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A GUIDE FOR
IMPLEMENTATION OF THE
MONTESSORI THEORY OF EDUCATION
IN THE LOWER ELEMENTARY CURRICULUM

by

Sheila G. Wolfe

A Research Project Presented in Partial Fulfillment
of the Requirements for the Degree
Master of Education

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ABSTRACT

A Guide for Implementation of the Montessori Theory of Education in the Lower Elementary Curriculum.

In this project, the author categorized the Montessori curriculum into grade levels so that parents will know what the expectations will be for the average student by the end of 1st, 2nd, or 3rd grade. The Montessori materials are divided into subjects across the curriculum. The scope and sequence was developed by a research of various Montessori schools and training centers. These schools were classified as private, public, or charter; some had an affiliation with AMI or AMS. The information received was checked and cross-referenced, comparing the information from one school with another. Next, a model was established which became the content of the curriculum guide. The information contained within the guide is not based upon one's opinion, but upon the facts received.

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Chapter 1

INTRODUCTION

There are 4,000 Montessori schools in the United States that provide an education to children enrolled in preschool through high school, including private and public schools (NAMTA, 2006). The teachers and administrators who are affiliated with public Montessori schools have high levels of accountability to the parents, board members, and the local authorities of the school district to ensure that all children are able to meet state and district standards. Montessori teachers are trained in the scope and sequence of the Montessori curriculum, as well as record keeping, observations, and evaluations for each student. They have learned how to remain true to the Montessori philosophies of education and to balance the values of the traditional public school sector, such as standardized testing and grade levels.

Statement of the Problem

Montessori education continues to be a popular choice for parents who select an alternative method of education for their child. It has achieved a high level of respect in the elementary, middle, and high schools. Although parents feel that they have made the right decision for their child's education, few understand the philosophy behind the curriculum.

In the Montessori Method of education, the emphasis is on the developmental abilities of the individual (Seldin, 2001). When the child displays signs of readiness for a

lesson on a particular subject, the trained Montessori teacher will present him/her with a demonstration. However, members of society are more familiar with the traditional public school standards for academic achievement, categorized by grade levels. Parents need to know how their child's teacher has determined if he/she is eligible to progress into the next grade level. Because the parents may have unclear expectations, there is a potential for misunderstandings between the teacher and the parents. Many parents want more concrete information in terms that provide clarity.

Purpose of the Project

The purpose of this project was to categorize the Montessori curriculum into grade levels in order to help parents understand the developmental level at which their child functions in relation to the scale used in traditional public schools. In addition, the Montessori materials are divided into subjects across the curriculum.

Parents, students, teachers, and administrators understand that some students will exceed these expectations, while others may not fully meet them by the end of the scholastic year. Most students have academic strengths and weaknesses. It is possible for one student to meet all of the requirements in one area, but not in others. This guideline will assist parents so that they will know what the expectations will be for the average student by the end of first, second, or third grade.

Chapter Summary

The realization that there is a gap between how a certified Montessori teacher views and records the child's progress and the protocol for the teacher's evaluation of the child enrolled in the traditional public school system was introduced in this chapter. Since the

majority of Montessori elementary schools are classified as public schools, there needs to be a format of continuity that the parents can comprehend. The objective of this project was to develop a guide for parents that equates the Montessori curriculum according to the expectations for the child who has completed first, second, or third grade.

A Review of Literature is presented in Chapter 2. In this chapter, the author: (a) analyzes the Montessori philosophy of education in the Lower Elementary classroom, (b) discusses Montessori's theories on child growth and development, and (c) presents how the Montessori theories are applied to the curriculum. The methods used for the development of this guideline for parents of children enrolled in a Montessori Lower Elementary classroom are presented in Chapter 3.

Chapter 2

REVIEW OF LITERATURE

This project is designed for the parents of children in a Montessori Lower Elementary classroom. The author categorizes the Montessori curriculum into grade levels in order to help parents understand the developmental level at which their child functions in relation to the scale used in traditional public schools. In addition, the Montessori materials and lessons are divided into subjects across the curriculum. This guideline assists parents so that they will know what the expectations are for the average student by the end of first, second, or third grade.

Presented in this chapter is a summary of Montessori's philosophy of education for the lower elementary classroom. It includes an overview of Montessori's theories of child growth and development, and how it is applied to the curriculum.

Overview

In 1948, Maria Montessori described the characteristics of children between the ages of 6 and 9 years of age. Montessori stated (2000),

The secret of good teaching is to regard the child's intelligence as a fertile field in which seeds may be sown, to grow under the heat of flaming imagination. Our aim, therefore, is not merely to make the child understand, and still less to force him to memorize, but so to touch his imagination as to enthuse him to his inmost core. We do not want complacent pupils, but eager ones; we seek to sow life in the child rather than theories, to help him in his growth, mental and emotional as well as physical, and for that we must offer grand and lofty ideas to the human mind, which we find ever ready to receive them, demanding more and more. (p. 11)

Children have left one plane of development, infancy (birth through age 6), and entered a new plane, childhood (ages 6 through 12). They have learned from concrete experiences and now are capable of abstract thought. It is the *age of reason*. Children have an innate need to fulfill their curiosity; they ask many questions about why, how, or what if. They want experiences in the real world with real objects. If that is not an option, they use their new and strong power of imagination to fill in the tangible gaps in order to satisfy the need to know.

The Montessori Philosophy of Education in the Lower Elementary Classroom

Multi-Age Groupings and the 3 Year Work Cycle

Children between the ages of 6 through 9 work and learn together in a lower elementary classroom (Kahn, 1995). This type of environment provides stability and allows the children and teacher to remain together for 3 years. Use of this multi-age grouping found within a Montessori class encourages children to be role models for others as they teach and learn from their peers instead of feeling the need to compete against them. “The real teachers of the Montessori method are the children themselves” (Montessori, 2002, p.1). Younger children begin to respect and admire the more knowledgeable person. Simultaneously, the older child has internalized a concept that can be taught to a less experienced classmate, which builds upon his/her self-esteem and confidence. In each situation, both children develop respect and compassion for the other.

Use of the multi-aged classroom provides each child with the opportunity to experience the role of being: (a) the youngest child in the class, (b) the middle child, and

(c) the oldest child. “Each Montessori elementary classroom has a heritage. The knowledge and behavior of this heritage are passed on from one year to the next. The older children provide leadership, reliable friendships, and learning, which same-age peers don’t always provide” (Kahn, 1995, p. 12).

Some topics may not be taught every year, but over 3 years, the Montessori teacher has developed a sequential methodology to cover the extent of the curriculum (Seldin, 2001). In many situations, the same concept is taught, but offered with a new approach with different materials. If the teacher presents the same lesson every year, he/she will expand and elaborate on the content in order to keep the lessons dynamic and age appropriate. In addition, if a child is not interested in a particular subject 1 year, he/she may develop a fascination for it in sequential years.

In the multi-aged classroom, the teacher can assist an individual in his/her stage of development (Vaz, 1990). If a child is delayed in a particular subject, the materials to help him/her are contained within the classroom and are readily available. On the other hand, if a child excels in a certain area, the teacher can easily present the child with a more advanced lesson.

The Montessori Environment and Materials

Mario Montessori (1997), the only child of Maria Montessori, reported that the child works in a *prepared environment* or classroom. The classroom has been designed to meet the developmental needs of the child between the ages of 6 through 9. It resembles a workshop with hands-on materials and resources throughout the classroom. It challenges and satisfies the needs of each child in all areas of development, in all

sections of the curriculum. The Montessori materials and presentations acknowledge and respect the child whose learning style may be: (a) visual, (b) auditory, (c) tactile, (d) kinesthetic, or (e) a combination. “It means offering students choices about what they learn, how they will learn, and how they will demonstrate and evaluate what they have learned” (Markova, 1992, p. 135).

Just as children are taught to read from left to right and top to bottom, the Montessori elementary materials have been organized on the shelves in the same pattern (Seldin & Seldin, 1986). The first and most basic work that is presented to the child belongs on the far left side of the top shelf, which begins a series of concepts and exercises. Also, this helps the child retain his/her sense of order. On the other hand, if a child searches for a particular work, and it is not there, it is an indication that it is in use. Montessori (Standing, 1984) believed in the use of repetitious work with concrete materials until the child is able to comprehend the concept that is presented. Then, the child moves on to the next lesson, which has a higher level of difficulty. The child works at the concrete stage until he/she is capable of abstract thought.

Abstraction is an inner illumination; and if the light does not come from within it does not come at all. All we can do is to help the children by giving them the best possible conditions, which include presenting them with external concrete materials. In these materials the abstract idea or mathematical operation which we wish to teach is, as it were, latent. The child works with them for a good while; and -as he does so- his mind rises eventually to a higher level. From this level his intelligence now sees the particular examples of the operation he has been doing as parts of a general law. (Standing, p. 166)

Montessori developed the materials so that they have a built in *control of error* (Packard, 1986). Usually, the control of error in a lesson is a visual indication to the child whether it has been completed correctly or whether an error has occurred. It allows the

child the opportunity to self-correct the mistake. This builds independence in the child without adult intervention. The child has more opportunities for success without the fear of failure. He/she is more willing to take a risk. Also, the child is given the responsibility for his/her own education.

The Montessori materials are designed for the *isolation of difficulty*. As stated by Hainstock (1997/1986), it is “the concentration of one particular aspect of a task or exercise in order to better understand it” (p. 108). “Each set of objects isolates a fundamental quality perceived through the senses” (Packard, 1986, p. 35). After the child has mastered this concept, another dimension of the materials is added, which increases the level of difficulty. For example, the child progresses from matching objects to grading.

The Montessori materials appeal to the aesthetic and visual senses of the child (Seldin & Seldin, 1986). They are made carefully with precision and details. Typically, students become curious and interested about them and desire to touch and manipulate them. The materials are color-coded, which provides consistency. It is easier for the child to build new skills on top of ones that he/she has mastered previously. Although they fascinate the child, the materials do not make up the curriculum. A major factor of the curriculum is within the child and the interest level of the individual. How the teacher presents the materials is more important.

The Child's Work

In the lower elementary classroom, the children work for large blocks of uninterrupted time (Lillard, 1972). It allows them to begin a project and work on it until

it is complete. It teaches them to finish what they start, and that there is a beginning, middle, and end to all activities. They do not have to stop what they are working on, whether completed or not, and transition into another activity. Also, it provides them with the opportunity to develop concentration. The ability to concentrate allows them to focus on one concept at a time. According to Montessori (1976),

The mind takes some time to develop interest, to be set in motion, to get warmed up into a subject, to attain a state of profitable work. If at this time, there is interruption, not only is a period of profitable work lost, but the interruption produces an unpleasant sensation, which is identical with fatigue. . . Left to themselves the children work ceaselessly; they do not worry about the clock. After long and continuous activity the children's capacity for work does not appear to diminish but to improve. (pp. 135-136)

Three different types of lessons are presented in the lower elementary classroom.

Large group lessons are given when the whole class is introduced to a new material.

Other times, the teacher will select two or three children who are on the same level of developmental ability to participate in a specific activity. Also, there are times when the teacher will need to work with one child on an individual basis. After the children have been given a lesson, they may choose to work with the materials demonstrated.

Children in a Montessori school are encouraged to choose their own work freely. They learn to be independent and self-directed (Montessori, 1997). It shifts a great deal of the responsibility of their education back to them. However, there are limits that regulate their choices. Montessori referred to it as *freedom and discipline* (Standing, 1984). After the children have been given a lesson, and they know the classroom rules, they are free to move about the classroom and select a work that appeals to them. "The answer lays in obtaining discipline by giving freedom. These children, who sought their

work in freedom, each absorbed in a different kind of task, yet all belonging to the same group, gave an impression of perfect discipline” (Montessori, 1999/1949, p. 184).

Although the children are encouraged to be independent and responsible for their education by the selection of their assignments, there are limits to encourage and develop high standards of work ethics (Gupta, 1992). Children are taught how to write a work plan or work contract. They select the materials from each area of the curriculum that they want to focus on during the week. After they make their selection, the teacher reviews it for approval or to make adjustments. Gradually, the children learn to choose work that is within their developmental abilities. The wide variety of materials in every area of the curriculum allows each child to select work that interests him/her. It is self-paced; the children have large blocks of time throughout the day to work without interruptions.

Since the child has chosen the activities in which to participate, he/she is now held accountable for the completion of that work (Gupta, 1992). The contracts and work plans teach the children independence and responsibility. “The purpose of work contracts is to help children make choices of activities that will sow the seeds of culture and science in an organized way” (p. 118).

Seldin (2001) stated that “elementary Montessori students rarely use textbooks. They are encouraged to explore topics that capture their imagination” (p. 9). Montessori children spend a great deal of time in the conduct of individual research. They have been taught how to use a variety of resources to find the answers to their questions. Older children will spend more time on a subject and work on a deeper level. The individually

chosen research may include drawings or maps. Some children will decide to collect artifacts that represent their subject. When it is complete, they will give an oral presentation to the class or may refine it until it is suitable for publication. Many parents keep their child's research projects. It becomes a fond memory, long after the children have graduated from the Montessori school.

