

# Cognitive Impairment

## I. Formal Definition:

### A. *State of Idaho code*—

1. A developmental condition that is characterized by significantly lower than average level of general intellectual functioning. A student's performance falls at or below two standard deviations in basic skills and aptitude, and
2. Student shows significant deficiencies in adaptive behavior, including social adjustments inside and outside school.

### B. *State of Washington code*—

1. Students with mental retardation are those who demonstrate significantly subaverage general intellectual functioning existing concurrently with deficits in adaptive behavior and manifested during the developmental period, that adversely affects their educational performance and requires specially designed instruction.

## II. Three general categories of Cognitive Impairment:

- A. Mild Cognitive Impairment (MCI) 70-55 IQ. (*About 10% of persons have MCI*)
- B. Trainable Cognitive Impairment (TCI) or moderate 40 to 55 IQ. (*About 3% to 4% of persons have TCI*)
- C. Severe Cognitive Impairment (SCI) 39 IQ and below. (*About 1% to 2 % of persons have SCI*)

## III. Diagnostic Criteria

- A. An evaluation that meets state criteria for eligibility has been conducted
- B. Intellectual functioning significantly below average. IQs of about 70 or lower in those who can take an IQ test. Clinical judgement must be used on those who cannot take an IQ test.
- C. Impairments or deficits in adaptive functioning expected for his or her age in at least two of the following areas:

- I. communication
- II. health
- III. leisure time
- IV. safety
- V. school
- VI. self-care
- VII. social
- VIII. taking care of a home
- IX. work

- C. The students condition adversely affects educational performance
- D. The onset of impairment must be before the age of 18

#### IV. Rate of Incidence

- A. Washington State estimate—6,597 cognitively impaired students as of 12/1/00
- B. According to the American Association on Mental Deficiency (AAMD) about 1 to 1.5 of overall population fit the definition (Woolfolk, p. 141) about 7.63 to 10,000 births
- C. Based on the 2000 Census and AAMD between 2,814,219 and 4,221,328 individuals are afflicted with some degree of cognitive impairment ([www.census.gov](http://www.census.gov))

#### V. Causation

- A. Impossible to single out every cause; there are several hundred—organized into (3) groups:
  1. Prenatal—Down syndrome, fragile x syndrome, phenylketonuria (PKU), toxins (alcohol, cigarettes, other drugs) fetal alcohol syndrome, disease such as rubella, meningitis, measles, neural tube defects.
  2. Perinatal—birth injury, low birth weight
  3. Postnatal—child abuse, neglect (malnutrition, disease-producing conditions, inadequate medical care) environmental health hazards (toxins), accidents (Deutsch-Smith, 1992)

#### VI. Various Manifestations

- A. Intellectual and adaptive behavior skills—speech, abstract thinking, universalized principles, memory, don't understand consequences. <sup>lack of ↓</sup>
- B. Psychological and emotional considerations—(mental age) depression, motivation, eager to please peers

#### VII. Unique Issues

- A. Caution is advised when assessing students with cultural and language issues to prevent inappropriate identification of these students as having a CI
- B. Assistive technology—to compensate for functional limitations and enhance and increase learning, independence, mobility, communication, environmental control and choice. It also refers to direct services that assist individuals in selecting, acquiring or using such devices (The Arc, 1991)
- C. Importance of Friendships between people with and without cognitive impairments
- D. Can Cognitive Impairments be prevented?
  1. Significant advances in research have prevented many cases of CI. For example, every year in the United States, we prevent:
    - a. 250 cases of CI due to (PKU) by newborn screening and dietary treatment;
    - b. 1,000 cases of CI due to congenital hypothyroidism thanks to newborn screening and thyroid hormone replacement therapy;
    - c. 1,000 cases of CI by use of anti-Rh immune globulin to prevent Rh disease and severe jaundice in newborn infants;
    - d. 5,000 cases of CI caused by Hib diseases by using the Hib vaccine;
    - e. 4,000 cases of CI due to measles encephalitis thanks to measles vaccine; and
    - f. untold numbers of cases of CI caused by rubella during pregnancy thanks to rubella vaccine (Alexander, as cited in The Arc, 1998)

