Instructor's Manual with Tests and Practicum Exercises

for

Martin and Pear

Behavior Modification
What It Is and How to Do It

Ninth Edition

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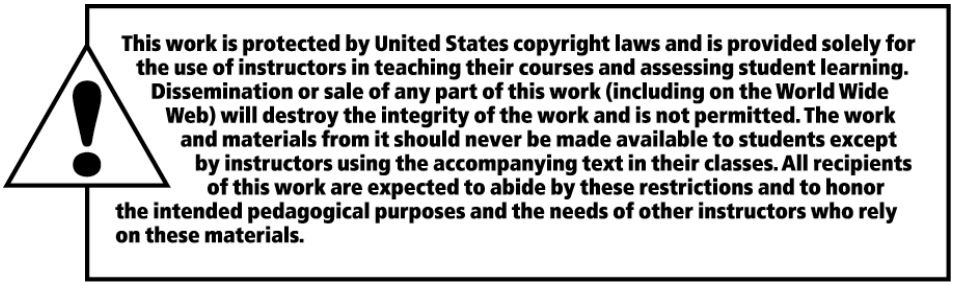

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PREFACE

Considering the extensive study aids already incorporated into the text, as well as our own experience in using the first eight editions of the text during the past 31 years, we believe that the most helpful additional material we can give an instructor is our detailed answer key to all of the study questions in the text, including the study questions on the Notes & Extended Discussion (N&ED) sections. Having such an answer key available can be a tremendous time-saver for instructors and can greatly facilitate accurate and consistent grading by teaching assistants. This manual, therefore, contains answers to all of the study questions. The form of the suggested answers varies somewhat according to the type of question asked.

As mentioned in the Preface to the text itself, the N&ED sections contain information that might be used by instructors as springboards for lecture material. Our suggested answers to the study questions on the N&ED sections, besides being helpful to course graders, may also prove useful to instructors when elaborating or expanding on the material in the N&ED sections.

For instructors who wish to use option-based questions, a pool of multiple-choice and true/false questions has been provided on a chapter-by-chapter basis. The multiple-choice and true/false questions were chosen so as to be closely related to the material contained in the answers to the study questions. This was a deliberate tactic so that students who master the textual material by learning answers to the study questions will perform well on the multiple-choice and true/false questions. These questions were prepared by Nickie Martin, Brunata Smyk, Nicole Duy, and Garry Martin.

Included in the Instructor's Manual are fifteen in-class practica or mini-lab exercises that have been developed and field tested. Each exercise is designed to be completed by a group of two or three students during a regularly scheduled class. After students have studied and been examined on relevant chapters, completion of a practicum helps them learn to talk about and apply behavior modification principles. Feedback from students indicates that the exercises constitute an excellent teaching tool.

Also in this edition of the Instructor's Resource Manual is a section on the Thinking Levels required by the Study Questions in the text. The information in this section is based on research carried out by Joseph Pear using the Study Questions in a Computer-Aided Personalized System of Instruction approach (see www.capsi.org). As mentioned in this section, there are a number of uses instructors can make of this information.

Garry Martin and Joseph Pear

Part I

Thinking Levels

THINKING LEVELS

BLOOM'S TAXONOMY: A MODIFIED FORM

One goal of education is to teach students to think at higher levels. However, this has always been a problem. One of the difficulties that instructors encounter is operationally defining higher-level thinking. In the 1950s a tremendous step was made by Benjamin S. Bloom, who identified six major levels of questions: knowledge, comprehension, application, analysis, synthesis, and evaluation. Joseph Pear and his students applied a modified form of Bloom's taxonomy to the study questions in *Behavior Modification: What It Is and How to Do It* (see www.capsi.org). In this section, we provide the levels at which the study questions in the text are rated. These ratings have good inter-rater reliability. The definitions of the levels are shown in Table 1.

Table 1. Modified Definitions of the Major Categories in Bloom's Taxonomy (Adapted from Crone-Todd, Pear, J.J., & Read, C. N. Operational definitions for higher-order thinking objectives at the post-secondary level. *Academic Exchange Quarterly, 4,* 99-106.)

Levels 1 and 2	
The answers to these types of questions will always be found in the assigned material.	
1. Knowledge	Answers may be memorized or closely paraphrased from the assigned material.
2. Comprehension	Answers must be in the student's own words, while still using terminology appropriate to the assigned material.
Levels 3, 4, 5, and 6	
These questions go beyond the textual material in that they must be inferred or extrapolated from the information in the assigned material.	
3. Application	May require recognition, identification, or application of a concept or principle learned at Category II in a new situation or solve a new problem. Questions in this category may present or require examples not found in the assigned material.

K=Knowledge; C=Comprehension; App=Application; A=Analysis; S=Synthesis; E=Evaluation

4. Analysis	Requires breaking down concepts into their constituent parts, or the identification or explanation of the essential components of concepts, principles, or processes. Questions in this category may require the student to compare and contrast concepts or explain how an example illustrates a given concept, principle, etc.
5. Synthesis	Requires the putting together of parts to form a whole. Questions may require the generation of definitions not identified in the assigned material (i.e., going from specific to general), or to explain how to combine principles or concepts in a novel way or to produce something new.
6. Evaluation	Requires the presentation and evaluation of reasons for and against a particular position, and to come to a conclusion regarding the validity of that position. The most important part of the answer is the justification or rationale for the conclusion, rather than the answer *per se*. A good discussion in this category involves the use of all preceding levels.

USES OF THE TAXONOMY

The following are some of the uses that instructors may make of the question levels given below.

- To generate higher-order thinking in students.
- To ensure a balanced distribution of thinking levels on tests.
- To equate alternate forms of a test with regard to thinking levels required.
- To ensure that the first questions on a test are at the lowest thinking level, since the higher levels tend to be more difficult for most students.
- To ensure that earlier tests in a course have a higher proportion of lower level questions than later tests.
- To test for particular types of competencies (e.g. one would give predominantly knowledge and comprehension level questions if the primary goal is to develop knowledge of what behavior modification is as opposed to how to apply it).
- To construct tests that are appropriate for the level of the course being taught (e.g. more advanced courses should have more higher-level questions than less advanced courses).
- To provide a basis for awarding bonus points.
- To provide scales for individuals conducting research in the area of higher-order thinking.

