

## Analysis of Elements of Cognitive Activity Demands for Six Cognitive Levels

**Background:** The Allen Cognitive Scale is used to estimate both the cognitive complexity of the inferred functional cognitive capacities of people and the cognitive complexity of task/activity demands for the tasks/activities people need and want to do.<sup>1,2,3,4</sup> This analysis of the increasing cognitive complexity of various elements of activities by level may be used by practitioners to determine whether or not there is a *fit* between a person's functional cognitive capacity and the complexity of cognitive activity demands of everyday activities the person needs and wants to do; and to identify realistic options for participation in everyday activities that fit a person's functional cognitive capacity, interests, and supports and are therefore most likely to be safe, successful, and satisfying.

**Table 1:** Analysis of Elements of Cognitive Activity Demands for 6 Cognitive Levels

Elements of Cognitive Activity Demands	Allen Cognitive Scale					
	Level 1 Automatic Actions	Level 2 Postural Actions	Level 3 Manual Actions	Level 4 Goal-directed Actions	Level 5 Exploratory Actions	Level 6 Planned Actions
<b>Sensory cues that capture attention</b>	Subliminal cues	Proprioceptive cues	Tactile cues	Visible cues	Related cues	Symbolic cues
<b>Perceivable features of self/objects</b>	Penetration of subliminal state	Own body	Exterior surfaces	Color, shape, size, number	Space, depth	Intangible
<b>Usable task environment</b>	Internal	Within range of motion	Within arm's reach	Within visual field	Within full available & accessible task environment	Virtual and potential task environment
<b>Cues/sample that guide performance</b>	Alerting stimuli	Demonstrated action	Material object	Exact match	Tangible possibilities	Hypothetical ideas
<b>Voluntary motor actions</b>	Automatic	Postural	Manual	Goal-directed	Exploratory	Planned
<b>Number of actions/steps</b>	One action at a time	One action at a time	One action at a time	One to three step sequence	Multiple actions and steps	Infinite actions and steps
<b>Tool use</b>	Stimulation use of body parts	Spontaneous use of body parts	Chance use of found objects	Hand tools used as a means to an end	Hand tools used to vary means to an end	Tool making Power tools

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**Table 1: Analysis of Elements of Cognitive Activity Demands for 6 Cognitive Levels (cont.)**

Elements of Cognitive Activity Demands	Allen Cognitive Scale					
	Level 1 Automatic Actions	Level 2 Postural Actions	Level 3 Manual Actions	Level 4 Goal-directed Actions	Level 5 Exploratory Actions	Level 6 Planned Actions
<b>Social interactions with others</b>	Stimulation from others	Stimulation of postural action by others	Stimulation of manual action by others	Social rules & conventions	Social hierarchies	Social networks
<b>Verbal directions from others</b>	Verbs Introjections	Pronouns, names of body parts	Names of material objects	Adverbs, adjectives	Propositions, explanations	Conjectures, conjunctions
<b>Demonstrated directions by others</b>	Physical contact	Gross motor and guided movements	Manual actions with objects	Each step in a short sequence	Each step with precautions for potential errors	Not required
<b>Purpose/intent</b>	Arousal	Comfort	Interest	Compliance	Self-control	Reflection
<b>Duration of attention</b>	Seconds	Minutes	Half hours	Hours	Weeks	Past/future

Note. Adapted and updated by C. A. Earhart based on Table 3-1. Task Analysis in *Occupational Therapy for Psychiatric Diseases: Measurement and Management of Cognitive Disabilities* (p.82), by C.K. Allen, 1985, in Allen, C. K., 1985, p. 82. *Occupational Therapy for Psychiatric Diseases: Measurement and Management of Cognitive Disabilities*. Copyright 1985 by Little, Brown and Company. Adapted with permission from C. K. Allen, author, in 1995. This adapted version is Copyright 2022, 2023 by the ACLS and LACLS Committee. Used with permission.

## References

- <sup>1</sup>Allen, C. K., (1985). *Occupational therapy for psychiatric diseases: Measurement and management of cognitive disabilities*. Little, Brown and Company (out of print).
- <sup>2</sup>Allen, C. K., Earhart, C. A., & Blue, T. (1992). *Occupational therapy treatment goals for the physically and cognitively disabled*. Bethesda, MD: AOTA Press.
- <sup>3</sup>McCraith, D. B., & Earhart, C.A. (2018). Cognitive Disabilities Model: Creating fit between functional cognitive abilities and cognitive activity demands. In N. Katz and J. Toglia (Eds.), *Cognition, occupation, and participation across the lifespan: Neuroscience, neurorehabilitation, and models of intervention in occupational therapy* (4<sup>th</sup> ed., pp. 469-497). AOTA Press.
- <sup>4</sup>Earhart, C.A., McCraith, D. B., & Riska-Williams, L (2022). *Manual for Version 5 of the Allen Cognitive Level Screen (2<sup>nd</sup> ed.)*. ACLS and LACLS Committee/Allen Cognitive Group.