

Chapter 2: Theories of Human Development



General Coursemate Resources for Chapter 2

<http://www.developmentalpsych4ce.nelson.com>

Student Site

- *Learning Objectives* for Chapter 2
- *Chapter Outline and Summary* for Chapter 2
- *Interactive Quiz* (multiple choice questions) for Chapter 2
- *Self-Study Questions* (short answer and essay questions) for Chapter 2
- *Beyond the Book* (activities and projects) for Chapter 2
- *Flashcards* (vocabulary practice) for Chapter 2
- *Games (Concentration and Crosswords)* for Chapter 2
- *Multi-Media* (learning models and videos) for Chapter 2
- *Power Visual* for **Figure 2.1** The role of theory in scientific investigation

Instructor Site (also available on CD-ROM)

- *PowerPoint® Lecture Slides* for Chapter 2
- *Multi-Media* (learning models and videos) for Chapter 2
- *Image Gallery* for Chapter 2
- *Test Bank* (multiple-choice, short-answer, and essay assessment questions) for Chapter 2
- *Computerized Test Bank* for Chapter 2

Chapter Outline	Ideas for Instruction	Specific Coursemate Resources
Nature of Scientific Theories	Learning Objective 1 Lecture Topic 2-1 to 2-2	Activities 2-1 and 2-3 in <i>Beyond the Book</i> , Chapter 2 (Coursemate Student Site)
The Psychoanalytic Viewpoint <ul style="list-style-type: none"> • Freud • Erikson • Other contributors 	Learning Objectives 3 to 8 Lecture Topic 2-5 to 2-6	Activity 2-2 in this Instructors Manual
The Learning Viewpoint <ul style="list-style-type: none"> • Watson • Skinner • Bandura 	Learning Objectives 9 to 13	
Cognitive-Developmental Viewpoints <ul style="list-style-type: none"> • Piaget • Vygotsky • Information-processing Viewpoint 	Learning Objectives 14 to 18 Lecture Topic 2-3	Activity 2-4 in this Instructors Manual

The Information-Processing Viewpoint	Learning Objectives 19	
Ethological (or Evolutionary) Viewpoint <ul style="list-style-type: none"> • Classical ethology • Ethology and human Development 	Learning Objectives 20 and 21	
The Ecological Systems Viewpoint <ul style="list-style-type: none"> • Bronfenbrenner 	Learning Objective 22 Lecture Topic 2-4	
Human development <ul style="list-style-type: none"> • Nature/Nurture • Active/Passive • Continuity / Discontinuity • The holistic nature of development 	Learning Objective 22 Lecture Topic 2-2	
Theories and World Views	Learning Objective 23	

CHAPTER OUTLINE

I. The Nature of Scientific Theories

II. The Psychoanalytic Viewpoint

- A. Freud's psychosexual theory
 - 1. Three components of personality
 - 2. Stages of psychological development
- B. Contributions and criticisms of Freud's theory
- C. Erikson's theory of psychosocial development
 - 1. Comparing Erikson with Freud
 - 2. Eight life crises
- D. Contributions and criticisms of Erikson's theory
- E. Psychoanalytic theory today

III. The Learning Viewpoint

- A. Watson's behaviourism
- B. Skinner's operant-learning theory (radical behaviourism)
- C. Bandura's cognitive social-learning theory
- D. Social learning as reciprocal determinism
- E. Contributions and criticisms of learning theories

IV. The Cognitive-Developmental Viewpoint

- A. Piaget's view of intelligence and intellectual growth
 - 1. Four stages of cognitive development
- B. Contributions and criticisms of Piaget's viewpoint
- C. Vygotsky's sociocultural perspective
- D. Contributions and criticisms of Vygotsky's viewpoint

V. The Information-Processing Viewpoint

- A. Contributions and criticisms of the information-processing viewpoint

VII. The Ethological (or Evolutionary) Viewpoint

- A. Assumptions of classical ethology
- B. Ethology and human development
- C. Contributions and criticisms of the ethological viewpoint

VIII. The Ecological Systems Viewpoint

- A. Bronfenbrenner's contexts for development
 - 1. The microsystem
 - 2. The mesosystem
 - 3. The exosystem
 - 4. The macrosystem
 - 5. The chronosystem
 - 6. Family and the Ecological Systems Theory
- B. Contributions and criticisms of the ecological systems theory

IX. Theories and world views

CHAPTER OBJECTIVES

Scientific Theories

Students should be able to

1. Describe the three characteristics of a good theory.

Freud

Students should be able to

2. Describe the three personality structures proposed by Freud.
3. Outline the five stages in Freud's psychosexual theory of personality development.
4. Identify three lasting contributions of Freud's psychoanalytic theory.

