

# Functional Cognition

Functional cognition has been described as encompassing the complex and dynamic interactions between an individual's cognitive abilities and the activity context that produces observable performance. In 2013 this definition could be found on the homepage of the Allen Cognitive Network, therefore the term functional cognition is now widely used worldwide. It has certainly travelled a long way since 2005 when Pollard and Olin introduced the term 'functional cognition' in the publication, *"Allen's Cognitive Levels: Meeting the Challenges of Client Focused Services (2<sup>nd</sup> Edition)*, to describe this core construct of continuing to recognize the link between brain function and task behavior.

The use of the term 'functional cognition' became accepted following it being used by Earhart in the 2006 publication of the Allen Diagnostic Manual and then used in 2009 by Austin in her dissertation paper as partial fulfillment of the requirements for the degree of Doctor of Philosophy in Educational Psychology. Since this period 'functional cognition' is used widely to describe the central construct of the assessments used as it emphasizes the importance of the complex and dynamic interactions between an individual's cognitive abilities and their context that produces observable functional performance.

Healthcare clinicians are assisted when using the construct of functional cognition to describe how an individual's functional behaviors are guided by the degree to which they are able to use cues in their environment. Along the degree to which the environment provides the types of cues that they are able to use.

To clarify further, functional cognition identifies predictable patterns of motor and verbal skills, social behavior, self awareness, and awareness of contexts that are viewed as interrelated and arise from a unified set of underlying cognitive (mental) processes, which work in concert to provide a global view of cognition. The name does not meet with opposition in healthcare clinician team meeting and is viewed as being very different to traditional psychological testing, which tends to describe cognition in terms of discrete elements such as memory, processing speed, and attention. As early as 1982 Allen and colleagues observed patterns of task behavior in individuals with mental health disorders and dementias and were advocating a need for a more unified, global approach.

Functional cognition is conceptualized as a hierarchical continuum of abilities that reflects the influence of developmental psychologist Jean Piaget who described how children develop underlying cognitive processes in a sequential manner. Piaget further hypothesized that as these processes develop with time it enables children to use cues in their environment to produce increasingly complex task behaviors. In the 1960's and early 1970's Allen and her colleagues working at Eastern Pennsylvania Psychiatric Institute observed and described a similar hierarchical sequence of skills in the progression and remission of mental illness, dementia and fatigue. This sequence, described initially as six cognitive levels (1982) were later expanded to 26 Modes of Performance (1992), describes capacities for performance mediated by the biological condition of the brain. In 2006, Earhart assisted by Austin described how an individual's capacity may be expressed as an individual directs their attention to and acts upon internal and external information or cues. When this process is observed, skilled clinicians are able to make inferences about this capacity by comparing observed behaviors to the theoretical modes of performance. When patterns of performance are stable, clinicians are able to make probabilistic predictions of behaviors, which are likely to occur across a wide variety of human activities and contexts that use similar underlying cognitive processes.

Functional cognition encompasses functional performance abilities and global cognitive processing capacities. It incorporates the complex, dynamic interplay between the following:-

- An individual's information processing abilities, occupational performance skills, values and interests;

- The increasingly complex motor, perceptual and cognitive activity demands of visual-motor tasks;
- Observation of patterns of performance of activities and tasks in context.

In 2006, Austin with the assistance from Joan Riches OT(C), Canada developed one of the key concepts in 'Functional Cognition', which explains how the specific underlying mental structures portray the activity demands of specific activities. The same hierarchy that is used to describe the ability of individuals is also used to describe the difficulty of tasks. It is these underlying abilities and the mismatch between abilities and task demands which other professionals, who use a semi-structured interview to assess individuals cognitive capacity find difficult to grasp. They examine the four components of capacity, which are to communicate a choice, understand the relevant information and appreciate the medical consequences of the situation and reason about treatment choices. It is not difficult to understand why they find it difficult to understand how 'functional cognition' can measure how an individual can live their life and what supports need to be put in place to allow them to live in the least restricted environment.

The following explanations developed by Austin and Riches have provided an incredible 'functional cognition' framework:

- Capacity of an individual to use a set of underlying cognitive capacities that are not directly observed (ability to recognise surface properties)
- Capacity of an individual to perform a set of observable behaviors that are based on underlying cognitive structures (*having the capacity to purchase simple objects*)
- The activity demands for a set of underlying cognitive capacities that are necessary to demonstrate a behavior (*transitioning between steps requires an awareness of a goal*)
- The activity demands for a set of observable behaviors that are based on underlying cognitive structures (*completing a task requires transitioning between steps*)
- Specific observed behaviors based on observed interactions of capacities and activity demands (*The new client transitioned between steps for the first time this morning*)

General principle is to interpret ACL Scores and Modes of Performance within the context of the continuum of abilities- Retrieved from the "*Therapist Judgments and Item Performance in Assessments Associated with the Cognitive Disabilities*" by Austin, 2009.

The functional cognition framework provides guidance for the formulation of profiles of how individuals with deficits in functional cognition are able to pay attention when being shown how to do something new and different. Being able to learn how to do something new allows them to respond to sudden or unexpected changes in their lives and dictates how safely they can live with limited support of caregivers and guardians as well predict how much support they require. If everything remained the same and the environment never changed, e.g. human contacts and reactions, technology, business practice, finances, weather conditions, life would be easier for all. However, change is inevitable, continual and constant in everyone's lives.

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