

EVALUATIVE STUDY: THE EFFECTIVENESS OF MONTESORRI METHOD

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Abstract. This study reports a qualitative study using descriptive analytics method that finding out the effectiveness of Montessori Method for young learners. Montessori Method is a method that rarely used in Indonesia and there are only some of the schools that apply this method. Teachers who decide to work in the Montessori school basis should be ready with the challenges that might be appear when teaching children to learn using a specific method. The subjects of this research are Cita Harmoni Montessori Teacher. The data were collected through interview, observation and documentation. The study showed that teacher face several challenges when teaching using Montessori Method. Some children still unfamiliar with the Montessori Materials, got some difficulties in understanding abstract concepts even though they have used Montessori materials, children who are solitaire and is difficult to blend in group, some teachers who are not fully understand in working with Montessori Materials and the lack of maximum use of the Montessori apparatus in learning are the challenges that found in this study. In conclusion, teaching using a Montessori Method will be effective to be applied when the materials are involved and mastered. Additionally, it will be the challenge of Montessori teachers in the future.

Keywords: montessori materials; montessori method; teacher's challenges

I. INTRODUCTION

Montessori Method is well known as holistic approach to education. In Montessori environment, children are on condition that they have had a sense of control as they work with materials and develop through the curriculum. Montessori Method combines freedom with responsibility, a more dynamic role for the children in their own learning, social mindfulness and moral turn of events, and accomplishments moves children to have their spot in their networks, when the opportunity arrives, as capable, contributing grown-ups. Teacher who works using Montessori Method should have arranged mental, emotional and even spiritual form to diving into Montessori education as they will face several challenges in teaching. The knowledge into potential challenges and successes between school community and Montessori pedagogy is important not only to help teachers but also to inform Montessori leaders about how to improve and reinforce the Montessori Method. The purpose of this study is to find out the teacher's challenges in teaching using Montessori Method especially in teaching the young learners. By knowing the challenges, school or teachers will be able to make preventive actions in advance. The study reports a qualitative study with descriptive analytics method using interviews, documentations and observations as instruments that figure out five different findings.

Montessori method is a child-based method and it emphasizes the specially-arranged environment that allows freedom for children, provides opportunities for children to learn by practicing and experiencing, values family involvement and offers individualized education [1]. It also

known that Montessori Method and education has positive effects on children's independence and motivation [2].

Montessori education also believes as one of the methods that affect creativity in children. Several of its key elements make it likely to affect this construct, particularly the independence and the lack of extrinsic rewards to motivate them, both of which provide an environment for children to develop creative skills [3]. The theory of Montessori learning is simple. Students learn by playing. Playing is not in the literal meaning, but pretended playing. Children should learn constructively and enjoyably. Montessori learning method is based on group learning. Montessori Materials are kept on the shelves and freely available to the children. During the learning sessions, if a student makes a mistake or has any problem, he can refer to the material as a reference point [4]. The work of education is split between the teacher and the environment. For teacher, there are has been subbed a significantly more perplexing mix comprising of teachers and objects which is Maria Montessori [5], said that Montessori materials cooperate in child's education. Maria Montessori contends that Montessori teachers and educators should have arranged mental, emotional and even spiritual form to diving into Montessori education as they will face several challenges in teaching [6]. In view of the teachers' obligations, it is important to recognizing and tending of the challenges with preservice teachers that will assist teachers for their future work [7].

A significant part of educational research and teacher education is figuring out the turn of events of a teacher's personality, including the challenges and difficulties that might influence an educator's training [8]. Teachers are also expected to continue to strive to improve the quality of

learning by adding and trying new learning strategies and methods for students [9]. The literature explored gives further comprehension of Montessori theory of the pre-arranged grown-up, its current challenges, and late exploration and conversation in regards to teacher experience and personality. Maria Montessori claimed that the children in a Montessori class are given the freedom of each person, and this opportunity permits the children to develop basic show of manners, inner discipline and happiness [10]. The aim of the Montessori Method is to support the development of the whole child while promoting independence, responsibility, and an individual who has the utmost self-respect and can rely on their own intrinsic motivation to guide them through decision-making [11].