Erikson

Students should be able to

5. Outline two main differences between Erikson's and Freud's theories of personality development.
6. Identify each of the eight stages in Erikson's psychosocial theory of personality development and describe the significant events and influences associated with each stage.

Neo-Freudians

Students should be able to

7. Explain how neo-Freudian views differ from Freud's original views, and identify the contributions of three prominent neo-Freudian theorists.

Learning Theories

Students should be able to

8. Describe the learning viewpoint of development.
9. Outline the key components of operant conditioning.
10. Explain how observational learning highlights Bandura's emphasis on the cognitive processes involved in learning.
11. Explain what is meant by reciprocal determinism.
12. Identify the key contributions and chief criticism of the learning approach to development.

Piaget

Students should be able to

13. Describe the basic tenets of Piaget's theory of cognitive development, focusing on the processes of assimilation and accommodation.
14. Outline the main characteristics associated with each of Piaget's four stages of cognitive development.
15. Identify two lasting contributions of Piaget's cognitive theory.

Vygotsky

Students should be able to

16. Describe Vygotsky's sociocultural perspective of development.
17. Outline the main differences between Vygotsky's sociocultural perspective and Piaget's theory of cognitive development.

Information Processing

Students should be able to

18. Outline the main differences between the information-processing view and Piaget's theory of cognitive development.

Ethological Approach

Students should be able to

19. Identify the basic assumptions that underlie the ethological (or evolutionary) approach and explain what ethologists mean by sensitive periods in development.

20. Evaluate some of the key criticisms that have been raised concerning the application of the ethological approach to understanding human development.

Ecological Systems Viewpoint

Students should be able to

21. Describe the five subsystems that form the foundation of Bronfenbrenner's ecological systems theory.

Human Development

Students should be able to

22. Identify three central issues in the study of human development and understand how the holistic theme of the text incorporates all of these issues.

Worldviews

Students should be able to

23. Describe the three different world views discussed in the chapter, and categorize the main developmental theories according to the world view that each represents.

24. Define each of the highlighted glossary terms in the chapter.

KEY CONCEPTS

If nothing else, my students should learn

1. How to evaluate a theory.
2. The fundamental components of key developmental theories.
3. The central issues in the study of development and how these will be repeated throughout the book.

STUDENT MOTIVATION

This chapter is important to psychologist because

1. Our knowledge of child development is dependent upon our theoretical perspective.
2. Understanding theories of development will help students contextualize the information they learn.

Students should care about the content in this chapter because

1. Child development, as a field of study, is dependent upon its theoretical underpinnings.

2. Learning about different theories of development will help students to frame their own understanding and beliefs about child development.

BARRIERS TO LEARNING

Some common misconceptions and stumbling blocks related to this chapter are

1. Students often have a difficult time understanding the tentative nature of science. It can be difficult to explain that the information presented in the book, and all information, has to be contextualized or viewed through the lens of the theory from which the research was derived.

WHAT CAN I DO IN CLASS - LECTURE TOPICS

Suggestion: Reassign the Chapter 2 coverage on each theory along with the text chapter(s) that it complements best. Students can usually benefit from a second reading of this material. For example, you could reassign pages from the text as follows:

- Psychoanalytic Theory: Reassign with Chapters 12-17
- Learning Theories: Reassign with Chapter 7
- Ecological Systems Viewpoint: Reassign with Chapters 16-17
- Cognitive-Developmental Theory: Reassign with Chapter 8
- Evolutionary Viewpoint: Reassign with Chapter 12
- Information Processing Theory: Reassign with Chapter 9

LECTURE 2-1 ASSUMPTIONS MADE BY THE MAJOR THEORIES

Suggestion: Assign **Activity 2-1** (Coursemate site, Beyond the Book for Chapter 2) or the readings provided in the text (**Box 2.1** and **Table 2.4**). Assign this to be due the class period you wish to cover this topic or assign it as an in-class activity for partners or small groups.

