INVESTIGATION AND EVALUATION OF THE MONTESSORI METHOD IN AMERICAN SCHOOLS

BY

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CHAPTER I
INTRODUCTION

The principal purpose of primary education is to prepare the students intellectually for their future training and education. Thus, the responsibility of the primary teacher is great. The author believes that teaching is a creative art and contains an unwritten code of ethics which says that personal gain must be sacrificed to give one's service to society. Therefore, the welfare of mankind remains more important than one's own desires. In order to give one's best service to others, it is necessary to employ the most beneficial methods.

Many methods are being offered for evoking more and better creative ideas from individuals and groups. Some of the impetus to improve the quality of educational experiences provided in the schools is a result of the continued and growing interest of parents and the general public. The public is concerned, as it has not been for years, in building a powerful education system. This interest stems from an understandable concern about one's own child and also from the recognition that our society cannot afford the risk of inadequately educated citizens. Though many educators are deeply interested in improving the quality of instruction in our schools, there are biased professional educators who hesitate cutting themselves loose from the idea that our present educational system is perfect.
Dewey's statement of a philosophy of education was made in 1916; and though Dewey was not a professional educator, but rather trained in philosophy, he worked in the education field. His efforts have achieved apparent success, and the American system of education has not experienced a notable deviation from that philosophy.

Statement of Problem

At the present time there is a trend in primary education to develop the child through the training of his senses. This system has been defined in the Dictionary of Education as "a method of primary and preprimary instruction, developed by Maria Montessori, an Italian psychiatrist and former pupil of Seguin and Itard, based on the 'faculty' psychology, and emphasizing free physical activity, individual instruction, early development of reading and writing skills and extensive sensory and motor training; introduced originally in Italy, the method spread to England and to the United States but has been generally abandoned here in favor of Froebelian methods". This Montessori system of teaching has prompted this paper. It is the desire of the writer to explain and describe the Montessori method, to follow its

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development since it originated, state its advantages and disadvantages and, finally, to make a study of the Montessori Schools in the United States. This study includes teacher preparation, salaries and other finances, class size, and the testing program.

Need for Study

Since this method of education has received such wide acclaim in other countries and has aroused vast curiosity in the United States, it would be in the interest of educators and parents to investigate this method. Maria Montessori, its exponent, began this type of education in the United States more than fifty years ago. "Today, on almost every continent, there are schools adopting in spirit and practice the ideas of this educator who ranks with Pestalozzi, Froebel and Dewey in the field of education." Dr. Kenneth D. Wann, specialist in early childhood education of Columbia Teachers College, has studied this method of education and predicts a growth in current interest. Much publication, too, has been given by others interested in the education of children. Thus, the writer hopes to arouse the curiosity, also, of the reader.

Procedure

This investigation and evaluation demanded intensive review and analysis of timely literature related to the subject. Use was made of libraries, including the Montana State University, Viterbo College of LaCrosse, Wisconsin, Iowa State University and Creighton University of Omaha, Nebraska. Personal books and articles were involved in this study also.

Letters requesting information were sent to those people directly connected with the Montessori Society in the United States, as well as to teachers affiliated with the Montessori schools and training centers. Letters were also sent to those Universities which have devoted serious study to the Montessori method of teaching.

Through correspondence, information and data were requested whereby the investigator could tabulate and compare results. A short questionnaire to the teachers in all the Montessori schools affiliated with the American Montessori Society was included in the letter of request for information. A tabulation of these results can be located on page 53.
Definition of Terms

Prepared environment is a term related specifically to this type of teaching. Three elements included in this term are as follows:

1. a bright, cheerful atmosphere with tables, chairs, closets and tools scaled to a child's use;
2. sensorial materials which are placed in the center of the classroom, and from which a child may select one to use, re-use and then replace after he has mastered it;
3. and finally, the teacher who acts as the child's helper and guide in the new surroundings.

This theory is that education comes through spontaneous exercise of the child's own faculties if the child is in the proper environment.

Limitations

This method of education has not been in use for pupils beyond twelve years of age, thereby limiting this work to the primary training.

The review of current literature and books was confined to materials available at the Montana State University, Iowa State University, Viterbo College of LaCrosse, Wisconsin.
and Creighton University of Omaha, Nebraska. Some personal pamphlets and books were also evaluated.

Since the number of schools promoting this type of education is limited, letters to Universities, schools and individuals were restricted to a chosen sampling in various areas of the United States, sufficient to fulfill the purpose of this paper.

The variables existing because of a lack of funds in different areas was an indication to the writer that the questionnaire answers would vary.
CHAPTER II
REVIEW OF RELATED LITERATURE

This author believes that true education is not confined to the imparting of knowledge; it is a natural process spontaneously carried out by the individual, and is acquired not by listening to words, but by experiences involving the whole child. Knowledge of, and adherence to, principles of child psychology will govern the effectiveness of much of the material the teacher presents.

To minister to the entire gamut of the child's capabilities, Montessori, by elaborating upon the sensorial apparatus devised by Seguin and adding many creations of her own, developed a comprehensive and scientific scheme for formal training of the senses. Her entire method is built upon the conviction that the child needs to refine, control, and develop his senses in order to learn. The color tablets sharpen the sense of sight; exactness in kinesthesis is obtained by comparing weights while blindfolded; audio precision is achieved through learning to identify slight variations in pitch; a wide variety of apparatus was designed to make the function of each sense more acute.

The child's unity as a rational animal is nowhere better exemplified than in his process of learning from the outside in, through the senses. In school the senses present a multiple challenge to the teacher which may be expressed in
several questions: Which senses play the chief roles in schooling? What would a teacher know about them? How can one plan for the child's use of the senses? Sense education involving the whole child,—his body as well as his mind,—is, therefore, of prime importance to curriculum builders. The plans they construct must conform to reality, for the pupil does not exist in a vacuum but rather in a complex milieu.

Montessori Method Explained

Sense training in the Montessori Method is closely linked to the founder's conception of the sensitive periods during growth. Montessori found that children between the ages of two and six pass through a succession of "periods of sensibility" which accompany the awakening of their individual senses.

These periods correspond to special sensibilities to be found in creatures in process of development; they are transitory, and confined to the acquisition of a determined characteristic. Once this characteristic has evolved, the corresponding sensibility disappears. Thus every characteristic is established by the help of an impulse, of a transient sensibility which lasts over a limited period of growth, that is, during the corresponding sensitive period.5

During these periods, the child, acutely sensitive toward certain things, is completely indifferent towards others,

5Montessori, Maria, The Secret of Childhood, p. 41.
according to Montessori, for:

... the life of the child is a series of different stages, each having its peculiar mental and physical characteristics. At each stage, the mind of the child tends to be peculiarly active in a particular way. ... The caterpillar is destined to become a butterfly; but it would be no good, while it is at the caterpillar stage, expecting it to fly, or offering it honey as a means of sustenance. If you are anxious for a caterpillar to develop into a successful butterfly, you can best help it by giving it what it needs as a caterpillar.6

As a result of prolonged scientific study, Doctor Montessori concluded that an enduring interest in learning could best be assured by starting training when a child is three years of age and providing plenty of time and opportunity for him to advance at his natural pace. A child is not given a task to do or a book to read until he is ready for that step and has every chance of succeeding. He progresses as he is capable so that he gains confidence, a sense of security and pride in achievement.

The child, each single child, must therefore be handled individually if his specific needs are to be met. Since education is an active, not a passive, process, self-activity must be experienced. The child also needs freedom to move about for he will perfect himself in this spontaneous activity provided it is directed and sustained by an intelligent purpose.

The bond between purpose and achievement is so close that Montessori treated them simultaneously, declaring, "Man is a fusion of personality and education, and education includes the series of experiences he undergoes during his life. The two things cannot be separated in the individual; intelligence without acquirement is an abstraction."  

The prepared environment, as the classroom is called, is the stimulus for self-activity which leads to pleasure in work. This individual pleasure contributes gradually to building up the harmonious group structure. The success springing from this self-effort in each child gives an inner satisfaction which needs no outside reward and leads to self-confidence. The child is an explorer. The Montessori classroom symbolizes the world.

What is this special environment, this prepared environment, as Montessori calls it? It is an artificial environment (as are all school environments), prepared by the teacher, or directress, as Dr. Montessori preferred to call the adult in charge. She arranges the furniture, adapted to the children's size. She arranges the learning materials on the shelves and shows the children, individually and in small groups, how to use them. She sees that the room is attractive, inviting and often with easy access to the out-of-doors. She sets up the

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rules by which the children relate to one another. She then stays in the background, observing, helping, guiding a child to new materials as he becomes interested and/or as she thinks he is ready for them, interfering with relationships among the children only as is absolutely necessary.