K=Knowledge; C=Comprehension; App=Application; A=Analysis; S=Synthesis; E=Evaluation

THINKING LEVELS OF STUDY QUESTIONS IN THE TEXT

CH	QU #	Thinking Level	CH	QU #	Thinking Level	CH	QU #	Thinking Level
1 MAIN TEXT	1	C; K	2 MAIN TEXT (CONT.)	4	K; K; C	3 MAIN TEXT (CONT.)	8	Ap; Ap
	2	C; Ap		5	C; K		9	C
	3	C; Ap		6	K		10	Ap; Ap
	4	K; C		7	C		11	C; C
	5	K; C		8	K		12	An
	6	C; C		9	K		13	Ap; Ap
	7	K; C		10	K		14	Ap
	8	K; Ap		11	C		15	E
	9	K; Ap		12	K		16	K; C
	10	C		13	K		17	K; C
	11	K; Ap		14	C		18	K; An
	12	K; A		15	K		19	K; E
	13	C		16	K		20	An; E
	14	K; Ap; C		17	K		21	An
	15	K		18	K		22	Ap; E
	16	K		19	K		23	Ap
	17	K		20	K; An		24	Ap
	18	An		21	K		25	K; K; C
	19	K		22	C; C		26	C; C; C
	20	K	2 N&ED	1	K; E		27/25	An
	21	K		2	C		28/27	An; E
1 N&ED	1	K; C		3	K; E		29/28	C
	2	C	3 MAIN TEXT	1	C: C		30/29	K; C
	3	C		2	C		31/30	C
	4	K; K		3	C		32/31	C; An
	5	K; C		4	K		33/32	Ap
2 MAIN TEXT	1	K		5	K		34/33	K; C
	2	K		6	K; Ap		35/34	C
	3	K		7	C	3 N&ED	1	C

K=Knowledge; C=Comprehension; App=Application; A=Analysis; S=Synthesis; E=Evaluation

CH	QU #	Thinking Level	CH	QU #	Thinking Level	CH	QU #	Thinking Level
3 N&ED (CONT.)	2	C	5 MAIN TEXT (CONT.)	10	C	6 MAIN TEXT (CONT.)	15	K
	3	C; C		11	Ap; E;		16	C; C
4 MAIN TEXT	1	C; C		12	K; C		17	An; E
	2	C; C		13	K; C		18	K
	3	C; An		14	C		19	C
	4	K		15	C; C		20	C; Ap
	5	Ap; Ap; C		16	C; C		21	An; An
	6	K		17	C		22	C; Ap
	7	C		18	Ap; An		23	C
	8	Ap; E		19	C; Ap		24	C
	9	Ap; An		20	C; C; C		25	Ap
	10	C; Ap		21	C		26	C; Ap
	11	An; C	5 N&ED	1	An		27	Ap; E; Ap;
	12	Ap; E		2	K; C		28	C
	13	Ap; E		3	C; C		29	C
	14	K	6 MAIN TEXT	1	K; C		30	C; C
	15	C		2	K; C		31	Ap; E
	16	C; C		3	K; C		32	C; C
4 N&ED	1	Ap		4	C		33	C
	2	Ap; Ap		5	C; C		34	C; C
5 MAIN TEXT	1	K		6	C; C		35	C
	2	Ap; E		7	C; Ap; Ap		36	K
	3	Ap; E		8	C	6 N&ED	1	K; K
	4	Ap; E		9	K		2	C
	5	C		10	C; Ap; Ap		3	C
	6	An		11	An; An		4	C; E
	7	K		12	C		5	C
	8	An		13	C; Ap	7 MAIN TEXT	1	C
	9	Ap; Ap		14	C; C		2	C; C

K=Knowledge; C=Comprehension; App=Application; A=Analysis; S=Synthesis; E=Evaluation

CH	QU #	Thinking Level	CH	QU #	Thinking Level	CH	QU #	Thinking Level
7 MAIN TEXT (CONT.)	3	C; C	8 MAIN TEXT (CONT.)	14	C; C; C		13	C; C
	4	C; C		15	Ap; C; E		14	K; Ap
	5	An		16	C; C		14	K; Ap; Ap
	6	An		17	An		16	K; Ap; Ap
	7	Ap		18	C	9 MAIN TXT (CONT.)	17	C
	8	C; C		19	Ap; Ap; Ap	9 ED&N	1	Ap; E
	9	Ap		20	K		2	An
	10	K; C		21	C; Ap	10 MAIN TEXT	1	C; C
	11	C; C		22	C; Ap		2	C
	12	C		23	C		3	K
	13	An		24	An		4	An
	14	An		25	Ap; E		5	C
	15	C; C		26	C		6	Ap
	16	K	8 ED&N	1	Ap		7	C; C
7 N&ED	1	Ap		2	C		8	Ap; Ap
	2	Ap; E		3	K; C		9	An
8 MAIN TEXT	1	K; Ap		4	Ap		10	K; C
	2	K	9 MAIN TEXT	1	C; C		11	K; C
	3	K		2	C		12	C
	4	K; Ap		3	C		13	C
	5	C; C; Ap		4	C; C		14	C; C
	6	C; C; Ap		5	Ap		15	C; Ap
	7	An		6	Ap		16	K
	8	Ap		7	Ap		17	C
	9	Ap		8	Ap		18	Ap
	10	C; C		9	Ap		19	Ap
	11	C		10	C; C		20	An
	12	C; C		11	K; C	10 ED&N	1	C
	13	An		12	K; Ap		2	C

K=Knowledge; C=Comprehension; App=Application; A=Analysis; S=Synthesis; E=Evaluation

CH	QU #	Thinking Level	CH	QU #	Thinking Level	CH	QU #	Thinking Level
10 ED&N (CONT.)	3	C	12 MAIN TEXT (CONT.)	8	Ap; E	13 MAIN TEXT (CONT.)	7	K
	4	An		9	C; C		8	K
	5	C		10	C		9	An; An
11 MAIN TEXT	1	C		11	C		10	An
	2	C; Ap		12	C		11	An
	3	C		13	An		12	Ap
	4	An; An; E		14/15	C/E		13	C
	5	C		16	C		14	C
	6	C		17	Ap		15	C
	7	C		18	An; Ap		16	Ap
	8	Ap		19	An; Ap		17	Ap
	9	An; Ap		20	C	13 ED&N	1	C
	10	C		21	E; Ap		2	Ap; Ap
	11	An		22	C		3	C; Ap; Ap
	12	Ap; E		23	K; Ap	14 MAIN TEXT	1	C
	13	C; Ap		24	C; Ap; E		2	C; C
	14	C		25	C		3	C; C
	15	C		26	C		4	C; C
	16	An		27	C		5	C: Ap; K
	17	Ap; An		28	C		6	C; C
	18	Ap; Ap		29	E		7	C; C
11 ED&N	1	C		30	C		8	C
12 MAIN TEXT	1	C	12 ED&N	1	E		9	Ap
	2	Ap	13 MAIN TEXT	1	C; C		10	C; Ap
	3	K; C		2	An; An; An		11	C; Ap
	4	K		3	An; An		12	Ap
	5	C		4	Ap		13	C
	6	C; C		5	K; C		14	C
	7	C; C		6	C; C		15	C; C

K=Knowledge; C=Comprehension; App=Application; A=Analysis; S=Synthesis; E=Evaluation