Point out at the start that, for centuries, controversy has surrounded the issues of nature/nurture, activity/passivity, and continuity/discontinuity. The controversies have been perpetuated because there is evidence supporting each position and evidence against each position. When such a state of affairs exists, it probably points to the need to consider that there may be some intermediate viewpoint that is most "sensible" and consistent with the evidence. For example, current developmentalists now assume that heredity and environment work in an interactive way to determine behaviour. The position that either heredity or environment is the sole determiner of behaviour is simply not a tenable assumption.

It is useful to briefly discuss each controversy by putting the issue in everyday language and, then, to discuss the implications of holding each position--for child rearing, for education, and for understanding individual differences. This can be done effectively by saying:

"Suppose you are a parent who believes that intelligence is entirely inherited. How might this affect your child rearing practices?"

"Suppose you teach grade eight science and you believe that each child plays an important role in his/her own learning and development. How might this affect how you structure your course?"

When appropriate, follow up with the question: "Which theorists and theoretical position hold this view?" (Refer to the **Activity 2-1** summary or to **Table 2.4** in the text.)

LECTURE 2-2 THEORIES OF DEVELOPMENT: APPLICATIONS

A possible adjunct to the text material on theories is to present an overview of some of the applications that have been made of some or all of the theories presented in the text. Thomas (1992) presents a brief section reviewing applications at the end of each chapter.

Resources on Applications

McCarthy Gallagher, J., & Reid, D. M. (1983). *The learning theory of Piaget and Inhelder*. Austin, TX.: Pro-Ed. (See Chapter 9 on Piaget and Education. Two classroom applications are discussed: (1) the

method of critical exploration and (2) social interaction and conflict as means to increasing understanding.)

Tharp, R., & Gallimore, R. (1989). Rousing schools to life: Settings that give learning a chance. *American Educator*, 13, 2. (Applies Vygotsky's theory to education.)

Thomas, R. M. (1992). *Comparing theories of child development*. Belmont, CA.: Wadsworth. (Each chapter has a brief section on applications.)

Also, consider using one of the films or videos that illustrates the application of a theory. See the **OTHER RESOURCES – FILMS AND VIDEOTAPES** section in this manual for Chapters 8 and 9 for some suggestions. Because of the widespread use of behavioural principles in educational settings, mental health units, drug rehabilitation units, and other applied settings, one of the films on the application of behavioural principles is particularly appropriate. The films demonstrate what the systematic applications of behavioural principles can accomplish. When an adolescent in a rehabilitation unit has to earn things such as: the right to wear his or her own clothing, telephone time, outdoor privileges, and access to entertainment, behaviour often "shapes up" quickly.

LECTURE 2-3 THEORIES OF DEVELOPMENT: VYGOTSKY (Lecture 2-3 could also accompany text Chapter 8; also see Lecture 8-4 for more on Vygotsky)

The work of the Russian investigator and theorist Lev Vygotsky is discussed in the Chapter 7 of the text (Cognitive Development: Piaget's Theory and Vygotsky's Sociocultural Viewpoint). In that chapter, the views of Vygotsky on education and on the relationship between thought and language are contrasted with those of Piaget. Vygotsky's theory could be introduced with Chapter 2 and more comprehensive coverage of his theory of intellectual development presented. Consider contrasting Vygotsky's and Piaget's views on cognitive development (see text **Table 8.4**)

Vygotsky's theory is much broader in scope than thought and language. Recently, his notions of the mechanisms of cognitive change have had considerable impact on developmental psychology and on education. A key notion is that cognitive growth is set in motion when the child is given the opportunity to complete a task with guidance that he/she could not have achieved alone (See **last section of Lecture 8-4** for more on Vygotsky's notions of zone of proximal development.)

According to Rogoff (1990), the conditions necessary for cognitive growth include:

1. Achievement of intersubjectivity (joint focus of attention) on the task/problem—mom's presence is of little help if she is reading a novel and the child is struggling with a difficult puzzle, but is a valuable resource if she too is focused on the puzzle and able to give hints as needed.
2. Sensitive provision of scaffolding—the guide provides tasks or structures situations so that are manageable challenges; the guide lets the child do as much as the child can by himself, stepping in to guide when necessary, and then backing off as the child's competency increases.
3. The guide serves as summarizer of experience, thereby facilitating metacognitive awareness of the strategies that were effective in carrying out the task.