Within this prepared environment, children are free to choose their own materials and activities, to change activities, to sit at tables or to kneel or sprawl on rugs, to move about the room as they wish, to work alone, to work with others--free so long as their safety is not involved and so long as they respect the rights of others. The child must be free, said Montessori, if there is to be any discipline since the only real discipline is self-discipline, self-control. The child must be free in order to be truly master of himself, to be truly independent. He must be free in order to make his own decisions and discoveries, in order to learn by himself (which is the only way anyone really learns).

The child must be free to move, according to Montessori, because mental development is intimately connected with movement. The Montessori materials engage the brain through the hand. High value is placed on sensory-motor development.

The cardinal importance of manual activity in intellectual development is Dr. Montessori's great discovery. This could never have been arrived at by preconceived theory; it could only be discovered by unprejudiced observation under rather special circumstances. For it is something completely foreign to the adult mind that has become familiar with the use
of language and abstractions. Moreover, a fact of this sort, even after it has been conclusively demonstrated and generally admitted, always tends to be ignored and forgotten in actual practice. Educators may say vaguely that they understand the importance of the hand in education and yet make practically no use of it in their methods.

Learning requires concentration, and the only way the child can concentrate is by fixing his attention on some task he is performing with his hands. . . . From the very first, the hand is used to explore the world. All through his development, the hand is the child's teacher.8

To permit the child freedom of movement does not mean to abandon him to his own resources or to ignore him completely. Although she remains in the background, the directress is ever vigilant to observe the progress of the pupils, to answer their questions or introduce new materials, and to give the few group instructions called for by the system. Montessori explained this facet of her work in a talk delivered during a visit to the United States.

There are practically no collective lessons, but instead short individual lessons, which are sufficient for the teacher to start the child in a long work which he can finish by himself. The work which each pupil does when it is not the direct command of the teacher is a free, spontaneous labor. The process thus developed is a process of intellectual auto-education—of auto-instruction.9

The structure of the Montessori class is somewhat different from the traditional class. Montessori placed the


children into groups according to their psychological maturity rather than according to chronological age. In this she is a forerunner of the contemporary ungraded primary plan. With Montessori the major criterion for separation is the concept of the "sensitive periods". Because the limits of the sections are so broad, the children actually do end up in what closely resembles age groups. Most Montessori schools separate the children into three-year divisions: from three to six, six to nine, and nine to twelve.

The theory behind the Montessori Method is simple. The infant child lives in what seems to him a chaotic world. He gradually achieves a sense of order by learning to distinguish sights, sounds and odors. From this chaos the child must gradually create order, and learning to distinguish among the impressions that assail his senses, slowly but surely gains mastery of himself and of his environment.

"One concept of Montessori education is that a child must learn to make order out of his environment. He must sort out the sights and sounds about him and create an inner order and mastery of himself."10 The so-called "prepared environment" will assist the child in realizing this order. The way to understanding is through the senses and, therefore, the

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Montessori training of the senses meets the child's need in the educative process. The apparatus used by the child is suited to his needs, to the successive sensory periods, to his capacity for work and to the amazing resources for self-development and joy in doing things. And this joy of learning, a too-rare commodity in our more conventional school systems, is experienced each day by the Montessori child.

Between the ages of three and six the child passes through periods of sensitivity in which he awakens as an individual. He reveals surprising mental agility and shows intense, almost passionate, interest in the adult world. He loves to learn new words. He is interested in orderliness and good manners—not as a game but as a representation of the adult world toward which he is moving. Dr. Montessori regarded this period from birth until the age of six as the most important part of a child's educational life—far more important than college, high school, or elementary school. Yet, most children, according to Montessori, do not enter formal school until the age of five or six, when the period of their unusual sensitivity to much learning has already disappeared.

Montessori often contended that her principles are so fundamental as to be valid on any level of instruction. However, at any particular period the specific needs of that
age must be discovered and provided for. She wrote:

Education between the ages of six and twelve is not a direct continuation of what has gone before, though it is to be built upon that basis. Psychologically there is a decided change in personality, and we recognize that nature has made this a period for the acquisition of culture, just as the former was for the absorption of environment. We are confronted with a considerable development of consciousness that has already taken place, but now that consciousness is thrown outwards with a special direction, intelligence being extroverted, and there is an unusual demand on the part of the child to know the reasons of things. Knowledge can be best given where there is eagerness to learn, so this is the period when the seed of everything can be sown, the child's mind being like a fertile field, ready to receive what will germinate into culture. But if neglected during this period, or frustrated in its vital needs, the mind of the child becomes artificially dulled, henceforth to resist imparted knowledge. Interest will no longer be there if the seed be sown too late, but at six years of age all items of culture are received enthusiastically, and later these seeds will expand and grow.11

Montessori considers the child's education of equal importance to the work of any adult. The child's work is to create the adult—that-is-to-be; and he alone can do it, declares Montessori. Childhood, she believes, is not merely a passage towards what people imagine to be the really important thing—adulthood—but she is convinced that childhood is a thing of infinite constructive value in itself.

Sense education in the Montessori system is not restricted to the refinement of the child's external senses. The emphasis placed upon the use of the imagination

11Montessori, Maria, To Educate the Human Potential, pp. 4-5.
demonstrates this. Superficial criticism of Montessori had condemned her on the charge that she would stifle creativity by mooring instruction in the concrete. What appeared to be a banning of fairy tales was actually a relegation of fantasy to its proper position.

Imagination feeds on sensorial experiences, and if the child has experienced an extensive range of color, his imagination will have a wide range of color at its disposal. When the child finds his real world satisfactory through being helped to an understanding of it and freedom within it, his imagination then turns to creative activities which end in imaginative painting, musical interpretation, modelling and the like.12

Children are pre-disposed to believe what they are told, hence there is necessity for exercising great caution in the selection and presentation of fables. Make-believe should not be totally omitted, but the bulk of the experiences of the young ought to be firmly rooted in reality. In fact,

Imaginative creation is no mere vague sensory support; . . . but is a construction firmly allied to reality; and the more it holds fast to the forms of the external created world, the loftier will the value of its internal creations be. Even in imagining an unreal and superhuman world, the imagination must be contained within limits which recall those of reality.13

The child is the first to attempt to ascertain the validity of a tale. "Is it a true story?" is a familiar refrain. As he matures the youngster will gradually learn to identify the

elements of reality in what he hears and will be able to label the fanciful correctly. If the integrity of the power of imagining is safeguarded, it can be (and is) an able instrument in aiding the child's growth in knowledge for, "The child nourishes himself with truth, organizing within himself the constructions of the imagination which create the beautiful and the good."\textsuperscript{14}

Dr. Montessori, herself, has displayed, in her writings and conversation a very vivid and telling imagination. She has devoted over a hundred pages of one of her books to this faculty; its development, its function in art and science, its use and its misuse. Her own reply to her objectors is the assertion that the sensorial objects will materially assist the imagination. Thus, Maria Montessori believed that in order to develop the imagination it is also necessary to first come in contact with reality.

The Montessori Method attempts to provide the keys to human development, which are self-mastery and mastery of environment through the exercise of liberty. A fundamental principle of the Montessori Method is the complete liberty of the child in the child's spontaneous manifestations, and the utilization of

\textsuperscript{14}Montessori, Maria, "Education in Relation to the Imagination of the Little Child," \textit{Journal of Proceedings and Addresses of the National Education Association of the United States}, 1915, p. 667.
of every atom in the child's natural energy. By complete liberty is meant unlimited freedom to do right. Complete liberty means the liberty to help your neighbor and be helped by him, to consult him, to work with him, to share one's discoveries or difficulties; also liberty—if you desire—just to sit and watch your neighbor work without disturbing him. Complete liberty means liberty to live in free but disciplined intercourse with your fellow-beings. Here, as always with Montessori, liberty means doing for yourself, freely and by choice, what others have hitherto constrained you to do by force of their wills, or have done entirely for you.

