

# CHAPTER FOUR

## Pioneers in Education

In this and other chapters, you are posed with the challenge of developing your own philosophy of education. Here, we see how the great educational pioneers created their own educational philosophies.<sup>1</sup>

Despite differences among the educators discussed in this chapter, we can identify certain common patterns. Comenius's theory incorporated a spiritual love of human beings with emphasis on Nature's goodness. He and other naturalistic educators such as Rousseau, Pestalozzi, and Spencer challenged the inherited concept of child depravity and passive learning that had long dominated schooling. The **child depravity theory**, claiming that children are born evil, argued that this inherited weakness could be exorcised by authoritarian teachers.

In contrast, **naturalistic educators** believed children were innately good. The stages of human growth and development, they argued, provided cues for effective teaching. These pioneering educators came to be called *naturalistic* because they believed children learned most effectively and efficiently by examining objects in their immediate natural environment. The environment's educative power was a theme used by such later American progressive educators as Dewey and Counts. As we will see, Froebel's kindergarten and Montessori's prepared environment were deliberate efforts to create learning situations that would respect and utilize the child's own process of development. As you read Chapter 4, consider the following questions:

- Who qualifies as an educational pioneer?
- How did the pioneers develop their own philosophies of education?
- How did they redefine knowledge, education, schooling, teaching, and learning?
- How did they challenge and change traditional concepts of the child and the curriculum?
- What ideas or practices of the pioneers' contributions are present in today's teaching and learning?
- What contributions from the pioneers are useful to you in developing your own philosophy of education?

<sup>1</sup>Gerald L. Gutek, *Historical and Philosophical Foundations of Education: A Biographical Introduction* (Columbus, Ohio: Merrill, 1997), pp. 4–7.

## Comenius: The Search for a New Method

### *Pansophism*

### *Learning language by natural means*

### *Respecting children's needs and development*

### *Principles of teaching*

Jan Komensky (1592–1670), known as Comenius, was born in the Moravian town of Nivnitz. He lived during the religious wars in Europe between Catholics and Protestants that followed the Reformation — a time of bitter hatred and discrimination. His family belonged to the Moravian Brethren, a small Protestant church that suffered persecution. Comenius, a bishop and educator of the Brethren, was forced to flee and lived in exile in several European countries. Hoping to end religious intolerance, he created a new educational philosophy, *pansophism*, to cultivate universal understanding. A pioneering peace educator, he believed that universally shared knowledge would stimulate a love of wisdom that would overcome national and religious hatreds and create a peaceful world order.<sup>2</sup>

Comenius occupied a middle position between the Renaissance humanist educators and later naturalistic reformers such as Rousseau, Pestalozzi, and Spencer. Although still emphasizing Latin's importance in the curriculum, Comenius taught it by methods that used the senses rather than passive memorization. In his book *Gates of Tongues Unlocked*, he taught Latin in the learner's own vernacular. Beginning with short, simple phrases, the student gradually progressed to more complicated sentences. Comenius also prepared a picture book for teaching Latin, *The Visible World in Pictures*, consisting of illustrations that designated objects in both their Latin and vernacular names. His approach of using illustrations combined language learning with sense perception.<sup>3</sup> His belief that concept formation began with sensory learning would be developed further by Locke, Rousseau, and Pestalozzi.

**Principles of Teaching and Learning.** Comenius, an early pioneer of the permissive classroom environment, respected children's natural needs and development. He rejected the conventional wisdom that children were inherently bad and that teachers needed to use corporal punishment to discipline them. Instead, Comenius sought to attract gentle and loving persons as teachers who would create joyful and pleasant classrooms. By focusing on children's natural growth and development, teachers could develop an efficient teaching method and appropriate materials.<sup>4</sup> Part of their task was to recognize that children learn most efficiently when they are ready for a particular kind of learning; children should not be hurried, coerced, or pressured to learn. Thus Comenius advised teachers to organize lessons into easily assimilated steps to make learning gradual, cumulative, and pleasant.<sup>5</sup>

In building his own philosophy of education, Comenius emphasized the following principles for teachers: (1) use objects or pictures to illustrate concepts; (2) apply lessons to the students' practical life; (3) present lessons directly and simply; (4) emphasize general principles before details; (5) emphasize that all creatures and objects are part of a whole universe; (6) present lessons in sequence, stressing one thing at a time; (7) do not leave a specific subject until students understand it completely.<sup>6</sup>

<sup>2</sup>Gerald L. Gutek, "Knowledge: The Road to Peace," *Christian History*, 6 (1987), pp. 29–30.

<sup>3</sup>Edward A. Power, *A Legacy of Learning: A History of Western Education* (Albany: State University of New York Press, 1991), pp. 195–197.

<sup>4</sup>M. W. Keatinge, ed. and trans., *Comenius* (New York: McGraw-Hill, 1931). Jean Piaget, ed., *John Amos Comenius on Education* (New York: Teachers College Press, 1967).

<sup>5</sup>Josef Smolik, "Comenius: A Man of Hope in a Time of Turmoil," *Christian History*, 6 (1987), pp. 15–18.

<sup>6</sup>Edward J. Power, *Evolution of Educational Doctrine: Major Educational Theorists of the Western World* (New York: Appleton-Century-Crofts, 1969), pp. 238–241.

Universal knowledge, a force  
for peace

Anticipating progressivism  
and naturalism

**Education and Schooling.** In developing his own philosophy of education and school practices, Comenius was a pioneer who honored ethical principles of tolerance for religious differences. He also incorporated the technological changes of his time such as the invention of the printing press by writing widely used textbooks that popularized his new educational ideas and methods. For him, schooling, by cultivating universal knowledge, could promote peace and international understanding. An early proponent of multicultural education, he wanted schools to encourage tolerance and understanding of people of different religions and cultures.

**Influence on Educational Practices Today.** Comenius anticipated many practices associated with modern child-centered progressive education. He also developed plans for organizing and administering effective schools. He believed that teaching should build on children's interests and actively involve their senses. The teacher as a patient and permissive person should gently lead children to understand the world in which they live. Such later educational theorists as Rousseau and Pestalozzi would follow Comenius's pioneering work in naturalistic education.

## Locke: Empiricist Educator

Inalienable rights

Education for self-governance

The mind as a blank slate

John Locke (1632–1704), an English physician and philosopher, lived during a time of political change when people in England wanted a more representative government.<sup>7</sup> Contributing to the period's new ways of thinking about philosophy, Locke challenged the older Platonic theory of innate ideas. We shall see how Locke built his own philosophy of education by emphasizing the political principles of inalienable human rights and the educational process of learning through the senses.

Locke opposed King James II, who sought to be England's absolute ruler. James was overthrown in the Glorious Revolution of 1688. In his *Two Treatises of Government*, in 1689, Locke argued against the "divine right of kings" theory, which proclaimed the monarch's right to be absolute ruler over his subjects.<sup>8</sup> Instead, Locke argued that political order should be based on a contract between the people and the government, which ruled by the consent of those who had established it. He asserted that all persons possessed inalienable rights of life, liberty, and property. Locke's philosophy contributed to the concepts of representative government and checks and balances among a government's legislative, executive, and judicial branches. Thomas Jefferson and other founders of the American republic were indebted to Locke's ideas.

Locke's theory implied that the people of a country were to establish their own government and select their own leaders. To do this intelligently and responsibly, they had to be educated. This idea became a significant principle of the nineteenth-century American common school movement, and remains a major responsibility of public schools. (For Locke's ideas on education as well as those of other pioneers discussed in this chapter, see Overview 4.1.)

**Principles of Teaching and Learning.** Locke's major philosophical contribution, *An Essay Concerning Human Understanding*, published in 1690, examined how we acquire ideas.<sup>9</sup> Locke held that at birth the human mind is a blank slate, a *tabula rasa*, that is empty of ideas. We gradually acquire knowledge from the information about

<sup>7</sup>John Dunn, *Locke* (New York: Oxford University Press, 1984).

<sup>8</sup>John Locke, *Second Treatise of Government*, ed. C. B. Macpherson (Indianapolis: Hackett Publishing Co., 1980).

<sup>9</sup>John Locke, *An Essay Concerning Human Understanding*, ed. Alexander Fraser (New York: Dover, 1959).

## OVERVIEW 4.1

## Educational Pioneers

Pioneer	Historical Context	Purpose of Education	Curriculum
Comenius 1592–1670 (Czech)	17th-century religious war following Protestant Reformation	To relate education to children's natural growth and development; to contribute to peace and understanding	Vernacular language, reading; writing, mathematics, religion, history, Latin; universal knowledge
Locke 1632–1704 (English)	English Glorious Revolution of 1688	To develop ideas in the mind based on sense perception; to educate individuals capable of self-government	Reading, writing, arithmetic, foreign language, mathematics, history, civil government, physical education
Rousseau 1712–1778 (Swiss-French)	18th-century French Enlightenment	To create a learning environment that allows the child's innate, natural goodness to flourish	Nature; the environment
Pestalozzi 1746–1827 (Swiss)	Early-19th-century post-Napoleonic period and beginnings of industrialism	To develop the human being's moral, mental, and physical powers harmoniously; to use sense perception in forming clear ideas	Object lessons; form, number, sound
Froebel 1782–1852 (German)	19th-century resurgence of philosophical idealism and rise of nationalism	To develop the latent spiritual essence of the child in a prepared environment	Songs, stories, games, gifts, occupations
Spencer 1820–1903 (English)	Darwin's theory of evolution in 1859 and rise of 19th-century industrial corporations	To enable human beings to live effectively, economically, and scientifically	Practical, utilitarian, and scientific subjects
Dewey 1859–1952 (American)	Early-20th-century American progressive movement, growth of science, and rise of pragmatic philosophy	To contribute to the individual's personal, social, and intellectual growth	Making and doing; history and geography; science; problems
Montessori 1870–1952 (Italian)	Late-19th- and early-20th-century assertion of feminism; greater attention to early childhood education	To assist children's sensory, muscular, and intellectual development in a prepared environment	Motor and sensory skills; preplanned materials
Piaget 1896–1980 (Swiss)	20th-century developments in psychology by Freud, Hall, Jung, and others	To organize education in terms of children's patterns of growth and development	Concrete and formal operations
Illich 1926–	End of colonialism in 20th century; rise of multinational corporations	To empower human beings by deinstitutionalizing them; to remove education from institutionalized controls of schooling	Skill learning of specific skills by drill and apprenticeship; liberal learning through voluntary groups