Based on Maria Montessori, a teacher must ready for several challenges that predicted even before the class begin. A teacher must be well acquainted with the material and keep it constantly before her mind. The several challenges are: knowledge of the material, maintenance of order, perfecting, and giving lessons [12]. Teachers should not simply look at the material or just study it in a book and listen to explanations. Rather, they must exercise themselves with the material for a long time so teachers will be able to evaluate through their own experiences the difficulties or the interests of each material. It is important for teacher to also pays more attention to four teacher competencies covering pedagogical competence, professional competence, social competence, and personal competence since it has been proven effective to improve student's learning achievement [13]. The competencies will become a great quality for teacher in helping to teach using Montessori Method. To improve the quality of teacher and minimize the challenges in teaching, teacher's training will be a great solution. One of the trainings that need in teaching using Montessori Method is working with the materials [14]. In the duty of guiding children in working with the material, teachers should make a qualification between two different period [15]. The focus on how Montessori Material is managed in Montessori teacher training leads to the intention of Montessori pedagogy [16]. The teacher needs preparation and understanding about the principles of education and child development as well as lectures about demonstrations of how to present and use the Montessori Materials [17]. Teacher's role is only to show how to use the Montessori Materials. It is called presentation of material. Teacher guides children by encouraging them to build their own experiences by using the materials so that children can learn on their own [18].

The biggest challenge for teacher is ensuring that Montessori's discoveries remain relevant today lies in the perspective of adult. To give the children the freedom to uncover their true potential through self-directed activities. This requires an adult who is able to respect the children and in addition trust in the children's natural ability to spontaneously choose activities and participate in them, learning through critical thinking and disclosure [19]. There are also some challenges that discovered in the children of three or four, who has not yet been touched by Montessori Method such as: disorder of the voluntary movements which

show a fundamental disharmony or lack of coordination, child's difficulty, or inability to concentrate his attention on real objects and the tendency to imitate, which becomes ever readier and more rapid that shows a sign of deep-seated weakness [20]. Children of different ages, genders, and backgrounds who work compatibly together, will find that diversity in companions leads to more varied and stimulating experiences than oneness.

II. RESEARCH METHODS

This study is qualitative descriptive analytics method with interviews, documentations and observations as instruments that about to find out and explore teacher's challenges in teaching using Montessori Method which can bring some problems in teaching. The purposive sample was used in this study that selected based on characteristics of a population and the objective of the study [21]. The purposive sampling technique, taking subject not based on group, area, stratified, or randomized, but based on certain purposes [22]. It is also called judgment sampling, is the intentional decision of a source because of the qualities the informant has. It is a non-random technique that doesn't require underlying theories or set number of sources. Basically, the researcher decides what needs to be known and embarks who can and will give the data by virtue of knowledge or experience [23]. For this study, researcher use semi-structured interview by face-to-face to find out the challenges that might appear in teaching children using Montessori Method [24]. The interview using open-ended questions based on interview guideline. The researcher interviews the teacher who teaching using Montessori Method and takes notes during the interview session. Researcher tap an audio recording during the interview session. After the interview session finished, researcher continued with observation and documentation [25]. The researcher conclude data based on the theory and strengthened with the information from the interviews, observations and documentations. Lastly, researcher will do cross-check to verify the conclusions and describing it in the study [26].

III. RESULTS AND DISCUSSION

The research results of interview were used to obtained the teacher's challenges in teaching using Montessori Method. This section presents 7 questions in semi structured interviews that answered by teacher as a source to answer research question in this study.

Question 1: How long have you been work as a teacher in Montessori school?

Teacher: *I've been teaching since 2016, so about 6 years of teaching in a Montessori school.*

Question 2: What class did you teach?

Teacher: *I am now teaching in the age group of 5 – 6 years.*

Question 3: What do you think of the application of Montessori Method in the school that you teach?

Teacher: *In my opinion, because this is a Montessori School, the application of the Montessori Method in schools is quite good and answers the needs. In school, we use the Montessori Method fully from the morning student come to school until they go home. Although every Wednesday, we still have class using zoom application, but so far it is quite good.*

Question 4: How effective do you think the student learning when learning using Montessori Materials?

Teacher: *The understanding of the learning is quite good. When the student work with Montessori Material, we, teachers also accompany them by observing without interrupting. But there are indeed some students who can be said to have difficulty working with Montessori Material, for example, those that easily lose focus when working or there are also children who are physically active in class do they need guidance in working with Montessori Materials.*

Question 5: What challenges did you face when working with Montessori Materials together with the student?