It is so difficult to find people who will not interrupt, but will understand and respect the child's independence in following his natural lines of growth, that psychologists ask for places where babies can work, and hence arise schools for very small children, even of one-and-a-half years. All sorts of things are provided in these schools, as houses in trees, with ladders to go up and come down. The tiny house is not to be lived in, but to provide a centre of interest for the climbing activity. It is a recognition that education cannot begin too soon, if we want the man to be a worthy citizen in a free democracy. How can we speak of Democracy or Freedom when from the very beginning of life we mould the child to undergo tyranny, to obey a dictator? How can we expect democracy when we have reared slaves? Real freedom begins at the beginning of life, not at the adult stage. These people who have been diminished in their powers, made short-sighted, devitalized by mental fatigue, whose bodies have become distorted, whose wills have been broken by elders who say: "Your will must disappear and mine prevail!"—how can we expect them, when school-life is finished, to accept and use the rights of freedom?15

15Montessori, Maria, Education for a New World, p. 61.
The atmosphere of the traditional school is one of competition; whereas, Montessori abhorred competition. However, Montessori children have as many chances as they like to compare the results of their work with that of others. Very often, the traditional school uses competition as an incentive for progress in learning. And yet,

Of what use is it perpetually preaching to young people the virtue of mutual helpfulness when at the same time the whole atmosphere in which we make them live is one of competition — so much so that often a boy is punished if he is discovered in the act of helping another. What effect can we hope to have when we urge upon children the duty of being happy in the success of others when in practice, we praise them in the exact degree in which they outshine their fellows, either in scholarship or athletics?16

The liberty of movement accorded Montessori children, the freedom to learn at one's own pace and in harmony with one's own interests, does not preclude the requirement of discipline. Discipline is an important factor in Montessori schools, a discipline based not upon an external force exerted by the teacher, but rather upon the child's mastery of himself. Full freedom is in no wise incompatible with discipline for Montessori. On the contrary, she urged

... that society must render the freedom of the child complete, must assure his independence, but this ideal of freedom and independence is not to be confused with the vague conceptions of adults in using those

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words. In reality most people have a very miserable idea of what freedom means. Nature gives life by giving freedom and independence, but with it gives laws determined in accordance with the time and its special needs. Nature makes freedom a law of life -- the choice only to be free or to die. Nature offers us now help and aid for the interpretation of our social life through observation of the child, who shows us reality. Independence is revealed as nothing static but a continuous conquest, the acquisition of untiring work not only of freedom, but of strength and self-perfection.17

True discipline can be founded only on liberty, and must necessarily be active and not passive. A disciplined child is not one who has been reduced to silence and immobility, but rather one who is trained in habit and practice to regard his own rights as limited by the collective interest of the group who comes into the social community fully adapted to the community. The teacher must hinder the child from confusing goodness with immobility and badness with activity.

The question of discipline in the Montessori schools has naturally given rise to much discussion for if a child must be allowed to develop in perfect liberty, except in so far as his acts are wrong in themselves or interfere with the interest of others, what becomes of the principle of obedience? Should not a child be brought to obey, as a part of the discipline of life which he must surely meet when he goes out into the world? As a matter of fact, there is prompt and cheerful

17Montessori, Maria, Education for a New World, p. 35.
obedience, to a remarkable degree, in the Montessori schools, but such discipline as this Dr. Montessori thinks could never be obtained by repression, spoken exhortations, or reprimands. Voluntary action cannot be secured merely through a complex psychic development. To render obedience it is necessary to know how, as well as to wish to obey, and this knowledge is something which the child has to acquire.

The obvious benefits of a disciplined yet active class are in the ability of the Montessori teacher to give help where it is most needed, and in the children's freedom from being driven as a herd toward artificial levels of achievement, either high or low.

Montessori feels that the prepared environment which she has conceived is more conducive to training in order and self-discipline than the conventional classroom would be. She explains:

Furniture for children, their tables and chairs, should be light, not only that they may be easily carried about by childish arms, but because their very fragility is of educational value. The same consideration leads us to give children china plates and glass drinking-vessels, for these objects become the denouncers of rough, disorderly, and undisciplined movements. Thus the child is led to correct himself, and he accordingly trains himself not to knock against, overturn, and break things; softening his movements more and more, he gradually becomes their perfectly free and self-possessed director.18

Montessori advises teachers who seek to develop this self-discipline in their students never to do anything for a child that he can do for himself.

Some children, it must be admitted, are not capable of much inner control. Such children need the guidance, the direction, and the security that a teacher who herself possesses inner control can give them. Children lacking self-control must not, however, be "broken", that is, made to submit slavishly to unexplained mandates. Care must be taken that the reasonableness of what is expected is understood.

It is important that the adult-child relationship, existing between teacher and pupil, be based on recognition of the child as a person and acceptance for what he is regardless of what he does.

Work, in its broadest connotation of performing a productive operation, is seen as a fruit of sound discipline. Montessori held that, "In giving freedom and independence to the child, we free a worker who is impelled to act and who cannot live except by his activity, because this is the form of existence of all living beings. Life is activity, and it is only through activity that perfection of life can be sought and found."[^19] The obligation to work is not degrading to man; it contributes to his moral growth and gives him a

[^19]: Montessori, Maria, *Education for a New World*, p. 35.
sense of self-mastery. But to be of value to Montessori, a task must be productive in some way and must be a manifestation of virtue and perseverance. She maintained:

The little child who manifests perseverance in his work as the first constructive act of his psychical life, and upon this act builds up internal order, equilibrium, and the growth of personality, demonstrates, almost as in a splendid revelation, the true manner in which man renders himself valuable to the community. The little child who persists in his exercises, concentrated and absorbed, is obviously elaborating the constant man, the man of character, he who will find in himself all human values, crowning that unique fundamental manifestation: persistence in work. Whatever task the child may choose it will be all the same, provided he persists in it. For what is valuable is not the work itself, but the work as a means for the construction of the psychic man.  

Maria Montessori insists that the two prerequisites for learning are freedom and discipline. But, Montessori stresses that where discipline is confused with conformity, inner discipline is unlikely to be achieved. But if the child is respected as a person, if his individual needs and differences are adequately recognized; if he is confronted with learning materials and opportunities geared to his level of experience and maturity; and if an atmosphere of freedom is maintained through a teacher's pre-planning, true discipline will be present in a classroom. Then children will have inner discipline, positive attitudes, curiosity, and a respect, however implicit, of the values for which the teacher stands.

One of its most indirect consequences is the formation of character. The children not only make progress in a marvelous acquisition of culture, but they acquire more mastery of their actions, more assuredness in their behavior, without any stiffening or any hesitation due to timidity or fear. They are ready to adapt themselves to other people and to the environment and its different exigencies. Joy in life together with discipline seems to be more the result of their activities guided from within than from any outer circumstances. On this basis the children are ready to dominate the environment. As they are more balanced and more capable of orienting and valuing themselves, they are characteristically calm and serene, and for that reason also easily adapt themselves to other people.  

In this system of education, children are trained in generosity, kindness and respect. And when children are accustomed from their very earliest years to look upon all those around them as a source of help in their exploration of the world, a hostile or suspicious attitude toward members of other races, religions, or nations becomes unnatural, and the children's attitude is one of the most important factors during the early ages. People brought up in this way will, therefore, be of the greatest help in building a peaceful society.

Montessori tells us that the only really important thing in education is to teach the student to want to learn and how to learn -- and that the motivation for learning must come from within the child. However, most American schools still lean heavily on grades, tests, external pressures and rote-

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learning. Montessori attempted to prove that the most efficient and effective education takes place when the teacher stops trying to make the children attend to her teaching, and devotes herself instead to helping them learn, by themselves, through artfully contrived experiences, exercises and materials. Learning by doing was not new in her day as it is not new in ours. It had been praised by Aristotle, Montaigne, Rousseau, John Dewey, (Montessori's contemporary), and many others.

In brief, the Montessori approach is designed to help the child build within himself the foundations for a lifetime of creative learning. In a rapidly changing society this objective becomes evermore important. A love of learning and confidence in self as an important learner are pre-requisites in a world of constant change.

The United States is presently witnessing a revival of interest in the Montessori Method of education. Parents and educators are seriously studying the system in the hope of finding a remedy for our contemporary educational ills. This method has survived the inexorable test of time; it has been adapted to widely different cultural situations; its advocates are not adverse to the growing class-enrollment; and the scholastic achievement of Montessori children is significantly beyond that predicated for their age level. Whether or not these are legitimate claims is the burden of much of the present-day literature on Montessori. The concern of parents
and educators does not stop at an evaluation of results, however much they are desired, but attempts to probe beyond the externals to discover the principles animating the system.