## Methods of Instruction

Based on readiness and stages of human growth; gradual, cumulative, orderly; use of objects

Reliance on sensation; slow, gradual, cumulative learning

Reliance on sensation; experience with nature

Reliance on sensation; object lessons; simple to complex; near to far; concrete to abstract

Self-activity; play; imitation

Reliance on sensation and the scientific method; activities

Problem solving according to the scientific method

Spontaneous learning; activities; practical, sensory and formal skills; exercises

Individualized programs; exploration and experimentation with concrete materials

On-the-job skill training or apprenticeship; dialogue and participation in voluntary interest groups

## Role of the Teacher

To be a permissive facilitator of learning, to base instruction on child's stages of development

To encourage sense experience; to base instruction on empirical method

To assist nature; not to impose social conventions on the child

To act as a loving facilitator of learning by creating a homelike school environment; to be skilled in using the special method

To facilitate children's growth

To organize instruction in basic activities

To create a learning environment based on the shared experience of learners

To act as a facilitator or director of learning by using didactic materials in a prepared environment

To organize instruction according to stages of cognitive development

Not certificated school-teachers; rather friends, peers, experts

## Significance

Developed a more humane view of the child; devised an educational method incorporating sensation

Developed a theory of knowledge based on sensation

Led a romantic revolt against the doctrine of child depravity; a forerunner of child-centered progressivism

Devised an educational method that changed elementary education

Created the kindergarten, a special early childhood learning environment

A leading curriculum theorist who stressed scientific knowledge

Developed the pragmatic experimentalist philosophy of education

Developed a widely used method and philosophy of early childhood education

Formulated a theory of cognitive development

Stimulated deschooling movement, which led to other critical analyses of education and schooling

## Influence on Today's Schools

Schools organized according to children's stages of development

Schooling that emphasizes sensory observation

Permissive schooling based on child freedom

Schooling based on emotional security and object learning

Preschools designed to liberate the child's creativity

Schooling that stresses scientific knowledge and competitive values

Schooling that emphasizes problem solving and activities in a context of community

Early childhood schooling that is intellectually and developmentally stimulating

Schooling organized around cognitive developmental stages

Critical attitude toward schools and toward formal institutionalized learning

### Empiricism and the scientific method

the world that our senses bring to us. Simple ideas become compound ideas as we combine them, and these in turn become more complex through comparison, reflection, and generalization.

Although Comenius and others had stressed sensation's role in forming ideas, Locke, because of his systematic writing on the subject, is often acclaimed the pioneer of **empiricism**. According to this theory, human knowledge is acquired by the senses. Because it relies on sensation, empiricism is closely related to **induction**, the process of developing explanations or hypotheses from observed phenomena. In his theory, Locke attacked Plato's belief that ideas are present latently in the mind at birth. Locke's stress on studying objects in the environment was developed further by Rousseau, Franklin, Pestalozzi, and Dewey. It was also used by later educators who advocated the **scientific method** — the testing of hypotheses by experimentation — as the best approach for teaching and learning.

### Necessity of a good environment

**Education and Schooling.** In *Some Thoughts Concerning Education*, in 1697, Locke wrote that a proper education began very early in a child's life. Stressing a sound mind in a strong and healthy body, he called attention to the importance of a child's physical and social environments, diet, and activities. Children should breathe fresh air, have plenty of sleep, eat nourishing and plain food, bathe frequently, exercise regularly, and have time for recreation and play.

### Slow and cumulative learning

Learning, Locke said, should be a gradual process in that instruction in reading, writing, and arithmetic should be slow and cumulative. In addition to these basics, Locke's curriculum included conversational learning of foreign languages, especially French; mathematics; and history. Physical education, games, and athletics should be encouraged. He believed that this educational foundation would achieve the educational goal of cultivating ethical individuals who would competently manage their social, business, and political affairs.<sup>10</sup>

### Impact on modern pragmatic approaches

**Influence on Educational Practices Today.** Locke's emphasis on sensory experience and on civic education shaped the practical and vocational aspects of Benjamin Franklin's plan for an English grammar school in Philadelphia in 1741. Franklin's proposal, in turn, was a forerunner of the modern comprehensive high school. Locke's stress on empirical learning also influenced the pragmatic and experimental views of modern education that emphasize "learning by doing" and interaction with the environment. His political theory of individual freedom shaped the way Americans think about citizenship and civic participation.<sup>11</sup>

### Citizenship education

## Rousseau: Educating the Natural Person

Jean Jacques Rousseau (1712–1778) a Swiss-born French theorist, lived during an era of intellectual ferment that anticipated the American and French Revolutions.<sup>12</sup> He was part of a group of intellectuals in Paris who, through their writings, questioned the status quo of the established church and absolute monarchy. His works

<sup>10</sup>Ruth W. Grant and Nathan Tarcov, eds., *John Locke: Some Thoughts Concerning Education and of the Conduct of the Understanding*, Indianapolis: Hackett Publishing Co., 1996, p. 187.

<sup>11</sup>Charles F. Bahmuller, ed., *CIVITAS: A Framework for Civil Education* (Calabasas, Calif.: Center for Civic Education, 1991), p. 384.

<sup>12</sup>For biographies, see Maurice W. Cranston, *Jean-Jacques: The Early Life and Work of Jean-Jacques Rousseau, 1712–1754* (Chicago: University of Chicago Press, 1991); and Maurice W. Cranston, *The Noble Savage: Jean-Jacques Rousseau, 1754–1762* (Chicago: University of Chicago Press, 1991).

Noble savages in the state of nature

*On the Origin of the Inequality of Mankind* and *The Social Contract* condemn distinctions of wealth, property, and prestige that generate social inequalities.<sup>13</sup> In the original state of nature, according to Rousseau, people were "noble savages," innocent, free, and uncorrupted; it was socioeconomic artificialities that corrupted people.

Emile: a novel of education

Rousseau conveyed his educational philosophy through his famous novel, *Emile*, in 1762, which tells the story of a boy's education from infancy to adulthood.<sup>14</sup> The novel attacks the child depravity theory and an exclusively verbal and literary education, which Rousseau felt ignored the child's natural interests and inclinations. He also believed that the child must be freed from society's imprisoning institutions, of which the school was one of the most coercive.

Although Rousseau's novel was about the education of an upper-class French man, many progressive and child-centered educators have found much in Rousseau's book to liberate both boys and girls from authoritarian educational practices.<sup>15</sup>

Stages of development

**Principles of Teaching and Learning.** Like Comenius, Rousseau recognized the crucial importance of stages of human development. In *Emile*, Rousseau identified five developmental stages: infancy, childhood, boyhood, adolescence, and youth. Each stage requires an appropriate education to lead to the next stage.<sup>16</sup> To preserve the child's natural goodness, Rousseau insisted that the early formative stages be free from society's corruption. Thus Emile was to be educated by a tutor on a country estate away from the temptations of a ruinous society.<sup>17</sup>

Infancy: first contacts with environment

Rousseau's first stage, infancy (from birth to five), sees the infant as helpless and dependent on others. Yet freedom to move and exercise his body allows the infant to make his first contacts with the objects of the environment.

Childhood: exploring the world through senses

During childhood (from five to twelve), the child shapes his own personality as he becomes aware that his actions produce either painful or pleasurable consequences. Motivated by curiosity, he actively explores his environment, learning about the world through his senses. Calling the eyes, ears, hands, and feet the first teachers, Rousseau argues that the senses are better and more efficient than the schoolmaster, who teaches words the learner does not understand, and better than the schoolroom's silence and the master's rod. Emile's tutor deliberately refrained from introducing books at this stage to avoid substituting reading for the child's own direct interaction with nature.

Boyhood: natural science

During boyhood (from twelve to fifteen), Emile learned natural science by observing the cycles of growth of plants and animals. By exploring his surroundings, he learned geography far more realistically than from studying maps. In addition, Emile read *Robinson Crusoe*, Defoe's story of a man marooned on an island who had to meet nature on its own terms. Emile also learned a manual trade, carpentry, to make the connection between mental and physical work.

<sup>13</sup>Jean Jacques Rousseau, *Discourse on the Origin of Inequality* (Indianapolis: Hackett, 1992); see also Daniel Cullen, *Freedom in Rousseau's Political Philosophy* (DeKalb: Northern Illinois University Press, 1993).

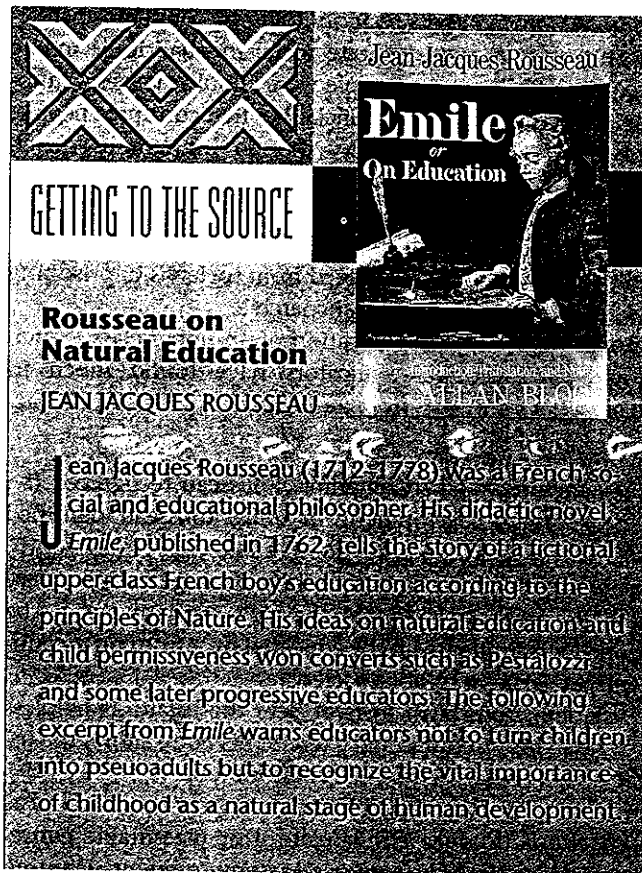
<sup>14</sup>William Boyd, *The Emile of Jean Jacques Rousseau* (New York: Teachers College Press, 1962); and Allan Bloom, *Emile or On Education* (New York: Basic Books, 1979).

