

MONTESSORI AND NON-MONTESSORI EDUCATION SYSTEM:
A COMPARATIVE STUDY

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DECLARATION

I hereby declare that this dissertation has not been submitted for candidature for any other degree.

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DEDICATION

This dissertation is dedicated to all the teachers who taught me since my primary education till today and to my parents.

ABSTRACT

A typical Nepali society is comprised of diverse groups of people having different traditions, language, culture and economic status. Designing an appropriate education system and necessary environmental standard of teaching learning processes for all has been a challenging task for Nepal. At present, schools in the country can be broadly categorized as Government School, private Boarding School, Montessori School, Montessori-based School, Integrated School, etc. These schools are adopting several types of teaching methods and materials. Institutes with the tag of Montessori and flagged with the names such as Montessori International, Euro Kids, Kid Land Montessori and Montessori Kindergarten are booming in Kathmandu valley. However, to our best knowledge, there has been no comparative study of ECD education examining the methodological effectiveness and affordability.

Thus, the present study makes in-depth comparative study of different types of methodologies currently in practice in different schools in the Kathmandu Metropolitan City area. More specially, a comprehensive comparative study of Montessori and Non-Montessori Education System Schools' teaching methods and materials as well as the impacts of these ECD education systems are assessed in this study.

For this, a qualitative research was conducted in the Kathmandu district including Montessori and non-Montessori schools located in Kalanki, Kalimati, Kuleshwor and Swayambhu. The research did an extended investigation focusing on three research questions while comparing the effectiveness of Montessori and non-Montessori education system and educational materials used in these education systems.

I made a comparative study of Montessori and Non-montessori education with respect to a number of established theories and concepts focusing on philosophical bases, used materials, methods and ways of caring children.

The overall research was conducted following a survey research design. The study population included teachers working in Montessori and Non-montessori schools of Kathmandu district and the selection of study samples out of this population was done using the snowball sampling technique. Altogether 18 respondents were selected representing three each Montessori schools and non-Montessori schools of Kathmandu district.

A set of guidelines for interview with principals, teachers and parents along with class and school observation forms were used to collect the necessary data. The guidelines were used in order to allow the research participants to keep their personal views regarding the system of education in which they are working with.

The findings of the study revealed that in both the Montessori and non-Montessori schools childcare was the major focused component. In both types of schools, children were cared properly. There was the provision of ayah and teachers to take care of children in different activities. Both types of schools were applying various techniques and materials to make learning effective and joyful. However, Montessori teachers were more skillfull in these matters.

The teaching learning in Montessori schools followed more practical methods than in the non-Montessori schools. The seat arrangement made in floor helped children in their free movement and taking part in different activities. The provision of desk and benches for children in non-Montessori schools limited children for a play-way method. There were more varieties of methods applied in teaching in Montessori schools than in non-Montessori schools. The teaching learning in

Montessori schools was child centered whereas it was teacher centered in non-Montessori schools.

The teacher training was beneficial in children's learning in both types of schools and both schools were aware of the importance of teacher training. But there was more access of teacher training in Montessori schools than in non-Montessori schools.

Different types of materials were available in both types of schools. However, compared to Montessori schools, non-Montessori schools had limited number of materials for children as more emphasis was given on reading and writing.

In respect of caring children, Montessori schools had enough ayahs and teachers to look after the children in different activities. The ratio of teacher and students was found more in non-montessori school perhaps that made a bit lacking in caring of children in non-Montessori schools.

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Vishma Pandey, Degree Candidate

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ACRONYMS

ABA	Applied behavioural analysis
ADD	Attention deficit hyperactivity disorder
ADHD	Attention deficit hyperactivity disorder
ARCM	Associate of the Royal College of Music
EAL	English as an additional language
EBD	Emotional and behavioural difficulties
ESL	English as a second language
GCSE	General Certificate of secondary Education
ICT	Information communication technology
LDD	Learning difficulties and disabilities
NFER	National foundation for education research
PAT	Physical Aptitude Test
PD	Physical Disability
PE	Physical Education
PTA	Parent Teacher Association

CHAPTER I

INTRODUCTION

There are six chapters in this thesis concentrating on the Comparative study of Montessori and Non- Montessori education system in Kathmandu District. The study focuses on research purpose and problems encountered. The literature review supports to identify the research problem. The methodology part acts as a guideline for collecting data and its analysis. The data are summarized with conclusion and implications.

Purpose is an important part of the research that finds out the research question of the problem. There are three research questions to act as a path to specify the problems of the subject matter. Those research questions helped in making a comparative study of Montessori and Non- Montessori education system in Kathmandu District and their role in children's development.

Background of the Study

The act of instructing, teaching or furnishing with knowledge or information is instruction and the entire process generates information or intelligence through a set of perception and direction. Teaching learning becomes more effective through more intensive classroom projects and student-centered activities performed on real life situations with effective execution of right pedagogies of teaching and learning.

It has been estimated that 24,773 early childhood development (ECD) centers are being run as school and community-based centers throughout the country (SSR, 2009). There are Bal Bikash Kendras running through the Ministry of Education (MOE) and Non-Government Organizations (NGO) such as Seto Gurans, Plan Nepal, Save the Children, UNICEF, etc. These organizations have been playing a significant

role in the development of the ECD programs in Nepal. However, a large number of such ECD centers have not been successful to maintain the necessary standard and to provide child-friendly environment in lack of trained facilitators and budgetary limitations. The same situation is found in some of the ECD centers located in the capital.

Different schools have been adopting different types of teaching learning methodologies at the level of pre-primary and primary education systems. The types of pre-primary and primary teaching learning methodology are broadly categorized as Montessori, Non-Montessori, and Mixed and Traditional methodologies. To my best knowledge, there has been no comparative study on these teaching learning methodologies so as to enable the policy makers and educationists to adopt the most effective methodology for pre-primary and primary level education in Nepal. Keeping this situation in view, this research intends to conduct a systematic in-depth comparative study of different types of methodologies currently in practice in different schools distributed over the Metropolitan City area of Kathmandu district of Nepal. It is expected that the findings of this study will have significant applications in better shaping the pre-primary and primary level education system of Nepal and to help to provide quality education.

Statement of the Problem

According to the education plan, policies and reports of the Government institutions, experts and other organizations working in the field of Early Childhood Development program should conduct indoor and outdoor activities for the development of pre- primary school. These activities have to be of the type, which would motivate children to investigate new things and acquire information of their environment. In order to make children's learning simple and natural, interesting

learning environment has to be created to look it natural so as to give a sense of protection and to learn freely.

For this, it is necessary to have (a) Physical Environment: In relation to classroom management, it is necessary to manage various learning areas inside the classroom such as language corner, creativity corner, mathematics corner and science corner along with sufficient instructional materials. If plenty of space is available, play area, group activity area, demonstration area, etc. are more beneficial to children. (b) Educational Environment: children must be taught in an informal way.

A typical Nepali society is comprised of diverse groups of people having different traditions, languages, culture and economic status. Designing an appropriate education system and necessary environmental standard of teaching learning processes for all has been a challenging task for Nepal. At present, schools in the country can be broadly categorized as Government School, private Boarding School, Montessori School, Montessori-based School and Integrated School. These schools are adopting several types of teaching methods and materials. Institutes with the tag of Montessori and flagged with the names such as Montessori International, Euro Kids, Kid Land Montessori and Montessori Kindergarten are booming in Kathmandu valley.

Maria Montessori designed her own materials to develop children's skills. According to Thopson [2006], there has been limited research on the effectiveness of Montessori method. According to Qin, Johnson and Johnson [1995] and Ashley and Tomasello [1998], there are a small number of studies that have investigated pre-schoolchildren. However, to our best knowledge, there has been no comparative study of ECD education examining the methodological effectiveness and affordability.

Thus, the present study makes in-depth comparative study of different types of methodologies currently in practice in different schools distributed over the Kathmandu Metropolitan City area. More specially, a comprehensive comparative study of Montessori and Non-Montessori Education System School's teaching methods and materials as well as the impacts of these ECD education systems are assessed. Based on the findings of the study, the most effective system for the country that can help develop Nepali children in the most holistic way and best fits into present socio-economic condition were identified. In detail, information on schools located within the Kathmandu Metro-Politian City area was collected assessing the available physical facilities, teaching materials, teaching methodology, financial schemes, human resources strengths, school environment as well as the impact on overall development of a child.

Significance of the Study

Today's children are the future of the nation. Early childhood education can have great impact on the overall development of a child as it sets the course of future career. Any lapse in the early childhood education may result disaster in a child's future life. So, it is necessary to assess situations of different schools, their teaching learning processes and available resources in order to identify the best possible system of early childhood education for Nepal. This study can create the baseline data of early childhood educational institutions distributed over the urban center of Kathmandu with respect to curriculum, methods of teaching learning processes, teaching materials, human resources, physical facilities and environment as well as the implications on the holistic development of a child. It is expected that the baseline data would firmly serve to evaluate the effectiveness of popular educational systems such as Montessori, Non-Montessoriand Traditional, and Mixed Education systems

currently in practice in different types of early childhood educational institutions. The findings of this study may have significant contribution in shaping the future of early childhood education system for Nepal. Government and Non-government organizations may utilize the findings of the study in developing their future activities in the field of early childhood education in Nepal in a more effective way.

The present study provides ample information about different schools that helps to understand the situations of different types of schools and hence helps parents and guardians to choose appropriate schools at right age, time and place so that their children can get opportunities for their overall development.

Purpose of the Study

The purpose of the study was to explore, assess and understand the curriculum, methods of teaching learning, teaching materials, human resources, physical facilities, financial schemes and environment in different types of early childhood educational institutions currently operating in the urban centers of the capital of Nepal.

Research Questions

The following were the research questions of my study:

1. What are the methods used in Montessori schools and Non-Montessori Education schools?
2. What are the materials used in Montessori schools and Non-Montessori Education system schools?
3. What are the possible ways of caring children in Montessori schools and Non-Montessori Education system schools?

Delimitations of the Study

This research was conducted only for the academic purpose. The overall study was limited to the comparative study of Montessori and Non-Montessori education system in Kathmandu district of Nepal. It is concerned with the materials and methods used in Montessori and non-Montessori education system. The study also discussed the strengths and weakness of Montessori and Non-Montessori education system. The researcher assessed the above mentioned areas through the teachers' and the principals' perspectives. This is purposively designed to assess the methods, materials, strengths and weaknesses of Montessori and non-Montessori education system.

Definition of Terms

ECD: Early Child Development (ECD) refers to any program that aims to promote the holistic (psychological, cognitive, emotional, physical, social) development.

ECD Centers: The institutional arrangements established for providing action level interventions for the promotion of the concept of ECD. The centers offering ECD activities are known as ECD Centers.

Montessori schools: These schools are applying the scientific methods and materials as specified by Dr. M. Montessori. Here learning takes place with active participation of children in each activity. Learners follow direct instructions properly that ensure joyful learning, creative thinking, analytical skill development, self-esteem promotion, independence and well discipline in them. Montessori schools focus on holistic development of a child by providing knowledge of practical life, exercises and social norms and values.

Non-Montessori schools: These are the schools, which are applying traditional teaching and learning methods, that are teacher centered approach and are specially

focused on guided reading and writing without practical knowledge. Public schools and private Boarding schools typically belong to this category. These types of schools have long history and 20-40 years experienced teachers but not well trained.

Mixed Education System schools: These schools are partially adopting Montessori methods and materials as well as traditional teaching approach. These schools are popularly known as Montessori based, Semi-Montessori, Integrated education system schools. These types of schools focus on overall development of child and providing child centered as well as practical life education with suitable environment.

Pure Montessori School: Those schools that are organizing classes by including children of different age group (+2 to +4) in a single room and a separate classroom for the children of +5 years. The teaching materials as prescribed by the Montessori methods need to be available at designated corner of the classrooms systematically. .

Toddler: Birth to one-year child. .

Pre- school: Program for children education from birth to eight years. .

Education: Method of imparting knowledge, skills and environment. .

Government schools: GS is financially / technically supported by Government to run the it.

Child Care: CC is protection and supports for children's health and nutrition. .

CHAPTER II

LITERATURE REVIEW

This chapter includes description of early childhood education in Nepal, concept of early childcare and programs for the children below three years of age and meaning of early childhood. Moreover, national aims of early childhood education, main purpose or aim of ECD, skills that should be developed in the early childhood development, model activities of the early childhood development, Montessori philosophy, Montessori environment, Montessori education, Montessori methods, aim of Montessori education, its concepts, its premises, its implementation, its classrooms and pedagogical materials are covered in this chapter.

Scenario and Importance of Pre-primary Education

According to the EFA Global Monitoring Report (2008), programs for early childhood development and care improve child's health, nutrition, well-being and cognitive development. Such initiatives would be instrumental in addressing the disadvantages and inequality and lead to better achievement in pre-primary school. However, despite its enormous importance, the comprehensive care and education of children below three years of age remains as one of the least focused areas.

Meanwhile, access to pre-primary education for the children of three years and above has improved with uneven trends. Many developing countries still have limited or non-existent pre-primary education systems (EFA Global Monitoring Report, 2008). The report further states that the access and participation in primary education has sharply increased since Dakar Convention 2000, and the number of out-of-school children has dropped to 72 million from its earlier figure of 96 million between 1999 and 2005. The Arabian, Sub-Saharan African, and South and West Asian states have

shown substantial increases in school enrolment ratio. Even in Nepal, compared to the past the school enrolment ratio is increasing.

Similarly, the progression through the primary grades and school completion remains as an important concern everywhere. Most of the countries, even those with relatively high primary school enrolment ratios, still need to address the issue of equity in education.

Crane (1991, as cited in Joshi, 1997) has stated that the first five years of life are very critical in terms of development. The rate of development at this stage is extremely higher than any other subsequent stages of human life. An intensive level of intervention during the first five years positively modifies the subsequent classroom behavior and academic skills.

In the same way, Baruth and Duff (1980, as cited in Joshi, 1997) have claimed that the recipients of early education possess high competence in learning as they – (i) demonstrate greater interest in words, letters of the alphabet, numbers being read to as well as show interaction with books and other printed materials, (ii) score higher in reading skills at the end of the grade one, (iii) learn faster, show greater auditory discrimination and super motor coordination while being in grade one, (iv) are socially better and well adjusted to school environment during the first three years of schooling, (v) show better attitude, health habits and behaviors, and game participation during their first year of formal education, (vi) perform better in reading, music, social science, language and arithmetic, and (vii) have parents who show a better relationship with the school. But there are overall a million pre-school children waiting in despair and craving for appropriate care and education services. It is a basic right of every child to receive education (Interim constitution of Nepal, 2063 B.S).

On the ground of basic humanitarian reason too, it becomes our solemn duty to facilitate the provision of basic services for young children. Furthermore, Nepal is one of the signatories to the 1990 UN convention on children's rights, thus, it is imperative for the parents, community members, education planners and decision makers to make collaborative efforts in designing and providing appropriate care and services for the pre-school children in a mass scale.

According to Joshi (1997, pp. 5-6) the principles for the development of early childhood education programme in the context of Nepal are:

1. Human Development is a continuous, sequential and interactive process.
2. Early childhood is a particularly significant period in human development.
3. The self-concept is important in human development
4. Children learn through interaction with their environment
5. Playing is essential to child's development.
6. Parents are primary agents in child's development

Human development is a continuous process starting with simple skills, which are gradually and continuously built upon and incorporated into more complex skills. Children are active in feeling and thinking and they are creative. Development in one area directly or indirectly affects development in other areas. There is much evidence to suggest that the quality of a child's early experiences (including prenatal) affects health and physical development, ability to learn and personality. A child is thought to be susceptible and responsive to influence in the environment during the early years. Independence, initiative, decision making skill, creativity, ability to learn, ability to relate to others and feelings of self - worth all have their beginning in early childhood.