The Second Plane of Development

Montessori (1971, as cited in Lillard, 1996) identified four planes of child development. She categorized them as: (a) Infancy, birth through age 6, (b) Childhood, ages 6-12, (c) Adolescence, ages 12-18, and (d) Adulthood, ages 18-24. The second plane of development is subdivided further into two age brackets: children between the ages of 6-9 and another grouping between the ages of 9-12. The focus of this chapter is on children from 6-9 years of age, or: (a) first, (b) second, and (c) third grades. In Montessori classrooms, this age is known as Lower Elementary.

Montessori (1971, as cited in Lillard, 1996) concluded that, at certain ages, each child passes through sequential series of stages of development. Each stage has characteristics for a heightened sense of awareness for comprehension of a specific strand of learning. For older children, it becomes a special sensitivity for the integration of stimuli which holds special interest and appeal to the child. Montessori called this phase a *sensitive period*. When all of the child's developmental needs of the sensitive period have been satisfied, Montessori called it *normalization* (Standing, 1984).

Montessori (1971, as cited in Lillard, 1996) believed that the child between the ages of 6-9 was at the peak of his/her sensitive period in certain aspects of normal growth, and

the child internalized quickly certain concepts. Therefore, Montessori identified six categories of development, such as: (a) Physical Needs, (b) Linguistic Needs, (c) Emotional Needs, (d) Social Needs, (e) Intellectual Needs, and (f) Spiritual Needs.

Physical Needs

Children between 6-9 years enter into a higher plane of physical development in the sensitive period for movement (Montessori, 1996). They need orderly, purposeful movement, and they enjoy an outdoor environment. Their bodies are stronger and healthier. As their bodies change, the torso slims down, and the legs grow longer. They have refined the gross motor movements for improved coordination, which promotes fine motor and eye hand coordination. An outward physical change which indicates that children have entered the second stage of childhood is when they begin to replace the first set of teeth with the permanent dentition.

The Montessori environment is able to meet the physical needs of children through orderly purposeful movement which allows: (a) free choice of work, (b) individual work, and (c) self-correcting work (Gupta, 1992). They are given the opportunity to move freely about the classroom to satisfy their physical needs of movement. Montessori (1999/1949) stated that,

Mental development must be connected with movement and be dependent on it. . . . Movement has great importance in mental development itself, provided that the action which occurs is connected with the mental activity going on. . . . The child uses his movements to extend his understanding. Movement helps the development of the mind. . . and are part of the same entity. (p. 130-131)

The children's physical needs are met through directed activities, such as Physical Education, as well as undirected activities during recess. In the Montessori classroom,

the furniture and shelves are arranged to allow for larger areas of open space (Hainstock, 1997/1986). They have the opportunity to decide what kind of work space will best suit their needs. They have the freedom to work in: (a) a large, open space, (b) small individual areas on the floor or at a table, or (c) to sit or lie comfortably on the floor, chair, or sofa. The size and type of furniture is designed to adapt to the children's physical proportions.

Linguistic Needs

This is a sensitive period for language for children who are 6-9 years old (Boehnlein, 1990). They have the ability for better expressions and communication. Language is a means to classify and order thoughts. They have an increased vocabulary and are able to recognize the patterns in language. They enjoy riddles, puns, and multi-syllable words.

In the Montessori classroom, children are allowed to discuss freely their ideas for problem solving and to communicate socially (Seldin, 2001). At times, children need to exercise self-control and listen to others so that they can speak without interruptions. Their self-directed research stimulates the development of their: (a) oral vocabulary, (b) written composition, and (c) reading abilities and comprehension. The trained Montessori teacher will introduce the class to materials that will interest them, such as books on poetry, haiku, and joke books. Also, this is an ideal moment during their sensitive period for them to acquire a second language (Renton, 1990). According to Lillard (1996),

Montessori regarded "the development of language as a part of the personality itself. . . The natural means to express an idea and consequently to establish

understanding between human beings.” An ability to communicate with others effectively is a natural outcome of the children’s freedom to talk at will with each other in Montessori classrooms at every age level. (p. 160)

Emotional Needs

Children of this age begin to develop a sense of morality (Kahn, 1987). They need to know if something is right, wrong, or fair. Promises are important to these children. They may question authority but, simultaneously, feel comforted to know that there is a responsible adult in the environment who will offer safety and security.

It provides comfort to the children to know that someone will be there when they need help. They have a *black or white* concept of justice. Since they believe in heroes, they enjoy myths and tall tales. They have a desire for role models. Children of this age have a better expression of feelings; they comprehend concepts such as compassion, cooperation, and sharing. Montessori (1976) stated,

The foundation of education must be based on the following facts: That the joy of the child is in accomplishing things great for his age; that the real satisfaction of the child is to give maximum effort to the task in hand; that happiness consists in well directed activity of body and mind in the way of excellence; that strength of mind and body and spirit is acquired by exercise and experience; that true freedom has, as its objective, service to society and to mankind consistent with the progress and happiness of the individual. (p. 131)

The Montessori instructor teaches the children in her class the definitions of acceptance, respect, responsibility, and how these terms relate to the individual person, others, and the environment (Wolf, 1996). He/she encourages the feelings of: (a) internal gratification, (b) inner discipline, (c) positive self-esteem, and (d) the respect and validation of the feelings of other people. Classroom rules are simple, yet they provide consistency and reliability to the members of the class. Children are encouraged to help

each other and to share their skills and resources. Cooperation is emphasized, as opposed to competition. Children are taught the concepts and skills of conflict resolution and active listening. It is imperative for the Montessori teacher to provide order and structure in the daily routines. Children between the ages of 6-9 have developed a sense of order at a higher level. Also, they need to accept the responsibility to keep the classroom clean and organized.

Social Needs

In regard to the children's needs for socialization, Montessori (1999/1949) stated,

It is interesting to see how, little by little, these become aware of forming a community which behaves as such. They come to feel part of a group to which their activity contributes. And not only do they begin to take an interest in this, but they work on it profoundly, as one may say, in their hearts. Once they have reached this level, the children no longer act thoughtlessly, but put the group first and try to succeed for its benefit. (p. 212)

At this age, children have entered the sensitive period for social construction (Seldin, 2001). They tend to be more extroverted. They like to work together, and they learn better when they exchange ideas with their peers. While they meet their needs of socialization, they learn the skills needed for: (a) problem solving, (b) collaboration, (c) being a team player, (d) learning to prioritize, and (e) to finish a project once they start. They begin to discover which children are the leaders and followers of the class, and their own place in the social world. They compete, compare, challenge, and cooperate. They find out facts, such as who is better at which skills, and how the individual rates in comparison. It is common for them to form small social groups, such as teams and secret

clubs. They are at the stage when they become curious about cultures and customs. They seek answers as to how and why a person was able to accomplish a task.

In the Montessori lower elementary classroom, the teacher allows children to work: (a) independently, (b) parallel, or (c) cooperatively (Seldin, 2001). Over the time span of 3 years in the same class, each child has had the opportunity to experience the sensation associated with being a first, second, or third year student. In addition, the child and family form a special bond with the teacher during the 3 years. The multi-age grouping of a Montessori class resembles the socialization in a family unit. Children form close relationships with each other and with their friends' parents. It is beneficial for the child without siblings.

Children learn about societies and cultures from direct hands-on experiences (Seldin, 2001). They are taught how to conduct extensive research into cultures which includes: (a) art, (b) music, (c) drama, (d) cooking, (e) science, (f) geography, (g) literature, and (h) field trips. Children experience education when they receive a lesson from the teacher or another child, and present lessons to each other. Children receive three kinds of lessons: (a) large group lessons, (b) small group lessons, and (c) individual lessons. Montessori (1999/1948) stated,

For him to progress rapidly, his practical and social lives must be intimately blended with his cultural environment. . . Knowledge and social experience must be acquired at one and the same. . . It is up to the teachers to arrange that the moral teachings of life emerge from social experience. (p. 13)

Intellectual Needs

The *age of reason* begins between the ages of 6-9 years of age (Kahn, 1995). The children have endless questions, and they want specific answers. They need mental

activity to construct and organize the mind, such as rock or seashell collections. They start to develop the processes required for abstract thinking. They learn concepts best by self-discovery, based upon their own activities and interests.

This is a sensitive period for the development of the imagination which is at its peak during this age (Montessori, 1999/1948). Children possess the abilities to envision: (a) time, (b) space, (c) the future, (d) history, and (e) creatures of the past and present that are tremendously large or minutely small. “What he learns must be interesting, must be fascinating. We must give him grandeur. To begin with, let us present him with the world” (Montessori, 1999/1948, p. 20).

In the Montessori classroom, children are allowed the freedom of choice (Montessori, 1964). They learn how to accept the responsibility of their own education. It is an environment with an integrated curriculum, and the subjects overlap from one area into another. Children are allowed and encouraged to repeat lessons. The manipulation of concrete materials leads to abstract thought. As the children learn new concepts, they may repeat lessons with the same materials, but in a new aspect. Or they may repeat the same concept with a different type of manipulative. Teachers encourage: (a) independence, (b) freedom of choice, and (c) spontaneous activity.

The daily schedule allows for large blocks of uninterrupted work time (Miller, 1990). Since children are not rushed through an assignment, they begin to learn the power of concentration. The Montessori teacher presents lessons to the children and begins with materials that are simple, with a few basic steps. This work will progress into a lesson that is complex and has more steps. The attention span and concentration

increase as children spend more time to complete a task with more steps that require precision and attention to details. The presentations are sequenced; they start with the whole picture, and evolve into the parts or details. According to Seldin & Seldin (1986),

In sequencing lessons, particularly in the areas of science, history, and geography. . . We offer the child a simplified version of the sequence. . . Once the child has seen the big picture, it is easier in the years ahead to begin filling in the details (p. 28).

Montessori students work with materials that are concrete, visible, and three-dimensional which may require the use of real objects and tools (Montessori, 1964).

Research is a major component of this classroom. Children learn how to use a variety of sources, including: (a) different resources, (b) books, and (c) technology. The teacher helps each child to prepare an individual learning plan. This system provides choices for the students and encourages them to accept the responsibility of their own education.

Montessori materials have a control of error (Montessori, 1965). It allows children to have the opportunity to realize that there has been a mistake. They can correct the mistakes before they move onto a more difficult or abstract concept. The control of error builds independence and confidence in children.

Spiritual Needs

Children are curious about life and death (Jones, 1979). They contemplate the purpose of life, their own life and others. They think about and try to find their place in society. They have an interest in humanity as well as the injustice of issues in society. They begin to understand the importance of ecology.

In Montessori classrooms, it is common to have children practice the *power of silence* (Wolf, 1996). It helps them develop: (a) concentration, (b) self-control, and (c) the ability to listen to the needs of the inner self. Montessori (1965) stated,

It is quite plain to see that the children take a great interest in the silence; they seem to give themselves up to a kind of spell; they might be said to be wrapped in meditation. Little by little, as each child, watching himself, becomes more and more still, the silence deepens till it becomes absolute and can be felt, just as the twilight gradually deepens whilst the sun is setting. (p. 119)

In the Montessori classroom, a positive self-concept and independence are promoted (Miller, 1990). Children feel: (a) stability, (b) pride, (c) safety, (d) respect, (e) belonging, and (f) trust. They are encouraged to take risks, for that is how they learn. They develop their problem solving skills and have a better sense of judgment. Their gross motor and fine motor coordination has improved. They are more graceful, which contributes to their confidence.

The Montessori curriculum supports the spiritual development of children (Zitnick, 2001). There is an interrelatedness among subjects, and children are taught the *Five Great Lessons*. They are: (a) the History of the Earth, (b) Life on Earth, (c) History of Humans, (d) Development of Language, and (e) the Development of Mathematics. After the Five Great Lessons are presented, the students have a better comprehension about how it all relates. Children are taught to respect life; they have a responsibility to: (a) themselves, (b) others, (c) society, and (d) the earth. Montessori (2000) stated,

Let us give him a vision of the whole universe. The universe is an imposing reality, and an answer to all questions. We shall walk together on this path of life, for all things are part of the universe, and are connected with each other to form one whole unity. This idea helps the mind of the child to become fixed, to stop wandering in an aimless quest for knowledge. He is satisfied with having found the universal centre of himself with all things. (p. 6)

Applications of the Montessori Theory in the Lower Elementary Curriculum

The curriculum found in the Montessori Lower Elementary classroom is a practical application of the educational philosophy of Montessori with the Second Plane of Development. It combines the process with the content. According to Montessori (1966),

Within the child lies the fate of the future. Whoever wishes to confer some benefit on society must preserve him from deviations and observe his natural ways of acting. A child is mysterious and powerful and contains within himself the secret of human nature. (p. 208)

Language

Language is the way to communicate ideas; it is the means of self-expression and the way for the child to develop and express his/her personality (Packard, 1986).

Language is the ability to read and write, as well as verbal and nonverbal communication. It is through language that the child gains knowledge and builds relationships. Through language, the child is united first with his/her family, then to a social group, and finally to society.