<sup>15</sup>Jane Roland Martin, *Reclaiming a Conversation: The Ideal of the Educated Woman* (New Haven, Conn.: Yale University Press, 1985), pp. 361-369. See also Linda M. Zerilli, *Signifying Woman: Culture and Chaos in Rousseau, Burke, and Mill* (Ithaca, N.Y.: Cornell University Press, 1994).

<sup>16</sup>Christopher Winch, "Rousseau on Learning: A Re-Evaluation," *Educational Theory*, 46 (Fall 1996), pp. 424-425.

<sup>17</sup>David B. Owen, "History and the Curriculum in Rousseau's *Emile*," *Educational Theory*, 32 (1982), pp. 117-130.





Nature wants children to be children before being men. If we want to pervert this order, we shall produce precocious fruits which will be immature and insipid and will not be long in rotting. We shall have young doctors and old children. Childhood has its ways of seeing, thinking, and feeling which are proper to it. Nothing is less sensible than to want to substitute ours for theirs, and I would like as little to insist that a ten-year-old be five feet tall as that he possess judgment. Actually, what would reason do for him at that age? It is the bridle of strength, and the child does not need this bridle.

In trying to persuade your pupils of the duty of obedience, you join to this alleged persuasion force and threats or, what is worse, flattery and promises. In this way, therefore, lured by profit or constrained by force, they pretend to be convinced by reason. They see quite well that obedience is advantageous to them and rebellion harmful when you notice either. But since everything you insist on is unpleasant and, further, it is always irksome to do another's will, they arrange to do their own will covertly. They are persuaded that what they do is right if their disobedience is unknown, but are ready on being caught — in

#### *Adolescence: entering society*

Next in Rousseau's developmental schema is adolescence (from fifteen to eighteen). During these years, Emile entered society. As he became aware of and interested in sex, his questions about human sexuality were to be answered honestly and directly. Having benefited from a natural education, Emile was now ready to cope with the outside world, and to learn about society, government, economics, and business. His aesthetic tastes were to be cultivated by visits to museums, art galleries, libraries, and theaters. During the last stage of education (from eighteen to twenty), Emile traveled to Paris and to foreign countries to visit different peoples and societies.

#### *Education vs. schooling*

**Education and Schooling.** Preferring the natural to the social, Rousseau stressed human instincts as the initial means to knowledge.<sup>18</sup> He believed that the school often interferes with learning. As a social institution, the school conditions children to accept confining traditional customs and institutions. Rousseau sought to liberate the child and adult from such artificial social restrictions. Emile, a child of nature, followed rather than repressed his natural instincts and impulses. If pleasure was the result, then Emile earned his own reward. If his actions caused pain, then Emile brought these consequences upon himself. Either way, he learned from the experience. Rousseau used the following key ideas in formulating his own philosophy of education: (1) childhood is an important foundation of human devel-

<sup>18</sup>J. J. Chambliss, *Educational Theory as Theory of Conduct: From Aristotle to Dewey* (Albany: State University of New York Press, 1987), pp. 101-115.



order to avoid a worse evil — to admit that what they do is wrong. Since the reason for duty cannot be grasped at their age, there is not a man in the world who could succeed in giving duty a truly palpable sense for them. . . . Do not forbid him to do that from which he should abstain; prevent him from doing it without explanations, without reasonings. What you grant him, grant at his first word, without solicitations, without prayers — above all, without conditions. Grant with pleasure; refuse only with repugnance. But let all your refusals be irrevocable; let no importunity shake you; let "no," once pronounced, be a wall of bronze against which the child will have to exhaust his strength at most five or six times in order to abandon any further attempts to overturn it.

It is thus that you will make him patient, steady, resigned, calm, even when he has not got what he wanted, for it is in the nature of man to endure patiently the necessity of things but not the ill will of others.

### Questions

1. Why does Rousseau warn against turning children into pseudoadults or adultlike children?
2. Consider contemporary American society. What factors in society tend to turn children into pseudoadults and work to diminish the importance of childhood? What is your opinion of these trends?
3. What does Rousseau consider to be the natural development of moral education? Do you agree or disagree?
4. Do you believe that Rousseau's concepts of natural education and child permissiveness are beneficial or harmful to contemporary education?
5. Why do you think that Rousseau's educational theory enjoyed such popularity and had such influence on other educators?

Source: Jean Jacques Rousseau, *Emile or On Education*, ed. and trans. Allan Bloom (New York: Basic Books, 1979), pp. 90–91.

### *Impact on progressive educators*

opment; (2) children's natural interests and instincts are valuable beginnings of a more thorough exploration of the environment; (3) human beings, in their life cycles, go through necessary stages of development; (4) adult coercion has a negative impact on children's development. These ideas have had a continuing influence on education and schooling.

***Influence on Educational Practices Today.*** Rousseau contributed to child-centered progressive education. In the United States, child-centered progressives such as Francis Parker and Marietta Johnson, discussed in Chapter 12, devised a pedagogy based on children's interests and needs. One of Rousseau's significant ideas was that the curriculum should be based on children's interests and needs; it should not force them to conform to adult prescriptions. Thus Rousseau anticipated the view of child development that sees children as interpreting their own reality rather than learning information from indirect sources.

## Pestalozzi: Educator of the Senses and Emotions

The life of the Swiss educator, Johann Heinrich Pestalozzi (1746–1827), coincided with important changes in both Europe and America. He lived during the early stages of the industrial revolution when factory-made products were replacing handicrafts made at home. Early industrialization brought changes to family life as women and children entered the work force. Concerned about the impact of this economic change on families and children, Pestalozzi sought to develop schools

that, like loving families, would nurture children's development. His ideas about the relationship of families and schools are useful in today's rapidly changing society. Pestalozzi was an attentive reader of Rousseau's *Emile*. He agreed with Rousseau that humans were naturally good but were spoiled by a corrupt society, that traditional schooling was a dull mess of deadening memorization and recitation, and that pedagogical reform could generate social reform.<sup>19</sup>

Group instruction by the object lesson

Acting on his beliefs, Pestalozzi established a school at Burgdorf to educate children and prepare teachers. Here he sought to devise an efficient method of group instruction by which children learned in a loving and nonhurried manner.<sup>20</sup>

Warm, secure school

**Principles of Teaching and Learning.** Pestalozzi's approach to teaching can be divided into the "general" and "special" methods. The general method was designed to create a permissive and emotionally healthy homelike learning environment that had to be in place before more specific instruction occurred. Thus the general method required teachers who, emotionally secure themselves, could gain students' trust and affection.

Sensory learning

Once the general method was in place, Pestalozzi implemented his special method. Believing like Locke that thinking began with the senses, he devised the object lesson so that instruction would also be sensory. In this approach, children

Johann Pestalozzi believed that teachers should encourage the development of the whole child in a secure, loving, and homelike school environment. (© Stock Montage, Inc.)



<sup>19</sup>Gerald L. Gutek, *Pestalozzi and Education* (New York: Random House, 1968); and Robert B. Downs, *Heinrich Pestalozzi: Father of Modern Pedagogy* (Boston: Twayne, 1975).

<sup>20</sup>Johann Heinrich Pestalozzi, *How Gertrude Teaches Her Children*, trans. L. E. Holland and F. C. Turner (Syracuse, N.Y.: Bardeen, 1900).

studied the common objects in their environment — the plants, rocks, artifacts, and other objects encountered in daily experience. To determine the form of an object, they drew and traced it. They also counted and then named objects. Thus they learned the form, number, and name or sound related to objects.

From these lessons grew exercises in drawing, writing, counting, adding, subtracting, multiplying, dividing and reading. The first writing exercises consisted of drawing lessons in which the children made a series of rising and falling strokes and open and closed curves. These exercises developed the hand muscles and prepared children for writing. In this method Pestalozzi was following Rousseau's rule that mere verbal learning or abstract lessons are futile. Like Rousseau, he wanted lessons based on sense experiences that originated in the learner's home and family life. This basic innovation became an important part of progressive school reform in the twentieth century.

#### *Instructional strategies*

To ensure that instruction followed nature, Pestalozzi developed the following strategies. Instruction should (1) begin with the concrete object before introducing abstract concepts; (2) begin with the learner's immediate environment before dealing with what is distant and remote; (3) begin with easy exercises before introducing complex ones; and (4) always proceed gradually, cumulatively, and slowly.

#### *Naturalistic schooling*

**Education and Schooling.** Like Rousseau, Pestalozzi based learning on natural principles and stressed the importance of human emotions. Unlike Rousseau, however, Pestalozzi did not rely on individual tutoring but sought to incorporate naturalism into schooling. For both Rousseau and Pestalozzi, to "know" meant to understand nature, its patterns, and its laws. Like Locke, Pestalozzi stressed empirical learning, through which people learn about their environment by carefully observing natural phenomena.

#### *Slow, precise learning in a loving environment*

Like Comenius, Pestalozzi felt children should learn slowly, understanding thoroughly what they were studying. He was especially dedicated to children who were poor, hungry, and socially or psychologically handicapped. If children were hungry, Pestalozzi fed them before he attempted to teach them. If they were frightened, he comforted them. For him, a teacher was not only skilled in instructional method but also capable of loving all children. In fact, Pestalozzi believed that love of humankind was necessary for successful teaching.

#### *Pestalozzianism brought to United States*

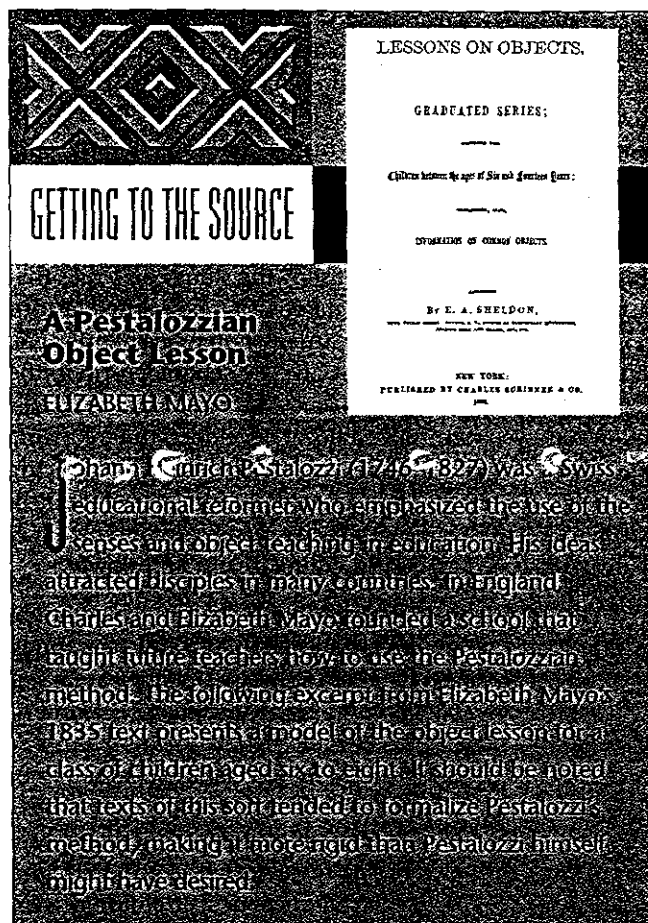
**Influence on Educational Practices Today.** In the early nineteenth century, William Maclure was among the first to import Pestalozzianism to the United States.<sup>21</sup> Through Maclure, a pioneering early-nineteenth-century geologist and natural scientist, Pestalozzian education was linked with scientific discovery and exploration. Basic scientific knowledge was transmitted through practical education based on the object lesson.<sup>22</sup>

Henry Barnard, U.S. commissioner of education in the late nineteenth century, also brought Pestalozzian ideas to the United States. Barnard's *Pestalozzi and Pestalozzianism* introduced American educators to the method's basic principles.<sup>23</sup> These

<sup>21</sup>*Partnership for Posterity: The Correspondence of William Maclure and Marie Duclos Fretageot, 1820-1833*, ed. Josephine M. Elliott (Indianapolis: Indiana Historical Society, 1994), pp. 1-17.

<sup>22</sup>Charlotte M. Porter, *The Eagle's Nest: Natural History and American Ideas, 1812-1842* (Tuscaloosa: University of Alabama Press, 1986), pp. 93-95; and George E. DeBoer, *A History of Ideas in Science Education: Implications for Practice* (New York: Teachers College Press, 1991), pp. 21-24.

<sup>23</sup>Thomas A. Barlow, *Pestalozzi and American Education* (Boulder, Colo.: Este Es Press, University of Colorado Libraries, 1977), pp. 35-48, 74-88.



Glass has been selected as the first substance to be presented to the children, because the qualities which characterize it are quite obvious to the senses. The pupils should be arranged before a black board or slate, upon which the result of their observations should be written. The utility of having the lesson presented to the eyes of each child, with the power of thus recalling attention to what has occurred, will very soon be appreciated by the instructor.

The glass should be passed round the party to be examined by each individual.

TEACHER. What is this which I hold in my hand?

CHILDREN. A piece of glass.

TEACHER. Can you spell the word *glass*? (The teacher then writes the word "glass" upon the slate, which is thus presented to the whole class as the subject of the lesson.) You have all examined this glass; what do you observe? What can you say that it is?

CHILDREN. It is bright.

TEACHER. (Teacher having written the word "qualities," writes under it — It is bright.) Take it in your hand and *feel* it.

CHILDREN. It is cold. (Written on the board under the former quality.)

TEACHER. Feel it again, and compare it with the

ideas were applied by Edward Sheldon, who integrated the Pestalozzian object lesson into teacher preparation at Oswego Normal School in New York. Some progressive education reforms, such as the emphasis on environment, use of objects, and reliance on sensory experience, reveal the Pestalozzian imprint.

Another route of Pestalozzian influence was through the German philosopher Johann Herbart (1776–1841) and his followers. Intrigued with Pestalozzi's ideas, Herbart reformulated them into a method of education that included moral development and systematic instruction. Herbart believed that education must include two major classes of interests, knowledge and ethical matters, and that each subject should be taught in relationship to other subjects — an important concept known as **curriculum correlation**. Herbart's followers developed the five-step instructional method that became extremely popular among teachers: (1) *preparation*, which stimulates the learner's readiness for the new lesson by referring to previous learning; (2) *presentation* of the new lesson; (3) *association*, which relates the new lesson to ideas or materials studied earlier; (4) *systematization*, in which examples are used to illustrate important generalizations; and (5) *application*, which tests ideas of the new lesson to demonstrate mastery.<sup>24</sup>

<sup>24</sup>Herbert M. Kliebard, *The Struggle for the American Curriculum, 1893–1958* (Boston: Routledge and Kegan Paul, 1986), pp. 44–45, 56–57.

*Pestalozzi's ideas developed by Herbart*

*The five-step method of instruction*

piece of sponge that is tied to your slate, and then tell me what you perceive in the glass.

CHILDREN. It is smooth — it is hard.

TEACHER. What other glass is there in the room?

CHILDREN. The windows.

TEACHER. Look out at the window and tell me what you see.

CHILDREN. We see the garden.

TEACHER. (Closes the shutter). Look out again, and tell what you observe.

CHILDREN. We cannot see anything.

TEACHER. Why cannot you see anything?

CHILDREN. We cannot see through the shutters.

TEACHER. What difference do you observe between the shutters and the glass?

CHILDREN. We cannot see through the shutters, but we can see through the glass.

TEACHER. Can you tell me any word that will express this quality which you observe in the glass?

CHILDREN. No.

TEACHER. I will tell you then, pay attention, that you may recollect it. It is transparent. What shall you now understand when I tell you that a substance is transparent?

CHILDREN. That you can see through it.

TEACHER. You are right. Try and recollect something that is transparent.

CHILDREN. Water.

### Questions

1. How was the Pestalozzian object lesson an improvement over the conventional teaching practices of the early nineteenth century?
2. How did Elizabeth Mayo's object lesson anticipate modern "hands-on" methods of teaching?
3. What are the strengths and weaknesses of object teaching?
4. Do you find any evidence of Pestalozzian object teaching in today's schools?

Source: Elizabeth Mayo, *Lessons on Objects, as Given to Children Between the Ages of Six and Eight, in a Pestalozzian School, at Cheam, Surrey*, 5th ed. (London, 1835), pp. 5–8. Cover from E. A. Sheldon, *Lessons on Objects, Graduated Series; Designed for Children Between the Ages of Six and Fourteen Years: Containing, Also, Information on Common Objects* (New York: Charles Scribner, 1866).

### At-risk children

Finally, when American educators came to focus on the education of at-risk children, Pestalozzi's ideas took on a further relevance. His claim that emotional security was a necessary precondition of skill learning strongly parallels the contemporary emphasis on supportive home-school partnerships.

## Froebel: The Kindergarten Movement

### Idealism and nationalism

The German educator Friedrich Froebel (1782–1852) is renowned for his pioneering work in developing a school for early childhood education — the kindergarten, or child's garden.<sup>25</sup> Froebel was influenced by two trends in the first half of the nineteenth century: (1) a resurgence of philosophical idealism and (2) the rising nationalism of the post-Napoleonic eras. As discussed in Chapter 12, idealism emphasizes a spiritually based reality. Idealists saw the nation as embodying the world spirit on earth. During Froebel's life, there were efforts to unite the various small German kingdoms into one large nation. Froebel believed that an education that emphasized German traditions and folk tales would advance this cause. Froebel's idealism was a reaction against the empiricism of Locke and Rousseau. However, his educa-

<sup>25</sup>Norman Brosterman, *Inventing Kindergarten* (New York: Harry N. Abrams, 1997), pp. 14–18, 22–29.

*Student of Pestalozzi*

tional philosophy emphasized the dignity of child nature as recommended by Rousseau and Pestalozzi. Thus Froebel attempted to weave several threads into his philosophy of education: idealism, nationalism, and child freedom.

Froebel's attraction to teaching led him to Pestalozzi's institute at Yverdon, where he interned from 1808 to 1810. Although he accepted certain aspects of Pestalozzi's method — the emphasis on nature, the permissive school atmosphere, and the object lesson — he believed that Pestalozzi's theory lacked an adequate philosophical foundation. Froebel gave Pestalozzi's object lesson a more symbolic meaning by saying that the concrete object was to stimulate recall of a corresponding idea in the child's mind. He readily accepted Pestalozzi's general method that saw schools as emotionally secure places for children, but he elevated the concept to a highly spiritual level. Like Pestalozzi, he wanted to prepare teachers who would be sensitive to children's readiness and needs rather than be taskmasters who heard preset recitations and who forced children to memorize words they did not understand.

*Kindergarten: a prepared, permissive environment*

**Principles of Teaching and Learning.** A philosophical idealist, Froebel believed that every child's inner self contained a spiritual essence that stimulated self-active learning. He therefore designed a kindergarten that would be a prepared environment to externalize children's interior spirituality through self-activity.<sup>26</sup>

Froebel's kindergarten, founded in 1837 in Blankenburg, was a permissive environment featuring games, play, songs, stories, and crafts. The kindergarten's songs, stories, and games, now a standard part of early childhood education, stimulated

This American kindergarten, circa 1900, drew on Froebel's theories that the child's first formal learning should be based on self-activity — in games, play, songs, and crafts — in a prepared, emotionally secure environment. (© Culver Pictures, Inc.)



<sup>26</sup>Robert B. Downs, *Friedrich Froebel* (Boston: Twayne, 1978), p. 43.