Therefore, the child must receive stimulation and security to have these developmental needs to be met adequately. Self-concept is the image one has and includes knowledge and feelings about one's status, appearance and aptitudes. The way each child is treated by significant people-family, peers and teachers greatly influence the development of child's self-concept, especially during the early years when the self-concept is being formed.

Young children are naturally curious. They learn through exploring, experimenting and imitating with their environment. They also learn by imitating the behavior of other people and receiving reinforcement in the form of affection and approval. Young children learn best through experiencing a variety of enriching, stimulating situations that involve all the senses: touch, hearing, smell and taste, and body movements. Playing is generally recognized as being essential to a child's growth and development, and is itself a form of learning [Piaget,1962, Montessori 1912, 2003 , Vygotsky,1962]. Tepperman [2007, p.2] added that "play is no a break from the curriculum, play is the best way to implement the curriculum. Vygotsky [1967] argued that play provides children with opportunities to expand their world.

Playing is a central and necessary part of children's development. Playing includes any activity children have freely chosen. It is a major learning process and, within a risk - free atmosphere, provides a natural opportunity for young children to add to their knowledge, learn new skills and to practise familiar ones. It provides many situations in which the child observes reasons and solve problem. It is through playing that physical and intellectual abilities, emotional health, creativity and ability are developed.

Family provides child's first and most significant environment. There is increasing evidence that individuals learn from the first day of life. Since the parents

and other care givers control and structure the environment, they become children's first teachers.

Earns, et al. (2000 as cited in Balayar, 2060 BS) has mentioned child's hidden characteristics and comprehensive development in the following way:

a. Three and half to five year children's activities --

1. Have a longer attention span
2. Ask many questions
3. Want real adult things
4. Keep art projects
5. Test physical skills and courage with caution
6. Reveal feeling in dramatic play
7. Like to play with friends, do not like to lose
8. Share and take turns sometimes
9. Act silly, boisterous

b. Five to Eight years children's activities

1. Grow curious about people and how the world works
2. Show an increasing interest in numbers, letters, reading and writing.
3. Become more and more interested in final products
4. Gain more confidence in physical skills
5. Use words to express feelings and to cope
6. Like grown-up activities
7. Become more outgoing - play cooperatively

Children's overall development is a process of change in which the child comes towards more complex level of thinking, feeling and interacting with other people and objects in the social environment. In the process of socialization and

learning, children acquire knowledge, skills, habit and value through observation, experience and experimentation.

Jackson (196, p. 164 as cited in Balayar 2003) explains that in order to conduct innovative and creative activities in the classrooms, we have to pay attention to children's hidden drives. This is a major and important part for the holistic child development, which is lacking in Nepalese classroom. Children have to learn how to learn. That is to say, they have to learn not just the formal rules of the school but also informal rules, beliefs and attitudes perpetuated through socialization process. Children's hidden desires and wishes consist of those things pupils learn through the experience of attending instruction rather than the stated educational objectives of such intuitions. The recent increase in support for public school kindergarten and preschool programs underscores society's belief in the value of early education .An increase in the demand for childcare has been fueled by the rise in nuclear parent families and the large number of women in the workforce.

Overview of Pre-school Education in Nepal

Education system of a country plays a major role in its development including economic prosperity. It is believed that adaptation of an appropriate education system, particularly, at the level of primary level can have great impact in the overall development of a child since these small children are the future society builders of our country. At present, Nepal's traditional wisdom and planning of education observed in past have become virtually defunct with changing social values, urbanization, and commercialization of education. A majority of poor people are deprived of educational opportunities. Even those who have access to the prevailing educational opportunities might not have been educated in the way they need to be. The breaking down of traditional system and inadequacies of the modern educational systems to

address the emerging problems of education at this juncture of social transformation have raised serious uncertainties with respect to access to quality education for all.

Though late, Early Childhood Development (ECD) has become a part of discussion of national education policy. The progress in this direction appears to be encouraging although it has yet to impart significant positive impacts. The government of Nepal has made the pre- primary and primary education free, at least in the state run schools aiming to provide basic education for all. However, the government schools are inadequate and scattered that often do not match with the population distribution. These distantly located schools are obviously equivalent to not having a school since the small children cannot walk several kilometers to reach the school. With some exceptions of urban areas, almost all the government schools' infrastructures and buildings are in very bad condition. Many schools in remote areas are operating under the open sky or in very ruined and unsafe buildings. Small children are compelled to sit on the dusty and even muddy floors of the classrooms as there is no enough furniture. These state run schools are still extremely under the suffering.

Historical Background of Pre-school in Nepal

The pre-school education in Nepal appears to have taken momentum only in early 1950s. The first Montessori school was established in 1949 (Ghimire, 2011). This school was located at the northern part of Ranipokhari in Kathmandu. The Montessori school was merged into the Laboratory school run under the College of Education established in 1956. This school was later used by the college for the purpose of practice teaching and demonstration lessons (Research center for Educational Innovation and Development [CERID] , 2006).

In 1965, Nepal Children's Organization (NCO) introduced pre-school classes as an innovative ECD program by the name of Balmandir, which was further extended in many districts (CERID, 2006). It consists of two sections- Nursery and pre-school in respect with ECD intervention. Since then pre-school education system has seen various changes and modifications. For the last two decades, Nepal seems to adopt largely the traditional education system. According to the EFA, three types of Early Child Care (ECC) programs are currently in operation, namely, the school-based program including pre-primary, the program for the children under the age of three years and community-based programs for the 3-5 years age group.

During the early 1980s, Nepal government introduced the Production Credit for Rural Women Program under the Ministry of Local Development. The Small Farmers Development Program of Agriculture Development Bank provided support to childcare and childcare development education aiming to reduce the engagement of rural women and men in caring their children so that they can involve more in the field of income generating activities. In the mid of 1980s, the Plan International (PI) started to support some of the ECD centers located outside the Katmandu valley.

Likewise, the government of Nepal introduced the concept of ECD in the form of Shishu Kaksha (SK) under the Basic and Primary Education Project during the fiscal year 1991\92. Current statistical assessment indicates that there are over 24000 school-based and community –based ECD centers distributed in the country. More than 823,000 children are enrolled in these centers (Flash Report, 2007). Present SSR report shows that there are 24,773 school- based and community based ECD centers throughout the country. It is estimated that 1,111 Early Childhood Development (ECD) centers are running as school-based and community-based centers in Kathmandu (DOE, 2009). With the government's commitment to EFA goals and

attraction on the part of parents/guardians to provide the early childhood education for their children, the number of enrollees in ECD centers appears to accelerate in future.

Recently, Montessori education system, an educational philosophy based on the belief that a child flourishes in a warm, nurturing environment that supports each individual's unique development, has been the center of attraction, particularly, in the urban centers of Nepal. Dr.M.Montessori (1870-1952) originated this particular philosophy. Montessori education method has been well accepted as unique method for early childhood development. Her exceptional contributions in the early childhood education have been recognized by nominating her for the Nobel Prize three times in 1949, 1950 and 1951. The primary goal of a Montessori program is to help each child reach his/her full potential in all areas of life, that is "The Whole Child Approach". It is widely believed that the suggested activities in the Montessori methods promote the development of social skills, emotional growth, and physical co-ordination. The holistic curriculum, under the direction of a Montessorian, allows the child to experience the joy of learning, time to enjoy the process and ensure the development of self-esteem, and provide the experiences from which children create their knowledge. The learning is not just by listening but by experiencing. In the following sub-sections, the types of schools operating within the urban center of Kathmandu district are discussed.

Government Efforts for the Improvement of Education

If we see the educational development process, planning and policies of Nepal, we can find the focus on teacher training and distribution of teaching materials. Nepal Education Planning Commission (1954) has stated that the Government should establish a college and train 1,000 teachers annually making separate curriculum for teacher training. The report has stated that a permanent

commission should be established to promote publication, development and effective distribution of teaching materials and textbooks in standardized manner, and the Ministry of Education (MOE) should distribute educational and extracurricular materials to schools.

All-Round National Education Committee (1961) has suggested that adequate focus should be allocated in teacher training for effective teaching learning. Training should be integrated with material development and pre-primary education should be provided in the form of kindergarten. Teaching should be pictorial and colorful with self-participation of children. The committee has further recommended that the examination system up to grade five should discourage written examinations, and multi-model approach of examinations should be used with the maximum use of materials.

Extra-curricular activities and vocational education should be initiated for the overall development of the children (National Education System Plan, 1971-1976). Practical knowledge should be offered in agricultural environment at schools, and handicraft and painting should be promoted (National Education Commission, 1992). Further, the report of the High Level National Education Commission (1998) has recommended that curriculum should be diversified covering language, culture, tradition and ethnicity. Teachers should be trained in improving teaching methodology and developing teaching materials making overall school environment enjoyable.

A recent study has stressed the need of teaching life skills in more informal ways with ample provision for free plays, experience for the use of materials, free activities according to the situation, educational games and guided activities for children's' learning (Ministry of Education and Sports [MOES], 2006).

Montessori and Non- Montessori Schools

Montessori schools are those that are applying the methods and materials specified by Dr. M. Montessori. These schools aim to help children reach full potential in all areas of life. The prescribed activities are thought to promote the development of social skills, emotional growth, physical coordination and cognitive development. Exploration of the environment through the child's senses involves movement and manipulation of objects in Montessori classroom [Montessori,1912,2003].The curriculum is said to be holistic and needs to be performed by the specifically Montessori trained teachers .The curriculum puts emphasis on allowing children enjoy the experience of learning and time to enjoy the whole process of teaching and learning. Furthermore, the methodology of Montessori also aims to ensure the development of self-esteem and provides the experience from which children increase their knowledge. The government of Nepal has been conducting Shishu Shikchha in pre –school with prescribed curriculum drafted in 2058 B.S. However, in some of these schools' syllabus compatible to that of usual boarding schools has been introduced for the children of four or five years old. Despite the government's policy to provide free primary education, these schools charge fee of about Rs 200 per month for each student. In some schools, children get lunch with the same fee whereas in others, they do not. With some exceptions, the medium of teaching in these schools is Nepali and English is treated as a single subject.

The so- called boarding schools are adopting traditional teaching methods and materials. They use prescribed books and copy for reading and writing. They are English medium schools. In such schools, they provide lectures on 5 to 6 subjects daily usually providing heavy load of homework. Even three years old children could

be seen carrying a heavy bag in their shoulders. Typically, these schools focus on reading and writing, and the methodology of teaching and learning process is fully teacher centered. Involvement of students in group activities and their participation in the classroom teaching are rare. With some rare exceptions, these schools do not focus on the different aspects of child development and do not focus on child-friendly teaching learning environment. Generally, these schools use English medium and treat Nepali as a single subject.

In the context of Nepal, Montessori Schools appeared only after 1949 (Shrestha,2006). Moreover, the Montessori methods demand Montessori trained teachers and teaching materials of international standards. Montessori schools are rather costly and remain to be beyond the reach of children belonging to lower and ordinary class families. But the non- Montessori schools running in Nepal are running with the untrained teachers: teachers rarely use materials while teaching the lessons. In these schools, a majority of the children belong to the lower and ordinary families.

Schools adopting Montessori methodology in Nepal could be divided into two categories, namely, Pure Montessori and Montessori Schools. This particular categorization has been made based on researchers' personal judgment. Regarding the pure Montessori schools, they appear to possess an international standard. These schools are guiding in mixed age group with no book reading and writing before the age of +5 years, no terminal examination, and no workload. They allow freedom of choice, adapt child-centered approach and joyful learning, encourage critical thinking, involve in every day practical life, exercise time, dance and music activities, prohibit punishment, and use fluent and phonetic English language. Moreover, the teachers do not behave as teachers but act as facilitators.

However, in the case of Montessori schools, better to call as Montessori schools of Nepali standard, they take three terminal examinations in an academic year. They appear to focus more on field visits such as botanical garden, zoo, historical places, fruit markets, old age homes, temples, agricultural fields, etc. Such schools regularly launch other activities as medical check up, celebration of festivals, cultural activities, themewise field visit and exhibitions of art and craft show.

The Elements of Montessori and Non-Montessori Education

Maria Montessori (1870-1913) divided the techniques of her methods into three parts; Motor education, sensory education and language education [Montessori, 1912, 2003]. She divided her classrooms into six basic areas; language, history, geography, mathematics, sensorial and practical life. Montessori education is characterized by independence, freedom without limits and respect for a child's natural psychological development, as well as technological advancements in society. Montessori's classroom environment has six basic components and they deal with concepts of freedom, structure and order, reality and natural beauty, Montessori materials and development of community life [Edwards, 2002, Greewald, 1999]. In Montessori educational environment, children are usually grouped into multi -age classrooms [Montessori 1912, 2003]. Although range of practices exists under the name "Montessori", the Association Montessori Internationale (AMI) and the American Montessori Society (AMS) cite these elements as essential for Montessori school.

- Mixed age classrooms, with classrooms for children aged 2 and half or 3 to 9 years old by the most common.
- Children's choice of activity from within a prescribed range of options.
- Uninterrupted blocks of work time.

- A Constructivist or “discovery” model, where students learn concepts from working with materials, rather than by direct instruction
- Specialized educational materials developed by Montessori and her collaborators.

In addition, many Montessori schools design their programs with reference to Montessori’s model of human development from her published works, and use pedagogy, lessons, and materials introduced in teacher training derived from courses presented by Montessori during her lifetime [Schmidt Michelle].

Montessori Education Theory

Self –Construction, liberty and spontaneous activity

Montessori education is fundamentally a model of human development. The model has two basic elements. First, children and developing adults engage in psychological self- construction by means of interaction with their environment. Second, children, especially under the age of six have an innate path of psychological development. Based on her observations, Montessori believed that children have liberty to choose and act freely within an environment prepared according to her model that would act spontaneously for optimal development.

Human tendencies. Montessori saw universal, innate characteristics in human psychology, which her son collaborator Mario Montessori identified as “human tendencies” in 1957. There is some debate about the exact characteristics, but the following are clearly identified:

- Self- preservation
- Orientation to the environment
- Order
- Exploration

- Communication
- Work, also described as “purposeful activity”
- Manipulation of the environment
- Exactness
- Repetition
- Abstraction
- The “ mathematical mind”

She says, in the Montessori approach, these human tendencies are seen as driving behavior in every stage of development, and education should respond to and facilitate their expression.

Prepared environment. Montessori’s education method calls for free activity within a “prepared environment”, meaning an educational environment focused on basic human characteristics and on the specific characteristics of children at different ages. The function of the environment is to allow the child to develop independence in all areas according to his or her inner psychological directives. In addition, offering access to the Montessori materials appropriate to the age of the children, the environment should exhibit the following characteristics:

- Construction in proportion to the child and his /her needs
- Beauty and harmony, and cleanliness of environment
- Order
- An arrangement that facilitates movement and activity
- Limitation of materials, so that only material that supports child’s development is included

But in the non- Montessori education system such elements and theories of education are not found. However, they try to mix up with the various up-coming trends, theories and elements of education to upgrade the system of education.

In the same article, it is discussed that Montessori observes four distinct periods in human development, extending from birth to six years, from six to twelve, from twelve to eighteen and from eighteen to twenty-four. She saw different characteristics, learning modes, and developmental imperatives active in each of these periods and called for educational approaches specific to each period.

The First Period: The first period extends from birth to around six years of age.

During this period, the child undergoes striking physical and psychological development. In the first period, the child is seen as a concrete, sensorial explorer and learner engaged in the developmental work of psychological self-construction and building functional independence. Montessori introduced several concepts to explain this work, including the absorbent mind, sensitive periods and normalization.

Absorbent mind: Montessori describes the young child's behavior of effortlessly assimilating the sensorial stimuli of his or her environment, including information from the senses, language, culture, and the development of concepts with the term "absorbent mind". She believed that this is a power unique to the first period, and that it fades as the child approaches six years of age.