The Montessori philosophy of language arts and its curriculum is richly equipped with hands-on materials (Montessori, 1999/1916). By the use of manipulatives designed to focus on one language concept at a time, the child in the Montessori classroom achieves abstract thought through the repetition of sequentially based activities. The language series begins with exercises to stimulate oral and auditory development, followed by skills for prewriting and prereading, which grows into simple phonetic words

and books for nonreaders. As the child becomes a more fluent reader, he/she participates in exercises to stimulate and improve spelling, word study, grammar, and composition.

One of the main components of the Montessori philosophy includes the history of the first acquisition of language, one of the Five Great Lessons (Zitnick, 2001). The child traces the eras of time, which begins with the nonverbal illiterate humans. In this lesson, the growth of oral and written language is charted, including the ancient contributions. The cultural influences in history came from the: (a) Egyptians, (b) Greeks, (c) Romans, and (d) Asians. They contributed greatly to the evolution of the modern English alphabet of 26 letters.

Consistent with Montessori education, the child is presented first with the whole picture, and then the details are taught, from the general to the specific (Gupta, 1992). There is a correlation between language, culture, and the purpose of written communication. After the child recognizes the influences of another culture on his/her native tongue, he/she begins to acknowledge and respect foreign languages. The similarities become closer, as opposed to a focus on the differences. As the child studies the history of the written language, he/she develops a sense of wonder and excitement toward writing. Creative writing is a form of expression of the personality. Therefore, most Montessori schools teach writing before reading. According to Lillard (1972),

In writing, the child expresses his own thoughts through symbols; in reading, he must comprehend the thoughts of another. Writing is known to him, for he is giving his own language to another. In reading, he must deal with an unknown, the thoughts of another. The latter is obviously a far more complicated procedure. (p. 123)

A vital component of the Montessori curriculum consists of the *Classified Nomenclature Cards*, or the naming of parts (McNichols, 1998). One set of cards has three sections: (a) a picture card, (b) a descriptive card, and (c) a card with a label. The child: (a) looks at the picture, (b) reads the description, (c) matches the label, (d) records them in a notebook, and (e) rereads the notebook back to another adult. The nomenclature cards are used frequently in all of the cultural areas related to social studies and science, as well as geometry. At this age, the child has an innate curiosity about his/her world. Through repetition, the child has learned to read and write as a means to broaden his/her perspective and gain an understanding of how it is all interrelated.

The Montessori philosophy of the language arts includes: (a) grammar; (b) the history of writing; (c) reading; (d) creative and expository writing; and (e) the study of words (Miller, 1990). Linguistically, the child is in his/her sensitive period for the acquisition of a new vocabulary, including multi-syllable words and the deeper meanings of words. In the language curriculum, many opportunities are provided for children to work in small groups of two or three, to satisfy the need for socialization while they focus on specific concepts.

The purpose of the language arts curriculum and exercises is to help the child develop and continue a love of reading and writing (Seldin, 2001). These exercises blend together to support the child's previous knowledge and to build on that as a basis for success, not failure. Use of the sequence of activities helps to reduce the child's frustration level while reading or writing. It prepares him/her for the next step. It

promotes feelings of security and the ability to confront the challenges of taking a risk. Through practice and repetition, the child improves his/her reading comprehension and spelling while his/her vocabulary is extended. Experience with phonemes and graphemes leads to memorization which allows the child to read faster and with fluency.

Montessori teachers need to model appropriate language to children, including reading and writing (Packard, 1986). Also, it is critical that the teachers have experienced a will to learn, and the love of learning. They need to demonstrate an attitude of interest and caring, and how to obtain information by the use of a dictionary and a variety of different resources.

The Montessori materials and curriculum satisfy the developmental needs of the whole child. Montessori (1967) stated that “If writing serves to direct and perfect the mechanism of speech in the child, reading assists in the development of ideas and language. Writing helps a child physiologically and reading helps him socially” (p. 230).

Mathematics

Mathematics has many characteristics and it is more than addition, subtraction, multiplication, and division (Seldin, 2001). Mathematics is used to find the solutions to daily problems. All professions involve the computation of numbers at some level. Mathematics gives the child a method of organization and repetition. The child has the ability to use mathematics to see the similarities in patterns and the recognition of symbols. The use of mathematics teaches spatial relations and how to sequence objects. It satisfies the need for logic and allows the child to develop the senses with a concrete method, which eventually leads to abstract thought.

Montessori (1971, as cited in Lillard, 1996) referred to the time span for children between the ages of 6-9 as the *age of reason*. Children are very curious and want answers to their never ending questions. Montessori teachers provide children with answers from a mathematical perspective to satisfy their need to know. When it is presented in a concrete and manipulative basis, children discover the satisfaction in solving mathematic problems. It appeals to their sense of order and logic. When children can organize, see the patterns, and apply the proper mathematical language, Montessori mathematics develops the imagination on a sensorial level.

Montessori (1999/1949) believed that children have innate mathematical abilities. However, over a period of time, most children replace the natural mathematical mind with barriers and obstacles against learning mathematics. The natural mathematical mind needs to be nurtured, and young children should be provided with the opportunities to construct abstract concepts by the use of concrete mathematical materials that can be physically manipulated. According to Montessori (1967),

This system in which a child is constantly moving objects with his hands and actively exercising his senses also takes into account a child's special aptitude for mathematics. When they leave the material, the children very easily reach the point where they wish to write out the operation. They thus carry out an abstract mental operation and acquire a kind of natural and spontaneous inclination for mental calculation. (p. 279)

The Montessori mathematical theory is based upon the concept that children must first understand the basic steps or levels before they progress onto the next level (Seldin & Seldin, 1986). Children can retain a concept through repetition and now are ready for the next step in the sequence. Most importantly, they have developed the ability to concentrate.

All mathematic activities, from the simple to advanced lessons, begin with the comprehension of: (a) quantity, (b) symbol, and (c) association (Miller, 1990). Quantity is the number, or amount of objects to count. Symbol is the written numeral. Association is the connection between the quantity and the symbol; the child is able to equate the number with the numeral.

Now the child is ready to advance to the second level of mathematics (Miller, 1990). He/she has the capability to understand two different mathematical concepts and continues to work simultaneously in both areas. One concept is of the linear system, and the other is the decimal system. The linear system involves: (a) counting with a one to one correspondence, (b) skip counting, (c) number lines, and (d) recognition of patterns. The decimal system is associated with numerals and the concepts of 1-9, and place values with operations based upon the powers of 10. Eventually, the child will progress to a more detailed study of the decimal system with the use of more complex materials and operations. Montessori (1999/1916) stated,

To make the idea of decimal relations apparent to a child, it is sufficient to direct his attention to the material he is handling. . . The child needs to exercise his mind constantly and slowly. . . The more we allow the children to follow the interests which have claimed their fixed attention, the greater will be the value of the results. (p. 210)

The repetition of materials leads to memorization (Miller, 1990). However, the child may become bored with one activity before memorization of the mathematics facts. This is the appropriate time to introduce the child to another activity that will teach and reinforce the same concept or operation. “Mathematical facts are never simply

memorized; the child assimilates them by using the appropriate manipulative materials” (Hainstock, 1997/1971, p. 15).

Cultural Subjects

The cultural subjects in the Montessori classroom include: (a) life sciences, (b) physical science, (c) physical geography, and (d) political geography (Seldin, 2001).

There are several components of the Montessori philosophy that are interrelated and form the basis of the cultural curriculum. All children have different interests, and their interest levels vary. This leads to their selection of individual research topics. Also, they have a desire to work with real objects and tools and to investigate real specimens, as much as possible. Montessori was a strong believer in observation. Likewise, she emphasized the importance for children to learn how to observe life in its natural habitat and then record the data and information. Classification of materials is a common activity among cultural subjects. Children have to research a topic to find the common characteristics. Often, this develops into a small group project, which satisfies their needs for socialization. However, the main contribution to how the cultural subjects are presented involves the development of the imagination. According to McNichols (1998),

Some of the most important lessons, especially in the early elementary years, take advantage of what Montessori called the “impressionistic” approach to lessons; that is, a lesson or science demonstration designed (through the use of the child’s imagination) to make a lasting impression on him. (p. 132)

Science

In the Montessori curriculum, the earth sciences are taught to the children by use of real or living examples to emphasize the concept, both within and outside of the

classroom (Seldin, 2001). Real plants, animals, and tools become the top priority to use as examples or specimens, followed by three dimensional and representational objects; last of all, cards, pictures, charts, and books are used. “It is self-evident that the possession of and contact with real things brings with them, above all, a real quantity of knowledge. Instruction becomes a living thing. Instead of being illustrated, it is brought to life” (Montessori, 1999/1916, pp. 18-19).

A vital component of the Montessori biology materials consists of botany and zoology cards that name and identify the parts, known as Classified Nomenclature (McNichols, 1998). One set is used to identify, label, and describe each function by examination of the whole object, and then analysis of each detail. An example would be the parts of the plant (e.g., root, stem, branches, and leaves) or the parts of the leaf.

Montessori (1999/1916) observed that

The world is acquired psychologically by means of the imagination. Reality is studied in detail, then the whole is imagined. The detail is able to grow in the imagination, and so total knowledge is attained. The act of studying things is, in a way meditation on detail. . . but it is not always as easy to present the whole as it is to present a detail. . . When details are presented as being parts of a whole, they become more interesting. The interest increases in proportion to the gain in knowledge. The knowledge presented now must not be on the same scale as before. . . It is necessary, therefore, to be strictly precise. . . The imagination is then able to reconstruct the whole when it knows the real detail. (p. 18-20)

Geography

The study of geography is broken down into two subsections: (a) physical geography and (b) political geography (Seldin & Seldin, 1986). However, the Montessori approach to education has a connectedness between all areas of the

curriculum. One area ties into another while the door is opened to a different, yet related component.

Physical geography refers to the composition of the earth and its related features (Seldin & Seldin, 1986). It branches out into presentations on the: (a) atmosphere, (b) hydrosphere, and (c) lithosphere. There is a series of presentations on maps and globes. Political geography is associated with: (a) the names of countries and their capitals, (b) flags of the world, (c) languages, (d) customs, and (e) history.

Physical and political geography blend together as the teacher presents a lesson on the *Fundamental Needs of People* (Jones, 1979). It demonstrates that all people have the same fundamental needs and places an emphasis on the similarities among the human race. Children are taught to respect people from other races, countries, and religions. The geographical factors influence how people live as they adjust to their environment.

The development of the earth is taught in the Montessori curriculum. It begins with the various theories and stories of the creation of the universe and the formation of galaxies (Swimme, 1998). This leads into a lesson on stellar nucleosynthesis. At this point, the exercises branch into areas of related study such as: (a) astronomy, (b) geology, and (c) chemistry. The child's research in geology brings to light the structure and composition of the earth. While in the study of the earth, it is part of the progression to teach the life sciences simultaneously. "By offering the child the story of the universe, we give him something a thousand times more infinite and mysterious to reconstruct with his imagination, a drama no fable can reveal" (Montessori, 2000, p. 11).

At this point, the teacher involves the class in a study of life and culture on earth

(Swimme, 1985). The curriculum then branches into different directions, such as: (a) geography, (b) culture, and (c) history. Children are taught history parallel to the concept of time. Discussions and further studies include paleontology and archaeology, and still further back through time to the beginning of time, or the creation of the universe. The cycle is complete.

Also, the lessons of the universe are related to the Montessori philosophy of Cosmic Education (Berry, 1998). It begins with the creation of the universe. This plants another seed of knowledge. The child begins to assemble questions of: (a) spirituality, (b) morality, and (c) social consciousness. The Montessori presentations begin with the introduction of the whole subject first and followed by more detailed lessons. This concept helps the child to recognize that first he/she is a citizen of the world, and then a member of a country and society. They begin to realize that it is all connected to responsibility.

Chapter Summary

With use of the Montessori philosophy of education, the child's special needs are fostered in all areas of development. This leads to the education of the whole child and explains why one characteristic overlaps into another area. The subjects that are taught in the Montessori lower elementary classroom are interrelated to complete the child's full education.

In addition, he/she learns best when his developmental needs of the sensitive periods have been met. This leads to what Montessori called *normalization* (Standing, 1984). She developed a method of teaching in a prepared environment that nurtures the

true nature of the child instead of trying to suppress it. The ultimate goal of the child's education is focused on how to help each person find his/her place in society and life.

The Montessori philosophy of Cosmic Education would not be complete without the 3 year curriculum of the universe. By working with hands-on materials, and impressionistic stories of creation, the child develops a new sensitivity toward: (a) himself, (b) other people, and (c) the environment, or the Earth. The child develops a consciousness to respect and care for life and the environment, and to become a steward of the earth.

In Chapter 3, this author describes how this project was developed. The process is described, as well as the need for this guideline. A description of the content of Chapter 4 is included.

Chapter 3

METHOD

The purpose of this project was to develop “A Guide for Implementation of the Montessori Theory of Education in the Lower Elementary Curriculum.” It is intended to help parents understand the Montessori developmental level at which their child functions in relation to the scale used by traditional public schools. It will categorize the Montessori curriculum into first, second, and third grades under subject headings.

