher upon Zoe raising her hand increases the likelihood that Zoe will raise her hand again to gain her teacher’s attention.

Negative reinforcement:

• Definition: A behavior when followed by the removal of an environmental condition or reduced intensity increases the likelihood of the rate of the occurrence of the behavior.

• Example: John’s mother is constantly nagging him to complete his homework when he gets home from school. John completes his homework and his mother’s nagging stops increasing in the likelihood that he will complete his homework when he gets home from school.

Punishment:

• Definition: A behavior when followed by a consequence reduces the likelihood of the rate of occurrence of the behavior.

• Example: Sara yells out in class. As a result of her yelling out during class, she is not allowed to eat lunch with her friends, which results in Sara not yelling out in class.

1-57. Three behaviorists and their contributions to the field:

• Ivan Pavlov
  o Respondent conditioning

• Edward Thorndike
  o Associations between situations and responses
  o The Law of Effect and Exercise

• John Watson
  o Coined phrase “behaviorism”
  o Focused on direct observation

• B.F. Skinner
  o Operant conditioning