Sensitive periods: Montessori also observed periods of special sensitivity to particular stimuli during this time, which she called the "sensitive periods". In Montessori education, the classroom environment responds to these periods by making appropriate materials and activities available while the periods are active in the young child. She identified following periods and their durations:

- Acquisition of language- from birth to around six years old
- Order – from around one to three years old
- Sensory refinement – from birth to around four years old.
- Interest in small objects- from around 18 months to three years old.
- Social behavior – from around two and a half to four years old

Normalization: Finally, Montessori observed in children from three to six years old a psychological state she termed “normalization”. Normalization arises from concentration and focus on activity, which serves a child’s developmental needs, and is characterized by the ability to concentrate as well as “spontaneous discipline, continuous and happy work, social sentiments of help and sympathy for others”.

The Second Period: The second period of development extends from around six to twelve years old. During this period, Montessori observed physical and psychological changes in children, and developed a classroom environment, lessons and materials, to respond to these new characteristics. Physically, she observed the loss of baby teeth and lengthening of the legs and torso at the beginning of the period, and a period of uniform growth following. Psychologically, she observed the “herd instinct” or the tendency to work and socialize in groups, as well as the powers of reason and imagination. Developmentally, she believed that the work of the second period child is the formation of intellectual independence, of moral sense, and of social organization.

The Third Period: The third period of development extends from around twelve to around eighteen years of age, encompassing the period of adolescence. Montessori characterized the third period not only by the physical changes of puberty and adolescence, but also by psychological changes. She emphasized the psychological instability and difficulties in concentration of this age, as well as the creative

tendencies and the development of “ a sense of justice and a sense of personal dignity.” She used the term “ valorization” to describe the adolescents’ drive for an externally derived evaluation of their worth. Developmentally, Montessori believed that the work of the third period child is the construction of the adult self in society.

The Fourth Period: The fourth period of development extends from around eighteen years to around twenty-four years old. Montessori wrote comparatively little about this period and did not develop an educational program for the age. She envisioned young adults prepared by their experiences in Montessori education at the lower levels ready to fully embrace the study of culture and the sciences in order to influence and lead civilization. She believed that economic independence in the form of work for money was critical for this age, and felt that an arbitrary limit to the number of years in university level study was unnecessary as the study of culture could go on throughout a person’s life.

Montessori and Non- Montessori Practices

Montessori practices go like this in the world:

Infant and Toddler programs: Montessori classrooms for children under three fall into several categories with a number of terms being used. A “Nido” Italian word for nest”, serves a small number of children from around two months to around fourteen months, or when the child is confidently walking [Montessori 1912,2003]. A “young child community” serves a larger number of children from around one year to two– and – half or three years old. Both environments emphasize materials and activities scaled to the children’s size and abilities, opportunities to develop movement, and activities to develop independence. Development of independence in toileting is typically emphasized. Some schools also offer “Parent –Infant” classes, in which parents participate with their very young children.

Pre-school and kindergarten: Montessori classrooms for children from two and a half or three to six years old are often called children's houses, after Montessori's first school, the Casa dei Bambini in Rome in 1906. This level is also called "primary". A typical classroom serves 20 to 30 children in mixed – age groups, staffed by one trained teacher and an assistant. Classrooms are usually outfitted with child-sized tables and chairs arranged singly or in small clusters, with classroom materials on child- height shelves throughout the room. Teacher presents the activities initially, after which they may be chosen more or less freely by the children as interest dictates. Classroom materials usually include activities for engaging in practical skills such as pouring and spooning, materials for the development of the senses, math materials, language materials, music and art materials, and more.

Elementary Classrooms: Classrooms for this age are usually referred to as "Elementary" and can range in size from very small up to 30 or more children, typically staffed by a trained teacher and one or more assistants. Classes usually serve mixed age six to nine year old and nine to twelve years old groupings, although six to twelve years old groups are also used. Lessons are typically presented to small groups of children, who are then free to follow up with independent work of their own as interest and personal responsibility dictate. The scope of lessons and work in the Elementary classroom is quite broad. Montessori used the term "cosmic education" to indicate both the universal scope of lessons to be presented, and the idea that education in the second period should help the child realize the human role in the interdependent functioning of the universe. Classroom materials and lessons include work in language, mathematics, history, science, arts and much more. Student directed explorations of resources outside the classroom known as "going out" in Montessori are an integral element of the elementary work.

Middle and High school: Montessori education for this level is less well-developed than programs for younger children. Montessori did not establish a teacher training program or a detailed plan of education for adolescents during her lifetime. However, a number of schools have extended their programs for younger children to the middle school and high school levels. In addition, several Montessori organizations have developed teacher training or orientation courses and a loose consensus on the plan of study is emerging.

But in the non-Montessori education generally we find the following practices.

Pre- Primary: Generally, in this level three classes are included in the practice.

They are Nursery, Lower kindergarten or LKG and Upper kindergarten or UKG.

Usually in this level, children are found of the ages ranging from the age of 3 years to 5 or 6. Nowadays many of the Non-montessori schools are also trying to upgrade this level of education adopting the upcoming new methods of teaching learning like play-way method, child friendly method, etc. Some schools are also claiming themselves as semi- Montessori and trying to promote them.

Primary: In this level classes from grade one to five are included. Generally, children from the age of 6 to 10 or 11 are found in this level of education. In this level, schools follow the fixed curriculum developed by CDC. These schools have three to four terminal examinations and three to four mid-term examinations to evaluate the students.

Lower Secondary Level: This level includes the classes from six to eight. The curriculum and evaluation system are almost same as mentioned above. But there is the system of conducting Board examination from District Education Office at the grade eight in Nepal. In this level, children aged from 10 or 11 to 13 or 14 years are found studying.

Secondary Level of education: In this level of education, classes of grades nine and ten are included. Children aged from 13 or 14 to 15 or 16 years are found studying. Courses and system of evaluations are almost the same as mentioned above. There is a very important examination conducted in grade ten i.e. SLC examination in Nepal.

Above the SLC comes Higher Secondary Level that includes grades eleven and twelve. Then after Bachelor's Degree for three to four years depending on the variation of subjects and faculties, then after there is the provision of Master's Degree for two years and one year for thesis including three years and then MPhil and PhD in the non-Montessori system of education. But new amendment made in the educational practices made by School Reform Sector is a bit different, which is not implemented all over the country.

Role of the Teacher in Montessori and Non-Montessori

In a Montessori classroom, a teacher is a part of the environment. The teacher's important role in a Montessori classroom is to observe the children, prepare the environment for them [Chattin-McNicholas, 1998] and plan the appropriate activity for the children at each development stage [Gitter, 1971, p.56].

Montessori teachers are deeply aware of the children's potentials and ensure the environment responds to the children's need and interest [Isaacs, 2007, p.20].

Montessori saw the teachers as the ones who manage the classroom to create an effective learning environment for the children. They make a link between the environment and the children but Montessori mentioned that teachers should minimize the interaction between children and adults during child play [Montessori, 1912, 2003].

When teacher has given the child a lesson about the materials, she then steps back to allow the child to work independently (Caldweel, Yussen & Peterson, 1981).

The lessons are offered when the child is ready to be introduced to a new aspect of learning (Sstanding, 1984). The teacher joins the child once an activity has been completed so that the teacher can talk about what the child's exploration has resulted in and discover his approach to solving the problem.

While children's play, according to Montessori method, the teacher cannot interrupt the child because this interrupting disrupts thoughts or disturbs at the moment when a problem is just about to be solved [Chattin & McNicholas 1998].

Montessori argued for childrens' abilities to teach themselves in a careful prepared environemt [Montessori 1912, 2003]. Mostly the teachers' role in the Montessori education is as an observer wheras teachers' role in non- Montessori is as a guide in which he or she guides and instructs children for each and evey activity.

Why Montessori Education

When we talk about the need and necessity of Montessori education, this education system injects different qualities to the children such as creativity, innovativeness, eagerness to learn something or explore something, etc. In the Montessori education, with the use of materials, the children train their senses to acquire basic knowledge (Lillard, 1997). The pictorial sensorial materials give a general idea of the mathematical exercises that the children can do (Lillard, Ibid). Yawskey and Toro-Lopez (1985) stated that constructive play involves manipulating objects to construct or create something new. However, in the Montessori classroom, the Montessori materials should be used for their designed purpose [Donnell, 2007]. I

hope some of the comments given below by different thinkers can make its importance more clear:

Investors.com: Montessori education supplies an ability to children to “think outside the box”.

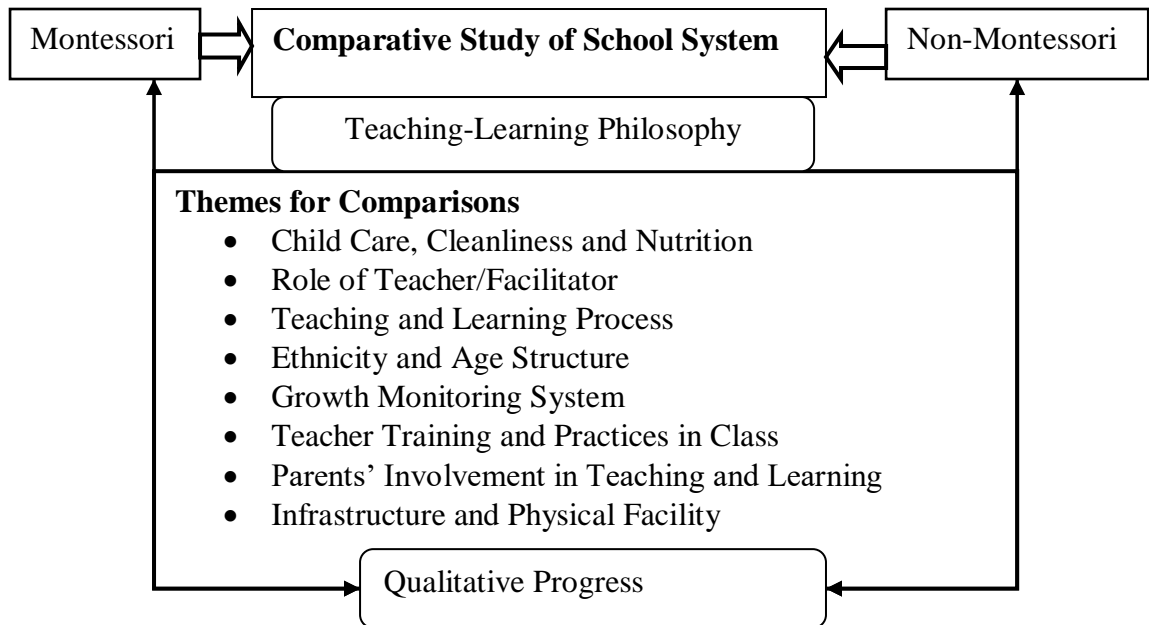
Forbes: The approach is over 100 years old but the ideas are timeless. The world is finally catching up with Maria Montessori’s insights.

Will Wright: Children can become interested in pretty complex theories, like Pythagorean theory, say by playing with blocks. It’s all about learning on your terms, rather than having a teacher explain stuff to you.

In this research, I have made a conceptual framework as mentioned below in which I have tried to make a comparative study of Montessori and Non-Montessori Education. In this study I have tried to compare the two education systems on the basis of child care, cleanliness and nutrition, role of teacher/facilitator, teaching and learning process, ethnicity and age structure, growth monitoring system, teacher training and practices in class, parents’ involvement in teaching and learning, infrastrucure and physical facility. In this study I have tried to make the study complete through the qualitative method of study in which I conducted the investigation using the tools interview guidelines and observation forms.

Figure 1. Conceptual

Framework



CHAPTER III

RESEARCH METHODOLOGY

In the course of understanding the process of research methods, ontological and epistemological assumptions are the main role players to select appropriate research methodology (Hitchcock and Hughes as cited in Amgain 2009). Cohen, Manion and Morison (2000) referring to Hitchcock and Hughes state that “Ontological assumption gives rise to epistemological assumption, in turn, give rise to methodological consideration; and these, in turn, give rise to issue of instrumentation and data collection”(p.3). For them research method is, “Simply a technical exercise; it recognizes that research is concerned with understanding the world and that this is informed by how we view our world. What we take understanding to be, and what we see the purpose of understanding” (Cohen, Manison & Morison, 2000, p.3).

According to Owens (1982) research design involves a critical decision making process. Researchers have two major paradigms of systematic inquiry: a rationalistic paradigm, which holds logical positivistic views and inductive thinking to seek knowledge and understanding of social and organizational phenomena (Owens, 1982; Creswell, 2003; Wiersma & Jurs, 2005).

This chapter lays out research methodology and design that I used in my study. Further, it also describes how I selected my research sites, introduction to research sites and the selection of respondents. This chapter also discusses the techniques and procedures utilized in carrying out this particular research on the comparative study of Montessori and Non-Montessori Education Systems currently in practice in different governmental and non-governmental schools located within the urban center of Kathmandu district of Nepal.

This chapter is comprised of a brief description of the comparative research techniques, the study areas, selections of study site, nature and source of data used for sampling technique and procedures, approaches for data analysis and presentation as well as the limitations of the study and personal experiences in the whole process. Moreover, this chapter focuses on the quality standard of my research.

Research Philosophy

Research philosophy guides the research journey by helping the researcher to adopt pertinent research method and accomplish the study successfully (Dooley, 2007). In other words, research philosophy guides the researcher to search the answers to the research questions by applying pertinent methods.

A researcher, before beginning her/his data collection process needs to be clear with the nature of reality (ontology), the way of knowing the reality (epistemology) and the method through which the reality could be known (Creswell, 2009). Qualitative research is a diverse field where a variety of epistemological and ontological standpoints are represented (Meyrick, 2006; Yardley, 2000). In this qualitative research my ontology was multiple reality i.e., views of different people on Montessori and Non-montessori education system are incorporated. I took interview with principals, teachers and parents. I also explored ideas by comparing Montessori and non-Montessori classes through observation. In this context philosophy and educational system adopted by Montessori and non-Montessori schools, methods and materials being used, and their physical and educational environment were explored.

There were variations in people's perspectives that were focused during the study. Being a qualitative study, every single research participant's views were valuable for me and they were duly attended. I went into the depth of the reality. In this context, not only the principals' and teachers' views but also of the parents'

perspectives on practices of education were explored. Since ontology is concerned with the nature of reality i.e., of being or existence (Willis, 2005) I compared the educational practices of Montessori and non-Montessori schools.

Epistemology on the other hand is about the study of knowledge (Heylighen, 1993). Hawkesworth (2006, p. 18) conceives epistemology as the branch of philosophy that investigates the nature of knowledge. Similarly, DeRose and Bryman (2008) perceive epistemology as the theory of knowledge that deals with questions concerning the nature, scope, and sources of knowledge. Epistemologists try to understand what it is really to know or really to believe reasonably, even if people routinely fail to know or are frequently irrational (Cruz, 2008).

In the case of epistemology, I probed into the inter-subjective perspectives. In this context, the diverse perceptions of individuals were explored. Moreover, the practices and knowledge about the Montessori and non-Montessori education systems were explored.

For the purpose of the research, I examined and explored how the theory of Montessori developed by Maria Montessori and other theories of teaching and learning are transferring the existing traditional system of education into the modern and scientific system of education.

Research Design

In the opinion of Tuckman (1978), “A research design is a specification of operations of the whole research activities.” The researcher decided to follow a comparative research, in the simplest form, that is understood as the act of comparing two or more things aiming to discover differences and similarities between two or more things under considerations. In this research, the researcher applied the field-based study with focus on the analytical and qualitative research methods – collecting

data basically from interview, and class and school observation. Descriptive analysis was done to make the comparative study between Montessori and Non-Montessori education system in Kathmandu District. The researcher started the work after preparing the research questions based on the study of relevant literature on Montessori and Non-Montessori Education System currently in practice in different government and non-government schools located within the urban center of Kathmandu district of Nepal. The researcher visited the Montessori kindergartens and non-Montessori schools in Kathmandu district using study tools (interview questionnaire and observation forms).