CH	QU #	Thinking Level	CH	QU #	Thinking Level	CH	QU #	Thinking Level
14 MAIN TEXT (CONT.)	16	Ap	15 ED&N (CD)	2	C	17 MAIN TEXT (CONT.)	2	C
	17	C	16 MAIN TEXT	1	C; Ap		3	Ap
	18	C		2	An; Ap		4	Ap; Ap; Ap
	19	C		3	An; C		5	C; C
	20	Ap		4	An		6	C; C
	21	C; Ap		5	C; C		7	An
	22	C; C		6	C; C		8	Ap; Ap
	23	C		7	C		9	C
	24	C; Ap		8	C		10	C
	25	C; Ap		9	C; C		11	C
14 ED&N	1	C; C		10	An		12	C
	2	Ap		11	C; C		13	C
15 MAIN TEXT	1	Ap		12	C; E		14	An
	2	Ap		13	C; An; Ap		15	C; Ap; Ap
	3	C; Ap		14	C		16	An
	4	C; Ap		15	C; C		17	C
	5	C		16	C; C		18	C; Ap
	6	C		17	C; C		19	C
	7	Ap		18	C; C		20	C
	8	An		19	C; C		21	C
	9	C		20	C; C	17 ED&N	1	C
	10	C; C		21	C; C	18 MAIN TEXT	1	K; Ap
	11	Ap		22	C		2	C
	12	Ap		23	C		3	Ap; Ap
	13	C		24	C		4	C; C
	14	C	16 ED&N	1	Ap		5	S; An
	15	Ap		2	An		6	Ap; Ap; Ap
	16	C		3	Ap		7	C; C
15 ED&N	1	C	17 MT	1	C; Ap		8	C; An

CH	QU #	Thinking Level	CH	QU #	Thinking Level	CH	QU #	Thinking Level
18 MAIN TEXT (CONT.)	9	Ap; Ap	19 ED&N (CT.)	4	An; Ap	21 MAIN TEXT (CONT.)	4	C
	10	C; C	20 MAIN TEXT	1	K; Ap		5	Ap
	11	C; An		2	K		6	C
	12	C		3	K		7	C
	13	Ap;Ap;Ap;Ap		4	K		8	K
	14	Ap; Ap; Ap		5	K		9	C; Ap
	15	Ap; Ap		6	C		10	K; C
18 ED&N	1	C; An		7	C		11	K; C
	2	C; C		8	C		12	K
19 MAIN TEXT	1	C; C		9	An		13	C
	2	C; C		10	C		14	C
	3	C		11	C		15	K; Ap
	4	Ap		12	C		16	Ap
	5	C; Ap		13	C		17	K; Ap
	6	An		14	C		18	K
	7	C; Ap		15	C		19	C
	8	C; Ap		16	K; C		20	C
	9	E		17	K; C		21	K; C
	10	E		18	K; C		22	K; Ap
	11	E		19	C		23	C
	12	K; Ap		20	C		24	C
	13	K; Ap		21	An		25	Ap
	14	K; Ap		22	An		26	K; C
	15	Ap		23	An	21 ED&N	1	An
	16	Ap	20 ED&N	1	K		2	C; C
	17	Ap		2	An		3	C; C
19 ED&N	1	K	21 MAIN TEXT	1	K; Ap	22 MAIN TEXT	1	K; C
	2	C		2	K		2	C
	3	C; Ap; E		3	K; Ap		3	An

K=Knowledge; C=Comprehension; App=Application; A=Analysis; S=Synthesis; E=Evaluation

CH	QU #	Thinking Level	CH	QU #	Thinking Level	CH	QU #	Thinking Level
22 MAIN TEXT (CONT.)	4	K; C	23 MAIN TEXT (CONT.)	5	C	24 MAIN TEXT (CONT.)	15	K
	5	K; C		6	C		16	C
	6	C		7	Ap		17	C
	7	C		8	C		18	K
	8	C; K		9	C		19	C
	9	C		10	C; Ap		20	K
	10	Ap		11	C; C	24 ED&N	1	C
	11	C		12	C; C		2	C
	12	C		13	S	25 MAIN TEXT	1	K
	13	C; C		14	C; C		2	C
	14	C		15	Ap		3	C
	15	C		16	C		4	K
	16	C		17	C; C		5	K
	17	C		18	C		6	K
	18	C	23 ED&N	1	Ap		7	C
	19	C	24 MAIN TEXT	1	C		8	C
	20	C		2	C; C		9	K; C
	21	C		3	C		10	K
	22	C; K		4	Ap; E		11	K
	23	C		5	C		12	S
	24	An		6	C		13	K
	25	Ap		7	C		14	C
	26	C		8	C		15	C
	27	K; C		9	C		16	K
22 ED&N	1	C		10	C		17	K
23 MAIN TEXT	1	C		11	C		18	K
	2	C		12	C		19	C
	3	An		13	K		20	C
	4	Ap; Ap		14	K		21	C

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CH	QU #	Thinking Level	CH	QU #	Thinking Level	CH	QU #	Thinking Level
25 MT (CT.)	22	C	26 MAIN TEXT (CONT.)	25	C; C	27 MAIN TEXT (CONT.)	22	C
25 ED&N	1	C		26	C; C		23	C
	2	An		27	C; C		24	C
	3	Ap; E		28	C; C		25	C
	4	C		29	C		26	C
26 MAIN TEXT	1	C; E		30	E	27 ED&N	1	C
	2	C	26 ED&N	1	C; C		2	C
	3	C		2	C; C		3	C
	4	C	27 MAIN TEXT	1	C		4	C
	5	C		2	K		5	S
	6	C		3	C	28 MAIN TEXT	1	C
	7	C		4	C		2	C
	8	C		5	C		3	K
	9	Ap		6	C		4	K; K
	10	C		7	C; K		5	C
	11	C		8	C		6	C
	12	C		9	C; C		7	C
	13	C		10	C		8	An
	14	C		11	An		9	Ap
	15	C		12	E		10	Ap
	16	C		13	C		11	C; Ap
	17	C		14	C		12	K; C
	18	C; Ap		15	C		13	C
	19	C; Ap		16	C		14	An
	20	C; C		17	C		15	C
	21	C		18	C		16	C
	22	C		19	An		17	C
	23	E		20	S		18	C
	24	K		21	S		19	C

K=Knowledge; C=Comprehension; App=Application; A=Analysis; S=Synthesis; E=Evaluation

CH	QU #	Thinking Level
28 MAIN TEXT (CONT.)	20	C; S
	21	An; E
	22	An
	23	An
	24	C; K
	25	C
	26	C
	27	C
	28	C
28 ED&N	1	C
	2	C
	3	C; An; An
29 MAIN TEXT	1	C
	2	K
	3	C
	4	C
	5	K
	6	C
	7	C
	8	C
	9	C
	10	C
	11	C
	12	C
	13	C
	14	An
	15	K
	16	K
	17	C
29 MAIN TEXT (CONT.)	18	C; C
	19	C; K
	20	K; K
	21	C
	22	C
29 ED&N	1	C
	2	C
	3	K; K
	4	C
	5	K; C
	6	K; C
30 MAIN TEXT	1	C; Ap
	2	Ap
	3	C
	4	C
	5	C; Ap
	6	C
	7	C; C
	8	C
	9	C
	10	K
	11	C
	12	C; Ap
	13	E
	14	C
	15	C
	16	C
	17	C
	18	K
30 MAIN TEXT (CONT.)	19	C
	20	C
	21	K
	22	C
30 ED&N	1	C
	2	C
	3	C

K=Knowledge; C=Comprehension; App=Application; A=Analysis; S=Synthesis; E=Evaluation

Part II

Answers to Study Questions in the Text

CHAPTER 1
INTRODUCTION

Answers to Study Questions on Main Text

1. Generally, behavior is anything a person does or says. Technically, behavior is any muscular, glandular, or electrical activity of an organism. Synonyms include: activity, action, performance, responding, response, and reaction.