The Montessori aggregation has a unique structure. This system, now more than a half century old, finds the major portion of its inspiration in the person of its founder. Maria Montessori's death, in 1952, marked the definitive end of the method's formative period; from then on there could be but slight modifications, as radical changes in method or in theory would be interpreted as a betrayal of the founder's spirit. During the more than eighty years of her lifetime, Maria Montessori constantly consulted experts in fields allied to her own interests, so it is probable that the present status of this education system is just what she wanted. Dr. Montessori did not allow her name to be used in connection with a school unless she had personally trained or at least examined the Headmaster. Today, the American Montessori Association continues to exercise careful vigilance over its various members to insure the preservation of the original integrity of the system.

Montessori, like her contemporary, John Dewey, was in revolt against many of the practices of nineteenth century elementary education. The development of the school from the monitorial techniques introduced in industrial England by Lancaster and Bell, betrayed little understanding of the needs of the young child, who was an emergent man muscually and intellectually, and not a defective adult. If children were to develop attitudes toward work and learning that were realistic forerunners
of those they would be expected to possess at the age of five or six, when society would demand that they stop playing and start learning.\textsuperscript{22}

Because Montessori never drew up a curriculum plan, although one was projected and might possibly still be found in her unpublished papers, the Montessori system reduces essentially to a methodology and it is on this basis that it should be evaluated. Not what to teach, but how it should be taught, was Montessori's concern.

The role of a traditional teacher is one of a guide, a source of inspiration, one who takes a thoroughly active part in the learning process, yet always conscious that basically the child must do his own learning. It is assumed that she will fulfill certain professional norms; she will be conversant with her particular field and will be equipped to transmit the heritage of knowledge it contains to the younger generations through the medium of those teaching techniques which best fit the psychological make-up of her students. She carefully plans the subject matter to be covered and decides upon the order and method of presentation. A Montessori teacher merely acts as a directress and is little more than an organizer. She performs her duty by arranging to have the didactic materials readily available for the children, by making herself

\textsuperscript{22}Rambusch, Nancy McCormick, \textit{The Montessori Approach to Learning}, paper delivered at the NCAA Convention, Atlantic City, April 5, 1961.
available in case the children ask questions, and by observing and carefully noting the progress of each child. She may introduce the child to new apparatus but must be careful and not influence the child's choice of materials. The guide for choosing apparatus from the prepared environment and the decision as to when various pieces of equipment should be used rests with the child. If unhampered, he will spontaneously select the exact task he needs for his individual stage of development and will do so at the precise moment when the exercise will be most beneficial.

For Montessori, this freedom is the only possible atmosphere in which to develop a sense of discipline. Since her materials are self-correcting, that is, only one possible solution to each problem, the child inevitably learns self-control, the core of all discipline, as he uses the materials. The Montessori child would imbibe the proper understandings, attitudes and habits as by-products of his ordinary work. Traditional teachers must be aware of the goals they are aiming at, and, if incidental teaching will not suffice for the purpose, then direct techniques must be employed.

Thus, in a Montessori class the teacher is not the dominant influence; the teacher steps aside to give first place to the child and his needs; the child sets the pace, not the teacher.
A superficial judgment of the Montessori Method is too often that it requires little of the teacher, who has to refrain from interference and leave the children to their own activity. But when the didactive material is considered, its quantity and the order and details of its presentation, the task of the teacher becomes both active and complex. It is not that the Montessori teacher is inactive where the usual teacher is active; rather all the activities we have described are due to active preparation and guidance of the teacher, and her later "inactivity" is a sign of her success, representing the task successfully accomplished.\textsuperscript{23}

Born in Italy in 1870, Maria Montessori\textsuperscript{24} was the first woman in Italy to earn the degree of Doctor of Medicine. Her early career was distinguished by her interest in child welfare legislation. Of particular concern was child labor in the mines of Sicily.

As assistant doctor at the University of Rome Psychiatric Clinic she was drawn to the problem of the mentally defective child — then incarcerated along with the insane. In two years, as director of the newly established Orthophrenic School, her so-called "defectives" were able to compete with success with normal children on examinations. These early pedagogical insights were greatly influenced by the work of Itard and Seguin, French physicians, who had developed various kinds of concrete material to teach abstractions.

\textsuperscript{23} Montessori, Maria, \textit{Education for a New World}, p. 86.

Itard was a follower of the principles of Helvetius. He believed in the omnipotence of education, and was opposed to the pedagogical principle which Rousseau had promulgated before the Revolution, that is, the work of education is deleterious and spoils the man.\textsuperscript{25}

Montessori was puzzled over the reasons why the normal children had not performed better. Perhaps the difference, she thought, lay in educational principles. Would her own procedures used with normal children have the same results? This question led Montessori to the study of philosophy and psychology, while also doing research in the nervous diseases of children.

In 1906 she opened her first school, the famous Casa Bambini, a nursery school for the impoverished children of the San Lorenzo district of Rome. Her scientific pedagogy brought her worldwide renown and people came from all over the world to observe her method. This was a display of love of work over play through a system that required neither rewards nor punishment, but rather freed the child to discover for himself within a prepared environment.

"Seguin was the inventor of much of the material Montessori uses, as she repeatedly states in her book."\textsuperscript{26}

\textsuperscript{25}Orem, R. Calvert, \textit{Some Sources of the Montessori Method and Facets of its Founder}, p. 19.

\textsuperscript{26}Donahue, Gilbert E., \textit{Montessori and American Education Literature}, p. 25.
And, Dr. Montessori had tremendous results with sensorial materials with these children. She taught them practical life activities, which, in turn, helped to change conditions in their homes. Thus, through her own endless efforts and observation, study and experimentation, she developed her methods. Before the children reached school age, they were able to read and write. There is evidence, through a Federally financed research project conducted in Colorado, that it is not harmful for children to learn to read while still very young.

A five year research project report emanating from Colorado, which charted the academic progress of four hundred of that State's children concludes that reading instructions should begin in kindergarten—not first grade. Children who receive daily reading instructions in kindergarten read better and with more comprehension but, contrary to common opinion heretofore held in educational circles, there are no ill effects detectable from "pressuring" children into reading at an early age. It further contradicts psychological implications of "reading readiness" theories.

The new data was the research result of tests given to about half the Denver Public School "kindergartners" and carried out by Paul McKee, Professor of Education, Colorado State College and Joseph E. Brzeinski, a Denver school official.27

The methodology of Dr. Montessori spread throughout the entire world. "Dr. Maria Montessori is the only woman to merit a place alongside such educators as Pestalozzi and Froebel."28


28America, 107:1023.
Though aims and principles are the same for both Montessori and Froebel, their different methods of approach have resulted in difference in emphasis, program, and devices. Montessori and Froebel are in complete unity in their attitude of love and reverence for the child. Both Montessori and Froebel believed in the spontaneous development of the child and in the utilization of its natural interests. The Froebelian Gifts, or play articles, can be compared with the Montessori Materials as they both were used to arouse and sustain self-activity. The difference as to the principles on which these materials were constructed lay in the fact that Froebel approached problems of education from the standpoint of theology and metaphysics, while Montessori based it on modern physiology and psychology. "The German writer, Gerhards, in fact goes to some pains to demonstrate that Montessori's sensory materials exemplify the principles of the Gestalt psychology."29

Both Froebel and Montessori compared the child with soft wax, warning others against destroying its spontaneous activity. Also, both educators believed that all children pass through various stages of development. It is not the age that determines when a child has reached adulthood, but rather by

29Standing, E. M., Maria Montessori, Her Life And Work, p. 324.
satisfying the requirements needed at each stage of childhood, boyhood and youth. If an individual, during growth and development, has not been able to live out each successive stage, then there will remain some defect in his mental development. And this belief was held by Montessori and Froebel.

Though Froebel does not even mention the sensitive period for order and that of the absorbent mind, yet he did agree with Montessori that these special periods, which children enjoy, should not go by without utilizing the special aptitudes which come from them. Froebel used the term "budding points", whereas Montessori spoke of "sensitive periods", but both were referring to the various phases of development in an individual.

Dr. Montessori calls the small child an explorer and Froebel also emphasizes the importance of assisting the little explorer in his researches. Froebel believed this should be accomplished by the direct help of the adult, but Montessori believed in indirect help through the prepared environment. The chief difference between the Montessori school and the Froebel Kindergarten is that the Montessori pupils have the means to explore and find the answer by themselves, as the Montessori teacher merely acts as a link between the child and the prepared environment.

Froebel and Montessori believed firmly in autoeducation.
Froebel realized the importance of liberty in the schoolroom, and this idea was identical to Montessori's, who also allowed freedom, though Dr. Montessori has gone much farther than Froebel in actually achieving this liberty in practice, by making available the Montessori materials from which children may choose whatever they wish. This liberty was not to be confused with license, as both Froebel and Montessori believed in freedom within the law.