Qualitative Design

I used the qualitative research technique that is regarded as a core component of academic discipline (Mey & Mruck, 2007) for my research. The characteristics of qualitative research such as the description and analysis of the substance of the human experience about how and why people behave, think, and make meaning as they do (Ambert, Adler, Adler, & Detzner, 1995, p. 880) were attended in my research work.

For me qualitative research is a vision, in the sense that it contains interpretations that reveal the world (Denzin & Lincoln, 2005). It eludes practices that contribute to changing the world into a better world (Denzin & Lincoln, 2005). My research is purely a qualitative research that has depicted people's perspectives. Guidelines for interview, personal experiences and observations (Denzin & Lincoln, 2005) were used in course of data collection. They were used in digging out stakeholders' perspectives, knowledge and practices about the Montessori and non-Montessori education that were put into action.

According to Denzin and Lincoln (2005) qualitative researchers study people and their thoughts. Similarly, my study focused on principals, teachers and parents'

perspectives on practices and knowledge about Montessori and non- Montessori education system and the impacts of such practices and knowledge on children. In qualitative research, people's attachment is necessary for knowing the reality. It is through qualitative research that people are understood from their own sights and reality is perceived as they perceive it (Flick, 2009). With this idea in mind, I explored subjective realities with the use of different techniques such as interview and observations.

Study Sites and Rationale for Selection

The capital city, Kathmandu is one of the most demanded districts for Montessori Education system in Nepal. Kathmandu has great potentiality for the Montessori Education in Nepal. In this research, the researcher applied the snowball sampling technique. The study sites included Montessori and non-Montessori schools located in Kalanki, Kuleshwor, Kalimati, and swyambhu of Kathmandu district. The reason for selecting these sites was that in these locations, families belonging to different social and economic status are sending their children to the Montessori and Non-Montessori schools.

Sampling Technique

Altogether six schools were selected using purposive sampling technique. In this context, schools and research participants were selected intentionally in order to understand the central phenomenon (Neuman, 2007 as cited in Creswell, 2012). In this context, altogether six schools (three each of Pure Montessori and non-Montessori schools) operating under private sectors were selected.

The schools were selected considering the diversity of location i.e., schools located in different locations of Kathmandu district were included under the study. The research participants were principals, teachers/facilitators, parents and school

administrators. I identified a variety of research participants for my research. They were interviewed to share their knowledge and experiences about the Montessori and non- Montessori methods of education and their perception about these systems of education.

The sample units were made more inclusive in terms of caste, sex, class and age. Being a qualitative research, I selected the research participants gradually (Neuman, 2006 as cited in Creswell, 2012) i.e., one after another.

Nature and Sources of Data

The data acquired for the study were basically primary data. Along with that, secondary data were also incorporated.

Primary Data Source

Primary data were collected through an extensive field visits. Each school was visited frequently and the research participants were interviewed with the help of interview guidelines and video recording. The important events and items were photographed. The field research was carried out in natural settings. Frankfort-Nachmias and Nachmias (2000) emphasize the field research as ‘the study of people working and living in the natural setting’. The primary data is also called the first-hand data. First hand data in the sense that the researcher makes a visit to the study site in order to know the way of people’s living, their behavior, and their likings and disliking (Frankfort-Nachmias & Nachmias, 2000). The data that I collected were the fresh or first-hand data and so was primary data. I visited the field myself spending most of my time for understanding the educational system of Montessori and non- Montessori schools.

Field work varies with the location and the way that it is conducted. The type of environment (people’s behavior, culture, etc.) that is found in one place may not be the

same in other places, which brings variation in data collection. There are different ways of collecting primary data. But I gathered the information required for my study using the guidelines developed for interview and observations.

The aim of the qualitative research is to find out answer to the question ‘how’ and ‘why people think and behave’ (Ambert, Adler, Adler & Detzner, 1995, p. 880) and in my research I did the same by looking everything from the research participants’ perspective – how it so happened, why it is so and why they are saying so. There were different tools used for collecting information from different types of participants.

Cameras and tape recorders are the essential equipment in course of data collection (Archer 1977; Ball and Smith 1992; Gold 1997; Harper 1997, Suchar 1997 as cited in Taylor & Bogdan 1998). I used camera in order to sense the feeling and emotions (through the facial expression) of the research participants. This helped me in data analysis.

In the primary data, I used the following tools:

Interview Guidelines: I interviewed the principals, teachers and parents of Montessori and non-Montessori schools using the interview guidelines. The guidelines helped me in probing deeper into the reality. I could add further questions while talking to the research participants.

Observation Form: Through the pre –developed observation forms, I observed the classroom, its setting, school premises, materials used in teaching and learning, etc. in both Montesoori and non-Montessori schools.

Secondary Data Source

The secondary data were purely based on literature review. The literature review consists of the scenario and importance of pre-primary education, overview of

pre-school education in Nepal, government efforts for the improvement of education, elements of Montessori and non-Montessori schools and Montessori theories.

I reviewed journals, books, electronic materials, research study reports, program evaluation reports and theses that would make substantial meaning for my research. My literature review was divided into three parts: theory, research and policy. I reviewed the theories that were relevant for my study. Research reports so far conducted on the relevant topic were also reviewed. The review also included the national and international context for Montessori and other education systems. Review of such documents and materials helped me in having an insight into my research domain.

The process of literature review was continued until the end of the thesis writing. The reason for this as said by Taylor and Bogdan (1998) is that in qualitative study the researcher will be sure of including the literature relevant for the study even towards the end of the research (Taylor & Bogdan, 1998).

Quality Standard

I concentrated on the triple crisis in order to maintain quality standard in my research. In this context, I focused on what Denzin and Lincoln (2005) say triple crisis – crisis of representation, crisis of legitimation and crisis of praxis. I had talked with many people in course of my research and it was not possible of including all their responses. Therefore, I included only the most relevant views of my research participants. In the case of facing the crisis of legitimation, I frequently talked with the same research participants and ensured their views. I overcame with the crisis of praxis by assuring the research participants that there will be no harm talking to me, instead it will help in modifying the teaching-learning methods and materials in schools in Montessori system.

I, in my research also maintained the quality through trustworthiness. According to Bryman (2008), it is a criterion for assessing quality. I assured the trustworthiness by triangulating the data collected from multiple sources such as interview and observation. Moreover, trustworthiness was assured by triangulating the responses of different research participants.

I maintained the quality standard also through member checking. The findings of my field research were taken back to the research participants for confirmation. The collection of data from the natural setting also contributed in the quality standard of my research. I talked to my research participants in the spots where they worked i.e., in school. I talked to them individually so that they could express their feelings and thoughts. In my research, I presented a scenario of Montessori and non-Montessori schools with thick description.

Ethics is one of the quality standards in research. According to Creswell (2012), ethics is the understanding that the researcher follows with prescribed norms of behavior and practices, and avoids some other behavior and practices (Creswell, 2012). I selected my research participants with their consent and talked to those only who were interested to talk to me. I did not include the facts of my research participants in my thesis that harm in their life and career. Moreover, I did not disclose their identity by giving names. Instead, I just presented their status. There is significance of protecting research participants' identities in qualitative research (Creswell, 2009).

Data Analysis and Presentation

The collected data from various sources gave clear information of Montessori and Non-Montessori Education system in Kathmandu District. It also reflected the international and national trends of Montessori and Non-Montessori Education

system. Analytical and descriptive analyses were done in order to make the comparative study of Montessori and Non-Montessori Education system in Kathmandu district.

Data Processing

The collected data were firstly edited to check the errors and to ensure that the data are accurate and consistent with other related facts obtained.

Coding

In order to avoid the big volume of data and simplify the analysis process, the edited data were coded to arrange and segregate them into small number of classes.

Classification

The coded data were classified according to the attributes as well as class intervals wherever required to find out the logical and consistent relationship.

Data Interpretation

Qualitative research is interpretive where personal views are included (Creswell, 2012). The categorized data were interpreted thematically. The field data were linked with literature and theories during interpretation. The researcher's personal experiences were also added while interpreting the data. Focus was made on the research questions while interpreting the field data.

Conclusion

This chapter was concentrated on the methodological frame of my research. The ontology of my research philosophy was multiple realities of my research participants. Similarly, epistemology was the knowledge on the teaching methods and materials used in Montessori and non-Montessori schools with a comparative analysis. I followed the qualitative research design and collected primary data from different sources – in-depth interview and observation. In the case of secondary data,

they were collected from internet, library and school. Coding, categorizing and thematizing were the data analysis process used in the research. The collected data were interpreted by linking with relevant theories, literature and personal experiences.

Quality standard in my research was maintained through triple crisis and trustworthiness. Moreover, member checking, thick description and collection of data in natural setting were the other quality standards maintained in my research. It was my ethics of being a researcher that I disclosed the views of my research participants with their consensus only.

CHAPTER IV
MONTESSORI AND NON-MONTESSORI TEACHING-LEARNING METHODS
IN SCHOOLS

This chapter focuses on the teaching and learning methods in Montessori and non-Montessori schools. It concentrates on the role of teachers in childcare and teaching and learning of children, teaching environment in school and teacher training that has helped in children's learning, the class size and the grading system in Montessori and non-Montessori schools. Along with that, the available physical facilities for children such as toilet, playground and classrooms are covered in this chapter. Moreover, a comparative analysis of the Montessori and non-Montessori schools has been made based on the field data, literature, theory and personal experiences.

Montessori education has recognition among Nepalese educators and schools. However, such education system is more popular in institutional schools rather than in community schools. Institutional schools, known as private or boarding schools in Nepal are promoting Montessori education teaching and learning techniques such as taking care of children for the whole day by a single teacher for the whole day in a class, providing a lot of learning materials along with books, etc. Montessori is a philosophy that tries to prevent all forms of competition and failure (University of Michigan, n.d.).

Child Care, Cleanliness and Nutrition

According to the Montessori concept, a child should have proper care both at home and in school. Childcare includes keeping children clean, providing them food

from time to time, keeping them away from danger, helping them in going to the toilet, help them in learning, etc.

The analysis of field data shows that children were kept clean in school. However, compared to the non-Montessori schools, the Montessori schools had more followed the techniques of keeping children clean. The observation of children shows that their dresses were clean, their faces, hands and feet were clean. The observation of children in non-Montessori school 1 showed,

The appearance of the overall condition of the children was satisfactory. Their personnel hygiene like hair, hands finger nails, dress, and bathing habits were satisfactory. Their faces and teeth were clean and toes nails were trimmed well.

In non-Montessori school 2 also children were found neat and clean. However, their nails were long.

In the case of Montessori school, children were found neater and clean than in non-Montessori school. The observation showed,
Children were found with tidy dresses although schools did not have fixed dresses. Regarding their personal cleanliness and hygiene children were found clean and tidy with short haircut, brushed teeth and trimmed finger and toe nails.

The cleanliness of children in school was due to the care of them by ayahs and teachers. There was provision of ayah in both types of schools. They were helping children even in taking them for toileting.

Schools had drinking water facilities. It used aqua guard for filtering water. Water was stored in a covered container.

Some of the focused activities in Montessori schools were assembly with beating of drum and physical exercises. Children had to brush teeth daily in school. Children had time allocated for taking a nap as rest and refreshment.

Children were provided tiffin in schools. In non-Montessori schools children had to bring tiffin from home whereas in Montessori schools it was provided in school. Children of non-Montessori schools brought different food items like rice, fruits porridge, bread, sandwich and biscuits from home. However, in the non-Montessori school 3 children were provided milk in tiffin time. The tiffin provided in Montessori schools included nutrition i.e., protein, carbohydrate and fruits. The Montessori schools provided lunch as well as tiffin in school days. According to a female teacher of Montessori school 3 , a variety of food items are provided for children in school.

We provide children twice a week with lunch. Lunch is provided 12:00 o'clock and light snacks at 2:30 P.M. We provide rice, lintel, vegetable curry, eggs and juice in summer. In winter, along with those food items we give soup and a variety of fruits.

The food items in Montessori school 2 at lunchtime included rice, seasonal vegetables, chowmein, fried rice, bread, noodles, meat, etc. In this school, eggs and meat were provided twice a week.

The Montessori school 1 included dal, rice, seasonal, vegetables, chowmein, pulau, bread, macaroni, meat and eggs twice a week.

Role of Teacher/Facilitator

The role of the teacher is to guide each child, introducing materials, and assisting where needed. Montessori education leads to children with better social and academic skills (Rathunde, 2003). An important task is careful observation. This helps the teacher prepare the environment with the child's interest in mind. The teacher is constantly alert to the direction in which the child is going, and actively works to help the child achieve her/his goals. The Montessori teacher facilitates the classroom

activities, carefully plans the environment, and helps progress from one activity to the next.

Montessori professionals are trained to deal with each child individually, which is also called "following the child" (The independent, n.d.). A Montessori teacher often stands back while the child is working, allowing them to gain satisfaction in their own discoveries. Montessori tools promote motor skills as well as development of the mind (The independent, n.d.).

The field data also shows that teachers/facilitators in both the Montessori and non-Montessori schools were active in teaching children. The observation of non-Montessori schools showed that teachers were working hard in teaching children: using various colour papers , chart papers, readymade charts, puzzles , blocks, story books, picture display cards etc. for teaching along with different rhymes, songs and various dances. Similarly, in Montessori schools the teachers/facilitators were engaged in teaching children in a joyful manner. The field survey reveals that the dance activity had been carried out along with subjectwise activities. The dance activity was seemed to be performed on the rhythm of small musical drum and a cassette player. The researcher observed children using the playing materials like balls, plastic toys, sea-saw, slides and swings under the supervision of the teachers.

In Montessori schools, the teacher/facilitator does not use textbooks. Children learn directly from the environment, and from other children—rather than from the teacher. Children learn not only from what they are studying individually, but also from the amazing variety of works that is going on around them during the day. However, the teacher's role is significant in the sense that s/he has to make all the arrangements for creating learning environment for children. The Montessori theory also emphasizes on self-construction, liberty and spontaneous activities of children.

Teacher is facilitator and guide; child is an active participant in Montessori school. In non-Montessori school, teachers' role is dominant and child is a passive participant. Child sets own learning pace in Montessori school whereas teacher sets instruction pace for the children in non-Montessori school. Therefore, the learning is child-centred in Montessori and teacher-centered in non-Montessori school.

The principals of the Montessori schools were aware that teacher/facilitator's role is significant in creating learning environment for children. According to them the schools with Montessori system is better than non-Montessori schools as the teachers/facilitators know how to deal with children. This is what the principal of Montessori school 1 said,

The facilitator tries to be friendlier with children while playing different roles like role of nurse, police, mother, guide, etc. to children. The teacher/facilitator should be honest and attractive with various skills such as teaching skill, care taking, dancing and singing skill, etc. They should be much caring to children at the time of lunch, taking snacks, time of playing, in the toilet, playground and on the road. It is due to these reasons that Montessori system is better than the non- Montessori system of education.

In this context, the principal of Montessori school 2 said,

Montessori system helps for the overall development of children. But what I see is that it is easy to apply the Montessori education system mainly in city area of Nepal and find a bit difficulties in rural area. It is due to the variance in guardians' perceptions, limitation of training and materials that teachers/facilitators are facing problems in introducing Montessori system in such areas.

The principals of non-Montessori schools also highlighted the role of teachers and facilitators in children's learning. The principal of non-Montessori school 1 said that the teacher should play different roles while teaching children. He said,

Teachers should be loving, good speaker, tolerant, attractive, honest and good addressor of child's problem. They should be good reflector for the children. Thus, teachers are supposed to be much conscious about this.