2. Behavior is anything that a person says or does. Products of behavior are the consequences produced by the behavior. For example, studying effectively and writing the correct answers to questions on an exam are behaviors. Getting an "A" is a product of those behaviors.

3. Overt behaviors are behaviors that could be observed and recorded by an individual other than the one performing the behavior. For example, walking and talking are overt behaviors. Covert behaviors are private or internal activities that cannot be readily observed by others. For example, thinking particular words to oneself or feeling nervous (increased heart rate, etc.) would be private behaviors.

4. Thinking in words (private self-talk) and imagining can also be referred to as cognitive behaviors. For example, a hockey player may think before stepping on the ice at a game, "I am going to play my best game yet" (private self-talk), or a teacher may tell the class to close their eyes and picture a beach (imagining).

5. Any two dimensions can be described. *Duration* of a behavior is how long it lasts. For example, measuring how long an individual can tread water in a swimming pool. *Frequency* of a behavior is the number of instances that occur in a given period of time. For example, a figure skater counting the number of times that she or he lands a new jump in a practice session. The *intensity* or *force* of a behavior refers to the physical effort or energy involved in emitting the behavior. For example, the force of a person's grip when shaking hands.

6. Although their meanings vary from speaker to speaker, they always refer to ways of behaving. An intelligent person, for example, solves problems quickly; a creative person frequently emits behaviors that are novel or unusual and have desirable effects.

7. (a) They may lead to pseudo explanations of behavior; (b) they can negatively affect the way a labeled individual might be treated; and (c) they may influence one to focus on an individual's problem behaviors rather than on his or her strengths.

8. Too little behavior of a particular type. For example, a child might not pronounce words clearly, nor interact with other children. Any other two appropriate examples are acceptable.

9. Too much behavior of a particular type. For example, a child frequently plays with the dials on the television set, and throws food on the floor at mealtime. Any other two appropriate examples are acceptable.

10. (a) To avoid the problems of using general labels to refer to individuals; (b) because it is behavior that causes concern and behavior that must be treated to alleviate the problems; and (c) specific procedures are available to overcome behavior problems.

11. Stimuli are the people, objects, and events currently present in one's immediate surroundings that impinge on one's sense receptors and that can affect behavior. Any appropriate examples are acceptable.

12. First, it places strong emphasis on defining problems in terms of behavior that can be measured in some way and accepting changes in the behavioral measure of the problem as the best indicator of the extent to which the problem is being helped. Second, its treatment procedures and techniques are ways of altering an individual's environment to help that individual function more fully in society. Third, its methods and rationales can be described precisely. Fourth, the techniques of behavior modification are often applied by individuals in everyday life. Fifth, its techniques stem from basic and applied research in the psychology of learning in general, and in the principles of operant and Pavlovian conditioning in particular. Sixth, it emphasizes scientific demonstration that a particular intervention was responsible for a particular behavior change. Seventh, it places high value on accountability for everyone involved in behavior modification programs: client, staff, administrators, consultants, etc.

13. Behavior modification involves the systematic application of learning principles and techniques to assess and improve individuals' covert and overt behaviors in order to enhance their daily functioning.

14. Target behavior is a behavior to be improved in a behavior modification program. A student might identify a target behavior of studying more. This would be a behavioral deficit that needs to be increased. Other appropriate examples are acceptable.

15. Behavioral assessment involves the collection and analysis of information and data in order to:

    (1) Identify and describe target behaviors;
    (2) Identify possible causes of the behavior;
    (3) Guide the selection of an appropriate behavioral treatment; and
    (4) Evaluate treatment outcome.

16. *Behavior analysis* is the scientific study of laws that govern the behavior of human beings and other animals. It is the science on which behavior modification is based.

17. The dimensions of applied behavior analysis include: (a) a focus on measurable behavior that is socially significant; (b) a strong emphasis on the learning principles frequently referred to as operant conditioning, to develop treatment strategies; (c) an attempt to clearly demonstrate that the treatment that was applied was responsible for the improvement in the behavior that was measured; and (d) a demonstration of generalizable and long-lasting improvements in behavior.

18. (a) Behavior modification uses the principles of both operant and Pavlovian conditioning, while applied behavior analysis relies largely on operant conditioning; (b) behavior modification encompasses both behavior therapy and cognitive behavior therapy, and therefore has acquired a broader meaning than applied behavior analysis.

19. *Behavior therapy* is behavior modification carried out on dysfunctional behavior.

20. Cognitive behavior therapy focuses on treating dysfunctional behavior by changing unproductive, debilitating thought patterns that were considered to be responsible for the dysfunctional behavior.

21. Any four of the following myths or misconceptions:

(a) Use of rewards by behavior modifiers to change behavior is bribery;
(b) Behavior modification involves the use of drugs, psychosurgery, and electroconvulsive therapy;
(c) Behavior modification only changes symptoms; it doesn't get at the underlying problems;
(d) Behavior modification is not applicable for changing complex problems such as low self-esteem or depression;
(e) Behavior modifiers are cold and unfeeling and don't develop empathy for their clients;
(f) Behavior modifiers deal only with observable behavior; they don't deal with thoughts and feelings of clients;
(g) Behavior modification is outdated.

Answer to Study Questions on N&ED Section

1. *DSM-IV-TR* stands for *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision*. It is a manual to help therapists to diagnosis or classify clients based on categories of problem behaviors observed.

2. First, it is based primarily on research. Second, individual disorders are based on categories of problem behaviors. Third, it uses a multidimensional recording system that provides extra information for planning treatment, managing a case, and predicting outcomes. Fourth, official *DSM-IV-TR* diagnoses are often required by clinics, hospitals, schools, and social service agencies before treatment can be offered. Fifth, health insurance companies reimburse practitioners on the basis of the diagnoses in the *DSM-IV-TR*.

3. A *DSM-IV-TR* diagnosis may lead to an individual being labeled (e.g., autistic), and labeling can lead to several disadvantages, such as the implication that all individuals with the same label are the same, even though they are not.

4. People-first language helps us to focus on the problem and to avoid labeling. For example, in the case of autism, we should describe the client as a child with autism rather than an autistic child.

5. No. Although John B. Watson overemphasized the importance of the environment for influencing behavior, Skinner and other modern-day behaviorists do not disregard the importance of genetics. Their appreciation of genetics was indicated by the publication of a mini-series on behavioral genetics in the journal *Behavior Therapy*. However, even though the influence of heredity may increase the susceptibility of an individual to certain behavioral problems such as obesity or alcoholism, an individual's environment still plays a major role in the development and maintenance of behaviors that lead to such problems.

CHAPTER 2
AREAS OF APPLICATION: AN OVERVIEW

Answers to Study Questions on Main Text

1. Any five of the following areas: education, parenting, child management, social work, nursing, clinical psychology, psychiatry, community psychology, medicine, rehabilitation medicine, gerontology, business, industry, and sports. Other areas might also be acceptable.

2. Any four of the following: learning to walk, learning to talk, toilet training, doing household chores, decreasing nail-biting, decreasing temper tantrums, decreasing aggressive behaviors, following rules, complying with parents' requests, and decreasing arguing. Other behaviors might also be acceptable.

