

HELPING TIMMY

TACT TOYS

A SYSTEMATIC APPROACH TO TEACHING CONCEPTS FOR APPLIED BEHAVIOR ANALYSTS

FACILITATOR WORKBOOK

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Exercise 1

Directions: Next to each test task below, write whether it is checking generalization (G), discrimination (D), or rote memory (M).

Objective: Learner will identify fruit

Teaching Tasks

Peach (+)

Pear (+)

Pumpkin (-)

Apricot (+)

Broccoli (-)

Testing Tasks

Plum **G**

Celery **D**

Pear **M**

Cauliflower **D**

Apple **G**

Objective: Learner will identify mammals

Teaching Tasks

Hawk (-)

Pig (+)

Fox (+)

Lizard (-)

Goldfish (-)

Gorilla (+)

Testing Tasks

Rat **G**

Gorilla **M**

Sparrow **D**

Lizard **M**

Turtle **D**

Dog **G**

Exercise 2

Directions: Analyze the pattern of student responses on the following “tests” with respect to each of the concepts listed. Remember, a single error may give you information about two of the concepts being tested. Classify the student’s responses to each concept as:

- | | |
|---------------------------------|---|
| Generalization (G): | Correctly identifies a novel instance |
| Undergeneralization (U): | Fails to identify an instance |
| Overgeneralization (O): | Accepts a non-example as an instance |
| Misconception (M): | Evidence of both undergeneralization and overgeneralization |

Objective: Student will identify pictures of birds

New Instance	Student Response			
Canary				
Finch				
Robin				
Hummingbird				
Canary				
Hummingbird				
Finch				
Canary	G_X__	O_X__	U_X__	M_X__
Finch	G_X__	O___	U_X__	M___
Robin	G___	O_X__	U_X__	M_X__
Hummingbird	G_X__	O_X__	U___	M___

Objective: Student will identify works by major painters

New Instance	Student Response			
Leonardo				
Michelangelo				
Raphael				
Leonardo				
Michelangelo				
Donatello				
Leonardo's style	G_X__	O___	U___	M___
Michelangelo's style	G_X__	O_X__	U___	M___
Raphael's style	G___	O_X__	U_X__	M_X__
Donatello's style	G___	O___	U_X__	M___

Exercise 3

Directions: Each concept analysis below has one or more problems or weaknesses. Identify and correct the weaknesses.

Concept: Triangle

Critical Attributes

- 1) 3-sided, 2-dimensional object with all sides connected

Variable Attributes

- 1) Size
 - a) large
 - b) medium
 - c) small
- 2) Color
 - a) blue
 - b) red
 - c) yellow
 - d) green
- 3) Orientation
 - a) rotated along X-axis
 - b) rotated along Y-axis
 - c) rotated along Z-axis
- 4) Type
 - a) isosceles
 - b) equilateral
 - c) right

Problems:

- Critical attribute includes multiple things; should be separated out
- Not enough examples are provided to cover all the dimensions of the variable attributes
- Testing examples and non-examples are the same as the teaching examples and non-examples (testing rote memorization)

Teaching Examples

Large, red, right triangle rotated along the Z-axis
Medium, blue, isosceles triangle rotated along the Y-axis
Small, yellow, equilateral triangle rotated along the X-axis

Rationale

1a, 2b, 3c, 4c
1b, 2a, 3b, 4a
1c, 2c, 3a, 4b

Teaching Non-Examples

Diamond

Rationale

Lacks 1

Testing Examples

Large, red, right triangle rotated along the Z-axis
Medium, blue, isosceles triangle rotated along the Y-axis
Small, yellow, equilateral triangle rotated along the X-axis

Rationale

1a, 2b, 3c, 4c
1b, 2a, 3b, 4a
1c, 2c, 3a, 4b

Testing Non-Examples

Diamond

Rationale

Lacks 1

Exercise continues on next page!

Concept:

Critical Attributes

- 1) Resembles animate forms
- 2) Never existed

Variable Attributes

- 1) Closest real form
 - a) human
 - b) other mammal
 - c) bird
 - d) fish/sea creature
 - e) reptile/amphibian
 - f) insect arachnid
 - g) combination of multiple forms
- 2) Types of interactions with humans
 - a) neutral/natural
 - b) friendly
 - c) hostile
 - d) no interaction
- 3) Magical powers
 - a) yes
 - b) no

Teaching Examples

Tooth Fairy
Bigfoot
Cockatrice
Loch Ness monster
Dragon (Chinese)
Archne
Pegasus

Teaching Non-Examples

Perpetual motion machine
Tyrannosaurus Rex

Testing Examples

Vampire
Fox-fairy (Chinese)
Phoenix
Kraken
Nagas
Giant Spiders
Mermaid

Testing Non-Examples

Perpetual motion machine
Tyrannosaurus Rex

Problems:

- No concept label provided
- No rationale provided for an examples or non-examples
- Testing non-examples are the same as the teaching non-examples

Exercise 4

Directions: For the concept analysis below, provide a minimum rational set of teaching examples and non-examples and a rationale for each. You do NOT need to modify the critical and variable attributes; for this exercise you may assume that they are adequate.

Concept: Wrist watch

Critical Attributes

- 1) Device that Indicates time
- 3) Designed to be worn on the wrist

Variable Attributes

- 1) Display
 - a) analog
 - b) digital
 - c) both
- 2) Materials watch is made of
 - a) plastic
 - b) metal
 - c) other
- 3) Materials band is made of
 - a) leather
 - b) plastic
 - c) metal
 - d) other/combination
- 4) Size of face
 - a) small
 - b) medium
 - c) large

Teaching Examples

Rationale

Teaching Non-Examples

Rationale

Exercise 5

Directions: Conduct a formal concept analysis for a concept of your choice.

Concept: _____

Critical Attributes

Variable Attributes

Teaching Examples

Rationale

Teaching Non-Examples

Rationale

Testing Examples

Rationale

Testing Non-Examples

Rationale

Notes