A principal of non-Montessori school 2 viewed that teachers should be friendly with children. They should play different roles while teaching children. He added,

A teacher should try to be friendlier with children. S/he should be conscious about children's habits and their study. Teachers should play the role of mother, police, nurse and caretaker in different places and situations. Teachers should be loving, good speaker, sound minded, attractive, honest and good addressor of the child's problems. They should be good reflector for the children. Thus, teachers are supposed to be much conscious about this. My teachers and me are very much conscious about this. We make our children learn by playing as the Montessori children do.

The Montessori teachers highlighted the role that they should play in making children learn. According to a teacher of Montessori school 1, a teacher should play different roles such as of nurse, police, mother, etc. while dealing with children. She added,

The teacher should be friendly with the children and should play different roles such as nurse, police, mother, guidance, etc. Teacher should be honest, loving, attractive, skillful in teaching, caretaking, dancing and singing, etc. Teacher should

be much caring to children at the time of lunch, taking snacks, playing, taking them to the toilet, at the playground, road, etc.

The views of teachers/facilitators of Montessori schools were similar to that of their principals.

Montessori system is good and effective in child's learning. Children are provided with a good care and they have freedom to learn in their own way in this system. A child can progress a lot when s/he is without any mental stress. This system helps children do work themselves as they get plenty of opportunities to learn by playing, jokes, role-play, etc. Therefore, Montessori system of education helps for the holistic development of children.

The Montessori learning environment is much different from the traditional model. Instead of information passing from the teacher to the student, the teacher is skilled in putting the child in touch with the environment, and helping him/her learn to make intelligent choices and carry out research in a prepared environment. The teacher then protects children's concentration from interruption (Montessori, 1983).

The best teaching method is to involve the use of more of the child's senses, especially the use of touch and movement (kinesthetic). This will give the child's brain tactile and kinesthetic memories to hang on to, as well as the visual and auditory ones (Bradford, n.d.).

Teaching and Learning Process

Appropriate classroom environment is necessary for teaching and learning by small children. Here I have included children's class size i.e., number of children in the class, physical facility in the class, teaching technique, etc. The Montessori learning environment is much different from the traditional model. Instead of information passing from the teacher to the student, the teacher is skilled in putting

the child in touch with the environment and helping him/her to make intelligent choices and to carry out research in a prepared environment.

The Montessori methods of education has been successful for students with diverse abilities and age ranges. The Montessori methods emphasize on respect for each child as a unique individual. Teachers (and parents) are viewed as guardians and protectors of the child's right to develop his or her potential in nurturing physical and social environment.

Class size differs from school to school. Usually, large groups occur only in the beginning of a new class, or in the beginning of the school year, and are phased out as the children gain independence. In the case of children's age, there are mixed age group in Montessori and fixed age group in non-Montessori Schools (Montessori, 1983). The most successful are of 30-35 children to one teacher, with one non-teaching assistant. This provides the most variety of personalities, learning styles, and work being done at one time. This class size is possible because the children learn from each other and stay with the same teacher for three to six years. This size helps to create much independent work and peer teaching, and eliminates the possibility of too much teacher-centered, teacher-directed work. A typical Montessori classroom serves 20 to 30 children in mixed – age groups, staffed by one trained teacher and an assistant.

However, in the view of a teacher of non-Montessori school 3 large class size is the characteristics of non-Montessori education system. Such system focuses on theoretical rather than practical approach.

Non-montessori education system is a system that makes a child learns without applying the practical approach. Rote learning and a large number of the

children in classroom are the major features of the non-Montessori system of education.

However, the analysis of observations shows that the Montessori concept of class size was much followed by the non-Montessori rather than the Montessori schools. The class size of non-Montessori schools was to the range of 25-30 children whereas the Montessori schools had approximately 15 children in a class.

According to the Montessori method, the ideal seat arrangement for children is sitting on the floor so that it will be flexible for them to move their bodies and walk from here to there while learning, which helps in their motor and physical development. Children should always be free to move around the room instead of staying at desks (Montessori, 1983). There is also enough light and ventilation required in the classroom. Children should have access to learning materials in the classroom. The observation of classrooms in non-Montessori schools shows the following:

Children were sitting in bench. Floor was found with carpeting. The classrooms were found well ventilated with enough windows and doors. There was enough lighting in the classroom. The classes were with white board for teaching and learning. Classrooms were decorated with pictures, chart papers, wall paint flash cards, paper made fruits and insect photos.

The above field data shows that everything except the seat arrangement was made following Montessori ideology in non-Montessori schools. Although seat arrangement was made in such a way the teachers in non-Montessori schools said that they do various activities like art and craft, singing rhymes, dancing, drawing, paper pasting and group play while teaching for making the teaching effective. They do

such activities by arranging the desks and benches in a corner and making space for different activities.

However, the classroom observation in Montessori gave a different picture of classroom environment. Children were sitting on the floor with the mats and carpets. Classrooms were well ventilated with enough windows and doors, which also helped for enough light in the class. There were white boards in the classrooms. Classrooms were well decorated with pictures, charts, flash cards, readymade charts, hand printed paper and cotton pasted picture on the walls. The observation of Montessori school classrooms gave the researcher an impression that there are different methods applied in teaching a child.

School was running the teaching-learning activities with a variety of activities like clay work, painting, rolling and pasting paper, reading exercise, chart paper, coloring paper paints, cotton pasting, paper tearing, rolling and pasting, and coloring thumbprint.

A Montessori classroom is different from a typical classroom in a number of important ways. These changes encourage children to develop independently into well-rounded individuals. By allowing children to play, instead of sitting and listening lectures, the classroom allows children to develop the motivation to learn and explore. However, it is not the traditional way to teach a class, the Montessori methods offer empirically-supported advantages to children and beyond normal development and learning. An observation of a non-Montessori school gave the following impression to the researcher:

The teaching method of non-Montessori school 3 was found more teacher centered than child centered. Apart from different methods of reading, writing,

listening etc., the by-heart method and observation were commonly used in this school.

The principal of non-Montessori school 2 also agreed that non-Montessori school gives emphasis on reading and writing than on activity-based learning.

According to her,

the school has focused on reading and writing activities. According to the school administration, they are compelled to do so as per the interest of the parents. Parents are loaded with the concept that reading and writing are the main sources of learning. So, our school is giving more emphasis on lecture method than the other methods of teaching.

However, the concept of Montessori schools was quite different to non-Montessori school. They had the concept that children learn by playing and doing different activities. According to the Montessori teachers, they do various activities in classroom such as drawing, art and craft, painting, color and chart paper work and story telling along with rhymes and dance for effective teaching. The observation of Montessori schools gave the picture that teaching and learning is child-centred in Montessori schools.

Child were found actively made involved in teaching learning activities with play-way method, group work, art and craft activities and the various games. The teaching method was child centered focusing on creative learning activities rather than teacher centered learning and rote learning. Classrooms were found with the TV & Music & dance corner etc. Class duration and time schedule goes like this in the school.

The class activities and timing differed by schools. The time and activities of both types of schools were different. Non-Montessori Schools started at 9:30 AM and closed at 4:00 AM. The distribution of time for different activities was like this:

School 1

Time	Activities
10:00 AM – 10: 15 AM	Assembly
10:15 – 10:30 AM	Rhymes and warm up
10:30 – 10:45 AM	Oral class with rhymes
10:45- 11:15 AM	Writing
11:15 – 12:00 noon	Maths and Nepali teaching and learning
12:00 – 12:30 PM	Lunch
12:30 – 1:00 PM	Playing outside
1:30 – 2:00 PM	Rhymes, colouring, etc.

School 2

Time	Activities
10:00 AM – 10: 15 AM	Assembly
10:15 – 10:30 AM	Rhymes
10:30 – 10:40 AM	Toilet activities
10:45- 12:00 noon	Class activities (reading, writing, oral, dancing)
12:00 – 12:30 PM	Tiffin
12:30 – 2:30 PM	Class activities (reading, writing, oral, dancing)

School 3

Time	Activities
10:00 – 10: 15 AM	Assembly
10:15 – 10: 30 PM	Toilet activities
10:30 – 11:00 PM	Outdoor activities
11:00 – 12:00 noon	Reading and writing
12:00 – 1:00 PM	Lunch, watching TV, meditation, table games
1:00 – 2:30 PM	Oral class, dancing, tiffin

Montessori Schools

School 1

Time	Activities
10:00 – 10: 15 AM	Assembly
10:15 – 10: 30 PM	Outdoor activities
10:30 – 11:00 PM	Action circle time with rhyme, meditation
11:00 – 12:00 noon	Reading and writing
12:00 – 12:30 PM	Lunch
12:30 – 1:30 PM	Story time, dance and use of puppets
1:30 – 2:00 PM	Time for refreshing

School 2

Time	Activities
10:00 – 10: 15 AM	Assembly
10:15 – 10: 30 PM	Rhymes
10:30 – 10:45 PM	Semi-circle, sitting for conversation class
10:45 – 11:00	Drinking milk and break
11:00 – 12:00 PM	Lunch
12:00 – 12:30 PM	English class
12:30 – 1:00 PM	Science class
1:00 – 1: 30 PM	Social studies
1:30 – 2: 00 PM	General Knowledge class
2:00 – 2:30 PM	Maths
2:30 – 3:00 PM	Snacks

School 3

Time	Activities
10:00 – 10: 20 AM	Assembly with rhymes
10:15 – 10: 30 PM	Toilet and drinking water

10:30 – 11:00 PM	Reading
11:00 – 11:30	Writing
11:30 – 12:30 PM	Lunch, watching TV, meditation
12:30 – 1:00 PM	Rhymes and dancing
1:0 – 1:30 PM	Oral conversation
1:00 – 1:30 PM	Story time and puppet
1:30 – 2:00 PM	Musical chair arrangement

Ethnicity and Age Structure

The schools under the study included children of different ethnic backgrounds. In both types of schools, children belonged to different ethnic backgrounds. The non-Montessori school had access to children from many more ethnic groups than the Montessori schools had. In non-Montessori schools, children were Newar, Gurung, Rai, Chhetri, Limbu, Brahmin, Chhetri, Jha, Shah, Agarwal and Tamang. The majority of the children were Brahmins and Chhetri. The only problem of having such diverse ethnicity for teachers was in understanding children speaking their mother tongue.

In the case of Montessori school, children were from Newari, Chhetri, Agrawal, Jha, Dash and Shah ethnic backgrounds. The majority of children were from Newars and Chhetris.

Regarding the age of the children, both types of schools had similar age group of children. In the case of the non-Montessori schools, they had children aged 2.5 to 5 years and the Montessori schools had children aged 2-5 years. A Montessori classroom is often a mixed-age class, for example, containing all children between the ages of three and six. This is important because children are always at different stages

in their development, and younger children can learn by watching older children play. It is a method of social learning.

Growth Monitoring System

Growth monitoring was maintained in both types of schools. There were growths monitoring charts. In the case of growth monitoring, the Montessori schools were following it regularly. They were maintaining the growth monitoring every month whereas the non-Montessori schools maintained only once a year. According to the principal of non-Montessori school 2,

The weight and height of the children is measured once a year. We do not maintain growth-monitoring chart at the wall of the school but simply maintain record of it in the school register. We maintain this record only for school reference. The report of growth monitoring is sent to parents every year.

According to the principal of non-Montessori school 2, they measure weight and height of the child once a year. They also do not maintain the growth-monitoring chart at the wall of school. They maintain it just for school reference.

However, the Montessori schools were maintaining the growth-monitoring chart regularly. They were updating it monthly. A principal of Montessori school 1 said,

The weight and height of the children is measured once a month. We have also maintained the growth-monitoring chart, which is stuck on the wall of school. We send the report to parents of it as well.

The version of principal of Montessori school 2 was similar to the previous principal. He said,

We measure the weight and height of the child once a month. School has not maintained growth-monitoring chart at the wall of school. But we maintain the record at school register and send four times a year with term report to the parents.

Teacher Training and Practices in Class

Training is essential for teachers especially those teaching in pre-primary school. In this level, children learn more from the teacher than from the textbooks. Therefore, teachers play a catalyst's role in making children learn. Apart from the textbook knowledge, the teacher should know how to deal with children, teach in a play-way method, provide equal opportunity for learning, etc. A trained teacher recognizes a child's readiness—according to age, ability, and interest—for a specific lesson, and is prepared to guide individual progress. Although the teacher plans lessons for each child for each day, s/he will have to bow in front of the interest of a child with passion.

Montessori education is meant for all kinds of children (boy and girl, wealthy, poor, disabled, normal, etc.). It is not the richness of the environment that determines the success of the Montessori methods, but the preparation of the teacher. Hence, training is essential for teachers teaching small children. The principals, teachers and parents highlighted the importance of training for the teachers and facilitators. In the version of the principal of non-Montessori school 3, only the academic qualification of teacher is not enough to be a teacher. The teacher should be trained in dealing with the children.

Academic qualification only is not enough for teaching children. Attention should be paid to the attitude of teachers and training that the candidate possesses during the selection of teachers. Although he highlighted the importance of the training for teachers there was not any training managed for teachers. He said,

I have attended different primary level Montessori trainings and am working together in the school as a trainer for others. I have sent my teachers one or two

times for training outside the school every year. My plan is to provide at least two to four times training in a year for the teachers to make effective teaching.

The non-Montessori school 1 teacher also emphasized the importance of training for teachers. According to a female teacher,

Academic qualification is not sufficient for teaching. Teacher training for two to three times a year is essential for effective teaching. I regret for not having any teaching training. I wish I would get a chance to attend the training in future.

The non-Montessori school 1 teacher who had received the training said that she is utilizing the experience gained from training. She highlighted the change in her teaching method after receiving the training.

The school was focusing on the use of textbooks only. Now the teachers are using chart papers, blocks, number and alphabet wooden blocks, puzzles and general knowledge while teaching. I am following the play-way method for teaching children.

A trained teacher needs to utilize the experiences gained from training. S/he is trained to recognize a child's readiness according to age, ability and interest in a specific lesson and is prepared to guide the individual progress.

A teacher needs to be committed to the full development of the children. S/he should work tirelessly to gain the interest of each child and ready to enthuse him/her. Moreover, s/he should be able to stand back and take a supporting role when the child has become engaged in his/her own work. In order to play such a role, patience, a sense of humor and a wide variety of interests are required that help to bring perspective to their work and enhance their lives, which is gained from the training.

Montessori school teachers also felt the importance of training. The female principal of the Montessori school 1 was found graduated in commerce. She had the

experience of teaching for 18-19 years. She had attended a number of short-term national and international training on Montessori teacher teaching. According to her, *Academic qualification is not only enough for teachers. Montessori training and other related training is also essential for the teachers. Considering the need of training for teachers, I manage the in-service training to the teacher for 3/4 times a year.*

Parents' Involvement in Teaching and Learning

In early childhood, education along with the facilitator, parents' role is significant in their children's learning. Usually, parents are not found engaged in children's learning in school whereas in some schools they also play the role of a facilitator in school such as playing different roles in classroom and outside activities in school. According to Montessori theory, schools offer "Parent –Infant" classes, in which parents participate with their very young children. The study shows that parents were actively involved in taking care of their children – taking children back and forth to school, attending the annual functions of school and being present at the time of distributing progress report. Along with the parents of Montessori schools, the parents of non-Montessori schools were also keen in their children's learning. This is what a parent of non-Montessori school 1 said,

Though the parents are not aware of the system, they often visit to the school to know about their children's performance. They themselves bring and take their child in morning and evening and also try to guide and help the child at home works and teaching learning activities at home. They think that attention at home is essential to make the child well mannered and obedient in study.

The parents of Montessori schools were also visiting schools frequently to inquire about their children's performance in school. Both the father and mother were

visiting the school regularly. They were helping their child in learning at home.