3. Any four of the following: oral reading, reading comprehension, spelling, handwriting, mathematics, English composition, creativity, science concepts, out-of-seat behavior, tantruming, aggressive behavior, and excessive socializing. Other behaviors might also be acceptable.

4. PSI stands for Personalized System of Instruction. It was founded by Fred S. Keller. Its characteristics include: (a) identifies the target behaviors or learning requirements for a course in the form of study questions, such as the questions at the end of the chapters in this book; (b) requires students to study only a small amount of material before demonstrating mastery, such as the amount of material contained in a chapter or two and that might be studied in a week or two; (c) has frequent tests (such as once every week or two) in which students are required to demonstrate their knowledge of the answers to the study objectives; (d) has mastery criteria so that students must demonstrate mastery at a particular level before going on to the next level; (e) is nonpunitive, in that students are not penalized for failing to demonstrate mastery on a test but simply restudy and try again; (f) uses a number of student assistants (called proctors) to assist in immediately scoring tests and providing feedback to students concerning test performance; (g) incorporates a "go-at-your-own-pace" feature in which students are allowed to proceed through the course material at rates that suit their own particular abilities and time demands; and (h) use lectures primarily for motivation and demonstration, rather than as a major means of presenting new information.

5. Some instructors have used computers to automate PSI, thus making it more efficient. Moreover, some instructors have added electronic backup components, such as interactive video discs. In addition, telecommunications enable:
   (a) tests to be marked without having graders at the same location; and
   (b) students to take courses while living far away from the university.

6. Intellectual disability.

7. (a) Normalization advocates argued that developmentally disabled persons should be helped to lead the most normative lives possible, and that traditional institutionalization is simply not normative.
   (b) Civil rights advocates and parents of developmentally disabled persons successfully secured their legal right to receive an education.
   (c) Behavior modifiers developed a technology that made it possible to dramatically improve the behavior of severely and profoundly developmentally disabled persons.

8. Toileting, feeding, dressing, personal hygiene, social skills, communication skills, vocational skills, leisure time activities, and community survival behaviors. Other behaviors listed might also be acceptable.

9. Social behaviors, language skills, play behaviors, and (elimination of) self-stimulatory behaviors. Other behaviors listed might also be acceptable.

10. Social skills, communication skills, assertiveness, and job finding skills. Other behaviors listed might also be acceptable.

11. There are definite problem areas (e.g., phobias, obsessive-compulsive disorders, depression) in which specific behavioral procedures are superior to other forms of psychotherapy. There are also problem areas (e.g., eating disorders, phobias, etc.) for which behavior therapy is more effective than drug treatment. In some cases, however, the treatment of choice may be a combination of behavior therapy and drug treatment.

12. Speaking up in class, increasing exercise behavior, improving study habits, and eliminating tooth grinding. Other behaviors listed might also be acceptable.

13. Health psychology is the study of how psychological factors can influence or cause illness, and how people can be encouraged to practice healthy behavior in order to prevent health problems such as heart disease.

14. Areas of application of health psychology include: (a) direct treatment of medical problems such as headaches; (b) establishing treatment compliance such as taking medications as prescribed; (c) promoting healthy living such as eating well-balanced meals and getting adequate exercise; (d) improving the management of caregivers, such as the behavior of nurses and other medical personnel who provide services; and (e) teaching use of behavioral strategies for coping with stress.

15. Any four of the following: coping with loss of skills, functioning independently during old age, learning new routines because it's impossible to perform tasks in previously learned ways, overcoming anxiety or fear about possible failure to cope, learning new relationships with professional care staff, and decreasing disruptive behaviors in nursing homes. Other behaviors might also be acceptable.

16. Behavioral community psychology refers to applications to socially significant problems in unstructured community settings where the behavior of individuals is not considered deviant in the traditional sense.

17. (a) They include greater involvement of the target populations in all aspects of the intervention process.
(b) There is increased fostering of the target subjects' personal control (versus control by professionals).
(c) There is increased inclusion of subjective assessments when evaluating treatment outcomes.
(d) There is increased emphasis on antecedent behavior change procedures versus consequence management.
(e) There is greater interdisciplinary collaboration among professionals.

18. Littering, recycling, energy conservation and job skills training. Other behaviors listed might also be acceptable.

19. Organizational behavior management is the application of behavior modification techniques to individual or group performance within an organizational setting.

20. Improved productivity, decreased tardiness and absenteeism, increased sales volume, creation of new businesses, improved worker safety, reduced theft by employees, reduced shoplifting, and improved management-employee relations. Sales volume is an outcome. The other items could be considered as behaviors. Other behaviors listed might also be acceptable.

21. Improving skills of athletes, motivating practice and endurance training, changing the behavior of coaches, and helping athletes prepare for serious competition in sport.

22. Cultural characteristics can influence the effectiveness of treatment. It is helpful, for example, for therapists to know that many Asian-American clients prefer to be told specifically what to do by the therapist (as opposed to a more non-directive approach). On the other hand, with many Hispanic-American clients, compliance with goal-directed suggestions is likely to be more effective if they are preceded by a period of familiarizing small talk.

Answers to Study Questions on N&ED Section

1. (a) In a number of studies that have compared the conventional teaching approach to PSI, PSI has produced a statistically significant average learning advantage of 19 percentile points; and (b) students taking courses by PSI strongly praise the system.

2. Two important research needs in EIBI programs for children with autism are: (a) quality assessment systems to evaluate the effectiveness of specific components of EIBI interventions; and (b) the development of effective rapid training procedures for teaching parents and instructors to conduct discrete-trials teaching.

3. Behaviorism is the philosophy behind behavior modification. Wyatt and others argued that it is very much alive, based in part on the abundance of journals that are primarily behavioral in orientation.

CHAPTER 3
GETTING A BEHAVIOR TO OCCUR MORE OFTEN WITH POSITIVE REINFORCEMENT

Answers to Study Questions on Main Text

1. A baseline is a measure of behavior in the absence of a treatment program. For example, in Danny's case, his cooperative and commanding behaviors were assessed before Danny's mother was instructed to react to them differently than she had in the past. Other examples may be appropriate.

2. Behavior (or instances of cooperative behavior).

3. Time (or sessions, or sessions in 10-minute intervals).

4. A positive reinforcer is an event which, when presented immediately following a behavior, causes the behavior to increase in frequency.

5. This principle states that if, in a given situation, somebody does something that is immediately followed by a positive reinforcer, that person is more likely to do the same thing again when he or she next encounters a similar situation.

6. Operant behaviors are those that operate on the environment to generate consequences, and are in turn influenced by those consequences. For example, if a person walks into a dark room and emits the behavior of turning on a light switch, then the consequence of the light going on increases the likelihood that flipping the light switch will occur in a similar situation in the future. Flipping the light switch is therefore an operant behavior.

7. They are both laws of nature.

8. Students can describe any plausible example, such as the following:
   Situation: A student in class did not understand a part of a lecture of one of the authors.
   Response of student: Approached professor after class to request help.
   Immediate consequence: Professor smiled warmly, and said, "Of course! How can I help you?"
   Long-term effect: Student is more likely to approach professor (and perhaps other professors) for help in the future.

