

Language

Language: The way we communicate meaning (spoken, written, or gestured) to ourselves and others.

Phonemes: the smallest distinctive units of sound used in a language.

Morphemes: the smallest units of meaning in a language.

Grammar: the system of rules in a language that enable us to communicate with and understand others.

1. **Semantics:** the set of rules by which we derive meaning from morphemes, words, and sentences. Ex. By adding *-ed* to the word *laugh* means that it happened in the past.
2. **Overregularization:** occurs when children apply a grammatical rule too widely and therefore created incorrect forms. Ex. I beated him in the game. I holded the door open for my friend.
3. **Syntax:** the rules for combining words into grammatically sensible sentences. Ex. In English, syntactical rule says that adjectives come before nouns; *white house*. In Spanish, it is reversed; *casa blanca*.

Receptive language: the ability to understand language. ***Wernicke's area in the brain allows you to understand language.

Productive language: the ability to produce language. ***Broca's area in the brain allows you to speak.

Babbling: universal noises made by babies around the age of 4 months. This is **NOT** the household language. That is revealed at 10 months.

Holophrase: one-word phrases babies make around the age of 12 months.

Telegraphic speech: two-word phrases babies make around the age of 24 months.

Critical period: if children are not exposed to language before a certain age, they will be unable to acquire language. (Noam Chomsky)

Universal grammar: all human languages have the same grammatical building blocks, such as nouns, verbs, subjects, and objects. (Noam Chomsky)

Language Acquisition Device: innate speech-enabling structures in the brain that allow us to learn language. (Noam Chomsky)

Surface structure: learning ABCs, just the letters and layout of the words (like shallow processing).

Deep structure: combining words to make meanings (like deep processing).

Linguistic determinism: thinking affects our language, which in turn affects our thoughts. (Benjamin Whorf)

Language Key People/Animals:

B.F. Skinner: argues that language acquisition is based on the principles of operant conditioning – babies imitate sounds and then are reinforced. ***Nurture point of view.

Noam Chomsky: a linguist who argues that young children possess an innate capability to learn and produce speech. Believes that children in widely different cultures progress through the same stages of language development at about the same age. Believes in the language acquisition device. ***Nature point of view.

Benjamin Whorf: a linguist who believed that a language does more than describe a person's culture. He argued that a person's language may also shape a person's thoughts and perceptions (linguistic determinism).

Cognition

Metacognition: thinking about thinking

Cognition: all of the mental activities associated with thinking, knowing, remembering, and communicating.

Concepts: a mental grouping of similar objects, events, ideas, or people. Concepts can be grouped by:

- a. **Definitions:** some concepts fit into a group because of their definition. Ex. by definition, a triangle has 3 sides
- b. **Hierarchies:** breaking things down from broad to specific. Superordinate (broad category), basic (most common), or subordinate (specific) Ex. Fruit > apple > Granny Smith
- c. **Prototypes:** a mental image of best example of a category. Ex. most people think of a robin, as opposed to a flamingo, when they hear the word "bird".

Schemas: an organized mental framework about a particular topic, event, object, idea, setting, or group of people.

Problem solving methods:

- a. **Trial and error:** just trying any method to solve an answer. Ex. typing in random numbers to figure out a pin number for an ATM card.
- b. **Means-end analysis:** breaking a problem into subgoals in order to reach the ultimate goal. Ex. wanting to run a marathon, but you don't go out the first day and run 20 miles. You have to start small, set a goal for a 5K, then a 10K, etc.
- c. **Algorithm:** a logical, step-by-step procedure that, if followed correctly, will eventually solve a specific problem. Ex. typing in 0000, 0001, 0002, 0003, etc. to figure out a pin number for an ATM card.
- d. **Heuristic:** a general rule of thumb or shortcut that is used to reduce the number of possible solutions to a problem. Ex. using birthdays for a pin number.
- e. **Insight:** just coming up with the answer, the "aha" moment

Obstacles to problem solving:

- a. **Fixation:** having a preoccupation with something, not being able to stop thinking of it.
- b. **Mental set:** the tendency to continue using belief systems and problem-solving strategies that have worked in the past, even though it may not be working now.
- c. **Functional fixedness:** the tendency to think of an object as functioning only in its usual way or customary way. As a result, individuals often do not see unusual or innovative uses of familiar objects.
- d. **Availability heuristic:** judging the likelihood of an event based on readily available personal experiences or new reports. Ex. not wanting to fly after 9/11.
- e. **Representative heuristic:** judging the likelihood of an event based on how well it matches a typical example. Ex. Not thinking a tall, skinny man who likes to read would be a truck driver.
- f. **Anchoring effect:** the tendency to be influenced by a reference point. Ex. only buying a car because it's the color you want even though it has a lot of miles.
- g. **Framing:** posing a question or wording a phrase in such a way to persuade someone's thoughts. Ex. buying something because it's 95% fat free sounds better than 5% fat.
- h. **Bias:** having preexisting positions or beliefs about events, people, etc.
 - 1. **Confirmation bias:** a preference for information that confirms preexisting positions or beliefs, while ignoring or discounting contradictory evidence. Ex. only looking at good reviews of something you want.

2. **Belief perseverance:** holding onto a belief even after its been discredited. Ex. believing that fad diets work.
3. **Hindsight bias:** also known as the knew-it-all-along effect, the inclination to see events that have already occurred as being more predictable than they were before they took place
4. **Overconfidence bias:** the tendency to be more confident than correct. Ex. Hitler thinking he could invade Russia when no one else has ever successfully done it.
5. **Exaggerated fear:** being overly fearful of something to the point of a phobia. Availability heuristic plays a part in this.

Critical Thinking:

- a. **Brainstorm:** coming up with new ideas.
- b. **Creativity:** the ability to think about a problem or idea in new and unusual ways, come up with unconventional solutions to problems.
- c. **Divergent thinking:** a type of thinking in which problem solvers devise a number of possible alternative approaches to problems and multiple solutions, it involves taking risks.
- d. **Convergent thinking:** using logic and algorithms to solve problems, there is only one answer, doesn't see things from various perspectives.
- e. **Inductive reasoning:** reasoning from the specific to the general. Ex. evidence collected in crime scenes is used to figure out what happened.
- f. **Deductive reasoning:** reasoning from the general to the specific. Ex. all birds have wings, a flamingo is a bird, therefore, it has wings.