Role of Occupational Therapy in Cognition

Occupational therapists focus on **functional cognition** or cognition that is necessary within the scope of **performing his/her roles**, daily occupations **within the contexts** performed.

Functional Cognition

The interaction of cognitive skills, self-care, and community living skills.

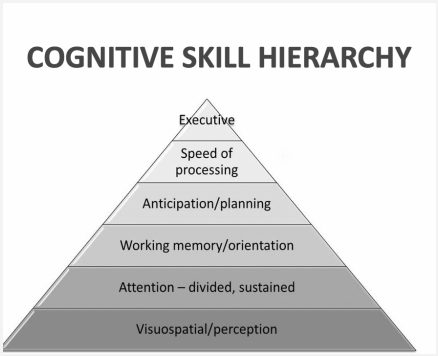
Refers to the thinking and processing skills needed to accomplish complex everyday tasks.

What are Cognitive Skills?

Foundational abilities that make up how we assess functional cognition:

- Attention
- Memory
- Problem Solving
- Decision making
- Judgement
- Executive Function & Abstract Reasoning

Cognitive Skill Hierarchy



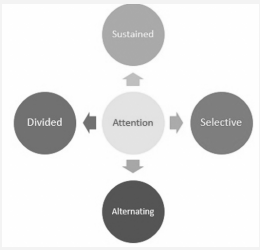
Attention

Important for learning and the first step in forming memories

Without attention memories cannot be formed

Affected by level of consciousness, arousal, awareness, and motivation

Attention image



Definition for image above

Sustained	Ability to focus on one specific task for a continuous amount of time without being distracted
Selective	Ability to select from many factors or stimuli and to focus on only the one that you want while filtering out other distractions (attention to details)
Alternating	Ability to switch your focus back and forth between task that require cognitive demand
Divided	Ability to process two or more responses or react to two or more different demands simultaneously (multi-tasking)

Memory

Explicit Memory (declarative memory)	**Implicit Memory (procedural memory)**
Retention and retrieval of facts, event, or steps to complete a task	Learned through movement or perception
Prospective Memory ability to remember to follow-up and anticipate upcoming events, dates, deadlines, etc.	“It’s like riding a bike!”

*Explicit memory is more notably affected by neurological changes
*Ability to use or access implicit memory for learning can be affected due to perceptual and motor disorders as a result of the neurological changes

Frontal Cortex and Cognition

Three Main Functions:

Restraint	Includes judgement, foresight, delay of gratification, inhibiting inappropriate behavior, and self-governance
Initiative	Includes curiosity, drive, creativity, mental flexibility, and personality
Order	Includes planning, abstract reasoning, working memory, sequencing, and organization

Frontal Cortex and Cognition (cont)

Reasoning involves logical thinking to understand and formulate judgements based on all available information

Restraint, initiative and order are required for **executive function**

Prefrontal Cortex: Recall long-term memories, planning, and hypothesis generation; supports working memory (attention) by storing information a brief time before getting stored to long-term memory

Executive Function

Encompasses a set of interrelated cognitive abilities that are critical to control coordination, and regulation of thoughts, emotions, and goal-directed actions (cognitive control)

Important for adaptive responses to novel, unfamiliar, unpredictable, or unstructured situations (skill acquisition, learning, task challenges, adjusting to change or coping with the unexpected)

Most Common Subcomponents of EF

Initiation

Inhibition

Cognitive Flexibility/Shifting Set

Working Memory/Planning/Organization

Self-monitoring/Self-Regulation

Subcomponents of EF

Executive Control

Multiple Networks

Highly Distributed

Metacognition

Dynamic Interaction Model (DIM)

Promote strategies for self-monitoring and self-evaluation of occupational performance

Must have the capacity for:

- Information processing (organize and assimilate new information)
- Adaptation (using previously acquired information to plan, monitor, structure, and evaluate behavior for reaching goals)
- Generalization (apply what had been learned to a variety of different situations)

Metacognition