Chapter 7

Summary:

1. Categories are classes of similar objects, events, or patterns. Concepts are mental representations of those categories. Concepts are thought to help us order our knowledge and to relate new objects or patterns to previously encountered ones.
2. There are five distinct approaches to the study of concepts. These have been themselves categorized into two major types: similarity-based and explanation-based
3. The similarity-based category, comprising the classical, prototype and exemplar views (and some parts of the schemata view), includes the approaches in which categorization is assumed to be based on the similarity of an instance to some abstract specification of the category (for example, a definition or a prototype) or to one or more stored exemplars.
4. The explanation-based category, comprising aspects of the schemata/scripts view and aspects of the knowledge-based view, instead sees people as classifying instances based on meaningful relationships among instances and categories.
5. The classical approach to concepts posits that each concept is defined by a set of necessary and sufficient features.
6. The prototype approach to concepts holds that we categorize objects by comparing them to mental abstractions, called prototypes, which are idealized representations of some class of objects or events.
7. Some researchers have found that the acquisition of concepts results in a shift from right-to-left hemisphere processing in the brain.
8. The exemplar approach to concepts assumes we store specific individual instances and use these stored representations to categorize.
9. The schemata/scripts view regards concepts as schemata, packets of information with specific parts that fill in default values for aspects of the situation.
10. Proponents of the knowledge-based view of concepts hold that people use their own theories to guide their classification of objects.
11. When people are explicitly asked to form concepts and to search for underlying rules or features, they seem to acquire and use different kinds of information from what they use when left to their own exploration. This raises the question of applicability of very traditional laboratory-based investigations of concept formation to the processes people use outside the laboratory. What gets learned depends, apparently, on the original learning materials, the task instructions, and the learner’s anticipation of how the learned information will be used in the future. As in other areas of cognition, then the way people process information is flexible and varies with the situation and the purpose of the task.

Key Terms:

Artifact Concept: Things constructed to serve some function or accomplish some task.

Basic Level of Categorization: Most basic level of categorizing objects ie piano and guitar.

Category: Well defined class of similar things

Classical View of concepts: features represented are individually necessary and collectively sufficient.

Concept: a mental representation of some object or event.

Exemplar view of concepts: Assets that concepts include representations of at least some actual individual instances. The exemplar approach assumes that people categorize new instances by comparing them to representations of previously stored instances called exemplars.

Family Resemblance structure of concepts: a structure within each member has a number of features, sharing different features with different members. Few features are shared by each member – the more similar features it has the more typical it is.

Features: Under the classical view, the most fundamental characteristics

Implicit Learning: Requires that people pay attention to individual exemplars, storing information about and representations of them in memory. Later classification is done by comparing new instances to the representations of them in memory.

Knowledge-based view of concepts: a person classifying objects and events doesn’t just compare features or physical aspects of the objects and events to features or aspects of stored representations.

Natural-kind concept: “Gold” or “Tiger” things that naturally occur in one’s environment.

Nominal-kind concept: Concepts that have clear definitions

Nonanalytic concept formation: It is better to learn examples and learn implicitly than it is to learn the structures of how things are formed. Ie the English language we learn by example rather than by learning every grammatically correct way to speak.

Prototype: idealized representations of some class of objects or events.

Prototype view of concepts: Denies the existence of necessary and sufficient feature lists. Regards concepts as a different sort of abstractions called protypes.

Psychological essentialism: people generally act as if objects, people or events have certain essences or underlying natures that make them what they are. People have a reliance on underlying nature as a basis for many concepts.

Schemata/Scripts view of concepts: Concepts are a schema – frameworks of knowledge that have roles, slots, variables and so on. Schemata can embed themselves in one another hierarchically.

Subordinate level of categories: categories under the basic categories ie, upright piano and grand piano rather than piano and guitar

Superordinate level of categories: categories over the basic categories ie if the basics are piano and guitar, the superordinate may be musical instruments

Chapter 8:

Summary: