THE COMPARISON OF THE PHILOSOPHIES OF MONTESSORI AND PIAGET:

EXTRACTS AND ABSTRACTS FROM

THE ENCYCLOPEDIA OF EDUCATION AND THE ENCYCLOPEDIA OF BRITANNICA

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The characteristic of the philosophy

The underlying assumption was the child's need to escape from the domination of parent and teacher, because there is permanent conflict between adult and child. Children, according to Montessori, are the unhappy victims of adult suppression. So, her first reformation of education is directed toward the adult educator: to enlighten his conscience, to remove his perception of superiority, and to make him humble and passive in attitudes toward the young. The next move is to provide a new environment in which the child has a chance to live a life of his own, free from frustrations. (The Encyclopedia Britannica, 1979. 6: pp.373-4. Hereafter E.B.)

Thus, a large measure of individual

Two areas of particular significance have been identified in Piaget's work, namely, the structure and operations of intelligent behavior, and the sequential stages of development. Although the areas are considered separately, they are actually only facets of Piaget's complete model of epistemology, his view of the invariant sequence of stages and processes in the development of intelligent behavior. (The Encyclopedia of Education, 1971. "Piaget": p. 143. Hereafter E. E.)

The concept that stages of development occur in invariant sequence has led to rejection of time or chronological age as a criterion for measuring development. As used by Piaget, time
initiative and self-direction characterized the Montessori philosophy, depending on her belief in the child's creative potential, his drive to learn, and his right to be treated as an individual. Self-education is the keynote of her method. (E.E., VI:p. 1020)

Her method is also based on the theory that children go through a series of "sensitive periods", and the special senses are separately trained by means of apparatus calculated to enlist spontaneous interest at the successive stages of mental growth. By the similar self-educative devices, the child is led to individual mastery of the basic skills of everyday life, and then to schoolwork. (E.B., 6: p. 374.) Montessori emphasizes early development of language "in the very age in which language is being established in the child" (The Encyclopedia of Education is only a somewhat unreliable means of approximating development. (E.E., p.145)

The level of intelligent behavior may be seen at the degree to which the organism is dependent on the presence of material objects in order to function. Development of intelligence proceeds as if on a bipolar continuum; that is from the totally material to the totally abstract. This developmental procession does not depend on concepts of maturation, for development of intelligent behavior is in no way time-bound. For individual, this development is itself maturation. (E.E., p. 145.)

According to Piaget, intelligent behaviors result from interaction with the environments and consequent experience. (E.E., p. 144) Then, Piaget stressed the importance of an environment conducive to learning.
(E.E.), "Montessori": p. 390.), so children learns to read, write, and count before the age of six in the "Children's Houses". (E.B., VI: p. 1020.)

The View of Child Development and Education

The Montessori approach recognizes the importance of allowing the young child to utilize his formative period, sensitive periods, absorbent mind, and other unique characteristics in the learning process. (E.E., p.390.)

Formative Period

From birth to age six, the child's natural drive is to form a uniquely patterned personality as he develops his sensory, muscular, and intellectual functions. According to Montessori, the process of autoformation, or self-development would ideally be aided the necessary skills. (E.B., 14: p.992.)

The development of intelligent behavior may be conceived of as a sequence of efforts designed to order or control an increasingly complex and sophisticated set of environments. (E.E., p.145)

The Invariant Stage

By Piaget, development of intelligence exhibits four chief stages. Although the ages in the stages of development many vary, the sequence is always the same. He starts by defining thinking as an action, a sort of manipulation. (E.B. 6: p.375.)

The sensorimotor stage (0-2 years of age): It is characterized by an empirical largely nonverbal intelligence. Experimenting with objects and connecting newer experiences with older ones, the child can be
indirectly by an education from birth that is designed to protect the sensitive child in process of formation from traumatic influence, and that is accomplished by means of an environment responsive to his inner needs and conductive to self-actualization. (Ibid.)

When the environment is ideal like the above mentioned, Montessori explains, children between three and six years old would work spontaneously with material, indifferent to distraction, for from a quarter of an hour to an hour. At the end of such a period, they would not seem tired, as after an enforced effort, but, rather, refreshed and calm. Undisciplined children became settled through such voluntary work. (E.B., VI: p.1020.)

For Montessori, education consists of helping the child's normal expan-
said to be learning from experience. (E.B., VII: p. 982.)

The preoperational stage (2-7): Objects of the child's perceptions come to be represented by words, which he now manipulates experimentally in his mind as he had previously experimented physically with concrete objects. (Ibid.)