The number of children recommended in a Montessori class could be as many as thirty to thirty-five, all working individually, whereas Froebel advocated smaller classes, though he did believe each child should learn by doing.

The Froebelian teacher remains a teacher whereas the Montessori teacher has been changed into a directress. To explain further, in a Montessori class each child chooses his occupation. The teacher merely directs the child to the possible choices.

In the Froebelian kindergarten the child exercises spontaneous self-activity in his play. With Montessori, the child's noblest form of self-expression is work. Montessori maintains that play is something which satisfies only a part of one's nature, but work goes deeper and brings a satisfaction to one's whole being.
Spencer, Rousseau, Froebel, Pestalozzi and others have also preached Montessori ideas. I believe we could go back many more years and find the ideals of the present day in Plato and Aristotle. But Montessori has found a practical means for us to realize our ideals of self growth in the child, of the development of initiative, of self-dependence, of self-control, of self-thought.30

Development of Montessori Method

Dr. Montessori's fame spread rapidly, after 1906, as similar schools were opened throughout Italy. Her ideas were carried to other parts of the world by visitors who were impressed with the results of her work. Dr. Montessori, herself, lectured in various parts of the world.

An International Montessori Association was established by Dr. Montessori in 1929, and she remained its president until 1952, the year of her death. This Association aims at

a union among nations for the welfare of childhood, at spreading the knowledge of the laws of the psychic growth of man, at throwing light upon the psychological and physical needs of childhood, at establishing the social rights of childhood based upon these needs, and at creating a policy of the child as one of the most effective means leading to Peace.31

Dr. Montessori traveled throughout the world giving training courses in her methods. When she was driven out of Italy by Mussolini -- because of her refusal to include fascism in her schools -- she went to Spain and then to India,

30Donahue, Gilbert E., Montessori and American Education Literature, p. 25.

where this method is to be found among all castes and where such eminent people as Mahatma Ghandi, Lady Bose, Dr. Vaswani, etc. are among its warmest advocates. Her extensive travels led her, also, to begin schools in Holland, South America, Greece, Africa, China, Mexico, Korea, Honolulu, England, France, Germany, Ireland, Denmark, Spain and Austria. In Austria, it was not till after the war that the Montessori Method could develop to any extent. It received the support of the Socialist Community of Vienna then, who built a model Montessori school in the Rudolfplatz and offered it to Dr. Montessori as a place where she might experiment.

The Czar of Russia introduced the method at the St. Petersburg Court School. The Communist Congress of Berne announced its approval of the system. Australia introduced the method in 1912. At that time the Government of Australia in New South Wales sent a letter to Dr. Montessori, stating that they had transformed all the Kindergartens into Montessori classes, and enclosed an album of photographs showing the schools before and afterwards.

Also in 1912, in Switzerland, there were seventy schools conducted by Maria Montessori, and at the present time all the public schools in Switzerland have begun the Montessori training. During World War II, in a Jewish Montessori School in Amsterdam, Anne Frank wrote her diary at the age of thirteen.

... Today there is no country without a
Montessori school. Not only do they exist in distant countries -- Australia, New Zealand, Russia, China and India -- but even in backward countries -- Nigeria and Uganda, where schools for coloured children are conducted by coloured teachers. A curious fact is the different social and political environments which have shown sympathy towards the Montessori Method, considering it to correspond to their own particular aims and ideals. 32

This method was recognized in America around the turn of the century. Dr. Montessori came to the United States in 1914, when Dr. Alexander Graham Bell was president of the American Montessori Society. S. S. McClure was second vice president, yielding place to Dr. P. P. Claxton, United States Commissioner of Education, who was first vice president, and who urged that Montessori methods be introduced into the public schools of New York City. Its secretary was Miss Margaret Wilson, daughter of the President, who sent official greetings from the government to Dr. Montessori while she was still on the boat before landing. On her arrival in Washington, President Wilson gave her an official reception at the White House.

In Boston, Dr. Montessori was extended the freedom of the city by the Mayor. Henry W. Holmes held a reception at which Harvard professors could meet Dr. Montessori. There was sufficient influence drawn to her side for the state of Rhode Island to officially endorse Montessori methods for the

32 Montessori, Mario, Doctor Montessori and Her Work, p. 21.
primary grades of the State's public elementary schools. In Chicago she was made a member of the Academy of Science. Across the country, as her tour progressed, daily newspapers in every major city visited ran whole pages of interviews.

While in the United States, Dr. Montessori lectured to overflow crowds at Carnegie Hall in New York. She gave a training course for teachers from all over the country. She set up a class of children at the International Exposition in San Francisco in 1915. The glass walls of this school allowed hundreds and hundreds of spectators to observe these children from the outside. Helen Parkhurst, the originator of the Dalton Plan, had been a Montessori student, and it was she who directed this class in San Francisco. Only two gold medals were awarded at this exhibition and this Montessori exhibit took both of them.

There followed a rapid increase in interest throughout the United States. A great deal of this explosion of interest could be subscribed to the tremendous prestige of some of its advocates. Alexander Graham Bell had access to his telephone; S. S. McClure controlled major sources of mass communication; Dorothy Canfield Fisher and Ellen Yale Stevens possessed the art of writing and thus spread the news with facile pens.

The sudden increase of interest also suddenly subsided. Montessori refused the offer to S. S. McClure, in 1913, to build an institution in America for her. Did this influence
the sudden lack of interest? At this time many people were convinced that education before the age of five was unnecessary. The burden of the tax-payers would increase if more children would be educated. Such prominent people as Goddard, Kuhlmann and Terman, were, at this same time, promoting their testing program and thereby affecting the educational psychology in America. Their earliest studies were in direct contrast to Montessori. They advocated education of the seven or eight year old. Thorndike's theory of painful stimulation was the direct opposite of Montessori, who believed in success without punishment. Freud, in 1909, had made a visit to the United States and spread his drive theory and popularized the idea that all behavior is motivated. Then, certainly, Montessori's idea of spontaneous interest in learning must have sounded foolish.

It is true that while Montessori was engaged in research and experiment, John Dewey was working on the same lines and reaching some conclusions similar to Montessori's. But she alone was guided by this ardent vision of a transformation of mankind; and she alone pointed out that nothing but an educational system which, instead of crushing the child, fostered his psychical energies, could produce men with the moral qualities required to control the tremendous scientific advances they themselves had brought about.
Rousseau, Pestalozzi and Froebel were also promoting their theories at this time, and their influence was great. Most of all, John Dewey, though some of his principles can be compared with Montessori's, yet, one of his chief disciples, William Heard Kilpatrick of Columbia University's Teachers College,

in print and in person, declared that whatever was good in Montessori theory was contained in Dewey's thought. What was original he criticized as excessively rigid and psychologically obsolete. 33

Of one thing there is certainty:

the publication of Kilpatrick's book was not a major immediate factor in the decline of interest in the Montessori movement. 34

Since World War II, however, the method has enjoyed a lively come-back.

The main contribution of the current Montessori revival is already taken for granted: the pre-school child is ready to learn. 35

These schools are, for the most part, the result of an unusual do-it-yourself resurrection wrought by parents concerned about the education of their pre-school children. 36


34 Donahue, Gilbert E., Montessori and American Education Literature, p. 31.


36 Ibid
Because of this, the schools have been "glamorized, publicized, overexposed, overestimated, and, at least, partially misunderstood."37

Another fact contributing to the return of the Montessori Method, perhaps, is that this method dovetails very nicely with the current curriculum reforms in mathematics and science that are infiltrating the elementary education in America. A parental concern for bettering education may be an influential factor. Finally, child development research has been heightened and from this may have developed the truth of Montessori's theories.

It was in one of Montessori's training courses that Nancy Rambusch became enamoured with this method. Upon returning to her home in Greenwich, Connecticut, began the first Montessori School, in 1958, and known as the Whitby School. Seventeen pupils were enrolled at that time and this number has increased to one hundred fifty in less than three years. The faculty has increased from two to sixteen teachers, six of which have been specially trained in the Montessori Method.

The Whitby School is tradition, if not "traditional", now for Montessori in America. Established in 1958, it has grown to include a junior high classroom for the 9th grade which goes into its second year. Since the 9th grade has both Montessori educated students and students new to Montessori methods, it was
interestingly noted that students of the two groups, as well as those who have had to go on to the 10th grade elsewhere are able to adapt either on a "to or from" basis. Montessori tradition was definitely established for Whitby when the school saw one of its alumnae off to college this year. 38

Though originally intended and drawn up for pre-primary education, Montessori has now infiltrated into the primary and secondary stages—even into the University.

