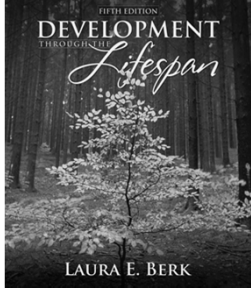


Development Through the Lifespan



Chapter 9 Physical and Cognitive Development in Middle Childhood

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Physical Play Development

Games with rules common

- sports
- invented games

Rough-and-tumble play

Video games

Adult-organized sports

Physical education



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Piaget's Theory: Achievements of the Concrete Operational Stage

Conservation

- decentration
- reversibility

Classification

Spatial Reasoning

- directions
- maps

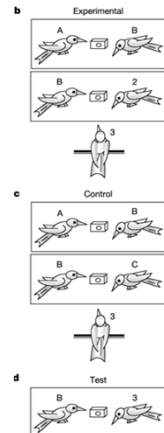
Seriation

- transitive inference



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Transitive Inference



Limitations of Concrete Operational Thought

Operations work best with concrete information.

- problems with abstract ideas

Continuum of acquisition

- master concrete operational tasks gradually, step by step

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Follow-up Research on Concrete Operational Thought

Culture and schooling affect task performance.

- Going to school gives experience on Piagetian tasks.
- Relevant non-school experiences of some cultures can help, too.

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Information-Processing View of Concrete Operational Thought

Neo-Piagetians: gains in information-processing speed, rather than shift to a new stage

- automatic schemas free working memory
- central conceptual structures



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Key Information-Processing Improvements

Increase in information-processing speed/capacity

Gains in inhibition

Both may be related to brain development.



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Attention in Middle Childhood



PhotoDisc

Attention becomes more

- selective
- adaptable
- planful

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Development of Memory Strategies

Rehearsal (early grade school)

- repeating information to oneself

Organization (early grade school)

- grouping related items together

Elaboration (end of middle childhood)

- creating a relationship between pieces of information not in same category

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Attention-Deficit Hyperactivity Disorder

- ✓ Inattention
- ✓ Impulsivity
- ✓ Excessive motor activity

Results in

- social problems
- academic problems



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ADHD Treatment



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Stimulant medications

- some risks
- may not be enough

Family intervention

Adults with ADHD need ongoing assistance.

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Theory of Mind

Metacognition becomes more elaborate and refined.

Views mind as active and controllable

- attention, concentration increase
- mental inferences
- false-belief knowledge

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Second-Order False-Belief Task

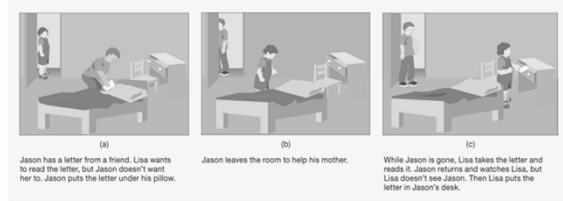


Figure 9.6

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Promoting Cognitive Self-Regulation

- Point out important features of tasks.
- Stress importance of planful learning.
- Suggest effective learning strategies.
 - Provide for evaluation of effectiveness.
- Emphasize monitoring of progress.

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Information Processing and Academic Learning

Reading

- Phonological awareness, information-processing speed, and practice contribute to reading skills.
- mix whole-language and phonics

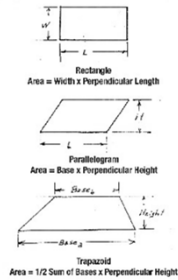
Mathematics

- learn facts and skills through practice, reasoning, strategies
- blend drill and “number sense” approaches

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Rules without Understanding

$$\begin{array}{r} 427 \\ -138 \\ \hline 311 \end{array} \qquad \begin{array}{r} 7,002 \\ -5,445 \\ \hline 1,447 \end{array}$$



Intelligence Tests

Group Tests

- Allow testing of large groups
- Require little training to administer
- Useful for instructional planning
- Identify students who need individual testing

Individual Tests

- Examiners need training and experience
 - provide insights about accuracy of score
- Identify highly intelligent children and children with learning problems

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TYPICAL VERBAL ITEMS

Vocabulary
Tell me what carpet means.

General Information
What day of the week comes right after Thursday?

Verbal Comprehension
Why do we need police officers?

Similarities
How are a ship and a train alike?

Arithmetic
If a \$40 jacket is 25% off, how much does it cost?

TYPICAL PERCEPTUAL AND SPATIAL REASONING ITEMS

Block Design
Make these blocks look just like the picture.

Picture Concepts
Choose one object from each row to make a group of objects that goes together.

Spatial Visualization
Which of the boxes on the right can be made from the pattern on the left?