Rogoff stresses the importance of the joint participation of guide and learner implied in the notion of guided participation. Learners progress faster if they are allowed to participate as fully as possible in the solution of a problem rather than simply allowed to observe someone else carrying out the task (e.g., it is difficult to learn new computer skills just through observation; being guided through the steps as you perform them is much more effective). Effective collaborative learning and effective tutoring by peers or adults is dependent on these conditions being met. A peer tutor who demonstrates how to do problems without giving the tutee a

chance to actually try one is unlikely to be successful in transmitting how to do the problem. In contrast, a peer tutor who demonstrates how to do a problem and then watches as the tutee goes through one (providing hints, feedback, and encouragement as needed) is more likely to successfully transmit how to do the problem.

Resources on Vygotsky

Daehler, M. W., & Bukatko, D. (1985). *Cognitive development*. New York: Knopf. (See Chapter 13, pp. 322-329)

Rogoff, B. (1990). *Apprenticeship in thinking: Cognitive development in social context*. New York: Oxford Univ. Press.

Thomas, R. M. (1992). *Comparing theories of child development*. Belmont, CA.: Wadsworth. (See Chapter 11, pp. 319-345)

LECTURE 2-4 THEORIES OF DEVELOPMENT: BRONFENBRENNER'S ECOLOGICAL PSYCHOLOGY (Lecture 2-4 could also accompany Chapters 16 or 17 of the text)

Bronfenbrenner's ecological perspective is introduced in Chapter 2 of the text (Theories of Human Development). Bronfenbrenner argues that environment is a series of social systems that interact with each other in complex ways that can only be studied adequately in natural settings. To expand on the coverage of Bronfenbrenner's ecological model presented in the text, see Bronfenbrenner (1986, 1989), and Thomas (1992).

Also, note Thomas' critical assessment of Bronfenbrenner's theory. He points out three ambiguous features of the theory:

1. The problem of discriminating among Microsystems
2. The problem of identifying roles in a given context, since any one person may simultaneously be playing more than one
3. The problem of assessing the relative strengths of the various components in determining behaviour.

Note—The results of the Ceci and Bronfenbrenner (1988) study presented in **Lecture 1-3** of this manual, supports Bronfenbrenner's emphasis on the importance of context in determining behaviour.

Resources on Bronfenbrenner's Ecological Psychology

Bronfenbrenner, U. (1986). Ecology of the family as a context for human development: Research perspectives. *Developmental Psychology*, 22, 723-742.

Bronfenbrenner, U. (1988). Ecological systems theory. In R. Vasta (Ed.), *Annals of child development. Vol. 6: Theories of child development: Revised formulations and current issues*. Greenwich, CT.: JAI Press.

Thomas, R. M. (1992). *Comparing theories of child development*. Belmont, CA.: Wadsworth. (See Chapter 14, pp. 435-449. Also, Figure 14.2, p. 441, is a source for a TR Master on Bronfenbrenner's four-level model.

LECTURE 2-5 THEORIES OF DEVELOPMENT: ERIKSON'S PSYCHOSOCIAL THEORY

Suggestion: If you choose to go into one theory in depth, consider devoting one class period to an overview of Erikson's theory (contrast other theories with it as a way of emphasizing their characteristics). Follow your presentation with all or part of the two-hour videotape or film, Everybody Rides the Carousel. It provides a very effective portrayal of Erikson's eight stages. The film does need to be preceded or accompanied by a description of each stage (you can refer students to **Table 2.2** of the text or make a

handout of the table for distribution).

In your presentation on Erikson emphasize the following important contributions made by Erikson to our understanding of development:

1. Development is a life-long process.
2. Development results from an interplay of maturation and adult demands for more mature functioning. Erikson helps us see that the demands we make on children are natural, appropriate, and essential for normal development.
3. Erikson's view of humans is refreshingly optimistic (in contrast to Freud's, to the ethological notion of critical periods, and to the views of many earlier developmentalists who emphasized the importance of early experience). Erikson portrays humans as rational, adaptive beings who have the potential for positive change throughout their lives. His view contrasts sharply with the view that our personalities and behaviour patterns are set during early childhood and that, if our experiences during that time were not conducive to optimal development, we are "doomed."
4. Erikson views the search for and evaluation of alternative values and lifestyles that occur during adolescence as a normal, healthy part of the development of a mature identity.