Children absorb and comprehend information with different styles of learning and at various rates. Some children will meet all of the objectives at the end of the school year, while others may struggle to keep up with the rest of the class. Yet most will have strengths and weaknesses in certain subjects. The goal of the Montessori philosophy strives to meet the developmental needs and interest levels of every child in the classroom. The Montessori teachers are trained to respect and accommodate the abilities of each child.

It is imperative that parents have an understanding that not all Montessori schools and classrooms are equally equipped. Depending upon the history of the school and its socioeconomic background, different schools will have different materials. In addition, many Montessori teachers spend endless hours in the development of materials that accompany the lessons. It explains why parents may notice a discrepancy in the types and amount of materials from one classroom to another.

Target Audience

Although the Montessori philosophy is focused on the developmental abilities and interests of each individual, parents will be interested to know how their child functions in terms that they can comprehend. This project is directed toward parents who have enrolled their child in a Montessori school, specifically, in first, second, and third grades. In a Montessori school, this age span is known as Lower Elementary.

These guidelines could be of assistance to other Montessori teachers. It will serve as a base on which to build their curriculum and write lesson plans. They will be able to compare and contrast the abilities and progress of their students according to the guidelines contained in this document. It will provide the teachers with information to discuss with parents if they feel that this child is not making sufficient progress in school.

Procedures

A review of literature was written to summarize Montessori's philosophy of education. It contains direct quotes from Maria Montessori, as well as from experts in the field. It presents Montessori's theories of child development, known as the second plane of development. Also, there is information from the leading authorities as to its practical application in the lower elementary classroom.

The research for the curriculum guide began by requesting information and assistance from various Montessori schools throughout the United States and abroad. The schools were classified as private, public, and charter, but all of them had an established Montessori lower elementary program. Some had an affiliation with the

Association Montessori Internationale or the American Montessori Society. In addition, several training centers for Montessori teachers were contacted.

Numerous Montessori schools and training centers responded and were willing to share information, such as flow charts, scopes and sequences, and descriptions of materials. The description of materials contained the recommended age of presentations. These facilities and individuals are listed in Appendix A as resources.

The faculty of several Montessori training centers throughout the world have been contacted and asked to share information in regard to the development of this guidebook. After the information was collected, it was analyzed to detect the commonalities among the different Montessori training centers and their methods for teaching the Montessori curriculum. Those were the topics of focus for the preparation of this manual. The information contained within the guide is not based upon one's opinion, but upon the facts received.

This curriculum guide was developed with the intention to share information with the parents of Douglas County Montessori Charter School. Every family with children enrolled in the lower elementary program will receive a copy at the beginning of the school year. In addition, it will be available for other teachers to review. Newly trained Montessori teachers may find it beneficial. Although the curriculum guide is targeted for Douglas County Montessori Charter School, it would be available upon request for other schools.

Goals

The objective of this project was to help improve communication between teachers, administrators, children, and parents so that they have a clearer understanding of the child's progress in school. The academic expectations by the end of each grade level are clearly identified as the norm.

Peer Assessment

The curriculum guide was reviewed by several authorities on Montessori Lower Elementary education and philosophy. They assessed it for correct terminology and whether the placement of the lessons and materials has been categorized appropriately into specific grade levels. Their recommendations are discussed in Chapter 5.

Chapter Summary

The comprehension of concepts is not always consistent among children in the same grade. They learn at different rates, depending upon their developmental abilities. The Montessori philosophy of education respects and acknowledges the academic differences among children. However, it is helpful for parents to have an understanding of what the norm is for children in a specific grade. The curriculum guide for parents is presented in Chapter 4.

Chapter 4

RESULTS

The following guide is intended for parents and teachers at Douglas County Montessori Charter School. It was developed to break down the Montessori curriculum into grade levels, across the curriculum. Parents have been advised that Montessori schools follow a scope and sequence based upon the individual developmental abilities of the child. Therefore, these are recommended guidelines as to what the average child should be able to accomplish by the end of his/her grade level.

**A GUIDE FOR
IMPLEMENTATION OF THE
MONTESSORI THEORY OF EDUCATION
IN THE LOWER ELEMENTARY CURRICULUM**

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By

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INTRODUCTION

There are 4,000 Montessori schools in the United States that provide an education to children enrolled in preschool through high school, including private and public schools (NAMTA, 2006). The teachers and administrators who are affiliated with public Montessori schools have high levels of accountability to the parents, board members, and the local authorities of the school district to ensure that all children are able to meet state and district standards. Montessori teachers are trained in the scope and sequence of the Montessori curriculum, as well as record keeping, observations, and evaluations for each student. They have learned how to remain true to the Montessori philosophies of education and to balance the values of the traditional public school sector, such as standardized testing and grade levels.

Montessori education continues to be a popular choice for parents who select an alternative method of education for their child. It has achieved a high level of respect in the elementary, middle, and high schools. Although parents feel that they have made the right decision for their child's education, few understand the philosophy behind the curriculum.

In the Montessori Method of education, the emphasis is on the developmental abilities of the individual (Seldin, 2001). When the child displays signs of readiness for a lesson on a particular subject, the trained Montessori teacher will present him/her with a demonstration. However, members of society are more familiar with the traditional public school standards for academic achievement, categorized by grade levels. Parents need to know how their child's teacher has determined if he/she is eligible to progress

into the next grade level. Because the parents may have unclear expectations, there is a potential for misunderstandings between the teacher and the parents. Many parents want more concrete information in terms that provide clarity.

The purpose of this project was to categorize the Montessori curriculum into grade levels in order to help parents understand the developmental level at which their child functions in relation to the scale used in traditional public schools. In addition, the Montessori materials are divided into subjects across the curriculum.

Parents, students, teachers, and administrators understand that some students will exceed these expectations, while others may not fully meet them by the end of the scholastic year. Most students have academic strengths and weaknesses. It is possible for one student to meet all of the requirements in one area, but not in others. This guideline will assist parents so that they will know what the expectations will be for the average student by the end of first, second, or third grade.

Since the majority of Montessori elementary schools are classified as public schools, there needs to be a format of continuity that the parents can comprehend. The objective of this project was to develop a guide for parents that equates the Montessori curriculum according to the expectations for the child who has completed first, second, or third grade.

The following curriculum guide separates the lower elementary classroom into first, second, and third grades. The subject matter is divided into sections under language, mathematics, science, and social studies. There are subheadings in each category that include more specific details of the Montessori curriculum.

FIRST GRADE: LANGUAGE

CONCEPTS	MATERIALS
Oral and Auditory Skills	
Knowledge of Letter Names and Sounds, Lower Case and Capital Letters.	Sandpaper Letters; Moveable Alphabet.
Understands Three Step Oral Directions.	<i>Teacher Developed Materials.</i>
Uses Proper Eye Contact When Listening and Speaking.	<i>Teacher Developed Materials.</i>
Retells Information or Stories in Sequence.	Developmental Reading Assessments (DRA).
Speaks Clearly, Using Proper Verb Tenses and Plurals.	<i>Teacher Developed Materials.</i>
Gives Oral Presentations to Classmates and Parents.	<i>Teacher Developed Materials.</i>
Creates Props and Uses Various Multi-media Sources as Visual Aids in Presentations.	<i>Teacher Developed Materials.</i>
Listens Respectfully to Others and Responds with Appropriate Feedback.	<i>Teacher Developed Materials.</i>
Hand Writing Skills	
Control of Movement.	Metal Insets.
Formation and Directionality of Letters, Including Lower Case Letters and Capital Letters.	Sandpaper Letters; Letter Families; Placement of Letters on Lines; Copy Writing.
Basic Punctuation, Capitalization, and Correct Spacing.	6 Traits of Writing.
Introduction to the Cursive Alphabet.	<i>Teacher Developed Materials.</i>
Composition	
Writes Simple Sentences.	Moveable Alphabet; Copy Writing.
Introduction to Journal Writing.	<i>Teacher Developed Materials.</i>

Focuses Writing on One Topic.	6 Traits of Writing.
Writing with Prompts.	<i>Teacher Developed Materials.</i>
Introduction to Writing Letters.	<i>Teacher Developed Materials.</i>
Introduction to Writing Poetry.	<i>Teacher Developed Materials.</i>
Introduction to Writing Basic Research Reports.	<i>Teacher Developed Materials.</i>
Reading Process	
Guided Reading, Silent Reading.	<i>Teacher Developed Materials.</i>
Knowledge of Letter Names and Sounds, Lower Case and Capital Letters.	Sandpaper Letters; Moveable Alphabet.
Matches the Spoken Word with the Printed Word.	<i>Teacher Developed Materials.</i>
Identifies and Reads Short Vowel Sounds; Blends (3-5 Letter Words).	Object Boxes; Moveable Alphabet.
Identifies and Reads Long Vowel Sounds; Phonograms.	Sight Words; Silent E; Phonogram Booklets.
Reads High Frequency Words at First Grade Level.	<i>Teacher Developed Materials.</i>
Uses A Variety of Strategies to Assist in Decoding; Self-Corrects.	Developmental Reading Assessments; Student Reading Assessments (SRA).
Reading Comprehension	
Comprehends Short Sentences.	Command Cards; Environment Labels.
Makes Logical Predictions.	DRA; SRA.
Identifies the Main Idea and Characters in a Story.	DRA; SRA.
Comprehends the Differences between Fiction and Non-Fiction.	<i>Teacher Developed Materials.</i>
Reads from a Variety of Sources (Poems; Jokes; Fiction; Non-Fiction).	<i>Teacher Developed Materials.</i>
Reading in the Cultural Areas.	<i>Teacher Developed Materials.</i>

Spelling	
Correctly Spells Phonetic, Single-Syllable Words with Familiar Blends.	<i>Teacher Developed Materials.</i>
Correctly Spells the High Frequency Words for First Grade.	<i>Teacher Developed Materials.</i>
Grammar & Word Study	
Introduction to Noun, Article, and Adjective.	Function of Words; Grammar Symbols; Logical Adjective Game.
Focus on Compound Words; Rhyming Words; Singular and Plural; Antonyms; and Classification.	Rainbow Towers.
Introduction to Alphabetical Order; A - Z.	<i>Teacher Developed Materials.</i>
Research	
Introduction to Alphabetical Order; A - Z.	<i>Teacher Developed Materials.</i>
Learning How to Use Different Sources to Locate Information.	<i>Teacher Developed Materials.</i>
Introduction to Writing Basic Research Reports.	<i>Teacher Developed Materials.</i>
Basic Knowledge of the Library as a Source of Locating Information.	<i>Teacher Developed Materials.</i>
History of Language	
The Story of Writing (The 4 th Great Lesson).	<i>Teacher Developed Materials.</i>

FIRST GRADE: MATHEMATICS

CONCEPTS	MATERIALS
Linear Counting	
Reads, Writes, Counts and Orders Numbers 1-100; eventually to 1,000.	Teen Board; Ten Board; 100 Board; Short Chains; Long Chains.
Matches Numerals to Words, 1-20.	<i>Teacher Developed Materials.</i>
Compares Numbers that are Greater Than, Less Than, and Equal.	<i>Teacher Developed Materials.</i>
Understands the Concepts of Even and Odd.	Cards and Counters.
Skip Counting.	Short Chains; and Long Chains.
Comprehension of Ordinal Numbers 1-10.	Spindle Boxes; Table Rods.
Place Value	
Introduction to the Decimal System (1,111).	Introductory Tray, or One Tray; Golden Bead Material.
Introduction to the Decimal System (1,999).	Nine Tray, Golden Bead Material.
Quantity and Symbol of Place Value, up to 9,999.	45 Layout, Golden Bead Material.
Introduction of 1-1,000,000, Association of Quantity and Symbol.	Geometric Hierarchy of Number.
Operations	
Addition, 1-10.	Bead Bars; Table Rods; Snake Game (Search for 10).
Static Addition, with Four Digits, Without Regrouping.	Golden Beads; Stamp Game; Dot Board Game; Small Bead Frame.
Addition Tables, Combinations of 0-10.	Strip Board; Finger Charts (With Equations and Sums); Snake Games.