According to a parent (father) of Montessori school 1,

I often visit the school to inquire about my child. I inquire with the teachers and ayahs [caretakers] about my child's interest of learning, food habits and other activities. I bring my child back and forth from school myself. At home, also both my wife and I help him in doing homework, learning and playing at home. Parents' attention towards their children's study also makes children motivated towards their study and in uplifting their creativity.

Another parent (mother) of the Montessori school 3 was similar to the views above. This is what she said,

Though we (she and her husband) are very busy in our work I often, visit the school to meet teachers and try to know about our child's progress, problem and further improvement. I bring and take my child every morning and evening to school myself. I think parents' attention to their children's study makes them conscious and serious towards the study. This also helps to remove his/her bad habits and negligence towards study.

The principal of non-Montessori school 3 was also affirmative towards parents' support in children's learning.

However, the parents are not aware of the system of education of their children they often visit to the school to know about the child's performance. They (mothers) visit and meet the teachers and the principal for further improvement of their child. They themselves act as teacher at home for helping their children at home do their homework and other learning activities. They think that parents' attention and involvement with children at home motivates children in effective learning and helps to remove child's negligence in study.

A female teacher of non-Montessori school 3 viewed that parents are supporting children in their study. According to her,

Mothers are not aware of system but they often visit the school to meet teachers and try to know about child progress, problem and improvement. They bring and take their children every morning and evening from school. I think that parents' attention towards children's study makes the children conscious and serious about the study. This also helps to remove their bad habits and negligence towards study.

Infrastructure and Physical Facility

Physical facility is the main thing in schools especially for the small children as they may get accident in lack of proper physical facility. The Montessori school environment is arranged according to subject area -- cooking, cleaning, gardening, art, caring for animals, library corner, etc (Montessori, 1983).

The field findings based on observations and interviews show that the schools under study had good physical facilities. The schools were fenced for the safety of children. All the schools had *pakki* buildings with sufficient rooms for teaching and learning.

Dining hall existed only in Montessori schools. Children in non-Montessori schools were fed inside the classroom. Dining hall was not found during our survey. Teacher said they feed the children in the classroom by themselves. The provision of the sleeping room found lacking in the classroom.

The dining halls in Montessori schools were very clean and tidy. The pictures of children, fruits items and food items were hung on the walls of the dining halls. There were child-friendly chairs and tables for lunch and snacks. The dishes and utensils were clean and tidy.

The dining hall of Montessori school 2 was very clean and tidy decorated with pictures of children, fruits items and food items. The hall contained child-friendly chairs and tables.

Small children need to sleep at daytime. Usually pre-primary schools make provision for room for nap taking for children. The analysis of field data shows that room for children for nap taking existed only in Montessori schools. In the case of non-Montessori schools, children were found asleep on the floor and desks during daytime.

Toilet facility existed in both types of schools. There were enough toilets and they were clean. Following is the observation of toilet facility in Montessori and non-Montessori schools.

The toilet was found in a satisfactory condition with availability of running water. Toilets were child-friendly. Ayah and teachers helped children in toilet activities. A proper drainage system appeared in both types of schools. Considering any kind of accident, the drains were well covered.

Evaluation System

There has been a difference in the evaluation of children in Montessori and Non-Montessori schools. The teacher, through extensive observation and record keeping, plans individual projects to enable each child to learn what s/he needs in order to improve it (Montessori, 1983).

In the case of the evaluation system in Montessori and non-Montessori schools, there was not that much of difference found. Both types of schools used similar devices for evaluating children. The only difference was that the non-Montessori school evaluated child annually whereas the Montessori school evaluated

child monthly. According to a teacher of non-Montessori school 1, *“We use written test, oral test, check health and hygiene and cleanliness while evaluating a child.”*

According to a Montessori 3 teacher,

We observe the practical life skill etc. and evaluate the child performance every month. We also apply writing test, oral examination and physical health hygiene for evaluating a child’s performance. We give emphasis on grading rather than on percentage system.

A female teacher of non-Montessori school 1 identified evaluating a child in a non-Montessori education system difficult, as many devices have to be applied for that. She said, *“I apply different tools for evaluating children such as written test and oral test, checking health and hygiene.”*

In the case of evaluating a child, the teachers of Montessori schools were also applying similar techniques. A teacher of Montessori school 3 said, *“I apply writing test, oral examination and observe the practical life skill for evaluating children’s performance every month. I prefer the grading system rather than the percentage system.*

Montessori Concepts and Practices in Montessori and Non-Montessori Schools

Maria Montessori propounded different concepts for the teaching and learning of young children. The analysis of field data shows that the Montessori schools have been following most of the Montessori concepts. In the case of non-Montessori, schools they are also to some extent are following such concept. The teachers and principals of non-Montessori schools were aware of Montessori teaching and learning, and were trying to apply it. However, due to some limitations, they were not being able to apply it fully. According to the female principal of non-Montessori school 3,

Montessori method is a method of teaching, which helps for the holistic development of a child. It makes a child independent with the various spices of education e.g. social, physical and emotional development. A child is free to do whatever s/he likes in course of learning. Montessori system helps for the motor skill development.

The view of the female principal of Montessori school 1 was similar to the previous female principal. She was applying the Montessori technique in teaching. According to her,

The Montessori Method is focused on the holistic development of a child. In Montessori system, a child should learn by feeling rather than by rote learning. I use phonetics for improving the quality of language of children. I allow children to do various activities of practical life such as cleaning table, using broom and dustbin, using lock and key, blowing of nose, use of knob and bolts, etc. I also use music and visual instrument for making teaching technique more effective.

The principal in a non-Montessori school 3 was also well acquainted with the non-Montessori teaching and learning. As she said,

Non-Montessori is confined to desk and bench. They have vision limited to material. Freedom of movement is not found. It goes for theme-based and education based on theory. So children are taught in a group, not individually. In a Montessori teaching and learning, there are no papers turned back with red marks and corrections. Instead, child's effort and work are respected as they perform. The teacher, through extensive observation and record keeping, plans individual projects to enable each child to learn what s/he needs for improvement.

The principal of non-Montessori school 1 said,

Non-Montessori education system is a traditional open education school where a large number of children get opportunity to be literate with minimum cost of learning. Parents of different occupational backgrounds can easily enroll their children.

The principal of Montessori school 3, pointing to the reason of less success of non-Montessori school in providing quality education said,

Individual focus on children is lacking in Non-Montessori system. Non-Montessori education focuses on children in large group.

According to the principal of Montessori school 2,

Montessori environment includes a fine balance between structure and freedom as well as ensures the development, self-esteem and provides the experience from children to increase their knowledge. It is also said that Montessori method provides knowledge of social norms and values as well as includes a use of five sense organs, kinetic movement those activities help for the motor skill development in among the children.

The teacher of Montessori school 3 highlighting the characteristics of Montessori and non-Montessori system said,

Montessori education system uses lot of materials for teaching. They focus on individual child and let them develop their own creativity. This system is child – centered. Non-Montessori is a traditional system where children are made focus on book at first and then on speaking and writing. This education system is teacher centered. Child is pressured with class work and homework in non-Montessori education system. Such kind of learning does not last long in children's life. It is rote learning.

In Montessori system, there are no grades, or other forms of reward or punishment. Assessment is by portfolio and the teacher's observation and record keeping. The real test of whether or not the system working lies in the accomplishment and behavior of the children, their happiness, maturity, kindness, and love of learning, concentration, and work.

Montessori students are significantly better prepared for elementary school in reading and math skills than the non-Montessori children are. The Montessori children are much more confident, more able to concentrate because they are motivated, and playground behavior has improved immensely. They are just more comfortable in themselves" (University of Michigan, n.d.).

In the case of parents of Montessori and non-Montessori schools, they were not aware of Montessori concept. But they had the knowledge that in Montessori system children are taught in a play-way method and there is good care of children. A parent of Montessori school 3 said the reason for sending his son to a Montessori school.

Montessori education system focuses children in study by making them play with different Montessori apparatus. Children are more interested in this system because of good care, low burden of study pressure, different cultural activities, and playing materials than that in non- Montessori education system. I have enrolled my son in this school because there is good education i.e., the school is providing education with new trend and new concept.

A parent of Montessori school 2 who had also enrolled her child in Montessori school had enrolled her child without knowing the system. She had enrolled her child there with the hope that her child will be cared and have quality education.

I do not know about such system. However, I am conscious and serious about my child's education. I work morning to evening for the betterment of my children and their future. I have enrolled my child in this school for good study, good care, short school distance and quality education.

Non-Montessori education system applies traditional teaching and learning method that is teacher centered approach and are specially guided by reading and writing without practical based knowledge. However, Montessori education system creates environment for children and let children do themselves. Teachers use child-centered method of teaching. The teachers of Montessori school said that they know that children need natural environment for their well and all-round development and so work accordingly.

Non-Montessori education system has tight schedule and stressful environment with high pressure of homework and class work. According to the principal of Montessori school 2, non-Montessori schools focus more on rote learning with the use of normal materials. The teacher of Montessori school also said that Montessori-based education system uses different methods rather than lecture method for teaching children along with the use of Montessori apparatus. This method is suitable even for handicraft student. Thus, it is more applicable for general children.

Conclusion

The Montessori and non-Montessori schools are following different methods of Montessori system but they are not strictly following it. But compared to the non-Montessori schools, the Montessori schools are trying their best following Montessori techniques in teaching and learning of children. The facilities available in both types of schools differ – Montessori schools have more facilities including physical

infrastructure and tiffin system. The Montessori school teachers have more training opportunity than the non-Montessori school teachers have.

CHAPTER V

TEACHING-LEARNING MATERIALS IN MONTESSORI AND NON-MONTESSORI SCHOOLS

This chapter is mainly focused on the teaching and learning materials used in Montessori and non-Montessori schools in Kathmandu. While discussing on the teaching and learning materials, its importance on children's learning, the type of materials and its availability in schools, condition of the materials, use of the materials and teacher training for the use of materials are covered in this chapter.

Importance of Materials

Materials are the basic learning tools for small children. Materials are the center of instruction and one of the most important influences on what goes on in the classroom. Materials include textbooks, video and audio tapes, computer software, and visual aids. They influence the content and the procedures of learning. The choice of deductive vs. inductive learning, the role of memorization, the use of creativity and problem solving, production vs. reception, and the order in which materials are presented are all influenced by materials (Kitao & Kitao, n.d.).

We must be sure to introduce children to materials and lessons in all areas, all kinds of experiences, and not limit him/her to our own interests. In the words of the famous music educator Dr. Shinichi Suzuki, "What does not exist in the cultural environment will not develop in the child" (Montessori, 1983).

The field findings show that parents and teachers felt the importance of materials in children's learning. They said that children are attracted towards materials, which facilitate in their learning. Teachers and parents of both Montessori

and non-Montessori schools were of the view that materials are the basic tools of learning for small children. According to a teacher of Montessori school 2,

Parents say that children need a lot of funny materials, toys and joyful equipment such as television to draw their attention. I also prefer the play-way method for teaching children and handling them properly.

Montessori is a method that emphasizes learning through play, teaching through observing and the use of wooden equipment and neutral colours (University of Michigan, n.d.). The parents of non-Montessori schools were also aware of the importance of learning materials for children. They emphasized on providing more learning materials for children. This is what a parent of non-Montessori school 2 said,

A child should be provided with enough playing materials for early childhood development. There should be enough teaching learning and games materials for making children more interactive and creative. I am satisfied with the school, its teaching and learning activities and playing materials.

Parent of non-Montessori schools 1 said,

Children need lots of playing, learning and teaching materials for their overall development. Children should be taught interactively participating in play-way method, group work and many other learning activities for their emotional, social and physical development.

Teachers also had the knowledge of the importance of materials in children's learning. A teacher of non-Montessori school 1 said that materials whatever they are facilitate children in their leaning. According to a female teacher of a non-Montessori school 1,

Materials are very important in the field of teaching and learning. This perception guides the teaching methodology towards practical rather than theory.

Materials like sea saw, plastic toys, slides, swing balls etc. are provided to children in this school. Some of the materials like drawing and rolling paper and cotton pasting, thumbprint, insects and flower with paper are made by the teachers with children's participation. I use the rhymes, drawing and group play work while teaching children.

Non-Montessori is a traditional system where children are made focus on book at first and made to speak and write in maximum. This education system is teacher centered. Children read on pressure of class work and homework. But the above statement indicates that even the teachers of non-Montessori school have the knowledge that small children learn with materials rather than from books. Therefore, they were using different kinds of materials in children's learning.

Although the non-Montessori schools lacked materials, the teachers were aware that materials play a significant role in children's learning. The principal of a Montessori school 3 said,

Montessori system of education means teaching children by using sufficient materials and experiencing the child to feel the thing that s/he reads. Montessori focuses doing work by children themselves.

Learning materials are important because they can significantly increase students' achievements by supporting their learning. All learning materials, regardless of what kinds, have some functions in students' learning (Right, n.d.). Before the age of six, a child learns from direct contact with the environment, by means of all the senses, and through movement; the child literally absorbs what is in the environment. The toys and materials in the home and school for this period of development should be of the very best quality to call forth self-respect, respect and

care from the child towards the environment, and the development of an appreciation of beauty (Montessori, 1983).

Availability of Materials

Montessori education emphasizes internal (self) motivation. The classroom is a precisely prepared environment for individual instruction and self-paced learning. Well-tested teaching techniques and materials are designed to maximize children's time in the classroom. Materials are important as the small children learn by playing. Joyful learning is appropriate, for which learning materials are required. Considering children's desire to play, the pre-schools have concentrated on the play-way method.

The discussions made with the teachers and parents explain that different types of materials are required for children's learning. There were different types of materials available in both Montessori and non-Montessori schools. But compared to non-Montessori schools, the Montessori schools had a variety of materials for children. The observation of school and classes also showed that children of Montessori schools had more access to learning materials. Montessori schools were using a variety of textbooks for teaching different subjects. According to the principal of Montessori school 2, they provide textbooks on English, Nepali, science, social studies, general knowledge, drawing and rhymes, etc.

The non-Montessori schools were applying traditional education system with limited teaching learning materials including textbooks and copies. But they were also using puzzles, numbering, drawing materials, coloring books, wall charts, white board, paper-made insects and birds, wooden blocks, etc. for teaching-and learning purpose. Parents' suggestions were that along with the sufficient playground, the school should also add more materials for learning. In context of availability of materials one of the parents of non-Montessori school 2 said,

New Montessori playing materials should be added in schools. In the case of playground and physical facility, the school has enough space for playing, school building, toilet, etc. The teaching technique should be play-way method and teaching should be child-centered for which, schools should have sufficient learning materials. But in the case of another parent of the same school (non-Montessori school 2), she was unaware about the learning materials in school. This is what she said,

I am satisfied with the school, its teaching and learning activities and playing materials. But I do not know the names of the teaching materials that exist in this school. It is due to the time constraint I rarely visit this school. But my child is doing well in her study and I am fully satisfied with her progress.

The observation of the non-Montessori school 2 also showed that emphasis was given to reading and writing rather than teaching by using different materials. Playing is an essential activity that should be conducted in the school for the overall development of the children. But there were limited materials available for children. The school had classified the playing materials as indoor play and outdoor play. The activities like jumping, running, throwing catching, cat and rat game, musical movements, etc. were conducted in the school. The school was focusing on reading and writing activities.

According to school administration, the school was focusing in reading and writing as per the interest of the parents. They want their children to focus on reading books and writing rather than on playing. They do not have the knowledge that children learn by playing with different materials.