Resources on Erikson's Psychosocial Theory

Lerner, R. M. (1986). *Concepts and theories of human development*. New York: Random House.

Miller, P. H. (1988). *Theories of developmental psychology*. San Francisco: Freeman.

Thomas, R. M. (1985). *Comparing theories of child development*. Belmont, CA.: Wadsworth. (Chapter 8 presents an overview of Erikson's 8 stages and a review of Erikson's lesser-known views on play.)

Tribe, C. (1982). *Profile of three theories: Erikson, Maslow, and Piaget*. Dubuque, IA: Kendal-Hunt.

LECTURE 2-6 THE STATUS OF STAGE THEORIES

The notion of stage is introduced in Chapter 2 in the discussion of the continuity-discontinuity issue. The stage notion reappears throughout the text as the stage theories of Freud, Erikson, Piaget, Kohlberg, Selman, Eisenberg, and others are presented and critiqued. To prepare students for those critiques, it is useful to provide them with more background on the criteria for a stage theory. These may be "old hat" for instructors, but not for students. This lecture topic is particularly related to the issues raised in Chapter 8 regarding Piaget's theory of cognitive development.

Flavell on concept of stages

Flavell (1971) presents a clear overview of the criteria of stages that is a good basis for a class lecture. In a 1977 edition of the same book, Flavell again discussed the notion of stage and concluded that his own hunch was that the concept of stage would not be an important one in future theories of cognitive development. He argued instead for the notion of developmental **sequences**. In his third edition of *Cognitive Development* (1993, with Miller and Miller) Flavell and his co-authors again discuss the issue of whether development is stage-like (see pp. 145-146, 331-335). They admittedly waffle regarding the place of stage models in developmental psychology today, but the position they take is quite different from Flavell's 1977 conclusion. They have found that the stage notion cannot be easily dismissed in light of the work of several neo-Piagetian theorists such as the work of two Canadian researchers Case, and Pascual-Leone, along with Fischer and others. Flavell, Miller, and Miller conclude:

...it is hard to believe that cognitive development does not possess **some** general-stage properties—**some** features that are mind-in-general and not just individual "mindlets" in isolation (Flavell et al., 1993, p. 335)

Flavell et al. On question of domain specificity/generalizability of cognitive development

At an earlier point in their 1993 book, Flavell et al. Discuss the question of whether there is some knowledge that is domain-general—mind-in-general. They side with the current thinking of Case, Siegler, and Sternberg that the most fruitful approach is not to assume an either/or answer to the question. Rather:

...it is more useful to try to identify in what ways representation and processing are domain-general and in what ways they are domain-specific, and how the two types of knowledge develop together during childhood and interact during problem solving (Flavell et al., 1993, p. 146)

For an in-depth look at the question of whether cognitive development is best conceived of as domain-specific, domain-general, or both, a useful resource is the 1989 issue of *Merrill-Palmer Quarterly* devoted to this topic. It includes articles by Ceci, Sternberg, Siegler, and others.

A related question has to do with whether the child's mind and the adult's mind are qualitatively different or whether there is only one "mind" with different amounts of accumulated knowledge. The latter view assumes that cognitive development consists of a number of novice-to-expert shifts rather than general cognitive changes as proposed by Piaget and other stage theorists. Flavell, Miller, and Miller conclude:

Our own intuitions are that the acquisition-of-expertise model (the view that cognitive development is primarily the acquisition of knowledge in many specific domains) will **not** account for all of cognitive growth. As Markman (1979) points out, when adults are in a novel situation, they know a great deal more than do children about how to move quickly from novice to expert status. They are experts at becoming experts. They quickly detect what it is they do not understand, have more potential solutions in their cognitive bank from which to draw, and more easily see similarities between the current situations and other previously encountered situations. Experts know how to acquire new relevant information, and to hone their new skills. (Flavell et al., 1993; parenthetical section added).

Thomas on concept of stages

In a recent book on developmental theories Thomas (1992) included a special section on the future of stage theories and concluded that the predicted demise (as implied in Flavell, 1977) of the stage theory has not occurred. In fact, the stage theory is alive and well and, he predicts, is here to stay—accurately predicting Flavell's views in the 1993 edition of *Cognitive Development* with Miller and Miller. Thomas briefly reviews three examples of thriving stage theories—Case's, Fisher's, and Mounoud's. The modern stage theories have attempted to incorporate features that were missing or weakly represented in Piagetian and other stage theories. In particular, they include attention to the day-to-day processes that foster development and to contextual factors.