Dynamic Addition, with Four Digits, and Regrouping.	Stamp Game; Small Bead Frame.
Memorization of Addition Facts, with Doubles, Zeros, and Number Families.	Addition Strip Board; Finger Charts; Timed Tests.
Subtraction, 0-10.	Bead Bards; Table Rods.
Static Subtraction, with Four Digits, without Regrouping.	Golden Beads; Stamp Game; Small Bead Frame.
Subtraction Tables 0-18.	Subtraction Strip Board; Finger Charts (With Equations and Sums).
Dynamic Subtraction, with Four to Seven Digits, with Regrouping.	Stamp Game; Small Bead Frame; Large Bead Frame.
Memorization of Subtraction Facts with Zeros and Number Families.	Subtraction Strip Board; Subtraction Finger Charts; Timed Tests.
Multiplication, 1-10.	<i>Teacher Developed Materials.</i>
Comprehension of Math Vocabulary in Relation to the Four Operations.	<i>Teacher Developed Materials.</i>
Fractions	
Identification of Whole Circle, Halves, Thirds, Fourths, and Fifths.	Fraction Circles; Labeled Fraction Circles.
Geometry	
Introduction to Solid Shapes.	Geometric Solids.
Introduction and Identification of Plane Shapes.	Constructive Triangles (6 Boxes); Geometric Cabinet.
Algebra	
Introduction.	Binomial Cube; Trinomial Cube.
Cumulative Property.	Strip Boards; Finger Charts; Snake Games.
Comprehension of Patterns.	<i>Teacher Developed Materials.</i>
Classification and Sequencing.	<i>Teacher Developed Materials.</i>

Money	
Identification of Coins; Value of Coins.	<i>Teacher Developed Materials.</i>
Recognizes and Writes Dollar and Cent signs.	<i>Teacher Developed Materials.</i>
Uses Addition and Subtraction to Solve Word Problems, Involving Money.	<i>Teacher Developed Materials.</i>
Time	
Tells Time to the Hour and Half Hour, using Standard and Digital Clocks.	<i>Teacher Developed Materials.</i>
Calendar: Understands the Concept of Years, Months, and Days.	<i>Teacher Developed Materials.</i>
Develops an Awareness of the Holidays Associated with Each Month.	<i>Teacher Developed Materials.</i>
Identifies the Four Seasons.	<i>Teacher Developed Materials.</i>
Data Analysis	
Comprehension of One-Step Word Problems, Addition or Subtraction.	<i>Teacher Developed Materials.</i>
Tally Marks.	<i>Teacher Developed Materials.</i>
Comprehends Simple Graphs, Bar Graphs, and Picture Graphs.	<i>Teacher Developed Materials.</i>
Measurement	
Length: Measures Objects with Ruler.	<i>Teacher Developed Materials.</i>
Weight: Compares Weight of Different Objects with a Scales.	<i>Teacher Developed Materials.</i>
Temperature: Reads a Thermometer.	<i>Teacher Developed Materials.</i>
History of Numbers	
The Story of Numbers (The 5 th Great Lesson).	<i>Teacher Developed Materials.</i>

FIRST GRADE: SCIENCE

CONCEPTS	MATERIALS
Zoology	
Living/Non-Living.	<i>Teacher Developed Materials.</i>
Plant/Animal.	<i>Teacher Developed Materials.</i>
Classification: Herbivore, Carnivore, and Omnivore.	<i>Teacher Developed Materials.</i>
Classification of Vertebrate/Invertebrate.	<i>Teacher Developed Materials.</i>
Classification of Vertebrates.	<i>Teacher Developed Materials.</i>
Classified Nomenclature: External Parts of Vertebrates: (Parts of the Fish; Amphibian; Reptile; Bird; and Mammal).	<i>Teacher Developed Materials.</i>
First Knowledge of the Animal Kingdom.	<i>Teacher Developed Materials.</i>
Introduction: Habitat of an Animal; Animals of the Continents.	<i>Teacher Developed Materials.</i>
Introduction to Invertebrates; Parts of an Insect.	<i>Teacher Developed Materials.</i>
Recognition of the Similarities and Differences of Animal Parents and Their Young.	<i>Teacher Developed Materials.</i>
Introduction to the Life Cycles: Frog and Butterfly.	<i>Teacher Developed Materials.</i>
Botany	
Classified Nomenclature: (Parts of the Tree; Flower; and Leaf).	Botany Puzzles; <i>Teacher Developed Materials.</i>
Introduction to Types of Leaves.	Botanical Cabinet.
First Knowledge of the Plant Kingdom.	<i>Teacher Developed Materials.</i>
Knowledge of Plants as a Source of Nutrition.	<i>Teacher Developed Materials.</i>

Anatomy	
Knowledge of the Five Senses.	<i>Teacher Developed Materials.</i>
Classified Nomenclature; The Parts of the Skeleton; Tooth.	<i>Teacher Developed Materials.</i>
Introduction to the Food Pyramid. Ability to Make Healthy Choices.	<i>Teacher Developed Materials.</i>
Comprehension and Agreement of Safety Rules and their Purpose.	<i>Teacher Developed Materials.</i>
Physical Science	
Introduction to the Three States of Matter.	<i>Teacher Developed Materials.</i>
Introduction to Energy:	<i>Teacher Developed Materials.</i>
Magnets: Classification of Magnetic And Non-Magnetic.	<i>Teacher Developed Materials.</i>
Light: Colors of the Spectrum.	<i>Teacher Developed Materials.</i>
Sound: Identification of the Changes In Direction, Volume and Pitch.	<i>Teacher Developed Materials.</i>
Electricity.	<i>Teacher Developed Materials.</i>
Gravity.	<i>Teacher Developed Materials.</i>
Buoyancy.	<i>Teacher Developed Materials.</i>
History of Life	
The Coming of Life (The 2 nd Great Lesson).	<i>Teacher Developed Materials.</i>
The Coming of Human Beings (The 3 rd Great Lesson).	<i>Teacher Developed Materials.</i>

FIRST GRADE: SOCIAL STUDIES

CONCEPTS	MATERIALS
Physical Geography	
Classification of Land, Air, and Water.	<i>Teacher Developed Materials.</i>
Understanding of the Movement of the Earth: Day and Night.	<i>Teacher Developed Materials.</i>
Comprehension of the Four Seasons.	<i>Teacher Developed Materials.</i>
STUDY OF THE LITHOSPHERE	
Basic Land Forms: Island; Cape; Peninsula; and Isthmus.	Land Forms.
Introduction to the Layers of the Earth.	Layers of the Earth.
Introduction to the Parts of the Volcano.	Parts of the Volcano.
Introduction to Geology.	<i>Teacher Developed Materials.</i>
Introduction to Paleontology; Identification of Common Dinosaurs.	<i>Teacher Developed Materials.</i>
Introduction to the Biomes of the Earth.	<i>Teacher Developed Materials.</i>
STUDY OF THE ATMOSPHERE	
Comprehension of Different Types of Weather Conditions.	<i>Teacher Developed Materials.</i>
Introduction to the Identification of Types of Clouds.	<i>Teacher Developed Materials.</i>
Introduction to the Layers of the Atmosphere.	<i>Teacher Developed Materials.</i>
Basic Knowledge of the Solar System.	<i>Teacher Developed Materials.</i>
Understanding of Space Exploration.	<i>Teacher Developed Materials.</i>

STUDY OF THE HYDROSPHERE	
Basic Water Forms: Island, Bay, Gulf, and Strait.	<i>Teacher Developed Materials.</i>
Identification of Simple Aquatic Animals.	<i>Teacher Developed Materials.</i>
Introduction to Seashells.	<i>Teacher Developed Materials.</i>
Maps and Globes	
Classification of Land, Air, and Water.	Sand Paper Globe; <i>Teacher Developed Materials.</i>
Understanding the Differences Between Maps and Globes.	Sand Paper Globe; World Puzzle Map.
Ability to Locate United States on a Map.	North America Puzzle Map.
Knowledge of their State and City of Residence.	<i>Teacher Developed Materials.</i>
Introduction to the Countries of North America.	North America Puzzle Map.
Introduction to the Names and Locations of the 7 Continents.	Continent Globe; World Puzzle Map.
Cultural Geography	
Knowledge of the Holidays and Customs of the United States.	<i>Teacher Developed Materials.</i>
Awareness of Various Cultures within the United States.	<i>Teacher Developed Materials.</i>
Fundamental Needs of People: Physical Needs and Spiritual Needs.	<i>Teacher Developed Materials.</i>
Introduction to Flags.	<i>Teacher Developed Materials.</i>
Recognition of the Flag of the United States.	<i>Teacher Developed Materials.</i>
Awareness of the Pledge of Allegiance.	<i>Teacher Developed Materials.</i>
Comprehension of the Basic American Symbols.	<i>Teacher Developed Materials.</i>

Knowledge of the Current President of the United States.	<i>Teacher Developed Materials.</i>
Awareness of the Significant Contributions of People in U.S. History.	<i>Teacher Developed Materials.</i>
Introduction to Peace Education.	<i>Teacher Developed Materials.</i>
History	
The Great Lessons	
The First Great Lesson: The Story of the Universe.	<i>Teacher Developed Materials.</i>
The Second Great Lesson: The Coming of Life.	<i>Teacher Developed Materials.</i>
The Third Great Lesson: The Coming of Humans.	<i>Teacher Developed Materials.</i>
The Fourth Great Lesson: The Story of Writing.	<i>Teacher Developed Materials.</i>
The Fifth Great Lesson: The Story of Numbers.	<i>Teacher Developed Materials.</i>
Concept of Time	
Tells Time to the Hour and Half Hour, using Standard and Digital Clocks.	<i>Teacher Developed Materials.</i>
Calendar: Understands the Concept of Days, Weeks, Months, and Year.	<i>Teacher Developed Materials.</i>
Develops an Awareness of the Holidays Associated with Each Month.	<i>Teacher Developed Materials.</i>
Identifies the Four Seasons.	<i>Teacher Developed Materials.</i>
Personal Time Line.	<i>Teacher Developed Materials.</i>
Introduction to the Time Line of Life.	<i>Teacher Developed Materials.</i>

United States and World History	
Introduction to World Explorers.	<i>Teacher Developed Materials.</i>
Awareness of the Significance of Native Americans in American History and their Cultural Contributions.	<i>Teacher Developed Materials.</i>
Introduction to the Pilgrims and Colonial America.	<i>Teacher Developed Materials.</i>

SECOND GRADE: LANGUAGE

CONCEPTS	MATERIALS
Oral and Auditory Skills	
Uses Proper Eye Contact When Listening and Speaking.	<i>Teacher Developed Materials.</i>
Retells Information or Stories in Sequence.	Developmental Reading Assessments (DRA).
Speaks Clearly, Using Proper Verb Tenses and Plurals.	<i>Teacher Developed Materials.</i>
Gives Oral Presentations to Classmates and Parents.	<i>Teacher Developed Materials.</i>
Can Focus on One Topic while Speaking.	<i>Teacher Developed Materials.</i>
Listens Respectfully to Others and Responds with Appropriate Feedback.	<i>Teacher Developed Materials.</i>
Sits Attentively and Listens for Specific Information; Remembers Details.	<i>Teacher Developed Materials.</i>
Creates Props and Uses Various Multi-media Sources as Visual Aids in Presentations.	<i>Teacher Developed Materials.</i>
Hand Writing Skills	
Consistently Writes Legibly in Manuscript.	<i>Teacher Developed Materials.</i>
Continued Practice with the Cursive Alphabet, using Lower Case Letters and Capital Letters.	<i>Teacher Developed Materials.</i>
Advanced Punctuation, Capitalization, and Correct Spacing.	6 Traits of Writing.
Composition	
Writes Letters, Invitations, and Thank You Cards.	<i>Teacher Developed Materials.</i>

Introduction to Pre-Writing Activities.	6 Traits of Writing; Story Webs.
Introduction to Paragraphs; Focuses Writing on One Topic per Paragraph.	6 Traits of Writing.
Introduction to Topic Sentence with Supporting Facts.	6 Traits of Writing.
Understands How to Write a First Draft.	6 Traits of Writing.
Introduction to Editing.	6 Traits of Writing.
Develops and Awareness of the Audience.	<i>Teacher Developed Materials.</i>
Practices Narrative and Expository Writing; Comprehends the Differences.	<i>Teacher Developed Materials.</i>
Introduction to Paraphrasing.	<i>Teacher Developed Materials.</i>
Advanced Research Reports.	<i>Teacher Developed Materials.</i>
Writing Poetry.	<i>Teacher Developed Materials.</i>
Advanced Journal Writing.	<i>Teacher Developed Materials.</i>
Writes Book Reports.	<i>Teacher Developed Materials.</i>
Reading Process	
Guided Reading, Silent Reading.	<i>Teacher Developed Materials.</i>
Reads Multi-Syllable Words; Past Tense; Superlatives; & Comparatives.	<i>Teacher Developed Materials.</i>
Continues to Practice Reading Long Vowel Sounds; Phonograms.	Silent Words; Silent E; Phonogram Booklets.
Reads High Frequency Words at Second Grade Level.	<i>Teacher Developed Materials.</i>
Uses A Variety of Strategies to Assist in Decoding; Self-Corrects.	Developmental Reading Assessments (DRA); Student Reading Assessments (SRA).
Reading Comprehension	
Makes Logical Predictions.	DRA; SRA.