The stage of concrete operations (7-12): His first logical operations occur, and he classifies objects by their similarities and differences.
(Ibid.) He acquires abstract notions such as "responsibility", but he operates only when in the presence of concrete objects that can be manipulated. So, the teaching must be exceedingly concrete and active. (E.B., 6: p. 375.)

The stage of formal operations (12-adulthood): It does the power develop
sion, especially during the critically important early years, by enhancing the child's physical, emotional, intellectual, social and spiritual development. (E.E., p.390.)

The Didactic Materials

Montessori recognizes the need to provide educationally the best for the child, that is, proper surroundings and materials necessary to his self-development. The didactic materials were educational tools that Dr. Montessori herself developed. For example, those for sensory education, made of wood, metal, cloth, cardboard, and other such materials, is specifically designed to give the child orderly self-activated experience with color, size, shape, weight, texture, and sound. Such materials, in effect, place the child in direct to deal with formal mental operations not immediately attached to objects. Only then, purely verbal teaching can be used. (Ibid.)

The Structure of Intelligent Behavior

Piaget listed three psychological properties of a structure: wholeness ("group" or totality), relationship between parts (each act), and the principle of homeostasis (equilibrium). (E.B., 13: p. 1101.)

The movement toward a state of dynamic equilbrium is the objective or purpose of all acts of intelligent behavior. Each specific act of intelligent behavior may be a member of a "group", and the group also seeks equilibrium at a higher level, according to the directionality of the cognitive structures organized as a totality. (E.E., p. 144.)
contact with content, thereby freeing him from dependence upon direct teaching by adult. (E.E., p. 391.)

The material used was designed specifically to encourage individual effort, rather than cooperative effort (E.B., VI: p. 1020.), but group or social activities are experienced through group gymnastics, games, religious exercises, and housekeeping chores such as keeping rooms and serving meals; and social manners were also taught in serving meals, waiting on tables, and the like. (E.B., VI:p.1020;14:p.991.)

Periods of Sensitivity (Readiness Theories)

Montessori's method is based on the theory that the child goes through a series of "sensitive periods", essentially irreversible and often relatively brief stages during which a

The Operation of Intelligent Behavior

Piaget has adopted an operational theory of intelligent behavior resulting from the "organism in environment". This concept of an operational theory means that the organism is active in the learning process, for Piaget conceives the learner to act upon the environment. (E.E., p. 143.)

The intelligent behavior is adaptive behavior and results from the need to achieve some form of a dynamic equilibrium between the organism and its environments. The adaptation is achieved by "assimilation" and "accommodation". (E.E., p. 144.)

Maturational and Readiness Theory

Piaget's learning theory is based on the idea of readiness. But his approach to development does not over-emphasize maturation and readiness,
particular competence or characteristic can be most readily acquired. (E.E.; p. 390) When these periods are missed, or when the child is held back by teacher, difficulties in learning reading or number concepts may result. So, they must be given a measure of freedom (though not license), each child working at his own pace without the tension of competitiveness. Each child must achieve a sense of order, though self-discipline and respect for authority are necessary. As one of her major achievements, Montessori put to practice the idea that early childhood represents a distinct phase of maturation. (E.B., 14: p. 991.) That is, Montessori schools enroll children at age three or even earlier, in order to exploit the young child's transient sensitive periods and his capacity to absorb environmental stimuli. Because, once past, sensitive period cannot be recaptured. (E.E., P. 391)

for he pointed out that, after the first few months of life, maturation is marginal in its effects, whereas experience is essential. Development through different intellectual phases is necessarily coincident with relevant active experience; readiness is actively promoted, not passively entered. So, the teacher must endeavour to be a step ahead of any particular level of read readiness. (E.B., 13: p. 1101.)
THE ASPECT OF THE CHILD

The child is considered a self-activated learner at work in a prepared environment of programmed materials which encourage autoeducation. In the liberty of activity, he is expected to gain self-discipline through work and concentration, confidence through the success made possible by the freeing of inner resources, and competence through master of himself and considerable sequential environment ("normalization"). (E.E., p. 390.) Montessori likened the child to a little explorer who must have the freedom to make discoveries in his environment. (E.E., p. 392.)

The learner is assumed to be active in forming structures and to be making the best he can of the situation he experiences. (E.B., 13: p. 1101.)
THE ROLE OF THE TEACHER

The teacher has an indirect role as an observer. She prepares the environment that will be acted upon by the child, intervening directly only when necessary. (E.E., p. 390.) Although the teacher demonstrates the special "didactic apparatus", she remained in the background, leaving the child to handle it for himself. (E.B., p. 1020.)

The teacher is regarded as an encourager, example provider, coanalyst, and cobuilder of mental structures that originate in the learner in a relatively undifferentiated state. The teacher's task is to help and moderate the process of the learner's active construction. (Ibid.)