Interest in the Montessori Method has been growing steadily in this country in recent years. At a conservative estimate, there are now more than two hundred Montessori schools in the United States, with new ones opening all the time. 39

The work of Maria Montessori entered its biggest arena in the fall of 1965, when all schools of Mount Vernon, N. Y., began the Montessori training.

Dr. John Henry Martin's (Superintendent of Schools, Mount Vernon, N. Y.) large-scale plan to revolutionize the Mount Vernon School System is well underway. It includes a challenging pre-school program for three and four year olds. This is primarily a language center and Nancy McCormick Rambusch, founder of AMS, is the director of this pre-school program. 40

Parents and educators in the United States are becoming more and more aware of this method of education, and the rate of increase of the Montessori Schools is significant.


39 The Long-Islander, Nov. 11, 1965.

The rapidity with which Montessori schools are being established is impressive evidence of parental conviction about this method of teaching young children.\textsuperscript{41}

The United States seems to be demanding more of education than ever dreamed possible. Every child deserves an education which would develop his own individual powers, which are, of course, different from the powers of every other human being.

Many educators are convinced that Montessori techniques and insights can correct some basic flaws in American primary schools. \ldots Not since the nineteen-twenties, when private schools spearheaded progressive education, has a teaching method evoked such enthusiasm among the public.\textsuperscript{42}

The particular contribution to education in this country which the Montessori method offers is a new emphasis on the freedom of the child in school. It is greatly needed. We have developed great school systems and in the process suppressed the spontaneity of the child. In our curricula and programs we have measured everything and timed everything until the child does not study and produce with his own mind but is crammed and made to recite; he does not sing and in other ways express himself because he loves to and wants to, but has the music squeezed out of him almost after the manner of a mechanical toy. Probably nine-tenths of the effort put forth by the pupils in our graded schools is constrained or demanded rather than inspired. It is not spontaneous, not of the child's own choice and not, therefore, of the highest order and expression of energy. Only free self activity can be truly educative. The Montessori method demands this freedom for the child. It would place him in an atmosphere where there are no restraints, where there is no opposition, nothing to make him perverse or self-

\textsuperscript{41}Minneapolis Star, Sept. 11, 1964, p. 10A.

conscious, or to put him on the defensive.43

Unfortunately, Montessori is less than ten years old in the United States. The educational gains of Montessori pupils have not been documented. Neither the NEA nor the United States Office of Education has taken a formal stand on Montessori. Only in recent years have several Montessori schools set about gathering basic data to be used in follow-up studies of children with Montessori experience. Though the Montessorians have not completed research on the method's learning value, there is, at the present time, a research project being pursued, to determine the value of Montessori education.

The Cincinnati Montessori Society is acting as a catalyst in the establishment of a scientifically conducted research study to include Montessori preschool education.

This study is to be undertaken by the University of Cincinnati, Dr. Wesly Allinsmith, Head, Department of Psychology and Dr. Thomas Banta, University of Denver and recently hired as the Project Director, are working on the research design.

The six year study will include all the preschool programs in Cincinnati for disadvantaged children. It will seek to determine the benefits to these children of pre-school education, and to compare the results of various programs.

Dr. Martin Deutsch and Dr. Lassar Gotkin, Institute of Developmental Studies, New York Medical College have both been to Cincinnati this year to advise Dr. Allinsmith, and will be consulting throughout the programs duration.44


Another news item explaining this research study stated the necessity of follow-up studies of Montessori children.

The primary purpose of the present research project is the scientific examination of the effects of Montessori experience on the child during the pre-school years, with follow-up studies through the third grade.45

Montessori education need not be restricted to any one nation or creed. There have been Montessori schools among Buddhists, Hindus, Jews, Moslems, Parsis, Theosophists, Catholics and Protestants. Public schools and private schools have used this method of education.

The experience of Montessori teachers throughout the world since 1907 has evidenced clearly that the Montessori system is notably effective with normal children, with retarded children, with children of any culture or social background in any nation from India to Italy, from Africa to Denmark.46

Traditional Education versus Montessori

Montessori children, at least in this country, push, spit, bite, loaf, yell, and giggle probably just as much as and as little as in a well-run kindergarten. Observers, however, are often impressed by children in a Montessori group. The approach does encourage high levels of self-control, self-discipline, self-confidence, persistent effort, orderliness, love of work, love of learning, etc.

As for the teachers, they sometimes raise their voices, lose their tempers, make mistakes, and become exhausted. Again it must be said, however, that the Montessori approach makes it easier for a teacher not to do these things as often as in a group where she must be out front most of the time leading and


disciplining. Dr. Montessori described the role of the teacher in an interesting and profound way when she said that as the child increases, the teacher decreases.\(^47\)

A very widespread misconception seems to be that in the Montessori schools children are at once given full access to all the exercises and are allowed to select any object that attracts them. An instant's thought will show that such a course would lead to license, to anarchy, and never to liberty. The child is, indeed, allowed to make mistakes, and the teacher must for the most part withhold her hand and make no direct correction; but -- and here lies the point which is often overlooked -- the child is not allowed to make mistakes that arise from immaturity or from a failure to understand what he is to do with the material.

This indicates the teacher's duty. First, she must, from her observation, be able at the beginning to present the materials to the child in a sequence which for him is a logical one. Once started upon the road to intellectual independence, he will indicate clearly what this sequence should be. And, second, she must be very sure, before leaving the child to use the material alone, that he has understood her lesson as an explanation of what he is to do with the objects. It was at first frequently necessary frankly to take from a child's hands a game of which he knew the use, but which was beyond his powers.\(^48\)

In several ways this Montessori class is not much different from any good nursery or kindergarten -- the attractive room with small furniture (Maria Montessori is given credit for the child-size furniture now common in classes of young children), the free movement of the children, the inviting materials all around the room, the opportunity and encouragement to do things for one's self, the respect for others' rights, the singing,


Just what is so different?

1. In the Montessori class, there is far more individual activity, far less group activity than in most nurseries and kindergartens.

2. The teacher is very much in the background. She talks very little. She does not arrange the activities for the day and then lead the group.

3. The children seem more serious, more intent, more absorbed in their individual activities than in the average nursery or kindergarten.

4. Many of the children's activities are designed to give them skills and abilities normally reserved for the first grade and up in the average school. Three and four-year-olds are given the opportunity to learn writing (which comes before reading), reading, mathematics, geography, French, and other academic subjects.49

What happens to Montessori-trained children when they transfer to public or private schools? Ideally, the school authorities could evaluate the child to see where he will best fit. Often, children six years old and older are advanced somewhat. A Montessori-trained child going into kindergarten will, the author believes, bring with him an adaptability that will enable him to put up with and profit from whatever he encounters.

From what has been written so far, the traditional school and the Montessori school do not seem to be opposed to each other. There are some notable areas of agreement. They agree on the dignity of man. They are also in accord

in reference to the practice of consciously utilizing the senses in education. Both methods subscribe to the dictum that sensory perception is the basis of all knowledge and, consequently, each system gives special attention to sensory training, perhaps Montessori to a greater extent than the traditional.

In the social sphere, there are similarities also. There is absolute agreement between the two systems regarding the idea that a renovation of society will be more likely to achieve the desired results through working with the young. In the course of their training, children will come to realize the importance of a true concept of authority and will learn to be obedient to the various governing bodies that claim their allegiance. By working and playing together the children will develop a spirit of fellowship which in turn will help them adjust to society's ever-changing conditions. This facility for adaptation refers to minor incidentals, not to fundamental principles.

Both systems want some kind of special attention given to young parents to help them fulfill their responsibilities adequately. Finally, both would have their pupils trained in such a manner that they would emerge from school fully capable of assuming a place in organized society.
Limitations of Montessori Method

The writer believes that the following could be considered as limitations of the Montessori Method:

1. Emphasis on individual development rather than group training. The kindergarten stresses group activities, on the ground that the place for individual training is in the pre-kindergarten stage, while Montessori's emphasis is almost exclusively on the development of individuality.

In the well-developed plan of the Frobelian education the coordinating of muscles, the special training of the child's senses, and all such phases of necessarily individual development are expected to come in the nursery. The Montessori method neglects almost entirely the training in group activities, which is one of the kindergarten's real contributions to civilization.

While the preceding criticism has been made by some, the following arguments upholds the Montessori Method in the training of group activities.