*Gifts and occupations*

children's imaginations and introduced them to the culture's folk heroes and heroines and values. The games socialized children and developed their physical and motor skills. As the boys and girls played with other children, they became part of the group and were prepared for further socialized learning activities. The curriculum also included "gifts," objects with fixed form, such as spheres, cubes, and cylinders, which were intended to bring to full consciousness the underlying concept represented by the object. In addition, Froebel's kindergarten featured "occupations," which consisted of materials children could shape and use in design and construction activities. For example, clay, sand, cardboard, and sticks could be manipulated and shaped into castles, cities, and mountains.<sup>27</sup>

*Importance of teacher's personality*

**Education and Schooling.** For many of us, our first impressions of schools and teachers were formed in kindergarten. For Froebel, the kindergarten teacher's personality was of paramount importance. The kindergarten teacher should respect the dignity of human personality and personify the highest cultural values so that children could imitate those values. Above all, the kindergarten teacher should be a sensitive, approachable, and open person.

*Spread of the kindergarten movement*

**Influence on Educational Practices Today.** Froebelianism soon grew into an international education movement. Immigrants who fled Germany after the Revolution of 1848 brought the kindergarten to the United States, where it became part of the American school system. The first U.S. example was the German-language kindergarten established in Wisconsin in 1855 by Margarethe Meyer Schurz, wife of the German American patriot Carl Schurz. Another key person in incorporating the Froebelian kindergarten into American education was Elizabeth Peabody, who founded an English-language kindergarten and a training school for kindergarten teachers in Boston in 1860.<sup>28</sup> Her enthusiasm for Froebel's method took her to Germany in 1867, where she visited kindergartens and interviewed teachers trained by Froebel. Upon returning to the United States, she revised her kindergarten concepts to bring them into greater conformity with Froebel's ideas, and she worked to make the kindergarten part of the American school system.<sup>29</sup> Another key figure was William T. Harris, superintendent of schools in St. Louis, Missouri, and later U.S. commissioner of education, who energetically campaigned for kindergarten education.

## Spencer: Social Darwinist and Utilitarian Educator

*Theory of evolution*

Herbert Spencer (1820–1903) was an English social theorist whose ideas were very popular and influential in the United States in the late nineteenth and early twentieth centuries. His American popularity rested on Spencer's ability to bring the important trends of this period into his educational philosophy. He lived during the time when Charles Darwin was changing the ways people thought about change and progress. According to Darwin's theory of evolution, species evolved naturally and gradually over long periods of time. Members of certain species survived and

<sup>27</sup>Friedrich Froebel, *The Education of Man*, trans. W. Hailmann (New York: Appleton, 1889).

<sup>28</sup>Peabody's contributions to kindergarten education are described in Ruth M. Taylor, *Elizabeth Palmer Peabody: Kindergarten Pioneer* (Philadelphia: University of Pennsylvania Press, 1965); and Evelyn Weber, *The Kindergarten: Its Encounter with Educational Thought in America* (New York: Teachers College Press, 1969).

<sup>29</sup>Caroline Winterer, "Avoiding a 'Hothouse System of Education': Nineteenth-Century Early Childhood Education from the Infant Schools to the Kindergartens," *History of Education Quarterly* (Fall 1992), pp. 310–311.

reproduced themselves by adapting to changes in the environment. As their offspring inherited these characteristics, they too survived and reproduced themselves and continued the life of the species. Those who were unable to adapt — the unfit — perished.<sup>30</sup>

*A social theory based on Darwin*

Spencer was a key proponent of **Social Darwinism**, which translated Darwin's evolutionary theory into social, political, economic, and educational relationships. Spencer contended that social development followed a natural evolutionary process by which simple homogeneous societies evolved into more complex, specialized, industrial systems. Spencer's Social Darwinism created a rationale for the last half of the nineteenth century, when industrialization was transforming American and western European societies, creating an economic system characterized by specialized professions and occupations.

*Survival of the fittest*

Spencer believed that in a modern industrialized society, as in earlier and simpler societies, the "fittest" individuals of each generation would survive because of their skill, intelligence, and adaptability. Competition was a natural ethical force that brought the best in the human species to the top of the socioeconomic order. As winners of the competitive race over slower and duller individuals, the fittest would inherit the earth and populate it with their intelligent and productive children. Those individuals who were lazy, stupid, or weak would slowly disappear. According to Social Darwinism, competition would bring about gradual but inevitable progress.

*Opposition to public schools*

Spencer argued against public schooling, which he claimed would create a monopoly for mediocrity by catering to the lowest common denominator. Private schools, he thought, should compete with each other for students. Like some contemporary proponents of a voucher system, Spencer believed the best schools would attract the brightest students and the most capable teachers.

*Education for utilitarian purposes*

**Principles of Teaching and Learning.** In addition to being a staunch Social Darwinist, Spencer followed the naturalist tradition in education. Rather than a humanist classical education, he believed that industrialized society requires a **utilitarian education** based on useful scientific and practical objectives. As a founder of modern curriculum theory, Spencer argued that education should be based on the necessary activities that sustain the survival of the species.

*Vocational studies*

Stressing empiricism like Locke and Pestalozzi, Spencer advocated sensory learning that involved the learner with the environment. Like them, he opposed rote memorization and recitation and wanted instruction to be gradual, cumulative, and unhurried. Since he favored education directed to the marketplace, he strongly advocated vocational and professional preparation that could be applied to science and engineering.<sup>31</sup>

*Stress on sciences*

**Education and Schooling.** Like such naturalistic educational theorists as Rousseau and Pestalozzi, Spencer opposed the excessively verbal, literary, and classical education associated with traditional schooling. He criticized the traditional grammar schools of England as being outmoded and ornamental. The most valuable curriculum, in Spencer's view, included the physical, biological, and social sciences.

Using a rationale that anticipated modern curriculum making, Spencer classified human activities according to their capacities for advancing survival and progress. Science was especially important because it could be applied to the effec-

<sup>30</sup>Jonathan Howard, *Darwin* (New York: Oxford University Press, 1982).

<sup>31</sup>R. S. Dreyer, "Take a Tip from Herbert Spencer," *Supervision* (May 1993), pp. 22-23.

tive performance of life activities.<sup>32</sup> Spencer identified five types of activities to include in the curriculum: (1) those needed for self-preservation, which are basic to all other activities; (2) those needed to perform one's occupation or profession, which makes a person economically self-supporting; (3) those needed to rear children properly; (4) those needed for social and political participation; and (5) those needed for leisure and recreation.

#### Activities-based curriculum

Spencer's arguments for an activities-based curriculum created a major controversy in the late nineteenth century. At that time, secondary and higher education still focused on the Latin and Greek classical languages and literatures, and science was neglected. Those who supported Spencer's curriculum had to wage a concerted struggle to bring about curricular change.

#### Impact on curriculum design

**Influence on Educational Practices Today.** Spencer's ideas on curriculum, which emphasized science and practicality, were readily accepted in the United States, especially by the social efficiency educators. American educators were less resistant to curricular change than those in England. In 1918, a National Education Association committee, in its landmark *Cardinal Principles of Secondary Education*, reiterated Spencer's list of basic life activities. Modern curriculum designers continue to reflect Spencer's influence when they base curriculum on human needs and activities.

After dominating American social science in the late nineteenth century, Social Darwinism was pushed aside by John Dewey's Experimentalism and progressive reform. However, in the 1980s and 1990s, some key Social Darwinist ideas reemerged in the neoconservative agenda of privatizing schools through vouchers, reducing government's regulatory powers, and increasing economic productivity through basic skills that have market value.

## Dewey: Learning Through Experience

#### School and society

#### Laboratory school

John Dewey (1859–1952) was one of the most important American philosophers.<sup>33</sup> He developed his pioneering Experimentalist philosophy of education against the backdrop of the social, political, scientific, and technological changes taking place in the United States in the first half of the twentieth century. The progressive reform movement in politics stimulated his thinking. He sought to incorporate the concept of relativism current in science. Keenly aware of technology's power to transform society, Dewey wanted it used for democratic purposes. Seeing education as social progress, Dewey envisioned schools as closely connected to society. When he was director of the University of Chicago Laboratory School from 1896 to 1904, he tested his pragmatic educational philosophy by using it as the foundation for children's learning activities and projects.<sup>34</sup> (For a discussion of pragmatism as an educational philosophy, see Chapter 12).

**Principles of Teaching and Learning.** Dewey's *The Child and the Curriculum* provides a guide to principles and practices used at the University of Chicago Laboratory School. Children were seen as socially active human beings who are eager to

<sup>32</sup>Andreas Kazamias, *Herbert Spencer on Education* (New York: Teachers College Press, 1966); and Valerie A. Haines, "Spencer's Philosophy of Science," *British Journal of Sociology* (June 1992), pp. 155–172.

<sup>33</sup>Robert B. Westbrook, *John Dewey and American Democracy* (Ithaca, N.Y.: Cornell University Press, 1991); for an extensive commentary, see Walter Feinberg, "Dewey and Democracy: At the Dawn of the Twenty-first Century," *Educational Theory* (Spring 1993), pp. 195–216.

<sup>34</sup>John Dewey, *The Child and the Curriculum* (Chicago: University of Chicago Press, 1902). A recent commentary is Laurel N. Tanner, *Dewey's Laboratory School: Lessons for Today* (New York: Teachers College Press, 1997).

*Confronting problems*

explore and gain control over their environment. By interacting with their world, learners confront both personal and social problems. Such problematic encounters stimulate children to use their intelligence to solve the difficulty — to use their knowledge in an active, instrumental manner.<sup>35</sup>

For Dewey, the scientific method is the most effective process we have to solve problems. When they use the scientific method to solve problems, children learn how to think reflectively and to direct their experiences in ways that lead to personal and social growth. The following steps are extremely important in Dewey's version of the scientific method as a process of teaching and learning:

*Steps in learning by the scientific method*

1. The learner is involved in a "genuine experience" that truly interests him or her.
2. Within this experience, the learner has a "genuine problem" that stimulates thinking.
3. The learner acquires the information needed to solve the problem.
4. The learner frames possible, tentative solutions that may solve the problem.
5. The learner tests the solutions by applying them to the problem. In this way, the learner validates his or her own knowledge.<sup>36</sup>

*Reconstructing knowledge to solve problems*

For Dewey, knowledge is not inert information but an instrument to solve problems. The fund of human knowledge — past ideas, discoveries, and inventions — is used to frame the hypothetical solutions to problems. People then test and reconstruct this knowledge in light of present needs. Since people and their environment are constantly changing, knowledge, too, is continually reconfigured or reconstructed. Once a problem has been solved, its solution enters into the knowledge fund.