## **XI. Recommended Accommodations:**

### **A. Woolfolk's *Educational Psychology*, 8<sup>th</sup> edition.**

- Determine readiness
- State and present objectives simply
- Base specific learning objectives on individual strengths and weaknesses.
- Present material in small logical steps and practice extensively before moving to next step
- Work on practical skills
- Do not skip steps. Make the logical connections clear
- Be prepared to present material in many different ways
- Be prepared to go back to a simpler level if you lose the student
- Keep the motivation and attention
- Find appropriate materials for content, age, and subject matter
- Focus on a few target areas. Everyone needs positive reinforcement
- Student will need to over-learn, repeat, and practice much more than the average student
- Frequent reviews and practice sessions with learned material
- Study habits
- Pay attention to social situations

## **X. Preparation for Adulthood/Transitions**

- Transition efforts must start early
- Transition planning must be comprehensive
- Decisions must balance what is ideal with what is possible
- Active and meaningful student participation is essential
- Family involvement is crucial
- Diversity issues must be considered
- Supports are beneficial and used by everyone
- Community-based experiences reap benefits
- Interagency commitment, cooperation, and coordination are needed and must be improved
- Timing is critical
- The transition planning process should be considered a capacity-building activity
- Transition needs must be ranked and acted upon based on a number of factors
- Transition planning is needed by all students

## **XII. Sources**

### **Internet resources for special children:**

<http://www.doe.mass.edu/sped/links/global.html>

The Massachusetts Department of Education and is an annotated list of web pages. The focus is the topic of Special Education. It is a nice collection of links to various resources of interest.

<http://www.irsc.org:8080/irsc/irscmain.nsf>

The Internet Resource For Special Children. The IRSC web site is dedicated to children with disabilities and other health related disorders worldwide. It is a nice collection of links to various resources of interest

<http://www.cognitivedesigns.com/>

Cognitive Designs, Inc. (CDI) distributes training materials developed by creative thinkers and practitioners who have worked intensively with children with severe learning problems. Only materials that have proven their effectiveness in both educational and clinical settings are offered to professionals and parents.

[www.k12.wa.us/specialed](http://www.k12.wa.us/specialed)

The Office of Superintendent of Public Instruction (OSPI) is the primary agency charged with overseeing K-12 education in Washington State. All of Washington State's standards are located here.

<http://www.sde.state.id.us/specialed/>

State of Idaho Bureau of Special Education. The Special Education Bureau works collaboratively with districts, agencies, and parents to ensure students receive quality, meaningful, and needed services. For information on Special Education in the State of Idaho, go to this site.

<http://www.pitt.edu/~eflst4/sig20/sig20.htm>

Cognitive Disabilities and Assistive Technology—Provides information about how technology can be used to aid people with CI, as well as general information related to CI, assistive technology, and other related issues.

<http://thearc.org>

Website for parents, teachers and professionals—Provides information on services/support, community living/employment, health promotion, education, as well as habilitative mental healthcare for CI individuals.

<http://www.circleofinclusion.org>

Resource for individuals with Disability, family, teachers and professionals—Good resource for individuals with IQ below 2 standard deviations from the mean—starts with early childhood education. It includes personal accounts of success.

<http://ericec.org>

The Eric Clearinghouse on Disabilities and Education.. is one of 16 federally funded clearinghouses in the ERIC system, a nationwide information network sponsored by the U.S. Department of Education, et al. ERIC gathers and disseminates the professional literature, information, and resources on the education and development of individuals of all ages who have disabilities and/or who are gifted.

#### Books:

Drew, Clifford, and Michael Hardman, *Mental Retardation: A Life Cycle Approach*. 7th Edition, Prentice Hall; 1999.

This comprehensive, yet readable, introduction to cognitive impairment (mental retardation) is strongly based on the stages of human development and provides an interdisciplinary perspective on aspects of diagnosis and intervention

Smith, Deborah Deutsch, *Introduction to Special Education Teaching in an Age of Change*. 4<sup>th</sup> edition. Allyn & Bacon; 2002.

Designed as a text for a college level introduction to special education, this is an excellent general resource. On all the various issues associated with cognitive impairment.