Teacher: *Maybe because it was via zoom class before so it feels like the use of Montessori Materials can't be maximized. Although we send replicas of Montessori materials using disposable materials such as making from boxes or laminating flashcards and materials made from 4 dimensions to 2 dimensions, thankfully, there are parents who help teachers from home to try to explain to the children about working with the Montessori Material. As there has been direct school now, so what was before cannot be explained on zoom, we can explain in class during the Montessori time. The child tends to choose a Montessori Materials they are mastered of and hesitates to try a new one therefore the teacher really needs to motivate the children so that they dare to try. It seems that it still has to be reviewed continuously so that children also recognized and can work alone using the Montessori Materials. Indeed, the goal is so that children can use Montessori Materials independently so it seems that it still needs an adjustment process from the children themselves from school via zoom to direct school.*

Question 6: When you are mentioning about the challenges in working with Montessori Materials, is there anything else to be seen from the child's own personality regardless of zoom or direct school teaching conditions?

Teacher: *If it is from the side of the children, there are some children who still like to be alone or solitaire. Play alone, work alone, sit alone or don't want to join his age group yet. Actually, it is natural as the children's adaptation are different from one another. Especially if the children may have no friends in the same age group at home, so it is a bit difficult at school. There is also child who only observing and looking at his surrounding first, even when his friends working along with another friends, he will still on his place observing. Then later when the time for Montessori is almost up, he will start to join with his friends and start to work with Montessori Materials. When there is this kind of child, we*

usually accompany them immediately. As teachers are aware of the children's needs and always try to answer their needs.

Question 7: The use of the Montessori Materials will later help children to learn abstractly. As long as you teach here, what are the challenges of difficulties in shifting from concrete learning into abstract learning?

Teacher: *Yes, it's true. The purpose of Montessori Materials is to help children to understand the concrete concepts so they have the basic they need to learn abstract concepts later. The learning process are long and takes time. Sometimes, the duration of Montessori time is not enough especially when children are enthusiastic about learning one of the Montessori Materials at the last moment of Montessori time. As the children are exciting working with the Montessori Materials, so teacher will take a note of their working before and will continue it in the next day of Montessori time. There are also some Montessori Materials that due to work with it, the teacher needs a fairly long explanation and teacher assistance to guide the children working on it in the correct way.*

For some children who do not understand the use of Montessori Materials correctly and completely, the children will experience problems when trying to understand abstract concepts later. That's why teacher try to explains as clear as possible of how to work with certain Montessori Material. Although children can finally self-check their work, the teacher still observes in case there are children who do not fully understand or need a little assistant. Related with that, unfortunately there are still some teachers who not fully understand yet how to work with some of Montessori Materials correctly. Well, to upgrade the teacher's ability, school has provided training on how to work using the Montessori Materials. Sometimes teacher do cross check to other teacher who can work with certain Montessori Material. So, there are lots of factors why children sometimes still have difficulty working with Montessori Material or learning from concrete concepts to abstract concepts.

Based on the interview result, there are some challenges that teachers need to face in teaching Montessori. The challenges are:

a. *Some of the children are still unfamiliar with the Montessori Material.*

Some children are still unfamiliar with the Montessori Material as they are hesitating to try and still need teacher's guidance and assistance in working with the materials. As the children will only choose the Montessori Material that they are master at, the teacher needs to encourage them to try to work with new Montessori Material that unfamiliar to them.

b. *Facing the difficulties in understanding abstract concepts even though children have used Montessori Materials.*

Some children still have difficulties in understanding the concept from concrete to abstract as sometimes they have not enough duration in learning using the Montessori Material

that cause an immature understanding of the concrete concepts. When children not fully understand yet about the concrete concepts, it will be difficult and challenging for them to shifting into abstract concept. The teacher needs to make sure that children are fully grasping the concrete concepts by using the Montessori Materials and use it as their prior knowledge for learning about abstract concepts in the future.

c. Some children are solitaire and have difficulties to blend in group.

Some children are still solitaire and hesitate to blend in age group. It can happen because each children have their own pace of adjusting and socializing. It is a normal condition as children sometimes shows difficulties to mingle with other children. The teacher is aware about the situation and try to jump in by accompany the children in need until they are comfortable enough to try to blend in to the group.

d. Some teachers not fully understand yet how to work with Montessori Materials correctly.

As the teachers came from different backgrounds, so it is possible that some of them not fully understand yet of how to work with Montessori Materials in a proper and correct step. The school needs to provides the training for teacher with the Montessori expertise so they can learn and absorb the proper and correct way in working with Montessori Materials. By mastering the Montessori Materials, teacher will be able to assist and observe children who has difficulties in working with Montessori Materials.

e. The lack of maximum use of the Montessori Materials in learning.