9. (a) To help increase the reliability of recording the behavior; and (b) to increase the likelihood that the reinforcement program will be applied consistently.

10. No. A positive reinforcer is an event that, when presented immediately following a behavior, causes the behavior to increase in frequency. In this example, the behavior of washing the dishes led to the removal of parental nagging. Stated differently, doing the dishes enabled the teenager to escape from the nagging. This is an example of escape conditioning (described in Chapter 14).

11. The PREMACK principle states that the opportunity to engage in a behavior that has a high probability of occurring can be used to reinforce a behavior that has a low probability of occurring. For example, a depressed student increased the frequency of positive self-statements by imagining a positive thought (a low probability behavior) just before each instance of urinating (the high probability behavior).

12. It means that, when an item is presented immediately following the behavior of an individual on a few trials, and the individual begins to emit that behavior more often, then the item is a reinforcer because it has caused the person's behavior to increase.

13. (a) Identify a behavior that occurs once in a while and record its occurrence without reinforcement over several trials; (b) then present a consequence immediately following the behavior over several trials; and (c) finally, compare the results of (a) and (b). If the behavior increases in frequency during the second phase relative to the first phase, then the consequence is a reinforcer. Any appropriate example is acceptable.

14. The same way that you test any stimulus to see if it is a reinforcer. That is, identify a behavior that a withdrawn child emits once in a while (e.g., glancing at an adult), and measure the frequency of this behavior during a period of time (e.g., a one-half hour period). Next, have the adult give attention to the child following each instance of the behavior that was measured (e.g., the adult should now attend to the child after each glance to an adult). If glances to adults increase, then the adult attention was a reinforcer.

15. Research indicates that the answer is no. Moreover, the notion that extrinsic reinforcers undermine intrinsic interest flies in the face of common sense. If extrinsic reinforcers undermine intrinsic motivation, for example, then those people who genuinely enjoy their jobs should be refused to be paid for fear that their paychecks will destroy their enjoyment of their work.

16. Behavior modifiers use the term *deprivation* to indicate the time during which an individual does not experience a reinforcer.

17. Behavior modifiers use the term *satiation* to refer to the condition in which an individual has experienced a reinforcer to such an extent that it is no longer reinforcing.

18. *Motivating operations (MOs)* are events or conditions that (a) temporarily alter the effectiveness of a reinforcer, and (b) increase the frequency of a behavior reinforced by that reinforcer. Two examples would be food deprivation and water deprivation.

19. Yes. Instructions may speed up the learning process for individuals who already understand them. Instructions may influence an individual to work for delayed reinforcement. Instructions may also teach the individual something about instruction-following.

20. Not necessarily. Bribery is defined as a reward or gift offered to induce one to commit an immoral or illegal act. Provided that the behavior to be reinforced does not so qualify, instructing someone about a positive reinforcement for that behavior would not be bribery.

21. The direct effect of a positive reinforcer is the increased frequency of a response because of its immediate reinforcing consequences. The indirect effect is the strengthening of a response that is followed by a reinforcer even though the reinforcer is delayed (by more than approximately 30 seconds).

22. The reinforcer of the fun activity in Coach Keedwell's program was indirect because it was delayed by more than 30 seconds following the desirable swimming behaviors that occurred earlier in the practice.

23. If a teenager in a family is required to mow the lawn at the family home on Monday in order to use the family car on Friday, then use of the car is a contingent reinforcer even though it is delayed. Any appropriate example is acceptable.

24. If a teenager is allowed to use the family car every weekend independent of behavior that the teenager emits during the week, then use of the family car is a non-contingent reinforcer. Any appropriate example is acceptable.

25. When a behavior is accidentally followed by a reinforcer, even if that behavior did not produce the reinforcer, it is referred to as *adventitious reinforcement*. *Superstitious behaviors* are the behaviors that are strengthened by *adventitious reinforcement*. An example of adventitious reinforcement would be a gambler winning a jackpot on a slot machine just after scratching his/her nose. The superstitious behavior would be the nose scratching.

26. Natural environment: any place, other than a structured training setting, where a behavior might occur. Natural reinforcers: reinforcers that follow behavior in the natural environment without specific planning and intervention on the part of the trainer. Programmed reinforcers are reinforcers that are deliberately manipulated by individuals in behavior modification programs.

27. Any three examples that involve natural reinforcers are acceptable. Students should justify their choices by indicating that the reinforcers occurred without specific planning by the trainer. Rather than being contrived or manipulated reinforcers, they should occur naturally in the natural environment.

28. (a) Specifying a behavior precisely; (b) selecting an appropriate reinforcer; (c) depriving the individual of the reinforcer; (d) ensuring that the reinforcer is of a sufficient magnitude or amount; (e) utilizing instructions to explain the program before and during reinforcement, especially if the reinforcer is delayed; (f) presenting the reinforcer immediately following the desired behavior; (g) ensuring that the reinforcers are presented contingent upon the desired behavior, rather than being presented non-contingently; and (h) appropriately weaning the individual from the program.

29. No. When an adult asks something of a child, a withdrawn reaction on the part of the child may get even more attention from the adult. If the withdrawn behavior subsequently increases, then the adult attention was functioning as a reinforcer, and it is reasonable to infer that the child liked the attention.

30. A child is noisily playing while his or her sibling is trying to study (situation); the sibling gives the child a lollipop so that he/she will be quiet (response). The child is immediately quiet and enjoys the lollipop (immediate consequence). The chance that the child will be more likely to play noisily around that sibling in the future increases (long-term effect). Any appropriate example is acceptable.

31. Pitfall Type 2: A person may know the principle but not realize some ramification that interferes with applying it effectively. For example, Coach Keedwell thought that providing a fun activity at the end of each swimming practice would strengthen desirable swimming behaviors. That didn't occur, however, because the fun activity was not contingent on specific swimming behaviors.

32. This exemplifies Pitfall Type 3 because it is an overly simplistic explanation for the college student's behavior, as the consequence of receiving the A did not immediately follow studying. There must have been more immediate reinforcing consequences that "bridged the gap" from the time of studying (behavior) to the time of receiving the A (consequence). For example, the student may have been anxious about the test and studying (behavior) may have relieved some of the anxiety (immediate consequence).

33. Pitfall Type 4 states that individuals without behavioral knowledge sometimes attempt to "explain" behavior or the lack of it by inappropriately giving people a label. For example, if a teenager consistently leaves his room in a mess and never helps his parents around the house in any type of clean-up activity, his parents might "explain" his behavior by saying "he's lazy."

34. (a) Is readily available; (b) can be presented immediately following the desired behavior; (c) can be used over and over again without causing rapid satiation; and (d) does not require a great deal of time to consume.

Answers to Study Questions on N&ED Section

1. (a) Greenspoon demonstrated that students could be influenced to increase the frequency with which they said plural nouns in an experimental context, even though they were not aware of such a change in their behavior when asked about the experiment afterwards.
(b) Even the most profoundly intellectually disabled individuals who cannot speak have been shown to be affected by reinforcement.