*Education for personal and social growth*

**Education and Schooling.** Dewey saw education as a social process by which the group's immature members, especially children, are brought to participate in group life. Through education, children are introduced to their cultural heritage and learn to use it in problem solving. Education's sole purpose is to contribute to a person's personal and social growth. As Dewey put it, education "is that reconstruction or reorganization of experience which adds to the meaning of experience, and which increases ability to direct the course of subsequent experience."<sup>37</sup>

*Schools as miniature societies*

In this view, schools used children's interests, needs, and problems to introduce them to society and culture. As miniature societies, they brought children into social participation. They were social laboratories in which children and youth, by using the scientific method, could test their ideas and values.<sup>38</sup>

*Activities for the curriculum*

Dewey's approach to learning emphasized activities and processes by which children interacted with their environment. He identified three levels of activity in the curriculum. The first level, for preschool children, involved activities to develop sensory abilities and physical coordination. The second level involved using materials and instruments in the environment. Schools were to be well stocked with materials that stimulated children's creative and constructive interests. At the third level, children discovered, examined, and used new ideas. These three curricular

<sup>35</sup>For an analysis of Dewey's democratic approach to education, see Sandra Rosenthal, "Democracy and Education: A Deweyan Approach," *Educational Theory* (Fall, 1993), pp. 377–389.

<sup>36</sup>John Dewey, *Democracy and Education* (New York: Macmillan, 1916), p. 192.

<sup>37</sup>*Ibid.*, pp. 89–90.

<sup>38</sup>Kliebard, *The Struggle for the American Curriculum*, pp. 58–88.

*Schools as liberating and democratic*

*Impact on progressivism*

levels moved learning from simple impulses to careful observation of the environment, to planning actions, and finally to reflecting on and testing the consequences of action.

As an advocate of democratic education and schooling, Dewey wanted schools to be liberating environments in which students were free to test all ideas, beliefs, and values. Institutions, ideas, customs, and values were all open to critical inquiry, investigation, and reconstruction. As democratic institutions, schools should be open to and used by all. Opposing traditions that separate people from each other because of ethnic origin, race, gender, or economic class, Dewey believed that communities were enriched when people shared their experience to solve their common problems. His ideal school was a place where administrators, teachers, and students planned the curriculum together.

***Influence on Educational Practices Today.*** John Dewey exercised an enormous influence on American education. By applying pragmatism to education, he helped to open schooling to change and innovation. Dewey's ideas about socially expanding children's experience became associated with progressive education, which emphasized children's interests and needs. Today, educators who relate schooling to social purposes are often following Dewey's pioneering educational concepts.<sup>39</sup>

Dewey's influence can also be seen in teaching that takes a "hands-on" or process-oriented approach. For example, the "whole language" approach, with its emphasis on teaching language arts through the entire educational environment, is a recent development stemming from Dewey's pioneering Experimentalist philosophy.

## Montessori: The Prepared Environment

*Early childhood and feminism*

*Emphasis on structured work*

Maria Montessori (1870–1952), an Italian educator, devised an internationally popular method of early childhood education. In considering Montessori's life and times, we can identify two important trends: emphasis on early childhood and the rise of feminism. Like the early childhood educators Pestalozzi and Froebel, Montessori emphasized the influence of formative experiences on later life. She was also a feminist who challenged traditional beliefs about women's role and education.

Despite parental disapproval, Montessori left the conventional schooling considered appropriate for Italian upper-class young women to attend a technical school, and then became the first woman in Italy to earn the degree of doctor of medicine. As a physician, Montessori worked with children regarded as mentally handicapped and brain damaged. Her work was so effective with these children that she concluded it was useful for all children.

***Principles of Teaching and Learning.*** In 1908 Maria Montessori established a children's school, the *Casa dei Bambini*, whose students were impoverished children from the slums of Rome. In this school, Montessori fashioned a "specially prepared environment" that featured methods, materials, and activities based on her observations of children. She also refined her theory by doing extensive reading in the theories of Itard and Sequin, two early pioneers in special education. Children, she found, are capable of sustained concentration and work. Enjoying structure and preferring

<sup>39</sup>For analyses of Dewey's work in education, see Jim Garrison, "A Deweyan Theory of Democratic Listening," *Educational Theory*, 46 (Fall 1996), pp. 429–451; and Dee Russell, "Cultivating the Imagination in Music Education: John Dewey's Theory of Imagination and Its Relationship to the Chicago Laboratory School," *Educational Theory*, 48 (Spring 1998), pp. 198–210.

**QUESTION** Question: Should Dewey's experimental method of inquiry be used as the basis of teaching and learning in American schools?

## TAKING ISSUE

### Dewey's Learning by Experience

Since John Dewey developed his experimentalist or pragmatic philosophy and applied it to education, his approach has been vigorously debated. Proponents of Dewey's method, many of whom are professors of education, emphasize learning by experience through the use of the scientific method. Opponents of Dewey's method claim that it lowers academic standards and achievement by weakening systematic subject-matter learning and encouraging relativistic values.

### Arguments PRO

- 1 Dewey's method provides continuity between children's world of direct experience and a school curriculum that arises from and develops that experience. Because of this continuity, students readily become interested and motivated, eager to pursue their interests into areas of broader educational importance.
- 2 Free from absolutes based on previous concepts of reality, Dewey's method encourages students to question inherited traditions and values. It fosters an experimental attitude that leads to invention, discovery, and innovation and equips people to use knowledge as an instrument to solve the problems of a changing world.
- 3 Since Dewey's method of inquiry requires the freedom to think and to question, it encourages a democratic orientation to life and society. Dewey's method is therefore well suited to the American culture's stress on representative institutions and open discussion of issues.
- 4 Dewey's educational goal — human growth for the sake of further growth — promotes an instructional flexibility in which teachers and students are free to respond to personal and social issues. This type of education encourages the capacity for flexible responses to the environment, a capacity sorely needed in today's technological and interdependent world.

### Arguments CON

- 1 By stressing the interests and needs of children and adolescents, Dewey's method fails to emphasize the important role of adults in transmitting the cultural heritage. It also minimizes the fact that learning often requires the child to apply effort *before* developing interests.
- 2 Dewey's method falsely assumes that the scientific method can be applied to any problem without a deep knowledge of the problem's context. On the contrary, it is important that students learn subjects systematically, not experimentally. The failure to master subject matter leads to many of the deficiencies of American students, especially in mathematics and science.
- 3 Dewey's method is highly relativistic and situational, denying the existence of universal truths and values. In order to survive and prosper, American democracy needs to reaffirm certain basic and traditional values, not call all values into question.
- 4 Dewey's argument that the only goal of education is growth for further growth neglects the need for standards that encourage intellectual achievement and economic productivity. Schools, teachers, and learners need substantive goals to guide the educational process; vague notions about human growth are not sufficient.



work to play, they like to repeat actions until they master a given activity. She argued that children, contrary to the assumptions of conventional schooling, have an inner need to work at what interests them without the prodding of teachers and without being motivated by external rewards and punishments. In fact, children's capacity for spontaneous learning leads them to begin pursuing reading and writing.<sup>40</sup>

#### *Types of activity*

**Education and Schooling.** Montessori's curriculum included three major types of activity and experience: practical, sensory, and formal skills and studies. It was designed to introduce children to such practical activities as setting the table, serving a meal, washing dishes, tying and buttoning clothing, and practicing basic manners and social etiquette. Repetitive exercises developed sensory and muscular coordination. Formal skills and subjects included reading, writing, and arithmetic. Children were introduced to the alphabet by tracing unmounted, movable sandpaper letters. Reading was taught after writing. Colored rods of various sizes were used to teach measuring and counting.

#### *Didactic materials*

The Montessori school had preplanned teaching (didactic) materials designed to develop the practical, sensory, and formal skills. Examples included lacing and buttoning frames, weights, and packets to be identified by their sound or smell. Since they direct learning in the prepared environment, Montessori educators are called directresses rather than teachers. Under the guidance of the directress, chil-

Maria Montessori developed an educational method that emphasized a structured and orderly prepared environment. Here, a child is at work on an individual learning activity at the Montessori school he attends. (© Elizabeth Crews)



<sup>40</sup>Maria Montessori, *The Discovery of the Child* (New York: Ballantine Books, 1972).

dren use materials in a prescribed way to acquire the desired skill mastery, sensory experience, or intellectual outcome.

*Montessori movement in United States*

**Influence on Educational Practices Today.** Montessori education has experienced two periods of popularity in the United States. The first round of enthusiasm occurred just before World War I when Montessori visited the United States and lectured on her method. However, William Kilpatrick and other progressive educators charged that the Montessori method was overly structured and provided insufficiently for children's socialization.<sup>41</sup>

*Revival of interest*

Today, Montessori education enjoys a marked revival in the United States, coinciding with the growing emphasis on early childhood education. Private Montessori schools enroll preschool children throughout the country. Many parents send their children to Montessori schools to enhance the children's intellectual development and to give them an academic head start.

## Piaget: Developmental Growth

*Investigating children's development*

Jean Piaget (1896–1980), a Swiss psychologist, made significant contributions to educational psychology and early childhood education. His work in the twentieth century coincided with important developments in psychology by Sigmund Freud, G. Stanley Hall, and others. These developments were part of the historical milieu that stimulated research on child psychology. Piaget is especially known for investigating the development of children's thought, cognition, and language. He examined children's conceptions of number, space, logic, geometry, physical reality, and moral judgment.

*Children interacting with environment*

**Principles of Teaching and Learning.** Piaget believed that children, as they explore their environments, become creative actors in their own cognitive development. Their complex and continuous environmental interactions shape their conceptions of reality. The environment stimulates their curiosity about the objects they encounter, and as they keep interacting with this environment, they add to their emergent world by assimilating and adapting to their new experiences. Thus through their own exploratory processes, children develop the power to generalize, differentiate, and coordinate their concepts of reality, building concepts based on their experiences of the external world and continually reconceptualizing these ideas with each new experience.