Montessori children do have group lessons and discussions; they do sing, paint, play with clay, play games outside and inside, shove and wrestle. They will spend far less time, however on these activities than in the usual kindergarten. Most of their time will be devoted to individual activities.50

2. No place for stories. The failure to make a place for stories is one of the serious limitations, the writer feels,

in Montessori's theory of the training of little children. Her reason for objecting to stories for young children is based in part on her psychological theory that all activities of the mind are derived from the outside world and are dependent on sense impressions, and that therefore the child should be kept within the realm of his own personal experience until he is at least seven or eight years old, and in part upon the fact that in her personal experience she has found it difficult to keep the attention of children under five years of age when telling a story.

3. Lack of material for self-expression. With the possible exception of the musical bells, the rather meager block building, some little clay modeling, and the selection of the color of the crayon pencil to be used in filling in the already traced forms, there seems to be no opportunity for the child to rearrange the material or make it over according to his own ideas. Maria Montessori insists upon many repetitions of sense impressions before any activity is allowed to the rearrangement or readjustment of these impressions.

Piaget also emphasizes the importance of richly variegated early experience. Only such experience provides an ample array of preliminary schemata to which new experiences effectively assimilate. Here we may be confronted with a limitation of the original Montessori method which, in spite of its ingenious use of certain specialized kinds of materials, is not primarily designed to broaden the range of objects the
child comes in contact with, or the range of sensory-motor interactions with the environment. 51

When we consider the possibilities that lie dormant in the human mind, which are never discovered or never developed because this initiation into creative activity has been so often starved, and that precious activity of the will (the courage to begin a new thing) has been inhibited during the developing years of early childhood, we realize how serious a limitation this is for the individual.

Reginald C. Orem, a reading consultant to various agencies and school systems in the metropolitan Washington, D. C. area, has confirmed, somewhat, this limitation.

In Montessori's reality-oriented education there is opportunity for all manner of creative, imaginative production, but imagination is not left unbridled. 52

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52 Orem, R. Calvert, Twenty-seven Major Elements in Dr. Maria Montessori's Philosophy and Practice, p. 13.
CHAPTER III
COLLECTION AND INTERPRETATION OF DATA

To determine the extent and influence of Montessori education in the United States, eighty-nine schools affiliated with the American Montessori Society were surveyed by questionnaire. The structure of the questionnaire is as follows:

1. How long has your school been operating as a Montessori School?
2. How many full-time teachers are on the present faculty? (including trainees)
3. How many Montessori teachers on your staff (including trainees) have received specialized Montessori training?
4. Where did the teachers receive their Montessori training?
5. What is the tuition, per pupil, per academic year?
6. Do you accept children who are unable to pay tuition?
7. At present, how many pupils are in your largest class?
8. Are the children given an I. Q. test?
9. Are the children given any standardized achievement tests?
10. What is the Grade Placement achieved on a standardized test of a class of pupils ready to advance to the 6-9 year age group?
A listing of the eighty-nine schools intended to be included in the survey is shown in the following Table.

**Table 1. Number and Per Cent of Questionnaires Sent Out.**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Number</th>
<th>Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questionnaires sent out</td>
<td>89</td>
<td>100</td>
</tr>
<tr>
<td>Questionnaires returned</td>
<td>59</td>
<td>66.292</td>
</tr>
<tr>
<td>Questionnaires not returned</td>
<td>17</td>
<td>19.101</td>
</tr>
<tr>
<td>Address unknown</td>
<td>2</td>
<td>2.247</td>
</tr>
<tr>
<td>Remains a study group</td>
<td>7</td>
<td>7.865</td>
</tr>
<tr>
<td>Refused request to complete it</td>
<td>1</td>
<td>1.123</td>
</tr>
<tr>
<td>Affiliated with another school</td>
<td>1</td>
<td>1.123</td>
</tr>
<tr>
<td>Discontinued—lack of funds</td>
<td>1</td>
<td>1.123</td>
</tr>
<tr>
<td>Closed—zoning restrictions</td>
<td>1</td>
<td>1.123</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td>89</td>
<td>99.997</td>
</tr>
</tbody>
</table>

The results of Questions 1, 2 and 3 are shown in Table 2.

**Table 2. Montessori-Trained Teachers on Present Faculty of American Montessori Schools.**

<table>
<thead>
<tr>
<th>No. of Teachers</th>
<th>Less than 5</th>
<th>5-9</th>
<th>10-14</th>
<th>More than 14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 1</td>
<td>55</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Question 2</td>
<td>42</td>
<td>12</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Question 3</td>
<td>45</td>
<td>11</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
This table reveals the fact that the majority of the American Montessori Schools have been in operation less than five years. The majority of schools have employed less than five teachers on their staffs. In comparing the total number of teachers on the staff with the number which have received specialized training, it can be noted that most of the teachers have had specialized Montessori training.

At one time all Montessori Training Classes were held outside the United States. As time passed and necessity demanded it, more and more Training Courses were offered in various universities in the United States. Forty-one teachers of the fifty-nine schools surveyed were trained in Europe and one hundred forty-two received their training in the United States. This information is shown in Table 3.
<table>
<thead>
<tr>
<th>Outside the U. S.</th>
<th>No. of teachers trained</th>
<th>Within the U. S.</th>
<th>No. of teachers trained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe</td>
<td>5</td>
<td>Washington, D.C.</td>
<td>19</td>
</tr>
<tr>
<td>Dublin</td>
<td>2</td>
<td>Chicago</td>
<td>35</td>
</tr>
<tr>
<td>Germany</td>
<td>1</td>
<td>Los Angeles</td>
<td>27</td>
</tr>
<tr>
<td>Italy</td>
<td>2</td>
<td>New York</td>
<td>31</td>
</tr>
<tr>
<td>Belgium</td>
<td>1</td>
<td>Ohio</td>
<td>1</td>
</tr>
<tr>
<td>Denmark</td>
<td>1</td>
<td>Texas</td>
<td>3</td>
</tr>
<tr>
<td>France</td>
<td>5</td>
<td>Connecticut</td>
<td>11</td>
</tr>
<tr>
<td>Ceylon</td>
<td>3</td>
<td>Van Nuys, Calif.</td>
<td>1</td>
</tr>
<tr>
<td>London</td>
<td>17</td>
<td>New Jersey</td>
<td>6</td>
</tr>
<tr>
<td>Holland</td>
<td>4</td>
<td>St. Louis</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Oklahoma City</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Altoona, Pa.</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>41</strong></td>
<td><strong>TOTAL</strong></td>
<td><strong>142</strong></td>
</tr>
</tbody>
</table>

Because most of the Montessori Schools in the United States are financed through tuition rates, the cost of tuition is high, as is shown in Table 4.
TABLE 4. TUITION PER PUPIL PER YEAR.

<table>
<thead>
<tr>
<th>Amount of tuition</th>
<th>Schools charging this amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>$200 - $299</td>
<td>3</td>
</tr>
<tr>
<td>$300 - $399</td>
<td>11</td>
</tr>
<tr>
<td>$400 - $499</td>
<td>26</td>
</tr>
<tr>
<td>$500 - $599</td>
<td>14</td>
</tr>
<tr>
<td>$600 - $699</td>
<td>4</td>
</tr>
<tr>
<td>$700 or more</td>
<td>3</td>
</tr>
</tbody>
</table>

Of the 59 schools which responded to the survey, 28 schools do not accept pupils who are unable to pay the tuition, and 31 schools do accept such pupils. Within these 31 schools, 23 have arranged for scholarships through the Montessori Society. Five schools accept, without tuition, children of employees; and three schools accept disadvantaged children. Two schools have two tuition rates, one for each age level admitted.

The number of pupils in a Montessori Class varies from small to large, as shown in Table 5.
TABLE 5. NUMBER AND CLASS SIZE OF MONTESSORI SCHOOLS

<table>
<thead>
<tr>
<th>Class size</th>
<th>No. of pupils in class</th>
</tr>
</thead>
<tbody>
<tr>
<td>less than 15</td>
<td>4</td>
</tr>
<tr>
<td>15 - 24</td>
<td>31</td>
</tr>
<tr>
<td>25 - 34</td>
<td>20</td>
</tr>
<tr>
<td>more than 34</td>
<td>4</td>
</tr>
</tbody>
</table>

Testing is not an important part of the Montessori Method. The number of Montessori Schools involved in any testing program is relatively small. Those giving I. Q. or Achievement Tests are listed in Table 6. 49 schools, of the 59 surveyed, do not give I. Q. tests, and 47 schools, of the 59 surveyed, do not give standardized achievement tests.