Recalls Story in Logical Sequence with Significant Details.	DRA; SRA.
Identifies Setting, Plot, Conflict, and Resolution in a Story.	DRA; SRA.
Comprehends the Different Elements of Fiction and Non-Fiction.	<i>Teacher Developed Materials.</i>
Reads from a Variety of Sources with Increased Level of Difficulty.	<i>Teacher Developed Materials.</i>
Understands Different Forms of Poetry.	<i>Teacher Developed Materials.</i>
Reads to Acquire New Information.	<i>Teacher Developed Materials.</i>
Reading in the Cultural Areas.	Classified Nomenclature; Research Reports.
Spelling	
Correctly Spells the High Frequency Words for Second Grade.	<i>Teacher Developed Materials.</i>
Grammar & Word Study	
Reinforce the Concept of Verb, Noun, Article and Adjective.	Function of Words; Grammar Symbols; Logical Adjective Game.
Introduction to Pronoun, Adverb, Conjunction, Preposition and Interjection.	Function of Words; Grammar Symbols.
Introduce Synonyms; Syllibication; Abbreviations; and Contractions.	<i>Teacher Developed Materials.</i>
Advanced Lessons with Alphabetical Order.	<i>Teacher Developed Materials.</i>
Introduction to the Parts of Speech.	Grammar Boxes.
Word Study and Classification.	Correct Expression; Animals and Their Homes; Groups; Gender; and Young.
Research	
Advanced Lessons in Alphabetical Order.	<i>Teacher Developed Materials.</i>

Uses a Variety of Sources to Locate Information.	<i>Teacher Developed Materials.</i>
Introduction to Writing Basic Research Reports.	<i>Teacher Developed Materials.</i>
Introduction to Paraphrasing.	<i>Teacher Developed Materials.</i>
Introduction to Dictionaries, Atlases, and Encyclopedias.	<i>Teacher Developed Materials.</i>
Knowledge of How to Locate Information in the Library.	<i>Teacher Developed Materials.</i>
History of Language	
The Story of Writing (The 4 th Great Lesson).	<i>Teacher Developed Materials.</i>

SECOND GRADE: MATHEMATICS

CONCEPTS	MATERIALS
Linear Counting And Place Value	
Reads, Writes, Counts and Orders Numbers to 1,000.	Short Chains; Long Chains.
Introduction of 1-1,000,000; Association of Quantity and Symbol.	Geometric Hierarchy of Number.
Identifies Numbers up to 1,000,000.	Large Bead Frame; Checkerboard.
Comprehension of Ordinal Numbers (1 st - 30 th).	Short Chains.
Expanded Notation, through 100.	<i>Teacher Developed Materials.</i>
Continued Practice with Concepts of Greater Than, Less Than, and Equal.	<i>Teacher Developed Materials.</i>
Continued Practice with the Concepts of Even and Odd.	Cards and Counters.
Operations	
Dynamic Addition, with Regrouping to Mate Sets of 1-19.	Snake Game.
Dynamic Addition, with Four to Seven Digits, with Regrouping.	Stamp Game; Small Bead Frame; Large Bead Frame; Dot Board.
Memorization of Addition Facts with Doubles, Zeros, and Number Families.	Addition Strip Board; Finger Charts; Timed Tests.
Static Subtraction, 1-10.	Snake Game.
Dynamic Subtraction, with Four to Seven Digits, with Regrouping.	Stamp Game; Small Bead Frame; Large Bead Frame.
Memorization of Subtraction Facts, with Zeros and Number Families.	Subtraction Strip Board; Subtraction Finger Charts; Timed Tests.
Recognition of Patterns in Addition and Subtraction.	<i>Teacher Developed Materials.</i>

Multiplication, 1-10.	Bead Bars; Bead Board; Snake Game; Finger Charts (with Equations and Answers).
Static Multiplication with Four Digits by a Single Multiplier, without Regrouping.	Stamp Game; Small Bead Frame; Large Bead Frame; Dot Board.
Memorization of Multiplication Facts, with Zeros and Number Families.	Finger Charts; Bead Bars; Bead Board; Short Chains.
Division 1-9.	Division Bead Board; Finger Charts (with Problems and Answers).
Static Division with Four Digits by a Single Divisor, without Remainders.	Stamp Game; Test Tube Division.
Comprehension of Math Vocabulary in Relation to the Four Operations.	<i>Teacher Developed Materials.</i>
Fractions	
Identification of Fractions, from One Whole to Tenths.	Fraction Circles; Labeled Fraction Circles.
Comprehension of the Terms Numerator and Denominator.	Fraction Circles; Labeled Fraction Circles.
Equivalence.	Fraction Circles; Labeled Fraction Circles.
Addition and Subtraction of Fractions with Common Denominators.	Fraction Circles; Labeled Fraction Circles.
Geometry	
Review Solid Shapes.	Geometric Solids.
Review Plane Shapes.	Constructive Triangles (6 Boxes); Geometric Cabinet.
Introduction to Angles; Types of Lines; Rays; and Segments.	Geometric Sticks; Classified Nomenclature.
Introduction to Sides; Corners; Edges; Faces; Symmetry; Congruent Shapes.	Geometric Sticks; Classified Nomenclature.

Algebra	
Continued Practice with the Commutative Property.	Strip Boards; Finger Charts; Snake Games (Addition and Multiplication).
Continued Practice with Recognition and Construction of Patterns.	<i>Teacher Developed Materials.</i>
Comprehension of Multiplication Facts and as a Pattern of Continuous Addition.	Multiplication with the Bead Bars; Multiplication Bead Board.
Solves Equations with Missing Variables.	<i>Teacher Developed Materials.</i>
Money	
Identification and Value of Various Coins and Dollar Bills.	<i>Teacher Developed Materials.</i>
Recognizes and Writes Dollar and Cent Signs.	<i>Teacher Developed Materials.</i>
Exchanges Coins of Equal Value.	<i>Teacher Developed Materials.</i>
Addition and Subtraction; Makes Change.	<i>Teacher Developed Materials.</i>
Uses Addition and Subtraction to Solve Word Problems, Involving Money.	<i>Teacher Developed Materials.</i>
Time	
Tells Time to the Quarter Hour; 1 Minute, and 5 Minute Intervals.	<i>Teacher Developed Materials.</i>
Calendar: Knowledge of Current Year; Knows the Sequence of the 7 Days and 12 Months.	<i>Teacher Developed Materials.</i>
Data Analysis	
Comprehension of Two-Step Word Problems, Addition or Subtraction.	<i>Teacher Developed Materials.</i>
Constructs and Interprets Data with Tallies, Tables, and Misc. Graphs.	<i>Teacher Developed Materials.</i>
Predicts Outcomes.	<i>Teacher Developed Materials.</i>

Recognizes the Pairs of Objects Within a Set.	<i>Teacher Developed Materials.</i>
Is Able to Orally Communicate Strategies to Solve Problems.	<i>Teacher Developed Materials.</i>
Introduction to Estimation and Rounding.	<i>Teacher Developed Materials.</i>
Measurement	
Length: Measures Inches and Feet.	<i>Teacher Developed Materials.</i>
Weight: Measures Pounds.	<i>Teacher Developed Materials.</i>
Volume: Measures Liquids into Cups and Pints.	<i>Teacher Developed Materials.</i>
Temperature: Measures Temperature in Degrees Fahrenheit, Using Standard and Digital Thermometers.	<i>Teacher Developed Materials.</i>
History of Numbers	
The Story of Numbers (The 5 th Great Lesson).	<i>Teacher Developed Materials.</i>

SECOND GRADE: SCIENCE

CONCEPTS	MATERIALS
Zoology	
Classification of Vertebrates, Continued.	<i>Teacher Developed Materials.</i>
Classified Nomenclature, Continued: External Parts of Vertebrates, (Parts of the Fish; Amphibian; Reptile; Bird; and Mammal).	<i>Teacher Developed Materials.</i>
First Knowledge of the Animal Kingdom, Continued.	<i>Teacher Developed Materials.</i>
Advanced Research of an Animal.	<i>Teacher Developed Materials.</i>
Understanding of the Adaptations of Animals to their Environment.	<i>Teacher Developed Materials.</i>
Classified Nomenclature: Internal Parts of the Vertebrate.	<i>Teacher Developed Materials.</i>
Classified Nomenclature: Introduction to 6 Classes of Vertebrates.	<i>Teacher Developed Materials.</i>
Introduction to the Food Chain.	<i>Teacher Developed Materials.</i>
Botany	
First Knowledge of the Plant Kingdom.	<i>Teacher Developed Materials.</i>
Life Cycle of a Plant.	<i>Teacher Developed Materials.</i>
Recognition of the Different Needs for Plants in Daily Life.	<i>Teacher Developed Materials.</i>
Classification of Types of Leaves.	Botanical Cabinet.
Classification of Plants; Seed and Non-Seed Producers.	<i>Teacher Developed Materials.</i>
Classified Nomenclature; Types of Roots, Stems, Buds, Leaves.	<i>Teacher Developed Materials.</i>
Classification of Leaf Formations.	Botanical Cabinet.

Anatomy	
Classified Nomenclature: Parts of the Heart, Brain, Eye, and Ear.	<i>Teacher Developed Materials.</i>
Food Pyramid: Classification of Food into Proper Categories.	<i>Teacher Developed Materials.</i>
Understanding of how the Different Body Systems are Interrelated.	<i>Teacher Developed Materials.</i>
Physical Science	
Classification of the Three States of Matter.	<i>Teacher Developed Materials.</i>
Advanced Comprehension and Research of Sources of Energy:	<i>Teacher Developed Materials.</i>
Magnets: The North and South Poles	<i>Teacher Developed Materials.</i>
Light.	<i>Teacher Developed Materials.</i>
Sound: Vibrations.	<i>Teacher Developed Materials.</i>
Electricity: Batteries as a Source of Electricity; Positive and Negative.	<i>Teacher Developed Materials.</i>
Gravity.	<i>Teacher Developed Materials.</i>
Buoyancy.	<i>Teacher Developed Materials.</i>
Ability to Conduct Science Experiments and Write a Written Summary, Including Predictions; Problems and Solutions; and Variations.	<i>Teacher Developed Materials.</i>
History of Life	
The Coming of Life (The 2 nd Great Lesson).	<i>Teacher Developed Materials.</i>
The Coming of Human Beings (The 3 rd Great Lesson).	<i>Teacher Developed Materials.</i>

SECOND GRADE: SOCIAL STUDIES

CONCEPTS	MATERIALS
Physical Geography	
Classification of Lithosphere, Atmosphere, and Hydrosphere.	<i>Teacher Developed Materials.</i>
Comprehension of the Movement of the Earth: Four Seasons.	<i>Teacher Developed Materials.</i>
STUDY OF THE LITHOSPHERE	
Advanced Studies of the Land Forms.	Land Forms.
Layers of the Earth, Intermediate Level.	Layers of the Earth.
Parts of the Volcano and Tectonic Plates, with Definitions.	Parts of the Volcano.
Study of Earthquakes.	<i>Teacher Developed Materials.</i>
Identification and Characteristics of Rocks, Crystals, and Minerals.	<i>Teacher Developed Materials.</i>
Identification of Fossils; Comprehension of Archaeologists.	<i>Teacher Developed Materials.</i>
Advanced Study of Dinosaurs.	<i>Teacher Developed Materials.</i>
Ability to Locate the Different Biomes of the Earth.	<i>Teacher Developed Materials.</i>
STUDY OF THE ATMOSPHERE	
Ability to Read and Record the Temperature from a Thermometer.	<i>Teacher Developed Materials.</i>
Introduction to the Identification and Classification of Types of Clouds.	<i>Teacher Developed Materials.</i>
Knowledge of the Layers of the Atmosphere.	<i>Teacher Developed Materials.</i>

Advanced Knowledge of the Solar System: Orbits of Planets and their Moons.	<i>Teacher Developed Materials.</i>
Awareness of the Phases of the Moon.	<i>Teacher Developed Materials.</i>
Classified Nomenclature: Planets in our Solar System.	<i>Teacher Developed Materials.</i>
Introduction to the Names of Basic Constellations.	<i>Teacher Developed Materials.</i>
Comprehension of Space Exploration.	<i>Teacher Developed Materials.</i>
STUDY OF THE HYDROSPHERE	
Introduction to the Water Cycle.	<i>Teacher Developed Materials.</i>
Advanced Study of Water Forms: Island, Bay, Gulf, and Strait.	Water Forms.
Identification and Location of the Oceans of the World.	<i>Teacher Developed Materials.</i>
Classification of Aquatic Animals: Fish, Mammals, and Invertebrates.	<i>Teacher Developed Materials</i>
Introduction to Coral Reefs.	<i>Teacher Developed Materials</i>
Identification and Classification of Seashells.	<i>Teacher Developed Materials</i>
Maps and Globes	
Ability to Locate 7 Continents; 4 Oceans; and North and South Poles.	Sand Paper Globe; Continent Globe.
Advanced Research of the 7 Continents.	Puzzle Maps of the Continents; Pin Maps of the Continents.
Understanding of the Hemispheres.	Sand Paper Globe; Continent Globe; World Puzzle Map.
Introduction to the Cardinal Directions.	<i>Teacher Developed Materials.</i>
Ability to Locate Countries of North America.	North America Puzzle Map.