*Developmental stages*

Piaget argued that human intelligence develops sequentially and that children proceed on their own from one developmental stage to the next. Each stage depends on the preceding one and leads to the next. Piaget's four developmental stages are (1) sensorimotor, from eighteen months to two years; (2) preoperational, from two to seven years; (3) concrete operations, from seven to eleven years; and (4) formal operations, from eleven to fifteen years.<sup>42</sup>

*Exploratory learning*

**Education and Schooling.** The Piagetian curriculum is guided by these stages of children's cognitive development. However, the stages should not be used in a rigid or doctrinaire way. Each stage is not merely a chronological passage through time; rather, it is an exploratory experience of understanding the world in a qualitatively new and more complex way. Children learn by investigating and probing the ob-

<sup>41</sup>William H. Kilpatrick, *The Montessori System Examined* (New York: Arno Press and New York Times, 1971).

<sup>42</sup>Jean Piaget, *The Origins of Intelligence in Children*, trans. Margaret Cook (New York: W. W. Norton, 1952), pp. 23–42; William O. Penrose, *A Primer on Piaget* (Bloomington, Ind.: Phi Delta Kappa Educational Foundation, 1979).

jects and social situations that they encounter on these environmental explorations. To enhance the exploratory process, teachers need to ensure that the classroom learning environment is rich enough to stimulate children's curiosity.<sup>43</sup>

*Sensorimotor stage*

*Preoperational stage*

*Concrete operations*

*Formal operations*

*Informal learning situations*

In the early **sensorimotor stage**, infants first carry out isolated environmental explorations by using their mouths, eyes, and hands. Later, they coordinate their senses for larger environmental explorations. Through this activity, children construct and organize their view of the world. During the **preoperational stage**, between ages two and seven, children continue to organize their perceptions by classifying objects into groups and naming them. Although their thinking still differs from adult thinking in many respects, the organization and classification begin to approximate those of adults. This marks the beginning of the development of logical relationships. The third stage, **concrete operations**, between ages seven and eleven, occurs as children isolate the general characteristics of objects — size, duration, length, and so on — and use them in more complex mental operations. Although still based on concrete objects, cognition is becoming more abstract. Children can comprehend number signs, processes, and relationships. The stage of **formal operations**, which begins sometime between ages eleven and fifteen, is characterized by the individual's ability to formulate abstract conclusions. Now understanding cause-and-effect relationships, children can use the scientific method to explain reality and can learn complex mathematical, linguistic, mechanical, and scientific processes.<sup>44</sup>

Piaget believed that teachers need to individualize instruction by being sensitive to children's readiness at different stages of development. Effective teaching requires teachers to create informal learning situations in which children can experiment and manipulate objects and thus discover the structures in their environment. It does not mean merely transmitting information. Learning cannot be forced before the individual child is ready. In the Piagetian classroom environment, the following should occur:

1. Teachers should encourage children to explore and experiment.
2. Instruction should be individualized so that children can learn in accordance with their own readiness.
3. Teachers should arrange the classroom so that children have concrete materials to touch, manipulate, and use.

***Influence on Educational Practices Today.*** Although Piaget's cognitive psychology has had its greatest impact on early childhood education, it also has implications for elementary and secondary education. Schools should be informal learning centers where teachers create classrooms that are a rich environment for students. They should be permissively organized so that students' individual differences, readiness, and stage of development guide the educational process.

**Illich: Deschooling  
Society**

Ivan Illich (1926– ) is an educational pioneer who developed a radical alternative for social and educational change. He developed his theory of education in the second half of the twentieth century at a time of global social, economic, and political change. Important among these changes was the end of colonialism, when people

<sup>43</sup>Penrose, *Primer*.

<sup>44</sup>Piaget, *Origins of Intelligence*, pp. 23–42.

in Africa and Asia were freed from political domination by European nations. In this postcolonial era, Illich fears the return of a new kind of domination, neocolonial economic exploitation.

Unlike educators seeking to promote educational change by reforming schools, Illich boldly wants to reform society by eliminating schools. Schools, he asserts, indoctrinate people to accept existing social, political, and economic conditions that trap them in a spiderlike web of institutions. They also indoctrinate the young to become wasteful consumers who despoil the environment. The pursuit of paper credentials — certificates, diplomas, and degrees — in no way attests to their holders' real competency. Finally, schools condition people to accept institutionally defined, disempowering roles. Thus true reform of society, Illich argues, requires its deinstitutionalization. The elimination of schools, or **deschooling**, is the first step in the process of liberation.<sup>45</sup>

*A bold idea: eliminate schools*

**Education and Schooling.** Since Illich's critique of the school is crucial to his argument, we should consider it before his principles of learning. Because he wants to end the school's monopoly over education, Illich's discussion of the school's role differs radically from that of the other educational pioneers described in this chapter. For him, schooling is an "age-specific, teacher-related process requiring full-time attendance at an obligatory curriculum" that makes people dependent rather than independent.<sup>46</sup> Illich believes the schools' educational monopoly has created the myth that education must be highly complicated, expensive, and conducted by certified experts. This monopoly rests on four false assumptions: (1) teacher-dominated behavior is especially valuable to students and society; (2) children and adolescents need to be socialized in schools; (3) learning requires a prestructured, sequential, and cumulative curriculum; and (4) young people should defer efforts to change society until they have completed school.<sup>47</sup> Illich contends that most people acquire their genuine knowledge informally outside of schools rather than in structured programs.

*Schools as an educational monopoly*

The school curriculum, Illich argues, reflects a consumer's orientation to reality. Each course is programmed, packaged, and scheduled so that students have to consume additional courses each year. The consequence is a course-taking and credit-accumulating addition, a dependency that requires more schooling.

*Schools as consumeristic*

Illich also argues that schools exaggerate the teachers' authority. Not only do teachers correct students' skill and errors, but they also act as therapists who intrude into students' private worlds, persuading them to submit to the teacher's standards of truth, value, and behavior. For Illich, schooling should be replaced by "relational structures" that encourage people to define themselves "by learning and by contributing to the learning of others."<sup>48</sup> Friends, peer group members, and knowledgeable and skilled adults are better educators than teachers.

*Exaggeration of teachers' authority*

**Principles of Teaching and Learning.** Illich differentiates learning into "drill training" and "liberal education." Drill training is used to learn specific skills that may range from swimming to piano playing to computer programming. For this type of learning, Illich wants to create circumstances outside schools where people can choose from hundreds of definable skills. Skill training can occur as on-the-job training or as apprenticeship in workplaces. In a more general sense, it may also take place through skill banks. Those who have a skill and want to teach it merely

*Learning skills outside schools*

<sup>45</sup>Ivan Illich, *Deschooling Society* (New York: Harper and Row, 1971), pp. 113–114.

<sup>46</sup>*Ibid.*, pp. 25–26.

<sup>47</sup>*Ibid.*, pp. 67–68.

<sup>48</sup>*Ibid.*, pp. 40–71.

advertise, and those who wish to learn the skill can then respond to the advertisement. Arrangements for teaching the skill can be negotiated by the participants. Progress in skill learning is easily verified by performance.

#### *Educational webs*

Liberal education, a broad concept that applies to a wide range of human activities, takes place mainly by discussion and dialogue. In Illich's version, interested people form groups to discuss an idea, a book, a play, or a movie; to examine an issue; or to solve a common problem. The main ingredient in this liberal education is interest. People who share common interests can identify each other and get together through educational webs or exchanges. For example, the Internet and its electronic resources can be used to advance Illich's concept of liberal education. Groups also can meet in learning centers, libraries, laboratories, or homes. An important feature of both drill training and liberal education is that they are voluntary and last as long as needed.

#### *Heated debate*

***Influence on Educational Practices Today.*** Illich's theory of deschooling has provoked heated debate. Some educators condemn it as a flight into romantic unreality. Others, attracted to the proposal, have become proponents of deschooling. However, the larger significance has come from Illich's analysis of schooling.<sup>49</sup> His view that schooling, especially in its capitalist version, is a form of coercive expropriation has appealed to certain educators in less technologically developed countries. It has also been used by those who seek to use education as a community-based agency for social change. For example, Paulo Freire developed a theory of liberation pedagogy to raise the consciousness of exploited and landless peasants in Brazil. In Freire's method, people come together at a grass roots level and engage in critical dialogues about how to eliminate oppressive conditions. These dialogues contribute to the forming of literacy circles in which people learn to read about the conditions, issues, and possibilities that really affect their lives.<sup>50</sup>

## Creating Your Own Philosophy

One of the criticisms of contemporary professional development is that educators keep reinventing the wheel rather than using the ideas of the past to inform present practice. As you create your own philosophy of education, it is highly instructive to look at how the educator pioneers created their philosophies.

The history of the educational pioneers examined in Chapter 4 reveals that they learned from each other. They did not create their educational philosophies in an intellectual vacuum, but by studying, incorporating, and revising the ideas of their philosophical predecessors. For example, in developing his teaching method, Comenius stressed sensory more than traditional classical study. Locke moved further in that direction by insisting that ideas were based on sensory experience. Rousseau reinforced that idea by emphasizing the importance of giving children the freedom to explore their environments. Pestalozzi, in turn, developed object teaching for use in schools. Spencer, continuing in the naturalist and empiricist tradition, added the new elements of evolution, competition, and specialization. Though he rejected Spencer's Social Darwinian competitive ethic and replaced it with democratic collaboration, Dewey, in emphasizing the scientific method, continued in the empiricist philosophical path. To this stream of educational thought, Piaget added the importance of children exploring their environments.

<sup>49</sup>For reactions to Illich's theory, see Alan Gartner, Colin Greer, and Frank Riessman, *After Deschooling, What?* (New York: Harper and Row, 1973).

<sup>50</sup>Paulo Freire, *Pedagogy of the Oppressed*, trans. Myra Bergman Ramos (New York: Continuum, 1984), pp. 72–73, 102–103.