Siegler on concept of stage

Recent evidence showing that children at all ages tend to use a variety of strategies for problem solving rather than a single one (as a strict stage theory would maintain) has led Siegler to argue that cognitive change is best conceived as a series of overlapping waves, where one strategy may be modal, but a variety are used, rather than as a staircase with abrupt shifts from no use to exclusive use of a given strategy. (See **Lecture 9-3** for more detail on this research) Using the overlapping waves model, a child may be seen as predominately using Strategy 1 for a given problem and lesser levels of Strategies 2 and 4. For an older child the predominant strategy on the same task may be Strategy 4, with lesser use of Strategies 1, 2, 3, and 5. A yet older child may primarily use Strategy 5, but occasionally use strategies 1, 2, 3, and 4. The overlapping wave pattern of cognitive change is evident when individual patterns of problem solving behaviours are observed (vs. averaging over children) and has been found in a wide variety of domains (e.g., arithmetic, serial recall, conservation, moral reasoning, scientific reasoning, map drawing, time telling,

block stacking, reading strategies, spelling strategies, motor development, vocabulary). What develops in part is the ability to make choices among an array of possible strategy options. As children gain experience in carrying out a strategy (gain automaticity) and gather feedback about its effectiveness (effectiveness may become evident only gradually as efficiency in carrying out the strategy increases), a child may begin to choose the more effective strategy more frequently, such that it becomes the modal response.

Siegler appeals to our logic in the following rationale for adopting the wave over the step conceptualization of cognitive change:

...we may unwittingly have made understanding change more difficult than it needs to be. In particular, portraying children's thinking and knowledge as conforming to one mould at one age and a different mould at a different age creates a need to explain the wide gulfs between the successive hypothesized understandings—even though such gulfs may not exist. The typical depictions make change a rare, almost exotic event that demands an exceptional explanation. If children of a given age have for several years had a particular understanding, why would they suddenly form a different understanding, and why would they regularly form it at a particular age? . . . Suppose we adopt a different set of orienting assumptions that, I believe, are both more consistent with the data and more helpful in understanding change. . . The typical situation is one where individual children know and use a variety of ways of thinking, rather than just one, and where cognition involves constant competition among alternative ways of thinking, rather than sole reliance on a single way of thinking at a given age. Rather than stepping up from Strategy 1 to Strategy 2 to Strategy 3, children would be expected to use several different strategies at any one time, with the frequency of use of each strategy ebbing and flowing at any one time, with increasing age and expertise. (Siegler, 1992, p. 409-410)

Siegler's logical argument is well backed up by data across many domains as noted above—when individual children's performance is assessed. Siegler introduces another concept (in addition to the overlapping waves metaphor) to address the issue of how children come to limit their strategy repertoires to strategies that all basically work, but with varying degrees of efficiency. For example, he has shown that even young children (e.g., 5 years olds) who have not yet shown any evidence in their addition performance of using the strategy of counting from the larger addend (e.g., $5 + 2 = 5, 6, 7$ —ah! 7), judge it to be a better strategy than an illegitimate addition strategy such as counting the first addend twice. To capture this ability to judge before actually using a strategy, Siegler introduces the term “goal sketch.” According to Siegler:

...a goal sketch specifies the hierarchy of objects that a satisfactory strategy must meet. The hierarchical structure directs searches of existing knowledge toward procedures that can meet the goals. In so doing, it directs searches away from illegitimate procedures” (Siegler, 1992, p. 416).

In other words, Siegler uses the term goal sketch to capture the observation that all ages possess the ability to tell when a strategy is totally incorrect long before they can readily generate the correct or most efficient strategy. One would expect, however, that children's goal sketches would only be developed for areas where the child has had some experiential basis. Think about whether you, as an adult, could judge whether a mechanic was using a good versus an illegitimate strategy in repairing your car engine. If she simply washed it off with a hose and said it was fixed, you could easily say that was not a legitimate strategy. However, if she worked on it in any one of 10 ways, you might not really know which were not legitimate strategies until you were able to test the results.