Knowledge of the Regions of the United States.	Continent Globe; World Puzzle Map.
Ability to Locate Several States within the United States.	<i>Teacher Developed Materials.</i>
Introduction to the State Capitals.	<i>Teacher Developed Materials.</i>
Introduction to Research of a State.	<i>Teacher Developed Materials.</i>
Introduction to the Countries within a Continent.	<i>Teacher Developed Materials.</i>
Introduction to the Capitals of Countries.	<i>Teacher Developed Materials.</i>
Introduction to the Research of a Country.	<i>Teacher Developed Materials.</i>
Cultural Geography	
Continued Awareness of the Holidays and Customs of the United States.	<i>Teacher Developed Materials.</i>
Continued Awareness and Research of Various Cultures within the United States.	<i>Teacher Developed Materials.</i>
Fundamental Needs of People: Physical Needs and Spiritual Needs.	<i>Teacher Developed Materials.</i>
Comprehension of the Pledge of Allegiance.	<i>Teacher Developed Materials.</i>
Recognition of the “Star Spangled Banner” as the National Anthem.	<i>Teacher Developed Materials.</i>
Advanced Research of Flags; Flags of the United States; Flags of the Continents.	<i>Teacher Developed Materials.</i>
Advanced Study of American Symbols.	<i>Teacher Developed Materials.</i>
Knowledge of the Current and Past Presidents of the United States.	<i>Teacher Developed Materials.</i>
Research of Biographies: Significant Contributions of People in U.S. History.	<i>Teacher Developed Materials.</i>
Advanced Lessons in Peace Education.	<i>Teacher Developed Materials.</i>

History	
The Great Lessons	
The First Great Lesson: The Story of the Universe.	<i>Teacher Developed Materials.</i>
The Second Great Lesson: The Coming of Life.	<i>Teacher Developed Materials.</i>
The Third Great Lesson: The Coming of Humans.	<i>Teacher Developed Materials.</i>
The Fourth Great Lesson: The Story of Writing.	<i>Teacher Developed Materials.</i>
The Fifth Great Lesson: The Story of Numbers.	<i>Teacher Developed Materials.</i>
Concept of Time	
Tells Time to the Quarter Hour 1 minute, and 5 Minute Intervals.	<i>Teacher Developed Materials.</i>
Calendar: Knowledge of Current Year; Knows the Sequence of the 7 Days and 12 Months.	<i>Teacher Developed Materials.</i>
Personal Time Line.	<i>Teacher Developed Materials.</i>
Advanced Study of the Time Line of Life.	<i>Teacher Developed Materials.</i>
United States and World History	
Introduction to Vikings as World Explorers.	<i>Teacher Developed Materials.</i>
Advanced Research of the Pilgrims and Colonial America.	<i>Teacher Developed Materials.</i>
Identification and Location of Native American Tribes.	<i>Teacher Developed Materials.</i>
Introduction to Early Civilizations.	<i>Teacher Developed Materials.</i>
Introduction to Roman Numerals.	<i>Teacher Developed Materials.</i>

THIRD GRADE: LANGUAGE

CONCEPTS	MATERIALS
Oral and Auditory Skills	
Uses Proper Eye Contact When Listening and Speaking.	<i>Teacher Developed Materials.</i>
Retells Information or Stories in Sequence.	Developmental Reading Assessments (DRA).
Speaks Clearly, Using Proper Verb Tenses and Plurals.	<i>Teacher Developed Materials.</i>
Gives Oral Presentations to Classmates and Parents.	<i>Teacher Developed Materials.</i>
Can Focus on One Topic while Speaking.	<i>Teacher Developed Materials.</i>
Listens Respectfully to Others and Responds with Appropriate Feedback.	<i>Teacher Developed Materials.</i>
Sits Attentively and Listens for Specific Information; Remembers Details.	<i>Teacher Developed Materials.</i>
Creates Props and Uses Various Multi-media Sources as Visual Aids in Presentations.	<i>Teacher Developed Materials.</i>
Accurately Records Dictation.	<i>Teacher Developed Materials.</i>
Hand Writing Skills	
Writes Legibly in Cursive and Manuscript.	<i>Teacher Developed Materials.</i>
Advanced Punctuation, Capitalization, and Correct Spacing.	6 Traits of Writing.
Composition	
Writes Letters, Invitations, and Thank You Cards and Correspondence with Details.	<i>Teacher Developed Materials.</i>
Writing with Prompts.	<i>Teacher Developed Materials.</i>

Organizes Ideas, using Various Pre-Writing Activities.	6 Traits of Writing.
Writes Complex Sentences; Adds Quotation Marks.	<i>Teacher Developed Materials.</i>
Awareness of Sequential Writing; Includes a Beginning, Middle and End.	6 Traits of Writing.
Edits and Revises Writing for Improvements in Content, Clarity, Organization, and Conventions.	6 Traits of Writing.
Writes for Different Purposes and Awareness of Different Audiences.	6 Traits of Writing.
Introduction to writing a Concluding Paragraph.	<i>Teacher Developed Materials.</i>
Introduction to Transitions between Paragraphs.	6 Traits of Writing.
Writes Stories that Include Basic Story Elements.	6 Traits of Writing.
Continued Practice with Narrative and Expository Writing.	<i>Teacher Developed Materials.</i>
Advanced Research Reports.	<i>Teacher Developed Materials.</i>
Advanced Paraphrasing; Citing the Source.	<i>Teacher Developed Materials.</i>
Writes Advanced Poetry.	<i>Teacher Developed Materials.</i>
Advanced Journal Writing.	<i>Teacher Developed Materials.</i>
Writes Book Reports.	<i>Teacher Developed Materials.</i>
Reading Process	
Guided Reading, Silent Reading (for longer periods.)	<i>Teacher Developed Materials.</i>
Develops Individual Reading Habits; Favorite Authors and Genres.	<i>Teacher Developed Materials.</i>
Reads Multi-Syllable Words; Uncommon Phonograms.	<i>Teacher Developed Materials.</i>

Continues to Practice Reading Phonograms.	Sight Words; Phonogram Booklets.
Reads High Frequency Words at Third Grade Level.	<i>Teacher Developed Materials.</i>
Uses a Variety of Strategies to Assist in Decoding; Self-Corrects.	Developmental Reading Assessments (DRA); Student Reading Assessments (SRA).
Reading Comprehension	
Makes Logical Predictions.	<i>Teacher Developed Materials.</i>
Recalls Story in Logical Sequence with Significant Details and Comparisons.	DRA; SRA.
Identifies Setting, Plot, Conflict, and Resolution in a Story with Supporting Facts.	DRA; SRA.
Reads and Compares a Variety of Sources of Non-Fiction for Research.	<i>Teacher Developed Materials.</i>
Understands the Meaning of Dialect in a Story.	<i>Teacher Developed Materials.</i>
Identifies the Elements of Poetry.	<i>Teacher Developed Materials.</i>
Reading in the Cultural Areas.	Classified Nomenclature; Research Reports.
Reads to Acquire New Information.	<i>Teacher Developed Materials.</i>
Spelling	
Correctly Spells the High Frequency Words for Third Grade.	<i>Teacher Developed Materials.</i>
Grammar & Word Study	
Reinforce Previous Word Study Lessons.	Rainbow Towers.
Introduce Root Words; Suffixes; Prefixes; Homophones, Homonyms, and Homographs.	Rainbow Towers.

Advanced Lessons with Alphabetical Order.	<i>Teacher Developed Materials.</i>
Advanced Lessons with the Parts of Speech.	Grammar Boxes.
Structure of a Sentence.	Sentence Analysis.
Advanced Lessons with Adjectives.	The Detective Adjective Game.
Research	
Advanced Lessons in Alphabetical Order	<i>Teacher Developed Materials.</i>
Uses a Variety of Sources to Locate Information.	<i>Teacher Developed Materials.</i>
Advanced Work with Dictionaries, Atlases, Encyclopedias and Thesaurus.	<i>Teacher Developed Materials.</i>
Advanced Research and Reports with Detail.	<i>Teacher Developed Materials.</i>
Advanced Paraphrasing; Citing the Source.	<i>Teacher Developed Materials.</i>
Knowledge of How to Locate Information in the Library.	<i>Teacher Developed Materials.</i>
History of Language	
The Story of Writing (The 4 th Great Lesson.	<i>Teacher Developed Materials.</i>

THIRD GRADE: MATHEMATICS

CONCEPTS	MATERIALS
Linear Counting And Place Value	
Continue to Practice Reading and writing Numbers up to 1,000,000.	Large Bead Frame; Checkerboard.
Reads, Writes, and Counts Forwards and Backwards by 2s, 5s, and 10s.	Short Chains; Long Chains.
Comprehension of Ordinal Numbers, (1 st - 100 th).	<i>Teacher Developed Materials.</i>
Expanded Notation, through 1,000.	<i>Teacher Developed Materials.</i>
Understands the Concept of Negative Numbers.	Subtraction Snake Game; Negative Snake Game.
Operations	
Continued Practice with Dynamic Addition (7 Digits), with 3 or 4 Addends.	Large Bead Frame; Dot Board.
Memorization of Addition Facts with Doubles, Zeros, and Number Families.	Flash Cards; Timed Tests.
Dynamic Subtraction, with Negative Numbers.	Negative Snake Game.
Continued Practice with Dynamic Subtraction (7 Digits) 3 Subtrahends.	Large Bead Frame.
Memorization of Subtraction Facts, with Zeros and Number Families.	Flash Cards; Timed Tests.
Continued Practice with Dynamic Multiplication with Four Digits, with and without Partial Products.	Stamp Game; Small Bead Frame; Large Bead Frame; Dot Board.
Dynamic Multiplication, up to 7 digits, with Partial Products and Multi-Digit Multiplier.	Large Bead Frame; Checkerboard; Golden Bead Frame; Bank Game.
Memorization of Multiplication Facts with Zeros and Number Families (1-12).	Flash Cards; Timed Tests; Pythagoras Board.

Continued Practice with Division, 1-9.	Division Bead Board; Finger Charts (With Problems and Answers).
Static Division with Four Digits by a Single Divisor, without Remainders.	Stamp Game; Test Tube Division.
Dynamic Division, with 3-Digit Divisor.	Stamp Game; Test Tube Division.
Memorization of Division Facts, with Zeros and Number Families.	Flash Cards; Timed Tests.
Comprehension of Math Vocabulary in Relation to the Four Operations.	<i>Teacher Developed Materials.</i>
Fractions	
Ability to Reduce Fractions.	Fraction Circles; Labeled Fraction Circles.
Addition and Subtraction of Mixed Fractions with Common Denominator.	Fraction Circles; Labeled Fraction Circles.
Multiplication of Fractions, with Common Denominators.	Fraction Circles; Labeled Fraction Circles.
Introduction to Decimals, Association of Quantity and Symbol, through Tenths.	Decimal Board; Decimal Checkerboard.
Static Addition and Subtraction with Decimals.	Decimal Board; Decimal Checkerboard.
Geometry	
Introduction to Perimeter and Area.	Geometric Sticks; Geometric Nomenclature.
Identifies Polygons with a Right Angle.	Geometric Cabinet; Geometric Nomenclature.
Identifies Different Types of Triangles.	Geometric Cabinet and Nomenclature; Detective Triangle Game.
Continued Practice with Geometric Shapes and Vocabulary.	Geometric Cabinet; Geometric Sticks; Geometric Nomenclature.
Introduction to Compass and Protractor.	<i>Teacher Developed Materials.</i>

Algebra	
Recognizes and Extends Patterns.	<i>Teacher Developed Materials.</i>
Comprehension of Multiplication Facts as a Pattern of Continuous Addition.	Multiplication with the Bead Bars; Multiplication Bead Board.
Comprehension of Division Facts as a Pattern of Continuous Subtraction.	Division Bead Board.
Identifies Patterns of Multiples of Numbers.	100 Board; Pythagoras Board.
Multiplication of a Binomial by a Binomial.	Bead Bars; Bead Cabinet.
Multiplication of a Trinomial by a Trinomial.	Bead Bars; Bead Cabinet.
Money	
Makes Change up to \$100.00.	<i>Teacher Developed Materials.</i>
Writes Money Values in Decimal Form.	<i>Teacher Developed Materials.</i>
Uses all Four Operations to Solve Word Problems, Involving Money.	<i>Teacher Developed Materials.</i>
Time	
Knowledge of Equivalence of 60 Seconds; 60 Minutes, and 24 Hours.	<i>Teacher Developed Materials.</i>
Uses All Four Operations to Solve Word Problems, Involving Time.	<i>Teacher Developed Materials.</i>
Comprehension of Elapsed Time in Minutes, Hours, and Days.	<i>Teacher Developed Materials.</i>
Data Analysis	
Comprehension of Multi-Step Word Problems, using All Four Operations.	<i>Teacher Developed Materials.</i>
Constructs and Interprets Data with Tallies, Tables, and Misc Graphs.	<i>Teacher Developed Materials.</i>

Predicts and Explains Outcomes and Probability.	<i>Teacher Developed Materials.</i>
Involves Different Strategies to Solve Problems.	<i>Teacher Developed Materials.</i>
Is Able to Orally Communicate Strategies to Solve problems.	<i>Teacher Developed Materials.</i>
Continued Practice with Advanced Problems in Estimation and Rounding.	<i>Teacher Developed Materials.</i>
Measurement	
Length; Measures Inches and Feet, and Yards.	<i>Teacher Developed Materials.</i>
Length: Introduction to Centimeters to Measure Length.	<i>Teacher Developed Materials.</i>
Weight: Measures Ounces and Pounds.	<i>Teacher Developed Materials.</i>
Volume: Measures Liquids into Cups, Pints, Quarts, and Gallons.	<i>Teacher Developed Materials.</i>
Temperature: Measures Degrees Fahrenheit, Using Standard and Digital Thermometers.	<i>Teacher Developed Materials.</i>
History of Numbers	
The Story of Numbers (The 5 th Great Lesson).	<i>Teacher Developed Materials.</i>
Roman Numerals.	<i>Teacher Developed Materials.</i>