# PROFESSIONAL PLANNING

for your first year

## Using the Pioneer Educators to Create Your Own Philosophy

### The Situation

You have volunteered to be part of a team putting together an interactive computer-based tutorial for the professional development of teachers in your school district. The topic of the program is "developing and acting on your personal philosophy of education." You are part of a small group that is assigned to create plans for a short historical overview section of the program. You have been told by the programmers that your part of the program can include only ten photo or graphic images. Each one may be accompanied by fifty or fewer words of text. In response to these limitations, your small group has decided to include photos or drawings that illustrate the ideas of ten key educational pioneers. Each image will be accompanied by a one- or two-sentence description of that person's educational philosophy and some questions designed to help teachers link that philosophy to their own concerns in today's world. Here are six of the descriptions, written by a colleague:

Locke: I emphasized the importance of learning by the senses. Do you agree with me that sensory and hands-on learning is important? If so, how would you include more of these kinds of learning activities?

Pestalozzi: I emphasized the importance of transforming schools into homelike, emotionally secure places. I still think that many children are victims of insecure homes and communities. Do you agree with me? If so, what do you think schools should do?

Froebel: I believed that each child has an inner spiritual core that needs to be nurtured by teachers. Do you think that schools pay sufficient attention to a child's spiritual development?

Spencer: I argued that individual competition brings forth a person's best efforts and leads to social and economic progress. I still think that the best and brightest, the gifted students, are held back by the group. Do you agree with me that schools should be challenging arenas of competitive activities?

Montessori: I believed that children prefer learning in an orderly and structured environment. Today, I fear that some schools lack the structure needed for learning. Do you agree with me? If you do, how would you create more orderly learning situations?

Piaget: I believed that children learn by encounters with their environments and that classrooms should be rich in materials that stimulate these learning situations. If you agree with me, how would you create these kinds of classrooms?

### Thought Questions

1. Do you believe the descriptions prepared by your colleague accurately capture the essence of each pioneer's view? Would you change any elements of the descriptions? Are there any further questions you believe teachers should ponder, based on these descriptions?
2. Create similar descriptions and questions for four other pioneers described in this chapter: Comenius, Rousseau, Dewey, and Illich.
3. How would you answer each of the questions posed in the above descriptions?
4. Describe photos or images that you think would effectively illustrate each of the descriptions of a pioneering philosophy.



While the pioneer educators constructed their educational philosophies by using and reinterpreting the work of their predecessors, we also can see that they created their philosophies by challenging inherited concepts. For example, Froebel, influenced by idealism, challenged empiricism by looking into the spiritual nature of children. Dewey challenged Spencer's ethic of individual competition by encouraging group solidarity and collaboration. Initially, Montessori challenged traditional views that limited the education of children who had mental handicaps, and then she elaborated her findings into a general philosophy of education. Illich's proposal to deschool society ranks among the most revolutionary attempts to change education and society.

As you proceed to develop your own philosophy of education, consider this legacy of the pioneer educators. Do you find their ideas valuable contributions that you wish to continue by incorporating them into your philosophy? Or do you wish to confront them and possibly discard their ideas as you build your philosophy as an educator?

## Summing Up

1. The pioneers discussed in this chapter made distinctive contributions to the development of education in their own countries and throughout the world.
2. In challenging the dogma of child depravity, Comenius, Locke, and Rousseau developed a method of education based on children's natural growth and goodness.
3. Pestalozzi developed teaching methods that used objects in children's immediate environments. Froebel's theory was the basis of the kindergarten. Both Pestalozzi and Froebel liberated early childhood education by encouraging teachers to be sensitive to children's interests and needs.
4. Spencer's development of a sociology of education was a pioneering effort to relate the school to society. His identification of social activities contributed to curriculum development.
5. Dewey's pioneering work at the University of Chicago Laboratory School stimulated progressive educational reform. Montessori's prepared environment is currently popular in early childhood education.
6. Piaget's developmental psychology illuminated thinking on children's cognitive operations.
7. Illich's deschooling theory is a radical departure from existing approaches to reforming schooling.

## Key Terms

child depravity theory (105)  
 naturalistic educators (105)  
 empiricism (110)  
 induction (110)  
 scientific method (110)  
 object lesson (114)  
 curriculum correlation (116)  
 Social Darwinism (120)

utilitarian education (120)  
 Montessori schools (126)  
 sensorimotor stage (127)  
 preoperational stage (127)  
 concrete operations stage (127)  
 formal operations stage (127)  
 deschooling (128)

## Discussion Questions

1. How would you define an educational pioneer? Whom would you include in a chapter about educational pioneers?
2. In your personal philosophy of education, how do you define knowledge, education, and schooling? How do your conceptions agree with or differ from those of the pioneer educators in this chapter?
3. Of the educators discussed in this chapter, whose ideas are most relevant to you as a prospective teacher? Whose are least relevant? Why?
4. Identify a current educational trend such as whole-language learning, collaborative learning, constructivism, or portfolio assessment. How might the educators discussed in this chapter react to it?

## Suggested Projects for Professional Development

1. Visit a kindergarten, and record your observations. Did you find any evidence of Froebel's method?
2. Visit a Montessori school, and record your observations. What evidence did you find of Montessori's method?
3. Keep a newspaper clippings file and a journal of news telecasts on the social and educational issues being debated in Congress. Do you find any evidence of Spencer's arguments on either Social Darwinism or Dewey's views on democratic education?
4. Develop and present a demonstration of Pestalozzi's object lesson.
5. Survey the bulletin boards in your college or university. Note any examples of advertisements for what Illich called "drill training" or "liberal education."
6. In your fieldwork or classroom observation, see if you find any evidence of the methods devised by the pioneers discussed in this chapter. Discuss your findings with the class.
7. Choose one of the pioneer educators. Prepare some lesson planning notes describing how you would teach an activity or subject according to that educator's principles of teaching and learning.

## Suggested Readings and Resources

### Internet Resources

Dewey: Information about John Dewey can be found with a general net search using his name. For examples of educational strategies based on Dewey's philosophy, begin the search at the federal government's educational site, [www.ed.gov](http://www.ed.gov).

History of Education and Educational Biographies. The history of education since the 1700s is chronicled on a web site at the University of Nijmegen, The Netherlands. The site features a collection of links to papers, bibliographies, and biographies of noted educators and the home pages of research organizations: [www.socsci.kun.nl/ped/whp/histeduc](http://www.socsci.kun.nl/ped/whp/histeduc).

Montessori: For information about Maria Montessori and educational practices based on her philosophy, search the home page of the Montessori Foundation at its journal, *Tomorrow's Child*.

Piaget: For information on Piaget's educational ideas, see the Jean Piaget Society's Web page at [www.vanbc.wimsey.com/chrisl/JPS/JPS.html](http://www.vanbc.wimsey.com/chrisl/JPS/JPS.html).

### Videos

*Bridge to Adulthood: A Montessori Middle School Model*. VHS, 21 minutes (1988). Insight Media, 2162 Broadway, P.O. Box 621, New York, NY 10024-0621. Phone: 212-721-6316. Provides scenes from two Montessori middle schools.

*Imagine a School: Montessori for Elementary-Age Children*. VHS, 13 minutes (1988). Insight Media, 2162 Broadway, P.O. Box 621, New York, NY 10024-0621. Phone: 212-721-6316. Provides scenes from Montessori elementary schools.

*The New Educators*. VHS, 22 minutes (1988). Insight Media, 2162 Broadway, P.O. Box 621, New York, NY 10024-0621. Phone: 212-721-6316. Examines the life and work of such pioneer educators as Locke, Rousseau, Froebel, and others.

*Nurturing the Love of Learning: The Montessori Method*. VHS, 9 minutes (1994). Insight Media, 2162 Broadway, P.O. Box 621, New York, NY 10024-0621. Phone: 212-721-6316. Introduces the Montessori method by showing classroom organization.

*Johann Pestalozzi: The First of the New Educators*. VHS, 20 minutes (1988). Insight Media, 2162 Broadway, P.O. Box 621, New York, NY 10024-0621. Phone: 212-721-6316. Discusses Pestalozzi's career and contributions.

### Publications

Bloom, Allan. *Emile or On Education*. New York: Basic Books, 1979. Bloom's annotated edition of Rousseau's *Emile* is well translated and includes an introductory essay.

Brosterman, Norman. *Inventing Kindergarten*. New York: Harry N. Abrams, 1997. Brosterman's beautifully illustrated book examines Froebel's kindergarten. The images provide excellent illustrations of kindergarten gifts, occupations, and activities in historical perspective.

Eldridge, Michael. *Transforming Experience: John Dewey's Cultural Instrumentalism*. Nashville, TN: Vanderbilt University Press, 1998. Eldridge examines Dewey's thought as a philosophy for dealing with life's problems.

Froebel, Frederick. *The Education of Man*. Translated by W. N. Hailman. New York: Appleton, 1896. Hailman's translation of Froebel's classic work remains the most useful version of the kindergarten founder's philosophy.

Gutek, Gerald L. *Historical and Philosophical Foundations of Education: A Biographical Introduction*. Columbus, Ohio: Merrill, 1997. Placing each educator in historical and cultural context, Gutek examines the educational ideas of Plato, Quintilian, Aquinas, Calvin, Rousseau, Pestalozzi, Froebel, Spencer, Montessori, Addams, Dewey, Du Bois, Gandhi, and Mao.

Lillard, Paula. *Montessori: A Modern Approach*. New York: Schocken, 1973. Lillard presents an appraisal of Montessori and her educational method.

Shapiro, Michael S. *Child's Garden: The Kindergarten Movement from Froebel to Dewey*. University Park: University of Pennsylvania Press, 1983. An excellently written and carefully researched history of the kindergarten movement in the United States, this book is highly recommended for its treatment of leaders and ideas in early childhood education.

Smith, L. Glenn, and Joan K. Smith. *Lives in Education: A Narrative of People and Ideas*. New York: Lawrence Erlbaum, 1995. *This book features the biographies and contributions of important American and world educators.*

Tanner, Laurel N. *Dewey's Laboratory School: Lessons for Today*. New York: Teachers College Press, 1997. *Tanner carefully examines the origins of Dewey's curriculum and methods at the University of Chicago Laboratory School and provides ideas of how such practices can be used in today's schools.*

Westbrook, Robert B. *John Dewey and American Democracy*. Ithaca, N.Y.: Cornell University Press, 1991. *Presents a definitive examination of the intellectual origins of John Dewey's thought.*