2. A behavior change is likely due to indirect acting effects of reinforcement if: (a) the critical response precedes the reinforcer by more than 30 seconds (such as in the case of Fernando, where the critical response was leaving for work earlier than usual); (b) the behavior that is measured shows some increase in strength prior to the first occurrence of the consequence (such as Fernando arriving for work on time the very first morning of the program before he had received the 2 peso consequence): and (c) a single occurrence of a consequence produces a large change in behavior (such as Fernando maintaining 100% arrival from the onset of treatment). If the students clearly make the above three points, it's not necessary for them to illustrate with reference to Fernando.

3. Thompson and Iwata used the term *direct reinforcement contingency* to refer to a situation where a behavior modifiers hands a reinforcer to a client following a correct response, and they used the term *indirect contingency of reinforcement* to refer to a situation where a client's behavior acted on the environment (such as by lifting a box) to enable the client to discover a reinforcer. To avoid confusion between direct reinforcers referring to immediate reinforcers and indirect effect of referring to delayed reinforcers, the authors suggest that the situation described by Thompson and Iwata be referred to as a *reinforcement discovery contingency*.

CHAPTER 4
DEVELOPING AND MAINTAINING BEHAVIOR WITH CONDITIONED REINFORCEMENT

Answers to Study Questions on Main Text

1. Unconditioned reinforcers are stimuli which are reinforcing without prior learning, or without having to be associated with any other reinforcers. Food for someone who has not eaten for several hours, or water for someone who has not had a drink for several hours, are unconditioned reinforcers. Other appropriate examples are acceptable.

2. A conditioned reinforcer is a stimulus which was not originally reinforcing but which acquired reinforcing power through association with a stimulus that is reinforcing. For example, a piece of green paper that constitutes a dollar bill is not likely to be a reinforcer for an infant or a young child who has had no experience with money. However, after the dollar bill is paired with a variety of backup reinforcers while making various purchases in stores, the dollar bill becomes a powerful reinforcer. Any two appropriate examples are acceptable.

3. A backup reinforcer is a reinforcer on which a conditioned reinforcer is based. In a token system it is a reinforcer for which tokens can be exchanged in order to maintain their reinforcing power. For example, at the end of a poker game, poker chips can be exchanged for money. In this case, the money is the backup reinforcer. Any two appropriate examples are acceptable.

4. The backup reinforcers included time on Facebook or YouTube.

5. Any appropriate example is acceptable.

6. Tokens are conditioned reinforcers that can be accumulated and exchanged for other reinforcers.

7. A token system is a behavior modification program that uses tokens to reinforce desirable behavior. The tokens can be exchanged for more powerful reinforcers called backup reinforcers.

8. Yes, money is a token because it can be accumulated and exchanged for a variety of backup reinforcers (the things that money can buy).

9. Examples might include two of the following: praise, a call to dinner, the sight of a loved one, or a friendly greeting. These are all associated with more powerful reinforcers.

10. A conditioned punisher is a stimulus which is not originally punishing, but which acquires punishing power through association with a stimulus that is punishing. Examples might include criticism, scoldings, a failing grade, and the sight of a mugger in a dark alley. These are all typically punishers because they have been paired with other aversive events.

11. A simple conditioned reinforcer is one that is paired with a single backup reinforcer. A generalized reinforcer is a conditioned reinforcer that is based on a number of different backup reinforcers. At any given time at least one of the backup reinforcers should be powerful enough to maintain the reinforcing effectiveness of the generalized reinforcer.

12. Yes, praise is likely a generalized reinforcer for most of us. That is because when people praise us, they are disposed to favor us in a variety of ways so that praise is paired with a variety of backup reinforcers. Also, positive adult attention (which might be considered a form of praise) is provided by parents when they feed their infants, wash them, play with them, and meet their needs in other ways.

13. The points in Erin's program were likely a generalized reinforcer because they were paired with two backup reinforcers, time on Facebook and time on YouTube, both of which provide a variety of conditioned reinforcers.

14. The three factors influencing the effectiveness of conditioned reinforcers include: (a) the strength of backup reinforcers; (b) the variety of backup reinforcers; and (c) the number of pairings of the conditioned reinforcer with a backup reinforcer.

15. If a conditioned reinforcer is presented a number of times without being associated with other reinforcers, it will eventually lose its reinforcing effectiveness.

16. Pitfall Type 1 states that people who are unfamiliar with the principle of conditioned reinforcement may unknowingly misapply it in various ways. For example, if an adult scolds a child and then gives the child a treat because the adult "feels guilty," the scolding may become a conditioned reinforcer. Pitfall Type 2 states that individuals who are not aware of the principle of conditioned reinforcement may cease to pair a conditioned reinforcer with a backup reinforcer causing the conditioned reinforcer to lose its effects. For example, a teacher who awards stars for good behavior, but fails to use effective backup reinforcers, will cause the stars to lose their value as conditioned reinforcers.

Answers to Study Questions on N&ED Section

1. Suppose that a parent says, "goo-goo-goo" frequently while feeding an infant. Because of the pairing of "goo-goo-goo" with the food reinforcement, the sound "goo-goo-goo" should become a conditioned reinforcer. Later, when the infant is in the crib alone, the infant may say "goo-goo." Because this sound has become a conditioned reinforcer, the infant is likely to repeat that sound. Thus, conditioned reinforcement appears to be involved in strengthening babbling of babies in their native language even when no adults are around to reinforce this behavior.

2. Because sensations like the smell and taste of cigarettes are paired with the reinforcing effects of nicotine in the bloodstream, the former stimuli become conditioned reinforcers. When smokers try to quit smoking by smoking de-nicotinized cigarettes, they still receive the powerful conditioned reinforcers of the taste and smell of cigarettes. This can interfere with the progress of treatment.

CHAPTER 5
DECREASING A BEHAVIOR WITH EXTINCTION

Answers to Study Questions on Main Text

1. (a) If, in a given situation, an individual emits a previously-reinforced response that is not followed by the usual reinforcing consequence, then (b) that person is less likely to do the same thing again in that situation.

2. No. With extinction, a behavior decreases in frequency because instances of that behavior are no longer followed by a reinforcer. With candy eating, the reinforcer is the good taste. If the child ate the candy, the good taste would still be there. Thus, the behavior (eating candies) stopped because of the consequence of being told to stop, not because the reinforcer was withheld following instances of the behavior.

3. It would be extinction only if the attention of the parent was the reinforcer that was maintaining the behavior that was being ignored. However, if the child's behavior was maintained by some other reinforcer, such as attention from another child, then ignoring the behavior by the parent would not be extinction.

4. No, this would not be extinction, as the swearing behavior was not previously reinforced by receiving an allowance. Removal of the allowance contingent upon swearing is called *response-cost punishment*.

5. Forgetting and extinction both lead to a decrease in behavior, but they do so for different reasons. In forgetting, a behavior is weakened as a function of time following the last occurrence of the behavior. With extinction, a behavior is weakened because instances of the behavior go unreinforced.

6. The procedure for the loss of value of a conditioned reinforcer is presenting the conditioned reinforcer without further pairings with a backup reinforcer. The result is the loss of value of the conditioned reinforcer. The procedure of extinction is allowing a previously-reinforced behavior to occur but no longer following it with a reinforcer. The result is that the behavior decreases in frequency.