Siegler strongly advocates the use of microgenic studies in this area—studies of individual performance over trials or time so that the pattern of growth in strategy use can be studied. Some findings that are common to the many microgenic studies that have been done include:

1. The halting and uneven use of newly acquired strategies (e.g., in a 1989 study, Siegler and Jenkins reported that the only two children who used a new strategy only used it 7 of 84 and 2 of 49 trials after its discovery)
2. Innovations in strategy use followed successes as well as failures (i.e., children switched to a new possible strategy even following a trial where the previous strategy had worked)
3. Change is constrained (reiterating the point made in the paragraph above). Innovations were rarely totally incorrect, although they might not have been the most efficient approach, but only if the child initially knew enough about the task that they had tried at least one way that worked.

Based on the results of a large number of studies in diverse domains, Siegler has proposed a well-developed alternative to the stage concept of cognitive change. Siegler's four main premises are (Siegler, 1992, p. 427):

1. In all areas of cognitive development, children typically have multiple ways of thinking about most phenomena.
2. Cognitive-developmental change involves shifts in the frequency with which children rely on these ways of thinking, as well as the introduction of novel ways of thinking; change is better described as a series of overlapping waves than as a stair-step progression.
3. Significant changes are continuously occurring, rather than being limited to special transitional periods.
4. The changes that occur are not ordinarily the product of trial and error, but rather are constrained through self-regulatory mechanisms, such as goal sketches.

Summary

It is clear that the issue of how to best conceptualize children's development, particularly cognitive development, is still very much a hot topic. The fact that it is can be difficult for students. You might help put things in perspective for them by emphasizing those enduring contributions that Piaget and other major theorists have made and how the controversies surrounding his work have spawned new research directions and understanding. Students need help in seeing that controversy is not always a bad thing and that we don't need to necessarily throw out everything about a theory after concerns are raised. (This perspective can help students see why it was important to read and understand Piaget, for example, even though at the end of the section, his views are criticized.)

Resources for Status of the Concept of Stage

- Brainerd, C. J. (1978). The stage question in cognitive developmental theory. *Behavioral and Brain Sciences*, 1, 173-213.
- Case, R. (1986). The new stage theories in intellectual development: Why we need them; what they assert. In M. Perlmutter (Ed.), *Minnesota symposia on child psychology: Vol. 19. Perspectives on intellectual development*. Hillsdale, NJ: Erlbaum.
- Case, R., Hayward, S., Lewis, M., & Hurst, P. (1988). Toward a neo-Piagetian theory of cognitive and emotional development. *Developmental Review*, 8, 1-51.
- Flavell, J. H. (1971). Stage-related properties of cognitive development. *Cognitive Psychology*, 2, 421-453.
- Flavell, J. H. (1977). *Cognitive development*. Englewood Cliffs, NJ: Prentice-Hall, pp. 244-249.
- Flavell, J. H., Miller P. H., Miller, S. A. (1993). *Cognitive Development*, 3rd edition, Englewood Cliffs, NJ: Prentice Hall.
- Levin, I. (Ed.). (1986). *Stage and structure: Reopening the debate*. Norwood, N J: Ablex. See also Merrill-Palmer *Quarterly*, 3, (1989 special edition on children's cognition).
- Siegler, R. (1986). *Children's thinking*. Englewood Cliffs, NJ: Prentice-Hall, pp. 53-58.
- Siegler, R. (1992). Children's thinking: How does change occur? In W. Schneider & F. Weinert (Eds.). *Memory performance and competencies: Issues in growth and development*. Hillsdale, NJ: Erlbaum.
- Thomas, R. M. (1992). *Comparing theories of child development*. Belmont, CA: Wadsworth. (See Perspective D: Estimating the future of stage theories, pp. 347-364.)

HIGHLIGHTING CANADIAN RESEARCH

Specific information regarding the theoretical contributions of Robbie Case (at the University of Toronto) and Pascual Leone (from York University) is covered in Chapter 8 of the text with additional information about Case in Chapter 9.

Charles Brainerd, who is cited in **Lecture 2-6** taught at the University of Western Ontario before working in Alberta. His work evaluating Piagetian theory and limitations related to the theory is well renowned.

The following URL has information and activities related to research by many prominent Canadian psychologists: <http://www.psych.ualberta.ca/~gcpws/>

STUDENT ACTIVITIES

ACTIVITY 2-1 ASSUMPTIONS MADE BY MAJOR THEORIES (complete activity found on Coursemate site, Beyond the Book for Chapter 2)

This activity is most effective as a preparation to a class lecture on issues in development (see **Lecture 2-1** and the text). Assign Activity 2-1 to be due the day that you present this material in class. If you do not plan to cover these theoretical issues during class time, it can be assigned as a study tool to be completed outside class and turned in for credit.

