

Examrace

Concept Attainment-Part 1 YouTube Lecture Handouts

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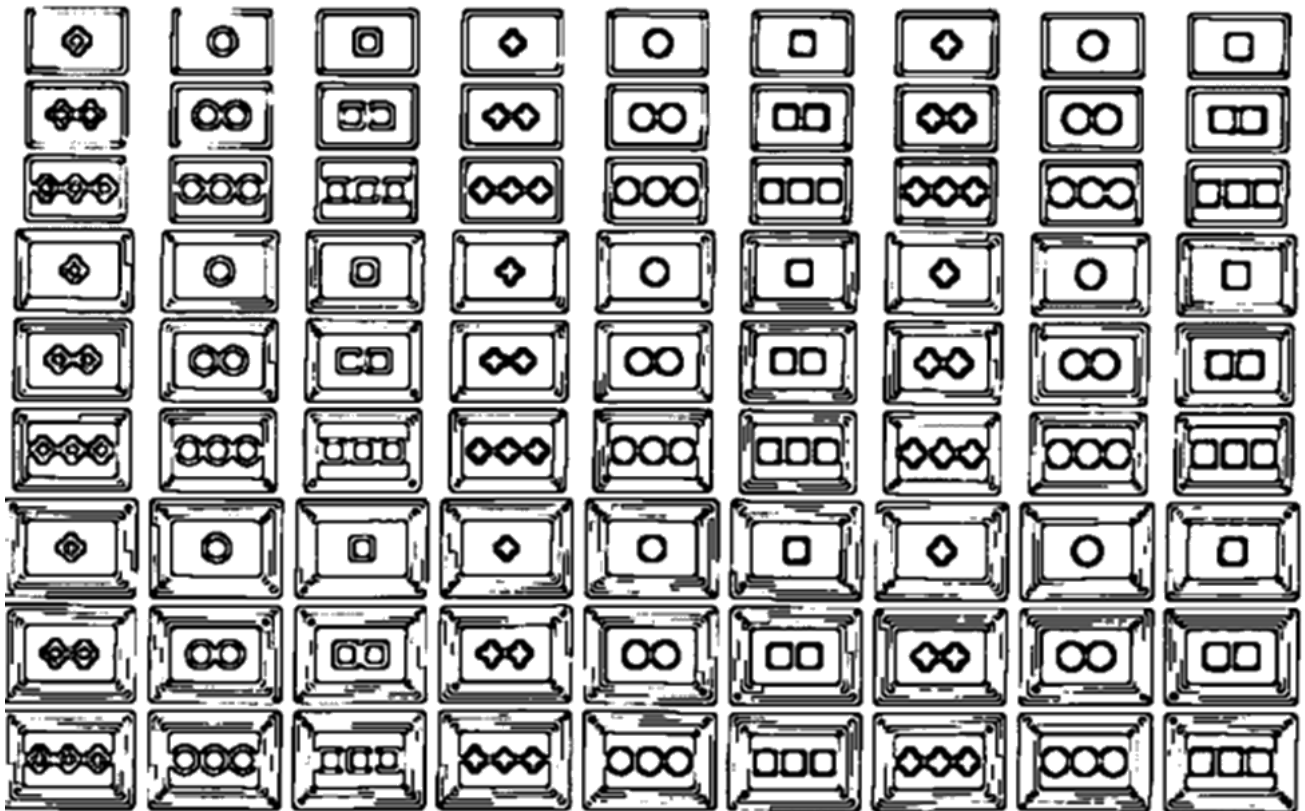
- Concepts are part of thinking
- Learning concept is like problem solving – we must think in order to learn concepts
- Concept cannot be formed by seeing a single instance – red toy box (red can be toy or box or apple ...)
- Person must see many examples before confirming or denying a hypothesis about concept
- Concept learning (simple or complex) is slow process

3 Elements of Concepts

- Examples (positive and negative) which contain all the characteristic features or essential attributes in them
- Attributes (essential and non-essential) are the features of objects. Essential attributes are the common features of the concepts
- Attribute value is the specific content of that category

Types of Concepts

- Conjunctive concepts are defined by the joint presence of several attributes.
- Disjunctive concepts require the presence of some attributes and the absence of others.
- Relational concepts have several attributes, but these bear some kind of relationship to one another



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- 81 cards ($3 \times 3 \times 3 \times 3$)

Features	3 values for each feature
Borders	1 to 3
Shapes	Circle, Cross, Square
Number of Objects	1 to 3
Color	Red, Green, Black

Table of Features and 3 Values for Each Feature

- Can create 255 hypothesis ($4 \times 4 \times 4 \times 4 - 1$)

- Conjunctive concepts – joint presence of two or more features (zebra as mammal – of size and shape of horse found in wild)

4 Strategies for Concept Attainment

Simultaneous Scanning

- Subject rationally uses information to eliminate several hypotheses and rationally thinks that remaining hypotheses can be true.
- Eliminate all but correct hypothesis and leaves subjects with fewest choices.
- Requires better reasoning and memory of positive and negative instances
- Does not provide way to control the riskiness of choices
- All red cards, all cards with circles and all red circles

Properties of Instance Chosen for Testing	If Correct Concept Is:		
	Red Only	Circle Only	Red Circle
Red only	Instance positive Eliminates: circle red circle	Instance negative Eliminates: red	Instance negative Eliminates: red
Circle only	Instance negative Eliminates: circle	Instance positive Eliminates: red red circle	Instance negative Eliminates: circle
Red and circle	Instance positive Eliminates: nothing	Instance positive Eliminates: nothing	Instance positive Eliminates: nothing

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