7. It will decrease to a very low level. (Some students might be aware that behavior can be maintained through escape and avoidance conditioning and that some reflexive behaviors are elicited by prior stimuli).

8. The taste of the cookies, not the mother's attention, was the reinforcer that was maintaining the behavior.

9. Example 4 appears to involve positive reinforcement for an alternative response. For the other examples, the student should describe plausible methods for reinforcing desirable alternative behavior.

10. So as to (a) minimize the influence of alternative reinforcers for the undesirable behavior, and (b) maximize the chances that the behavior modifier(s) will persist in carrying out the program.

11. Any appropriate example is acceptable, provided that the student indicates whether or not a special setting would be required and the reason. For example: (a) Behavior to be decreased is using a spoon to throw (catapult) food around the room while sitting in a high chair. (b) To the extent that allowing the behavior to occur is not likely to be harmful to the child, a special setting would not be required. However to the extent that such behavior might be highly disruptive to others in the immediate vicinity, such as individuals in a restaurant who would likely interfere with the extinction program, a special setting would be required.

12. Continuous reinforcement is an arrangement in which each instance of a particular response is reinforced. For example, each time that you raise a glass of a beverage to your lips and take a sip, you experience the taste of the beverage.

13. Intermittent reinforcement is an arrangement in which a response is reinforced only occasionally rather than every time it occurs. For example, when a person is playing a slot machine at a casino, pressing the button is reinforced by winning only occasionally, not every time that it occurs.

14. A behavior is less resistant to extinction if it has been reinforced continuously rather than intermittently.

15. An extinction burst is an increase in responding during extinction. For example, suppose that each time a child snapped her fingers to gain the attention of her teacher, the teacher responded, thereby reinforcing finger-snapping. Suppose further that the teacher decides to ignore that behavior on all future occasions. At the beginning of extinction, finger-snapping may increase before it begins to decrease. The increase would be an example of an extinction burst.

16. A behavior that has completely disappeared during an extinction session may reappear, after some time has passed, at the next session or opportunity for the behavior to occur. The reappearance of an extinguished behavior following a rest is called *spontaneous recovery*. Suppose that a child has learned to snap his fingers to gain his teacher's attention. Suppose further that the teacher decides to extinguish that behavior. If the behavior decreases to zero during the first day of extinction, but finger-snapping reappears at the beginning of the next day, the reappearance of the behavior would be an example of spontaneous recovery.

17. Extinction of a particular behavior is likely to be more effective if: (a) it is combined with positive reinforcement of a desirable alternative behavior; (b) alternative possible reinforcers for the behavior that is to be decreased are controlled; (c) the setting is chosen so as to minimize potential factors interfering with the extinction program; (d) instructions are given to explain the program to the individual before implementing it; (e) behavior to decrease was on a continuous rather than an intermittent schedule of reinforcement prior to the extinction program; (f) the person applying the program is aware that the behavior being extinguished may get worse before it gets better; (g) the person applying the program is aware that extinction may produce aggression that interferes with the program; and (h) the person applying the program is aware that spontaneous recovery may occur. This is the reappearance of an extinguished behavior following a rest or the passage of time.

18. Any two appropriate examples involving extinction of a desirable and an undesirable behavior are acceptable.

19. Suppose that, in the case of two roommates living together, one might spontaneously clean the living quarters and the other person might not think to express appreciation. This example illustrates Pitfall Type 1, which occurs when individuals unknowingly fail to reinforce desirable behaviors of others.

20. Situations in which behavior is harmful to the individual or others, and situations in which extinction cannot be carried out successfully because of outside influences. Any appropriate examples are acceptable.

21. (a) The reinforcer you are withholding following the undesirable behavior is not the reinforcer that was maintaining the behavior;
(b) the undesirable behavior is receiving intermittent reinforcement from another source;
(c) the desirable alternative behavior has not been strengthened sufficiently.

Answers to Study Questions on N&ED Section

1. The extinction program focused on Louise's complaints of pain. Although there was no self-monitoring of actual headaches, she did report at a twelve month follow-up that she had experienced only two headaches over the previous several months. Thus, presumably her "feelings" of pain also decreased.

2. Unauthorized reinforcement provided for a behavior being subjected to an extinction program. Any appropriate example is acceptable.

3. Suppose a child with severe developmental disabilities frequently yells loudly, and suppose further that the staff unknowingly reinforces that behavior by attending to it. One strategy for decreasing that behavior would be for staff to provide frequent staff attention (e.g., every few minutes) noncontingently. A potential limitation of such noncontingent reinforcement is that it might reduce the child's motivation to participate in teaching sessions (since he/she would receive staff attention for essentially doing nothing).

CHAPTER 6
DEVELOPING BEHAVIORAL PERSISTENCE THROUGH THE USE OF INTERMITTENT REINFORCEMENT

Answers to Study Questions on Main Text

1. Intermittent reinforcement is an arrangement in which a behavior is reinforced only occasionally rather than every time it occurs. For example, Jan was not reinforced after each math problem that she solved, but rather she was reinforced after every two problems solved.

2. A schedule of reinforcement is a rule specifying which occurrences of a given behavior, if any, will be reinforced. For example, Jan's initial schedule of reinforcement was that she would be reinforced after correctly solving two math problems.

3. Continuous reinforcement is a schedule of reinforcement in which each instance of a particular response is reinforced. For example, if Jan had received reinforcement for each math problem solved, then she would have been on a continuous reinforcement schedule.

4. (a) The reinforcer remains effective longer than with continuous reinforcement because satiation takes place more slowly; (b) behavior that has been reinforced intermittently takes longer to extinguish than behavior that has been continuously reinforced; (c) individuals work more consistently on certain intermittent schedules than on continuous reinforcement; and (d) behavior that has been reinforced intermittently persists more when transferred to reinforcers in the natural environment.

5. A free-operant procedure is one in which the individual is "free" to respond repeatedly in the sense that there are no constraints on successive responses. For example, when doing a crossword puzzle, an individual is "free" to solve the clues at any given rate (e.g., one clue per minute, one clue per 2 minutes, etc.).

6. A discrete-trials procedure is one in which a distinct stimulus is presented prior to an opportunity for a response to occur and be followed by reinforcement. For example, when playing *Jeopardy* (on TV), individuals are given a clue and then must respond correctly to receive reinforcement (money).

7. Reinforcement occurs after a fixed number of responses. Any two plausible examples, at least one of which is not in the text, are acceptable. For example, during piece-rate pay in industry, a worker is paid for each fixed number of items produced.

8. (a) A high steady rate until reinforcement; (b) a post reinforcement pause; and (c) high resistance to extinction.

9. Ratio strain refers to the deterioration of responding from increasing a ratio schedule too rapidly.

10. Reinforcement occurs after a variable number of responses, where the number varies around some mean value. For example, a door-to-door salesperson is reinforced on a VR schedule in that a sale is made after some unpredictable number of responses. After a certain number of sales, the average number of houses contacted to make a sale could be determined. Any two plausible examples, at least one of which is not in the text, are acceptable.