THIRD GRADE: SCIENCE

CONCEPTS	MATERIALS
Zoology	
Classified Nomenclature, Continued: Internal Parts of the Vertebrate.	<i>Teacher Developed Materials.</i>
Classified Nomenclature: 6 Classes of Vertebrates.	<i>Teacher Developed Materials.</i>
Advanced Research of an Animal.	<i>Teacher Developed Materials.</i>
Advanced Research: Food Chains.	<i>Teacher Developed Materials.</i>
Scientific Classification of the Animal Kingdom.	<i>Teacher Developed Materials.</i>
Botany	
Advanced Botany Nomenclature: Parts of the Roots, Stems, Buds, Leaves.	<i>Teacher Developed Materials.</i>
Classification of Plants; Seed and Non-Seed Producers.	<i>Teacher Developed Materials.</i>
Classification of Leaf Formations.	<i>Teacher Developed Materials.</i>
Parts of the Fruit; Classification of Fruit.	<i>Teacher Developed Materials.</i>
Research of a Plant; The Needs of Plants.	<i>Teacher Developed Materials.</i>
Comprehension of the Process of Photosynthesis.	<i>Teacher Developed Materials.</i>
Anatomy	
Awareness of the Recommended Daily Requirements for Proper Nutrition.	<i>Teacher Developed Materials.</i>
Comprehension that Individual Choices Affect Personal Health.	<i>Teacher Developed Materials.</i>
Understanding of How Environmental Factors Influence Nutrition and Health Issues.	<i>Teacher Developed Materials.</i>

Physical Science	
Introduction to Simple Machines.	<i>Teacher Developed Materials.</i>
Develops Simple Electrical Devices.	<i>Teacher Developed Materials.</i>
Knowledge of Sound Waves.	<i>Teacher Developed Materials.</i>
Conducts Science Experiments and Collects Scientific Data.	<i>Teacher Developed Materials.</i>
Introduction to the Periodic Table of Elements.	<i>Teacher Developed Materials.</i>
Parts of an Atom, Introduction.	<i>Teacher Developed Materials.</i>
History of Life	
The Coming of Life (The 2 nd Great Lesson).	<i>Teacher Developed Materials.</i>
The Coming of Human Beings (The 3 rd Great Lesson).	<i>Teacher Developed Materials.</i>

THIRD GRADE: SOCIAL STUDIES

CONCEPTS	MATERIALS
Physical Geography	
Comprehension of the Movement of the Earth: Summer and Winter Solstice; Fall and Spring Equinox.	<i>Teacher Developed Materials.</i>
STUDY OF THE LITHOSPHERE	
Land Forms of the World.	<i>Teacher Developed Materials.</i>
Study of the Tectonic Plates and the Ring of Fire.	<i>Teacher Developed Materials.</i>
Understanding of the Effects of Erosion.	<i>Teacher Developed Materials.</i>
Classification of Rocks and Rock Formations; Identification of Rocks.	<i>Teacher Developed Materials.</i>
Classification of Life on Earth into Geologic Time Periods.	Clock of Eras.
Identification and Research of Dinosaurs.	<i>Teacher Developed Materials.</i>
Advanced Study of Biomes.	<i>Teacher Developed Materials.</i>
STUDY OF THE ATMOSPHERE	
Understanding that Temperature is Measured in Degrees. Knowledge of Fahrenheit and Celsius.	<i>Teacher Developed Materials.</i>
Advanced Study and Classification of Types of Clouds.	<i>Teacher Developed Materials.</i>
Comprehension of Types of Precipitation and its Relation to Temperatures.	<i>Teacher Developed Materials.</i>
Introduction to Nucleosynthesis.	<i>Teacher Developed Materials.</i>
Classified Nomenclature: Planets in our Solar System.	<i>Teacher Developed Materials.</i>

Identification of Constellations in Regard to the Seasonal Rotations.	<i>Teacher Developed Materials.</i>
Advanced Research in Space Exploration.	<i>Teacher Developed Materials.</i>
STUDY OF THE HYDROSPHERE	
Understanding of Ocean Currents and Tides.	<i>Teacher Developed Materials.</i>
Understanding of the Water Cycle.	Water Forms.
Underwater Land Forms.	<i>Teacher Developed Materials.</i>
Coral Reef: Locations and Comprehension of the Ecosystems.	<i>Teacher Developed Materials.</i>
Classification and Location of Seashells.	<i>Teacher Developed Materials.</i>
Comprehension of Fresh and Salt Water on Earth.	<i>Teacher Developed Materials.</i>
Maps and Globes	
Comprehension of Cardinal Directions.	<i>Teacher Developed Materials.</i>
Comprehension of Terms: Equator, Longitude, and Latitude.	<i>Teacher Developed Materials.</i>
Knowledge of the Regions of the United States.	United States Puzzle Map.
Ability to Locate Several States within the United States and their Capitals.	United States Puzzle Map.
Advanced Research of Flags; Flags of the United States.	<i>Teacher Developed Materials.</i>
Advanced Research of a State.	<i>Teacher Developed Materials.</i>
Advanced Research of the 7 Continents.	Puzzle Maps of the Continents; Pin Maps of the Continents.
Advanced Research of Flags; Flags of Countries.	Pin Maps of the Continents.
Advanced Research of the Names of the Countries.	Pin Maps of the Continents.

Advanced Research of the Names of the Capital Cities.	Pin Maps of the Continents.
Cultural Geography	
Continued Awareness of the Holidays and Customs of the United States.	<i>Teacher Developed Materials.</i>
Continued Awareness and Research of Various Cultures within the United States.	<i>Teacher Developed Materials.</i>
Research of Native American Tribes; The Impact of the Environment on their Culture and Lifestyle.	Fundamental Needs of People.
Advanced Research of Flags; Flags of the United States; Flags of the Continents.	Parts of the Flag; Flags of the Continents; Pin Maps of the Continents.
Advanced Study of American Symbols.	<i>Teacher Developed Materials.</i>
Knowledge of the Current and Past Presidents of the United States.	<i>Teacher Developed Materials.</i>
Research of Biographies: Significant Contributions of People in U.S. History.	<i>Teacher Developed Materials.</i>
Advanced Lessons in Peace Education.	<i>Teacher Developed Materials.</i>
History	
The Great Lessons	
The First Great Lesson: The Story of the Universe.	<i>Teacher Developed Materials.</i>
The Second Great Lesson: The Coming of Life.	<i>Teacher Developed Materials.</i>
The Third Great Lesson: The Coming of Humans.	<i>Teacher Developed Materials.</i>
The Fourth Great Lesson: The Story of Writing.	<i>Teacher Developed Materials.</i>
The Fifth Great Lesson: The Story of Numbers.	<i>Teacher Developed Materials.</i>

Concept of Time	
Knowledge of Equivalence of 60 Seconds; 60 Minutes; and 24 Hours.	<i>Teacher Developed Materials.</i>
Uses All Four Operations to Solve Word Problems Involving Time.	<i>Teacher Developed Materials.</i>
Comprehension of Elapsed Time in Minutes, Hours, and Days.	<i>Teacher Developed Materials.</i>
Advanced Study of the Time Line of Life; Classification of Life in Periods .	Clock of Eras; <i>Teacher Developed Materials.</i>
Geology Time Line: History of the Earth.	Black Ribbon.
United States and World History	
Introduction to the Migration of the People of the World.	<i>Teacher Developed Materials.</i>
Research of Ancient Civilizations: The Contributions to Society and History.	<i>Teacher Developed Materials.</i>
Advanced Recognition of Roman Numerals.	<i>Teacher Developed Materials.</i>
Introduction to the Revolutionary War.	<i>Teacher Developed Materials.</i>
Introduction to the History of African-Americans.	<i>Teacher Developed Materials.</i>
Introduction to Immigration to the United States.	<i>Teacher Developed Materials.</i>
Research of the History of Colorado.	<i>Teacher Developed Materials.</i>

Chapter Summary

This guide to the Montessori lower elementary curriculum was developed to assist parents in knowing what the grade level expectations are for the average child at the end of first, second, or third grades. Although the concepts presented follow a sequential order and progression, the Montessori curriculum is interrelated. The child may be learning different principles in the same subject matter simultaneously.

The content of this guide was developed after thoroughly researching and analyzing the scope and sequence of several different Montessori schools and training centers throughout the United States. After a comparison of the information was gathered, a norm was established. The contributing schools and training centers are listed in Appendix A. Chapter 4 is the result of this extensive research.

In Chapter 5, the author reviews the problem which led to the development of the curriculum guide, and how it was resolved. In addition, the limitations are discussed along with recommendations for change to the curriculum guide.

Chapter 5

DISCUSSION

In this chapter, the following areas are addressed: (a) a resolution of the problem, (b) limitations to the project, (c) assessment and evaluation of the project, and (d) a project summary.

Resolution of the Problem

The guide to the Montessori lower elementary curriculum will bridge the gap between the expectations of teachers and parents. It will develop a means for communication. Parents and teachers can agree as to where the child is able to academically function. The parents will have a concrete representation of the natural progression of the scope and sequence of materials and concepts within every area of the curriculum.

Limitations to the Project

There were some limitations and discrepancies of the content of the curriculum guide. There was a contradiction of philosophies. Traditional public schools emphasize grade levels and standards. In contrast, the Montessori theory allows children to progress based on their developmental abilities and at their own pace, rather than grade level expectations.

In addition, parents should realize that not all children will meet the criteria as listed in the guide by grade levels. They may exceed expectations in one area, while they

experience difficulty with other materials or areas. There may be a few children that will surpass all of the expectations in his/her grade level, in all content areas of the curriculum.

The information received contained inconsistencies from one school's theory, to another. The scope and sequence presented in this guide reflects the commonalities found among the philosophies of the different Montessori schools and training centers.

"Teacher developed materials" was listed numerous times throughout the document as a source of materials. Since the majority of Montessori teachers spend a great deal of time creating materials for the presentations, there will be inconsistencies of materials presented for a lesson and concept to be taught. There will not be an identical duplication of several materials from one classroom or school to those found in another.

Assessment and Evaluation of the Project

"A Guide for Implementation of the Montessori Theory of Education in the Lower Elementary Curriculum" was dispersed to four certified, experienced, and respected Montessori lower elementary teachers for them to critique. In addition, the Head of School at Douglas County Montessori Charter School reviewed it, as well as one board member and another parent member of the same school.

There were some recommendations for minor changes, which were implemented into the curriculum guide. A few teachers believed that the sequence of some of the presentations should be altered and rewritten in a different order from its original format. Also, it was suggested by another Montessori teacher that the state standards be incorporated into another version of this document.

The feedback received was positive. The teachers felt that this guide would be helpful to newly trained Montessori teachers. Parents stated that the information was useful and clear; it helped them to have a better understanding of the scope and sequence of the Montessori curriculum. Also, it assisted them in the assessment of the developmental abilities of their children. The administrator felt that the parents would have clear academic expectations for their children. In addition, he stated that it would add continuity to the lower elementary program.

Project Summary

“A Guide for Implementation of the Montessori Theory of Education in the Lower Elementary Curriculum” was written in five chapters. In Chapter 1, the author introduced the project and discussed the need for such a guide for parents. Chapter 2 included a detailed review of literature. The author explored Montessori’s philosophy of education, her theory of child growth and development, and how both of these are integrated into the curriculum of a lower elementary classroom. In Chapter 3, the author described the method used to develop the project, while Chapter 4 included the curriculum guide in completed form. This final chapter, Chapter 5, included a conclusion and discussion of the project. It includes: (a) the resolution of the problem, (b) limitations in the development of the project, and (c) assessment and evaluation of the project. The final product is deemed a success. It meets the expectations of the administrator who suggested the need for this project.

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APPENDIX A

Resources for Writing the Curriculum Guide

Resources for Writing the Curriculum Guide

Douglas County Montessori Charter School, 311 East Castle Pines Parkway, Castle Rock, CO, 80108. 303-387-5625

Dallas Montessori Teacher Education Programs, 5757 Samuell Blvd. #200, Dallas, TX, 75228. 214-388-0091. Mary Bixler, Instructor.

Denison Montessori School, 1821 South Yates Street, Denver, CO, 80219
303-934-7805

Douglas County Schools, 620 Wilcox, Castle Rock, CO, 80104
303-387-0100

Free Horizon Montessori School, 581 Conference Place, Golden, CO, 80401
303-231-9801

Littleton Public Schools, 5776 South Crocker Street, Littleton, CO, 80120
303-347-3300

Montessori Education Center of the Rockies, 4745 Walnut Street, Boulder, CO, 80301
303-494-3002

Montessori Made Manageable, Inc., P. O. Box 172205, Hialeah, FL, 33017
513-861-4559

Nienhuis Montessori USA., 320 Pioneer Way, Mountain View, CA, 94041
605-964-27356

Placentino Montessori School, 235 Woodland Street, Holliston, MA, 01746
508-429-0647

Ruffing Montessori School, 3380 Fairmount Boulevard, Cleveland Heights, OH, 44118
216-321-7571

Telluride Mountain School, P. O. Box 3151, Telluride, CO, 81435
970-728-1969