

List of Constructs From First CNTRICS Meeting

Perception

Gain control: The processes whereby neurons adapt their response levels to take into account their immediate context, in order to make best use of a limited dynamic signaling-range.

Integration: The processes linking the output of neurons – that individually code local (typically, small) attributes of a scene - into global (typically, larger) complex structure, more suitable for the guidance of behavior.

Working Memory

Goal Maintenance: The processes involved in activating task related goals or rules based on endogenous or exogenous cues, actively representing them in a highly accessible form, and maintaining this information over an interval during which that information is needed to bias and constrain attention and response selection.

Interference Control: The processes involved in protecting the contents of working memory from interference from either other competing internal representations or external stimuli.

Social/Emotional Processing

Affective Recognition and Evaluation: The ability to detect, recognize and judge the affective value of both linguistic (e.g., seen or spoken words and their prosodic contour) and nonlinguistic (e.g., images of people, facial expressions, eye gaze, scenes) stimuli.

Attention

Control of Attention: The ability to guide and/or change the focus of attention in response to internal representations.

Executive Control

Rule Generation and Selection: The processes involved in activating task related goals or rules based on endogenous or exogenous cues, actively representing them in a highly accessible form, and maintaining this information over an interval during which that information is needed to bias and constrain attention and response selection.

Dynamic Adjustments of Control: The processes involved in detecting the occurrence of conflict or errors in ongoing processing, identifying the type of control adjustments needed, and recruiting additional control processes.

Long Term Memory

Relational Encoding and Retrieval: The processes involved in memory for stimuli/elements and how they were associated with coincident context, stimuli or events.

Item Encoding and Retrieval: The processes involved in memory for individual stimuli or elements irrespective of contemporaneously presented context or elements.

Reinforcement Learning: Acquired behavior as a function of both positive and negative reinforcers, including the ability to (a) associate previously neutral stimuli with value, as in Pavlovian conditioning; (b) rapidly modify behavior as a function of changing reinforcement contingencies and (c) slowly integrate over multiple reinforcement experiences to determine probabilistically optimal behaviors in the long run.