TYPICAL WORKING-MEMORY ITEMS

Digit Span
Repeat these digits in the same order. Now repeat these digits in similar series backward.
2, 6, 4, 7, 1, 8

Letter-Number Sequencing
Repeat these numbers and letters, first giving the numbers, then the letters, each in correct sequence.
8 0 4 B 3 N 2

TYPICAL PROCESSING-SPEED ITEM

Symbol Search
If the shape on the left is the same as any of those on the right, mark YES. If the shape is not the same, mark NO. Work as quickly as you can without making mistakes.

○ ◊ △ □ ○ YES NO

Typical Intelligence Test Items

Figure 9.7

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Sternberg's Triarchic Theory of Successful Intelligence

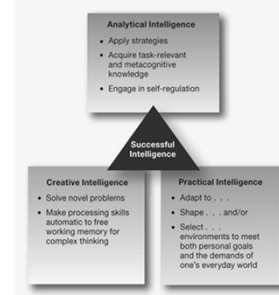


Figure 9.8

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Gardner's Multiple Intelligences



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Linguistic
 Logico-mathematical
 Musical
 Spatial
 Bodily-kinesthetic
 Naturalist
 Interpersonal
 Intrapersonal

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Genetics and IQ

Genetics may account for some differences.
 Disagreement exists about interaction with environment.
 Adoption studies show influence of both.
 Ethnic differences may be more cultural than genetic.

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Cultural Bias in Testing

Two views:



Image Source

Tests not biased; represent success in the common culture

Cultural factors can hurt test performance.

- communication styles
- test content
- stereotypes

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Effects of Stereotype Threat on Performance

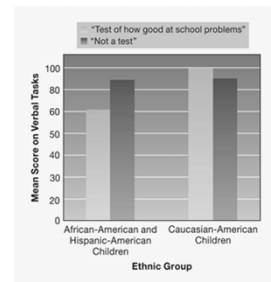


Figure 9.9

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Reducing Cultural Bias in Testing

Combine tests with assessment of adaptive behavior

Dynamic assessment

Reduce high-stakes testing

- NCLB
- undermine or upgrade?



Dynamic Graphics

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Social and Emotional Intelligence

Perceiving

Understanding

Regulating emotions



Disability

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Language Development

Vocabulary	<ul style="list-style-type: none"> ■ Increases fourfold during school years ■ 20 new words a day
Grammar	<ul style="list-style-type: none"> ■ Mastery of complex constructions ■ Advanced understanding of infinitive phrases
Pragmatics	<ul style="list-style-type: none"> ■ Adjust to people and situations ■ Phrase requests to get what they want

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Learning Two Languages

Bilingual development

- learn both languages at the same time
OR learn first language, then second
- sensitive period during childhood

Bilingual education

- language immersion
- English-only programs
 - risk of semilingualism

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Educational Philosophies

Traditional v. Constructivist
New philosophical directions

- Social-constructivist
 - teachers and children as partners
 - many types of symbolic communication
 - meaningful activities
 - zone of proximal development
 - reciprocal teaching

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Teacher–Student Interaction

Good teachers: caring, helpful, stimulating

- too many use repetitive drill
- better achievement in stimulating classrooms

Individual differences

- well-behaved, high achievers get more attention
- more impact of attention on low SES
- self-fulfilling prophecy

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Grouping Practices in Elementary Schools

Homogeneous ability groups
Multigrade classrooms
Cooperative learning



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Children with Learning Difficulties

Difficulties include:

- mild mental retardation
- learning disabilities
 - 5–10% of children

Law requires “least restrictive” environment

- mainstreaming
- full inclusion

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Convergent and Divergent Thinking

Convergent

Single correct answer
Emphasized on intelligence tests

Divergent

Generating multiple, unusual possibilities

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Creativity and Divergent Thinking

The ability to produce original, appropriate work



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Educating Gifted and Talented Children

Gifted \approx high IQ

Talented \approx outstanding in a specific field

Several education methods:

- enrichment in regular classroom
- pull out for special instruction
- move to higher grade
- multiple intelligences models

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Academic Achievement Around the World

Country	Average Math Achievement Score
Taiwan	549
Finland	548
Hong Kong	547
Korea, Republic of	547
Netherlands	531
Belgium	530
Canada	527
Mexico, China	525
Japan	523
New Zealand	522
Belgium	520
Australia	520
Denmark	513
Czech Republic	510
Ireland	508
Austria	505
Germany	504
Sweden	502
International Average \approx 488	501
France	496
United Kingdom	495
Poland	495
Hungary	491
Luxembourg	491
Norway	490
Spain	483
United States	474
Portugal	466
Italy	462
Greece	459
Turkey	424

Figure 9.11

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Asian Schools versus North American Schools

Asian schools show more:

- cultural valuing of academic achievement
- emphasis on effort
- high-quality education for all
- time devoted to instruction

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