TABLE 6. SCHOOLS INVOLVED IN TESTING PROGRAM

<table>
<thead>
<tr>
<th>I.Q. Tests</th>
<th>Schools Involved</th>
<th>Achievement Tests</th>
<th>Schools Involved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calif. Test of Mental Maturity</td>
<td>1</td>
<td>Iowa Basic Skills</td>
<td>1</td>
</tr>
<tr>
<td>Kuhlman-Anderson</td>
<td>3</td>
<td>Metropolitan</td>
<td>4</td>
</tr>
<tr>
<td>Stanford-Binet</td>
<td>2</td>
<td>Stanford Achievement</td>
<td>6</td>
</tr>
<tr>
<td>Lorge-Thorndike</td>
<td>2</td>
<td>Calif. Achievement</td>
<td>1</td>
</tr>
<tr>
<td>Peabody Tests</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S R A</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Testing Program</td>
<td>49</td>
<td>No Testing Program</td>
<td>47</td>
</tr>
</tbody>
</table>
Because the number of schools involved in testing is small, and also because many of these schools are in the first years of operation, 55 schools could not give a class norm for a group ready to advance to the 6-9 year age group. The four schools which did report a norm includes almost a range of two years, as shown in Table 7. Within the same state is seen the extreme norms.

**TABLE 7. CLASS NORM OF SCHOOLS INVOLVED IN TESTING.**

<table>
<thead>
<tr>
<th>State</th>
<th>Norm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ohio</td>
<td>1.8</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>2.3</td>
</tr>
<tr>
<td>Delaware</td>
<td>2.5</td>
</tr>
<tr>
<td>Ohio</td>
<td>3.2</td>
</tr>
</tbody>
</table>

**SUMMARY**

From the preceding information, one can conclude that the Montessori Schools are still in an experimental state in America. The number of universities offering training courses for teachers is increasing, and the number of Montessori Schools is growing. Many schools are using some of the Montessori principles, but are not affiliated with the American Montessori Society in America.
Comments by Montessori Advocates

Space was provided in the questionnaire for comments regarding the Montessori Method of Education in comparison with our traditional method. The following are some of the comments:

With regard to the training of the perceptual handicapped; it is the sole educational technique.

Our success is not due only to the Montessori materials and method, but in great part to our dedicated, devoted teacher. She actually spends only about half the time on the Montessori materials, and the remaining time on the more traditional nursery school activities—but the Montessori philosophy of love, respect for the individual child, encouragement, early opportunities, etc., she carries into every facet of her teaching.

We have found our children have profited from this method greatly. It promotes personal choice, increases attention span, and individualizes the child as the traditional method does not. Our children seem to be more poised, to be able to approach people and talk, to be responsive socially—as they never were before we started using this method.

The most realistic for the 20th Century child, simply because it is individualized. It teaches the child to be an active learner rather than a passive one. Learning is chiefly through discovery, therefore retention is doubled. Self-discipline prepares the child for life.
Great! Children early develop self-motivation. As a teacher in a "conventional" school I find the Montessori materials stimulating and developmental. There are no bored children. The emphasis on constantly observing the child and being sensitive to his needs is consistently stressed.

Montessori, thoroughly understood and used with a good deal of common sense, seems to allow and encourage children to develop skills etc. faster than the usual group-oriented classroom situation. On the other hand the "traditional method" in the hands of a wise teacher who respects the individual child etc. is often indistinguishable from good Montessori. The equipment is excellent and its self-correcting quality allows for much independent work—but many of the good, newer "educational toys" (often derived, to be sure, from Montessori apparatus) have this same quality, and they are often found in great quantity in traditional classrooms. It seems that in the end it is the teacher, not the method, that is important.

While I am surprised at what has happened to Whitby's initial concern with Montessori, (by that I refer to the anxious driving middle class—using these ideas to pressure their kids), I still believe in its value to American education. I can join all those interested in greater flexibility, e.g., team teaching, non-graded schools, and the like. It can claim as its own unique contributions of the way we learn and the unique contributions of tools and programs to aid the variety of paths to learning.

I have experienced much more opportunity to help a child normalize himself in my Montessori classes than I have ever experienced in my nearly ten years of teaching in the traditional schools.
Montessori education is as good as its teachers. When a school has well trained and enthusiastic teachers, Montessori education is a first-rate, psychologically sound approach to pre-primary education. If you are unfortunate in your teachers your program will be mediocre.

The Montessori system as presently in the U. S. (3-6 years) deals with child's education at a period that the public system does not cover. This is the key — The "sensitive periods". We say here the method under ideal conditions is of tremendous value. It is however subject to the ability of the Teacher or Directress. We would say it has been beneficial— but not what the glossy magazines would lead one to believe when they present articles on it.

Montessori approach emphasizes potential of the child for functional independence in the ability to teach himself (as much as possible) through the (child's) use of didactic apparatus which contains learning appropriate to the child's level of (learning) competence. Like John Dewey, Dr. Montessori advocated practical life skills (care of person and environment) and experiential lessons relating to culture. Unlike the Dewey method, the Montessori method (especially for children under age 6) uses the simpler device of presenting systematized differentiation of sense stimuli through didactic apparatus.

Traditional method deals with the intellectual man and has failed. The Montessori Method deals with the biological man— education for life beginning with life, developing the whole personality. This method is as old as man, and has always worked.
CHAPTER IV
SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

Why does the Montessori Method of education rate special attention today? One reason could be the fact that Montessori anticipates many of the new emphasis and trends in education.

Individualized instruction is coming more and more into the modern classroom. Yet, this was proposed by Montessori years ago when she emphasized self-education — independent, individualized instruction rather than teacher-led group instruction. However, group experiences and projects are not erased from the Montessori classroom. Group instruction in the six to twelve age group receives increased attention. Maria Montessori merely wanted to emphasize the need for individualized instruction in order to allow each child to work successfully at his own level.

Ungraded groupings in our modern school are a duplicate procedure of the Montessori approach which has always been based on ungraded groupings. These groups allow each child to develop at his own rate within a group of children of various ages (three to six, six to nine, nine to twelve) and abilities. Further, grouping permits the fullest individual intellectual advancement as well as helps to avoid the social-emotional problems in promoting or retaining children.
Uninterrupted time blocks are now being recognized by educators to allow children to work independently and without interruption. The lack of interruptions has been a basic principle in the Montessori education from its foundation. The attention span of the three to five-year-olds has been observed to be longer than the short periods allotted in our present kindergartens.

Individualized teaching materials, such as teaching machines, programmed learning, classroom libraries, multilevel teaching materials, filmstrips and tapes are comparable with the Montessori-devised materials. The Montessori materials are self-correcting, as also are many individualized materials today.

Even the idea of team teaching can be found in Montessori education. Dr. Montessori saw the need for competencies in teachers beyond what one individual teacher can possibly possess and the consequent need for interest and ability groupings within the larger ungraded group that involve several teachers planning and working together.

The traditional viewpoint is challenged by the techniques, materials, and values of the Montessori school in which it is hoped to communicate to the child his own value through the experience of self-esteem, self-love, and the satisfactions derived from one's own rate of growth. The Montessori Method is committed to the freedom to exist and to grow individually.
Conclusion

Our society cannot afford schools which fail in any preventable measure to provide appropriate learning experiences for all of our citizens of every age and social background, to offer diversified programs to meet individual needs and develop individual potentialities, and to furnish the common experience-background which gives unity and direction to our society.53

The hopes of parents and educators for future American education is focused on the individual. Maria Montessori realized the necessity of individualizing instruction many years ago.

As John Dewey pointed out as early as 1916, unless there is some degree of novelty in the purpose of a learning activity, there is no thinking or reasoning, only the performance of a routine act.54

Maria Montessori is in complete accord with John Dewey in the above quotation. The prepared environment, she hoped, would satisfy this novelty, as well as serve individuals in their learning discovery.


Recommendations

Issues worthy of extensive exploration are the generality of effects of Montessori training upon variegated aspects of cognitive performance and the permanence of the training effects. Do learning outcomes include differential perceptions of what school is all about, the teacher image, or the pupil role? Does the Montessori-trained youngster relate to school any differently in terms of what he perceives the school to expect of him, and/or in terms of what he expects of himself? What indeed are the long-range effects with regard to the child's adaptation to school in the early primary grades?

Although there is much empirical evidence to support the Montessori approach, we need far more study of the ideas, far more experimentation. Perhaps what you, the individual educator, can do that will help the most is to encourage study and experimentation at all levels of education to the end that American children, all of them, will benefit from every valid idea and insight in the Montessori approach.
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