In the case of Montessori schools, there were varieties of materials available for children. The observation of the Montessori school 3 showed the following materials available there:

The learning materials were found ranging from the Montessori materials, story-books etc. to practical life exercises. Materials like spoon and bowl, lock and keys, polish and brush, broom, etc. were available. Some of the learning materials named Number Rod, Red Rod, Knob Cylinder, Knobbles Cylinder, Color Box A-C, Languages Pink Scheme, Spinal Box, concept of 0, Geometrical Shape -base 10 concept materials, Poppet Display and Beading Exercise were there in school. Apart from that chart paper coloring paper paints, cotton pasting and tearing, rolling and pasting and coloring thumb print, display chart and picture of birds and animals and insects with artificial habitat, story books, magazines, bulletins, general knowledge books, animals living and non living insect observation, universal, life cycle, country globe etc . The playing materials were plastic and wooden playing, sea-saw, slide, swing and balls. The musical instruments that existed were piano, madal and flute.

In an observation of Montessori school 2, the following materials were available there:

The learning materials were found ranging from Montessori apparatus to textbooks, extra-curricular activities, story books, magazines and practical life exercise materials like spoon and bowl, comparison of block of weight, polish and brush , broom etc. Other learning materials were number rod, red rod, know cylinder, knobbles cylinder, color box, concept of zero, geometrical shape and base 10 digits. The playing materials were slides, blocks, plastics toys, mini basketball and swing.

Although a variety of learning materials existed in Montessori schools, parents expected more materials so that their children can learn in a joyful way. They also highlighted the role of materials in children's learning and development. One of the parents of the Montessori school 3 expressed.

Children need modern tools and technology in learning. There should be enough teaching learning and sports materials. Children should be taught interacting with tools and technology with love and care. The play-way method, which needs many materials make them responsible, honest, polite, social and potential. We are satisfied with the teaching-learning and playing material in this school.

A sparse environment of carefully chosen materials calls the child to work, concentration, and joy. A crowded or chaotic environment can cause stress and can dissipate a child's energy. As Montessori education becomes more popular, more materials are produced, which are labeled "Montessori" and one must be more and more careful in selection of materials (Montessori, 1983).

Condition of Materials

It is mentioned above that schools especially the Montessori-based ones used different types of materials in teaching children. They were teaching in play-way method with the use of materials. But how far a child learns by using the materials also depends upon the condition of materials. Materials that are broken and sharp do not give proper concept of the things that s/he is playing with. Accident may occur with the broken and sharp materials.

In non-Montessori schools, the learning materials were not in good condition. They were of low quality. This is what an observation of the materials in non-Montessori school 2 shows,

Materials were not in good condition in non-Montessori schools. The teaching and learning materials in the school were severely inadequate and whatever they had, were of very poor quality compared to Montessori schools. Reading and writing were the major focused activities in these schools. Therefore, emphasis was not given to the learning materials.

The following is observation of the non-Montessori school 1.

Some plastic toys were lying on the floor of playing room with air leakage. Some seemed to be in the condition of need to be repaired. More materials felt to be added. The principal and teachers also said that they need to add some new toys and some to be made airtight. They also said that playing swing for children was stopped because of facing many accidents.

While talking about the condition of learning materials, the principal of the non-Montessori school 2 said that the materials are in poor condition. He said, *Since the teaching-learning materials are in poor condition, teachers do not use them. Therefore, they have developed materials from the locally available raw materials and using them in teaching. They are using locally made materials like colour paper, cartoon, alphabetic wood, cotton, etc. They have also made materials such as insects, fruits and vegetables that they use in teaching children.*

In this school learning materials like blocks, soft toys, puzzles, magnet, slate, wooden alphabet board, pictures etc. which were in usable condition were used in teaching in the classes.

The observation of teaching and learning materials in Montessori schools gave a different impression to the researcher. There were varieties of materials and they were in good condition so that there were least chances of accident to children while using the materials. The observation of Montessori school 2 showed that school was found with the enough playing materials. The materials were in good condition.

The reason for the good condition of materials in Montessori schools was that there were varieties of materials and they were used turn by turn. As a result, same materials were not used repeatedly and they were in good condition and lasted long.

The principals and teachers of Montessori schools also said that they use the materials routinewise in classroom activities, indoor activities and outdoor activities.

Use of Materials

The teachers feel the importance of using materials in teaching and learning of children. They say that it is easy to teach children using materials. Children also enjoy learning by using different types of materials. In this context, a female teacher of non-Montessori school 1 said,

Use of materials is most important while teaching. Use of materials adds flavor in teaching. It makes a child understand about the theme soon and always draws the attention of the child in creative work of study.

Though students should be the center of instruction, in many cases, teachers and students rely on materials, and the materials become the center of instruction (Kitao & Kitao, n.d.). The teachers of non-Montessori schools were using whatever materials available in school in teaching children. The observations showed that teachers were using materials in facilitating children in learning. The observation of the non-Montessori school 1 gave the following picture.

Children had the opportunity to interact with peer, teachers, caretakers and volunteers as well. Teachers were working hard in teaching children by using various colour papers, chart papers, readymade charts, puzzles, blocks, story books, picture display cards, etc. for teaching along with different rhymes, songs and various dances.

It is already mentioned in the section “Availability of Materials” that compared to Montessori schools, the non-Montessori schools lacked learning materials. Therefore, the teachers were using the materials developed locally – by

themselves and with the help of children. This is a picture that the non-Montessori school 1 gives,

The classroom was well decorated with pictures, chart papers, wall print, flash cards, paper made fruits and insects. They were using materials developed from locally available raw materials such as rolling paper, cotton pasting, drawing using waste cartoon and raw vegetables and fruits are being used as teaching learning materials in this school.

In context of the use of materials, a female principal of non-Montessori school 3 said,

The school is focusing on the use of textbooks, chart papers, blocks, number and alphabet wooden blocks, puzzles, general knowledge while teaching. Teachers are encouraging children to use locally made materials like coloring, paper pasting, rolling and cotton pasting, raw vegetables and fruits collection and audio visual as well as music to make children more interactive.

It is not that the female principal was not aware of the importance of materials in Montessori system of learning. She also knew that the teaching and learning in her school is teacher-centred whereas Montessori system focuses on child-centred teaching and learning. She said,

Montessori education system uses lot of materials for teaching. They focus on individual child and let them develop their own creativity. Montessori system is child-centred.

In non-Montessori school 3, in lack of teaching and learning materials, the teaching and learning was found teacher-centred. There were a least number of materials used in teaching. The observation of class gave the following picture:

The school was providing education based on textbooks. The teacher was simply using the learning materials like alphabet blocks, chart paper, ready-made hanging charts, puzzles and lots of textbooks. The method adopted for teaching was only theme-based. The teacher concentrated on reading, writing and listening through the lecture approach. She used white board along with the materials.

The observations of non-Montessori schools prove that the schools had limited learning materials. Most of the materials were bought from the market and some of them were locally developed. As a result, children had limited knowledge in their subject areas. In lack of materials, they also lacked creative learning. Children were found to have limited knowledge about the practical knowledge of their surrounding such as earth, culture, science and the society as they were not taken for field trip for practical knowledge. They also did not have the opportunity to interact with the people of their surroundings.

One of the main reasons for children not using the materials was that children did not have access to it although certain materials were available. The learning materials were kept in a little bit high place, which was out of reach of the children. This is what an observation of non-Montessori school 2 showed,

The materials were found to be located at higher level making unreadable and unreachable for the children. They were placed in an odd location where children's eyes rarely catch them. Teachers were saying that children just damage the teaching-learning materials, so the materials are kept in such a place where the children cannot reach.

In the case of Montessori schools, they used a variety of materials in teaching children. The teaching-learning materials ranging from different types of books to playing materials including puppets, materials for teaching different subjects such as

mathematics, language, etc. The observation of Montessori schools gave an impression that different types of materials are used in teaching children. The observations of Montessori school 1 showed the following materials available in school:

Various teaching learning activities were found used in school. Materials such as the white board and several other materials like chart, uses hand print, Number Rod, Red Rod, knob cylinder, Knobbles cylinder, Color box A-C, languages pink scheme, Spinal box-concept 0, Geometrical shape box-base 10, Poppet display, Beading exercise, chart paper coloring paper paints, cotton pasting, tearing, rolling, and pasting and coloring thumb print were used. Teachers were also using display chart and pictures especially that of birds, animals and insects with artificial habitat, story books, magazines, bulletins, and general knowledge such as animals living and non living insect observation, universal, life cycle, country globe, etc.

The class environment was arranged according to subject area. Children were always free to move around the room instead of staying at desks. There was no limit to how long a child can work with a piece of material because a variety of materials existed there.

Similarly, the observation outside the class of Montessori school 3 showed the following:

In the case of outdoor games, I observed children using the playing materials like ball, plastic toys, sea saw, slides and swings under the supervision of the teachers.

Training Related to Teaching Materials

Teaching materials is a generic term used to describe the resources teachers use to deliver instruction. Teaching materials can support student learning and increase student success (Right, n.d.). The teachers were utilizing the experiences

gained from training. After the training, they knew how to make and use of materials in children's learning. It is not only the Montessori but also the non-Montessori teachers benefitted from the training in making appropriate use of materials. But compared to Montessori schools the non-Montessori schools lacked teacher training.

A teacher of non-Montessori school 3 said that she is utilizing the experience gained from training. She said that there has been a change in the way of teaching after receiving the training. She said,

Teachers are encouraging children for locally made materials like coloring, paper pasting, rolling and cotton pasting, raw vegetables and fruits collection and audio visual as well as music to make them more interactive towards learning. We learnt such thing from the training that we received.

There is a need of training for the teachers in use of learning materials for children. The Montessori methods demand Montessori trained teachers and teaching materials of international standards (Shrestha, 2006). Teachers of both types of schools also felt the importance of training for using the teaching and learning materials. Considering the need of training for joyful learning with the use of materials, the principals gave emphasis on providing training to the teachers. The principal of Montessori school 1 said that training helps teachers to be creative, which is important in teaching a child. This is what she said,

Teachers should be trained to mobilize teaching-learning materials that are provided by school. Teacher should be trained well in producing learning materials with the waste and locally available materials like wood, cartoon, plastic, etc. Teacher should be creative and should be able to play the role for overall development of child for which training is required.

While using the materials, a teacher should have the knowledge that which materials are harmful for children. Sharp materials are dangerous for children, which the teacher should avoid. Moreover, she should also avoid health-hazard materials such as materials made of plastics. A Montessori teacher avoids plastic, instead of that she uses natural materials. In addition, there are no "kits" or "sets" but rather a good supply of beautiful and real materials that the child uses to carry out real work (Montessori, 1983).

Training for using learning materials was lacking in non-Montessori schools.

Teachers said that if training is provided then they could make their teaching more joyful. They could be able to prepare materials by themselves using the locally used materials. If such training is provided then they will be able to produce materials themselves. They were of the view that it would also be easy for them to teach children with a variety of materials. According to a teacher of non-Montessori school 3 training on developing learning materials is essential for the teachers.

Training is lacking in this school. In lack of training, we do not have the knowledge of developing and using the materials. If training is provided to the teachers, they can produce lots of teaching materials with locally available materials and can make the class more effective and enjoyable. We can produce different types of materials ourselves such as wooden blocks, chart paper, rolling and pasting paper, drawings, etc.

The researcher also felt the scarcity of teacher training in non-Montessori schools during class and school observations. The observations of non-Montessori schools gave following impression.

School was found providing education to the children based on text exercise in traditional way that the general schools do. They were using the playing materials and

different teaching materials but they were not using it properly. It means that training for the technique of making proper use of materials needs to be provided to the teachers.

A well-trained Montessori teacher spends a lot of time during training practising the many basic lessons with materials in all areas. Teachers have to follow the curriculum and provide, make, or choose materials. They may adapt, supplement, and elaborate on those materials and also monitor the progress and needs of the students and finally evaluate students (Kitao & Kitao, n.d.).

Conclusion

Both the Montessori and non-Montessori schools felt the importance of materials in teaching and learning. Montessori schools used a variety of materials in teaching and learning so that children enjoyed more in learning. Compared to non-Montessori schools the materials used by Montessori schools were in good condition. Children of non-Montessori schools had less access to learning materials. Training on use of materials is an essential part of teaching, which lacked in non-Montessori schools.

CHAPTER VI

SUMMARY, FINDINGS, CONCLUSIONS AND IMPLICATIONS

My study focuses on the teaching methods and materials used in Montessori and non-Montessori schools. It is a comparative study between the Montessori and non-Montessori schools. The major issue of my study is the role that the teaching methods and materials play in small children's learning. In this chapter, I have presented the summary, findings, conclusions and implications in relation to my research questions.

Summary

The first five years of life is very critical in terms of development. The rate of development at this stage is extremely higher than in any other subsequent stages of human life (Crane 1991 as cited in Joshi, 1997). The recipients of early education possess high competence in learning (Baruth and Duff, 1980 as cited in Joshi, 1997). The literature review chapter of my thesis highlights the importance of early childhood care and education in a child's life. It is due to such importance that efforts in international as well as national levels are made for its development. The government has focused on teacher training and materials in pre-primary level for children's holistic development. Moreover, the government has conducted different studies on teacher training in order to improve the teaching methods and materials in pre-primary level.

Pre-school education in Nepal that took momentum only towards 1950s has various changes and modifications. At present, there are three types of Early Child Care (ECC) programs: school-based program including pre-primary, the program for

the children under the age of three years and community-based programs for the 3-5 years age group.

The Montessori education system, an educational philosophy based on the belief that a child learns in a loving and nurturing environment by playing is flourishing in the urban areas of the country. It uses the “Whole Child Approach”. But there are still a large number of non-Montessori schools that are following the traditional teaching and learning methods, that is teacher-centered approach and are specially focused on guided reading and writing without practical-based knowledge.

In my thesis, I have presented the learning environment for children in Montessori and non-Montessori schools. In this context, the teaching methods and learning materials for children are highlighted.

Chapter III is concentrated on research methodology. My ontology was multiple realities. My research participants’ various perspectives are collected in my thesis without any bias. The field data that I collected are the realities of parents, teachers and head teachers. In the case of epistemology, the teaching methods and materials used in Montessori and non-Montessori schools with comparative analysis was my epistemology.

I used the qualitative research design focusing on multiple views of my research participants. In the opinion of Tuckman, (1978), “A research design is a specification of operations of the whole research activities.” I followed the comparative research technique comparing the education system in two types of schools i.e., Montessori and non-Montessori that are contributing in children’s learning. In this context, primary data were collected from three schools each located in Kathmandu. A snowball sampling technique was followed in selecting schools for the study. The field data were collected through interview and observations. In

context of collecting data, the researcher visited every school, interviewing and observing. In course of data processing, first coding of the field data was done. Then the coded data were classified into different themes.

Descriptive and comparative analyses were made while presenting the field data. The field data were interpreted by linking them with theories, literature and personal experiences. In the case of secondary data, they were collected from different sources: internet, library, school, etc. The secondary data comprised of prescribed curriculum, methods of teaching, materials used in different types of schools, school profiles, articles, previous academic and technical research reports, government documents, action research reports, strategy papers, conference and workshop reports.

Chapters IV and V are the analysis chapters focused on field data linking them with theories and literature, and interpreting them. Chapter IV is focused on the teaching and learning methods in Montessori and non-Montessori schools. This chapter concentrates on the role of teacher in teaching and learning of children, teaching and learning, ethnicity and age of children, growth monitoring and teacher training that has helped in children's learning. Moreover, parents' involvement in teaching and learning of their children in school, the existing physical facility, and evaluation system followed in school and the Montessori concepts and practices that prevail in Montessori and non-Montessori schools are dealt in this chapter.

Chapter V concentrates on the teaching and learning materials in Montessori and non-Montessori schools. This chapter discusses on the importance of materials in children's learning, learning materials available in school and condition of available materials. In addition, the uses of learning materials in children's learning and the training that are provided on the use of teaching-learning materials are included in this chapter.

Chapter VI is the summary of the whole chapters, research findings, conclusions and implications derived from the research.

