

Middle Childhood: Cognitive Development

Chapter 12

Intellectual Development in Middle Childhood: Piagetian Approaches to Cognitive Advances

- The school-age child enters the **CONCRETE OPERATIONAL STAGE**, the period of cognitive development between 7 and 12 years of age,
- Characterized by the active, and appropriate use of logic.
- Children at this stage *can* easily solve **conservation** problems—logic used over appearance.

(more about Piaget's views of intellectual
development)

- Because they are less egocentric, *they can take multiple aspects of a situation into account, a process known as **DECENTERING***
- They attain the concept of *reversibility*, realizing that a stimulus can be reversed, returning to its original form.

- ❑ Despite the obvious advances that occur during the concrete operational stage, children still experience a big limitation in their thinking: They are still tied to concrete physical reality!
(no understanding of abstract/hypothetical/logic)

A brief critique of Piaget's views of intellectual development

- ❑ Piaget is criticized for underestimating children's abilities and for exaggerating the universality of the progression through the stages.
- ❑ Research suggest that Piaget was more right than wrong.
- ❑ Cross-cultural research increasingly implies children universally achieve concrete operations, and that training with conservation tasks improves performance.

Vygotsky's Approach to Cognitive Development & Classroom Instruction

- ❑ Vygotsky's approach has been particularly influential in the development of several classroom practices.
- ❑ Classrooms are seen as places where children should have the opportunity to try out new activities.
- ❑ Specifically, Vygotsky suggests that children should focus on activities that involve interaction with others.

(Vygotsky's Approach, continued)

- *Cooperative learning* is a strategy used in education that incorporates several aspects of Vygotsky's theory (kids work together to achieve goals).
- *Reciprocal teaching*, a technique where students are taught to skim the content of a passage, raise questions about its central point, summarize the passage, and finally, predict what will happen next, help lead students through the zone of proximal development.
 - Significant success rates with raising reading comprehension levels

Intelligence: Determining Individual Strengths

- *INTELLIGENCE is the capacity to understand the world, think rationally, and use resources effectively when faced with challenges.*
- Alfred Binet's pioneering efforts in intelligence testing left three important legacies.
 - 1) He defined intelligence pragmatically as *that which his test measured*,
 - 2) Intelligence tests should be reasonable indicators of school success.

Binet invented the concept of IQ, **INTELLIGENCE QUOTIENT**, a *measure of intelligence that takes into account a student's mental and chronological age*

- $(MA) / CA \times 100 = IQ$.
- **MENTAL AGE** is the typical intelligence level found for people at a given chronological age.
- **CHRONOLOGICAL (OR PHYSICAL) AGE** is the actual age of the child taking the intelligence test.

Binet & Intelligence, continued

- ❑ Scores today are *deviation IQ scores*, so that the degree of deviation from the average (100) permits a calculation of the proportion of people who have similar scores.
- ❑ 2/3 of all people fall within 15 points of the average.
- ❑ As scores rise and fall beyond the average range, the percentage of people falls significantly.

Measuring IQ in the Present Day

- ❑ Intelligence tests today share an underlying premise that intelligence is composed of a single, unitary mental ability factor, commonly called "g".
- 3 main assessment instruments used today
- 1) The STANFORD-BINET INTELLIGENCE SCALE *is a test that consists of a series of items that vary according to the age of the person being tested.*

(Measuring IQ in the Present Day, continued)

- 2) The WECHSLER INTELLIGENCE SCALE FOR CHILDREN-REVISED (WISC-III) *is a test for children that provides separate measures of verbal and performance (or nonverbal) skills as well as a total score.*
- 3) The WECHSLER ADULT INTELLIGENCE SCALE-REVISED (WAIS-III) *is a test for adults that provides separate measures of verbal and performance (or nonverbal) skills as well as a total score.*

What do IQ scores from these tests mean?

- Reasonably good predictors of school performance
- NOT good predictors of performance outside of school
 - Frequently inaccurate at predicting future success, income, etc.!

Intelligence Test Norms: Mental Retardation

MENTAL RETARDATION, defined as a significantly subaverage level of intellectual functioning that occurs with related limitations in two or more skill areas, is found in approximately 1 to 3 percent of the school-age population.

- Mentally retardation is typically measured by IQ tests.

(Mental Retardation, continued)

- a. 90 percent are classified as **MILD RETARDATION**, where IQ is in the range of 50 or 55 to 70.
- b. can reach 3rd to 6th grade level in school
- c. can hold jobs and function independently

(Mental Retardation, continued)

- a. 5 to 10 percent are classified as **MODERATE RETARDATION**, where IQ is from 35 or 40 to 50 or 55.
- b. slow to develop language and motor skills
- c. generally cannot progress beyond 2nd grade
- d. capable of training and social skills but typically need supervision

(Mental Retardation, continued)

- a. Those with **SEVERE RETARDATION**, IQs ranging from 20 or 25 to 35 or 40, and **PROFOUND RETARDATION**, where IQ is below 20 or 25 are the most limited.
- b. no speech
- c. poor motor control
- d. need 24-hour care

The Intellectually Gifted

- 3 to 5 % of school-age children are **GIFTED AND TALENTED**, who show evidence of high performance capability in areas such as intellectual, creative, artistic, leadership capacity, or specific academic fields.
- Contrary to stereotypes, research shows that highly intelligent people also tend to be outgoing, well adjusted, and popular

The Intellectually Gifted, continued

- Two approaches to educating the gifted and talented exist.
- ❑ ACCELERATION, where special programs allow gifted students to move ahead at their own pace, even if this means skipping to higher grade levels.
 - ❑ ENRICHMENT is an approach through which students are kept at grade level but are enrolled in special programs and given individual activities to allow greater depth of study in a given topic.

Mainstreaming: Ending Segregation by Intelligence Levels

- ❑ Public law 94-142 (the Education for all Handicapped Children Act) requires that children with special needs receive a full education in the least restrictive environment (the setting most similar to that of children without special needs).
- ❑ Supporters of mainstreaming point out that special needs children must ultimately function in a “normal” environment, and greater experience with their peers will help with this

- ❑ Full inclusion supporters want all students, no matter how severe the disability, to be included in regular classrooms.
- ❑ Controversial!
- ❑ Some concern exists that these students may be overlooked in a regular classroom environment