ACTIVITY 2-2 USING THE INTERNET: PSYCHOANALYTIC THEORY

Activity 2-2 asks students to use the Internet to learn more about Sigmund Freud and psychoanalytic theory. This activity is useful for encouraging more in-depth exploration of Freud's ideas.

ACTIVITY 2-3 UNDERSTANDING MAJOR DEVELOPMENTAL ISSUES

Similar in purpose to **Activity 2-1**, this activity makes use of **Concept Check 2.3** and **Table 2.4** in the text. Before lecture coverage of issues in development, assign relevant sections in the text and ask students to complete the exercise in **Concept Check 2.3**. Then, assign the remainder of the chapter to be read and ask students to compare their answers given to the **Concept Check 2.3** assignment with the views of the theorists summarized in **Table 2.4**.

ACTIVITY 2-4 A PANEL OF THEORISTS

Ask volunteers to take on the role of each of the major theorists discussed in Chapter 2 of the text. Give them a few days to become an expert in one of the theories. Suggest that they become very familiar with the overview presented in **Table 2.4**, of the text. Ask students to prepare questions on the issues presented in Chapter 2. During one class period have the student experts assemble as a panel and field questions from the class and the instructor. For example: "Dr. Erikson, what is your view on the importance of early experience to later development?" or "Dr. Piaget, what is your position regarding the continuity-discontinuity controversy?" You can construct an overhead to provide an overview of the theories and the assumptions each makes about development.

ASSESSMENT TOOLS

See the Coursemate Instructor Site, *Test Bank* and *Computerised Test Bank* for Chapter 2 (which is also on the Instructors Resource CD-ROM). Also see the Coursemate Student Site, *Interactive Quiz* and *Self-Study Questions*, for Chapter 2.

OTHER RESOURCES – FILMS, VIDEOS, AND LEARNING MODULES

Also, see the Coursemate Instructor Site, *Multi-Media* (videos and learning modules) for the chapter.

Theories of Development (Magna Systems, video, 27 min, 1997). This is an overview of theory in action. The theories include: cognitive, psychosexual, psychosocial, behaviorist, social learning, and sociocultural. It also explains the concept of the “whole child” and shows how theories tend to focus on only part. Gives examples of how one theory can contradict another. The theorists include: Piaget, Freud, Erickson, Gesell, Skinner, and Vygotsky.

Everybody Rides the Carousel (PCR--Pyramid Films and Audio, 3-part film, colour, 24 min. each part, colour, 1975) This is an entertaining, artfully done film that captures the essence of each of Erikson's eight stages in pictorial form for the viewer. This powerful film leaves the viewer very much aware of the life-span nature of human development and with an appreciation of each of the crises encountered along the way. The narrative needs to be supplemented with a handout on Erikson's stages and an overview lecture if time permits (**Table 2.2** in the text could be used).

Albert Bandura: Part 1 and Albert Bandura: Part 2 (Penn-State Media Sales, VHS, 29 and 28 minutes respectively, colour, 1988). Albert Bandura reviews his influence on theory in the first video, and in the second, he revisits his famous Bobo doll study.

B. F. Skinner and Behavior Change: Research, Practice, and Promise (Research Press, film, 45 min., colour, 1976) This presents applications of behavioural principles in several different behaviour therapy settings.

Cognitive Development (PCR--CRM/McGraw-Hill Films, film, 17 min., colour, 1973) This presents an introduction to Piaget's four stages of intellectual development in the first part. In the second part a Piagetian approach to teaching is contrasted with a behavioural one.

Moral Development (Insight Media, videotape, 30 min., colour, 1979) This presents the four theories of moral development based on the work of Kohlberg, Piaget, social-learning theory, Freud, and Hogan.

Piaget's Developmental Theory: An Overview (Davidson Films, film, 30 min., colour, 1989) This features Piaget and Elkind conducting interviews with children.

The Emerging Personality (Insight Media, videotape, 30 min., colour, 1978) This discusses the theories of Freud, Erikson, the neobehaviorists (social-learning theory), and Mahler.