Major Findings

The major findings of my study are summarized as specific to the research questions. The first research question “What are the methods used in Montessori schools and Non-Montessori schools?” focused on the methods that the Montessori and non-Montessori schools are using in everyday teaching/ learning in school. Childcare was the major component that was focused in both the Montessori and non-Montessori schools. Children were taken proper care, for which there was provision of *ayah* (caretaker) along with the teacher. They helped children in different activities including helping them in going to the toilet, cleaning their faces and hands, and keeping them away from accidents while being in school. Attention was given to children’s food. The Montessori schools had provision for lunch and tiffin for children in school with nutritious foods. In the case of non-Montessori schools children had to bring food from home for lunch and tiffin.

Both the Montessori and non-Montessori teachers were playing a significant role in children’s learning. They were applying different techniques such as using a lot of materials, talking politely, etc. in making teaching learning joyful. But compared to the non-Montessori teachers, the Montessori teachers were more skillful in dealing with children. The reason was that they had training in this matter.

The Montessori schools were not following the concept of ideal class size whereas the non-Montessori schools were having the ideal number of children. According to the Montessori concept, the class size should range from 30-35 children so that children can learn from each other. But the average number of children in Montessori schools was 15 whereas it ranged from 25-30 in non-Montessori schools.

Teaching and learning in Montessori schools were more practical than in non-Montessori schools. The seat arrangement made on the floor for the children of Montessori schools helped in their free movement and taking part in different activities. The provision of desks and benches for children in non-Montessori schools limited children's learning in a play-way method. There were many more methods applied in teaching a child in Montessori schools than in non-Montessori schools. The teaching learning in Montessori schools was child-centred whereas it was teacher-centered in non-Montessori schools.

Children of different castes had access to school. But in both types of schools, the majority of children were from Chhetri and Newar caste. Children aged 2.5 to 5 years were enrolled in both the schools. Growth monitoring system was regular in both types of schools. Montessori schools maintained it monthly whereas the non-Montessori schools maintained it annually.

Teacher training was contributing significantly in children's learning. Both the Montessori and non-Montessori schools were aware of teacher training for effective teaching and teaching in a joyful way. Teachers of Montessori schools had more access to training than those of non-Montessori schools. The trained teachers were utilizing the experiences gained from training in children's learning.

Parents taking good care of their children were limited to bring and take back their children from school, attend school's annual functions and parent-teacher meeting, and inquire about their children regularly. They never participated in teaching activities in school including materials development.

Schools had good physical facilities – *pakki* buildings with sufficient rooms. Schools had fencing. But dining hall and rooms for nap taking for children existed

only in Montessori schools. Toilets were child-friendly in both types of schools. Sanitation system was good.

Both type of schools followed the similar evaluation system. They used similar devices in evaluation. The only difference was that non-Montessori schools evaluated child annually whereas the Montessori school evaluated child monthly.

Montessori schools were following most of the Montessori concepts. In the case of non-Montessori schools, although due to some limitations they also to some extent were following such concept. The teachers of Montessori and non-Montessori were aware of the characteristics of Montessori system education. Parents of both the Montessori and non-Montessori schools were not aware of Montessori concept. However, they had the knowledge that in Montessori system, children are taught in a play-way method and there is good care of children.

The second research question, “What are the materials used in Montessori schools and Non-Montessori Education system schools?” focused on the materials that are used in teaching and learning of small children. Parents and teachers (even non-Montessori teachers) were aware of the importance of materials in children’s learning. Teachers were using different kinds of materials in children’s learning.

Different types of materials existed in both Montessori and non-Montessori schools. However, compared to Montessori schools, the non-Montessori schools had limited number of materials for children. So more emphasis was given to reading and writing. Parents were aware of the existing learning materials in both types of schools.

The condition of materials differed in Montessori and non-Montessori schools. In Montessori schools the learning materials were in good condition whereas it was not so in non-Montessori school. The reason for the good condition of materials in

Montessori schools was that there were varieties of materials and they were used turn by turn.

Teachers in non-Montessori schools used materials developed locally – by themselves and with the help of children. There were a least number of materials used in teaching due to their lack. Therefore, children lacked creative learning. Although certain materials were available, they were not accessible to children. In the case of Montessori schools, they used a variety of materials in teaching children.

Teachers were utilizing the experiences gained from training. Teachers were benefitted from the training in making appropriate use of materials. However, compared to Montessori schools, the non-Montessori schools lacked teacher training. The last research question, “What are the possible ways of caring children in Montessori schools and Non-Montessori Education system schools?” concentrated on the ways out to children’s care in Montessori and non-Montessori schools. The research findings show that both type of schools lack proper Montessori education system. Compared to the non-Montessori schools, the so-called Montessori schools were following the Montessori concepts. Even though some concepts such as teacher-student ratio and education for all lacked in Montessori schools. The number of students was too low. Children of limited castes had access to such type of school.

The non-Montessori schools were quite behind in following the Montessori concepts. Learning materials lacked in this type of school. There was fixed seat arrangement so that children did not have play-way and joyful learning. Physical facility such as room for sleeping at the daytime was also lacking. Both types of schools were not making any provision for parents to take part in children’s learning

Conclusions

The first five years of life are very critical in terms of a child's development. Intensive intervention during this stage contributes in modifying the subsequent behavior and academic skills of children. The government has focused on Early Childhood Development (ECD) by making the pre- primary and primary education free in government schools. Montessori education methods have been accepted as a major method for early childhood development of children in schools. Montessori and non-Montessori schools are being operated with Montessori concepts. The Montessori theories and concepts propounded a long time back is still relevant in children's learning.

Teachers/facilitators and parents/guardians play significant role in children's learning. A trained teacher teaches in a playway and joyful manner. Compared to the non-Montessori teachers a majority of Montessori school teachers were trained and utilized the experiences gained from training. Parents were also actively involved in their children's learning but it was limited to home only. Facilities available in Montessori schools were contributing in childcare and learning. Montessori schools were following continuous evaluation system of children.

Materials are essential as they facilitate children in their learning. Both the Montessori and non-Montessori schools used a variety of materials. But Montessori schools were quite advanced in the use of materials. They used a variety of materials of good condition. The trained teachers were utilizing their experiences gained from training in school activities.

Implications

- Both the Montessori and non-Montessori schools need to follow the Montessori concept of teaching small children.
- Teacher training in different sectors such as childcare, developing and using teaching materials, involving parents in children's activities in school, etc. are required.
- Non-Montessori schools need to focus on play-way and joyful teaching and learning.
- Regular monitoring and support to schools from the government sector is necessary in maintaining the quality of Montessori education system.
- Efforts of both Montessori and non-Montessori schools in providing access to children of various ethnic group, poor economic background, etc. are required.

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Appendices

Interview Guidelines for the principal/coordinator

Date:

a. Personal information

Name :

Sex :

Ethnicity :

Marital status :

Address :

Educational Background :

Teaching Experience :

Training Obtained :

Teaching Grade :

Teaching Style :

School's Name :

b. Concept about Montessori education system

- + Would you please highlight the brief history of the School?
- + How do you define the Montessori Method in your perspective?
- + Do you find any difference between Montessori based and Non Montessori based School?
- + What are your efforts in making your school a Montessori based school? (Note: physical facility like; toilet, playing materials etc, teaching method and materials, childcare, teacher training etc.)
- + What are the teaching techniques that you are focusing in each class?
- + What do you think about the role of the principal in making the school child- friendly?
- + How do you see the role of a teacher for making a child friendly environment in the school?
- + How do you find teachers participation in taking good care of children?

- ✚ Is this education system really helping to overall development of a child?
- ✚ How do you find the possible applicability of Montessori education in whole Nepal?
- ✚ How do you over view the act of govt. for the educational development in Nepal?
- ✚ What are your suggestions and recommendations?

Interview Guidelines for the Class Teacher

Date:

a. Personal background:

Name :

Sex :

Ethnicity :

Marital status :

Address :

Educational Background :

Teaching Experience :

Training Obtained :

Teaching Grade :

Teaching Style :

School's Name :

b. Classroom Schedule:

1. **Duration of working hours:**

Opening time: 09:00/09:15/09:30/10:00/10:30 A.M

Closing time: 12:00/01:00/02:00/03:00/04:00/05:00 P.M

2. Working routine:

-full time

-part time

3. Daily routine:

- Daily
- Alternative day
- With Homework
- Class work only
- Both (HW and CW)

c. Concept about Montessori education system

- + Would you kindly say us about your history of involvement in the teaching field?
- + What can be the characteristics of a Montessori based school in your opinion?
- + What kinds of physical facilities are a must in school? (classroom, separate toilet for girls and boys, male and female teacher, fencing , etc)
- + What is your idea for the availability and use of teaching materials in the classroom? (materials locally made, self-made, provided by school, relevance of the materials etc)
- + Is there any essentiality of classroom activities to be taken during teaching?
- + What kinds of classroom activities you undertaken during teaching?
- + Is there any activity of children to be undertaken by them in classroom activities?
- + What can be the efforts that can be made for childcare in school?
- + Is there any importance to involve parents or parents- teacher meeting? (inc: frequency, topics, issues)
- + What kind of parent's cooperation do you expect in creating child-friendly environment in school?
- + What can be your suggestions and recommendations for making the school child-friendly?
- + Which sitting do you give more priority and why?
(fixed/flexible/U-shaped/circle/semi-circle/changeable/rotation)
- + What kind of ratio between student and teacher is mostly suitable for teaching? (20:1,30:1,40:1)
- + What kinds of system do you use for evaluating the student's performance?

Interview Guidelines for the principal/coordinator

Date:

a. Personal information

Name :

Sex :

Ethnicity :

Marital status :

Address :

Educational Background :

Teaching Experience :

Training Obtained :

Teaching Grade :

Teaching Style :

School's Name :

b. Concept about Non Montessori education system

- ✚ Would you please highlight a brief history of your School?
- ✚ What is Non- Montessori education system in your perspective?
- ✚ What are the materials used in Non Montessori teaching method?
- ✚ What are the methods used as non- Montessori teaching methods?
- ✚ What can be the difference between Montessori and non-Montessori based system?
- ✚ What are the weakness and strength of non- Montessori system?
- ✚ Is there any importance of parents or parents- teacher meeting?

- ✚ Is this education system really helping to overall development of a child?
- ✚ How do you overview the act of govt. for the educational development in Nepal?
- ✚ Do you have any suggestion and recommendation about this system?

Interview Guidelines for the Class Teacher

Date:

b. Personal background:

Name :

Sex :

Ethnicity :

Marital status :

Address :

Educational Background :

Teaching Experience :

Training Obtained :

Teaching Grade :

Teaching Style :

School's Name :

b. Classroom Schedule:

3. **Duration of working hours:**

Opening time: 09:00/09:15/09:30/10:00/10:30 A.M

Closing time: 12:00/01:00/02:00/03:00/04:00/05:00 P.M

4. Working routing:

-full time

-part time

3. Daily routing:

- Daily
- Alternative day
- With Homework
- Class work only
- Both (HW and CW)

c. Concept about Non Montessori education system

- ✚ Would you kindly tell us about your history of involvement in this teaching field?
- ✚ What can be the characteristics of a Non Montessori based school in your opinion?
- ✚ What kinds of physical facilities are a must in school? (classroom, separate toilet for girls and boys, male and female teacher, fencing , etc)
- ✚ What is your idea for the availability and use of teaching materials in the classroom? (materials locally made, self-made, provided by school, relevance of the materials etc)
- ✚ Is there any essentiality of classroom activities to be taken during teaching?
- ✚ What kinds of classroom activities you undertake during teaching?
- ✚ Is there any activity of children to be undertaken by them in classroom activities?
- ✚ What can be the efforts that can be made for childcare in school?
- ✚ Is there any importance to involve parents or parents- teacher meeting? (inc: frequency, topics, issues)
- ✚ What kind of parent's cooperation do you expect in creating child-friendly environment in school?
- ✚ What can be your suggestions and recommendation for making the school child-friendly?
- ✚ Which sitting do you give more priority and why?
(fixed/flexible/U-shaped/circle/semi-circle/changeable/rotation)
- ✚ What kind of ratio between student and teacher is mostly suitable for teaching? (20:1,30:1,40:1)
- ✚ What kinds of system do you use for evaluating the student's performance?
- ✚ Is this education system really helping to overall development of child?
- ✚ What are your suggestions and recommendations?

Interview Guidelines for the Parents/Guardians

Date:

b. Personal information

Name of parents (Mr/Mrs) :

Name of Child :

Age..... Class.....

Sex..... :

Ethnicity :

Occupation :

Address :

Educational Background :

School's Name (child involves):

b. Concept about Montessori education system

Interview Guidelines for Parents/Guardians

- Why did you enroll you child/ren in this school?
- Are you familiar with the term Montessori education system? If yes, what is it?
- Frequency of visit to school (when? why? etc.)
- Involvement in school activities (teaching, taking care of children, making teaching-learning materials, parent-teacher meeting, etc.)
- Helping child/ren in learning at home
- Views on teaching-learning method in school
- Views on physical facility and playing materials
- Suggestions for further improvement in teaching and learning

School Observation Form

Name of the School:

Type of School: Public/Private/Community-based

Address:

Education System: Montessori/Non-Montessori

Existing Level(s):

Total number of children in Pre-primary level: Boys: Girls:

Total number of children in primary level: Boys: Girls:

Type of Building:

- (a) Pakki
- (b) Kachhi

Fencing

- (a) Fenced
- (b) Not fenced

Source of Drinking Water

- (a) Tap
- (b) Tube Well
- (c) Ground Well
- (d) Others (Specify):

Storage of Drinking Water

(a) Covered container

(b) Open Container

Playground:

Playing Materials:

Sanitation

(Put a tick mark on appropriate box based on the situation of toilet)

Sanitation Facility	Good	Satisfactory	Poor
a. Toilet			
Availability of running water			
Use of toilet by children			
Cleanliness			
b. Drainage			
Availability of drainage system			
Open/covered drainage			
Use of dustbin			
Pit for garbage collection			

Nutrition**Food habit of Children at School**

List all the food items consumed by children at the school

Food Items	Morning	Day

Growth monitoring of children below 5 years of age

(Tick the appropriate box below):

	Once a month	Once in three months	Not measured
The weight of the child is measured			
The height of the child is measured			
Maintain growth monitoring chart			

Availability of Children's Play and Learning materials

(List all the play and learning materials available for children below 5 years of age. Also mention the condition and status of their use)

Name of the materials	Condition of the materials	Use of the materials

Reading materials available for pre-primary level children

(List the reading materials available)

- (a) Story books
- (b) Magazines
- (c) Bulletins
- (d) General Knowledge
- (e) Subject related (specify)
- (f) Comic books
- (g) Newspapers
- (h) Others (Specify):

Opportunity to interact with peers and teachers

Child has the opportunity to interact with	Yes	No
Peer		
Facilitators/Teachers		
Caretakers		

Class Observation Form

Name of the teacher:

Class duration:

Subject taught:

Boys:

Girls:

Personal Hygiene of children

(Tick mark on appropriate box based on the observation of the child)

Personal Hygiene	Good	Satisfactory	Poor
Hair			
Face			
Hands			
Feet			
Teeth			
Finger Nail			
Toes Nail			
Dress			
Bathing			

Sitting Arrangement

- Benches
- On the floor with mats
- On the floor without mats and carpeting

Physical Facility

- Teaching and learning in the classroom/in the playground without shed
- Availability of blackboard/whiteboard
- Availability of playing materials in the classroom
- Classroom decorated with pictures
- Ventilation in the classroom (windows, door(s))
- Enough light in the classroom

Teaching Methods

- Availability and use of teaching-learning materials in the classrooms
- Use of black/white board
- Participation of children in teaching-learning activities
- Play-way method

- Group work
- Teacher-centred teaching
- Rote learning
- Class duration and utilization of time