As different types of children working with different types of Montessori Materials, there are some ineffectiveness in the use of Montessori Materials. Simply said that the purpose of the materials itself is not achieved. There are some children who easily lose focus when working with Montessori Materials or those who are physically active in class that need guidance in working with the Montessori Materials. As the teacher usually needs to assist those children and try to calm them down or assist them slowly, it causes children didn't get the essential learning in a maximum way. The children need to do the repetition in working with the Montessori Materials needed so they can understand how to work with it, what did they learn from it and improve their skills in working with Montessori Materials.

Based on the result of the interview, the researcher collects data by observation and documentation as comparison data for the interview result. In the Montessori School, children are expected to be able to improve their skills and knowledge in learning through Montessori Method and Montessori Materials. The observation is about to figured out the teacher's challenges during the school hour that needs to be solved in order to help children learn effectively. The observation covers four things: Group discussion, Montessori Time, classroom activities, outdoor activities. The observation result is tabulated in Table 1.

Table 1. Observation Result

Classroom Activity	Observation notes
Group discussion	Two children were busy running around the classroom as the teacher talked about the theme of the day's learning in front of the class.
Montessori Time	There are some children who still need accompany and assistance as they not fully understand yet how to work with the Montessori Materials.
Classroom activities	One of the children was unable to finished his work as he lost his focus in the middle of the rainbow letters activity.
Outdoor Activities	One of the children was hesitating to join the crowd while others having fun with blowing bubbles activity.

During a group discussion, the teacher explained about the theme of weather and asked the children about their favourite weather. However, two children were busy running around the classroom and were not join into the discussion. When other children had their Montessori time and worked with the Montessori Materials that they have chosen, there were one or two children who still confused what to choose and how to work with the Montessori Materials. It was found that one of the children was unable to finished his work as he lost his focus in the middle of the rainbow letters activity. The rest of the children was maintained to stay focus until they finished their activity project. During the outdoor activities, teacher showed the activity that they can do outside during the sunny day. While the other children were playing with the bubbles and tried to blow their own, there was one child who was still solitaire and hesitated to join with others. The teacher directly did their roles. When one of the teachers conduct the class, another teacher tried to accompany and calm the children who were busy running around the class so they were not distracted their friends. While one of the teachers observed children during Montessori Time, one other teacher accompanied and encourage the children who still confused to work with Montessori Materials to start from the Montessori Materials that they are good at and worked together with them.

Teachers observed the children during classroom activity and approached them one-on-one to make sure they were able to do the activity. When the teacher noticed one of the children lost his focus, the teacher tried to talked to understand the children needs and assisted him during the time even though he still can't finish his activity project in the end. In outdoor activities, teacher tried to encourage one of the children who still hesitated to join playing bubbles with his friends and asked the reason why he hesitated. The teacher asked one of the children to asked him to play with them and blow the bubbles together. The teacher's challenges in teaching using Montessori Method give effects into children and also the classroom management. As the teachers always have their sharing session and evaluation in the end of the day after teaching, teachers tried to list down the challenges that they have met during the day. Here is the result of the evaluation.

Today's Evaluation List	Radit still need some encouragement to work with pink tower material.
	Radit and Gia running around when Ibu Ziah give introduction about the theme.
	Ayra hesitate to try to work with golden beads material so teacher needs to work with her.
	Arine wants to try to work with addition worksheet but she's not fully understand yet about the addition strip board materials.
	Damar refuses to join the bubbles activity and stays in the corner as he still uncomfortable with his friends and teachers.
	Zahran asks Ibu Sarah how to work with continent boxes materials, but she forgot some of the steps in doing it. So, tomorrow Ibu Sarah needs to show him again in a correct ways.
Damar lost his focus during the rainbow letter activity and can't finish his work.	

Figure 1. Teacher's Evaluation Result

Based on the today's evaluation list, it is shown that teachers face some challenges in teaching with Montessori Method especially in working with Montessori Materials. Teacher needs to find the solution of each challenge to get a maximum result in teaching using Montessori Method.

IV. CONCLUSION

According to the results of the study, there is a significant influence between Perceived Behavior Control on the intention of dietary behavior. That is, the more likely they are to feel in control and feel capable of carrying out dietary behaviors the higher the intention of one's diet behavior. When it comes to diet, a person who has strong dietary behavioral intentions tends to feel more confident and able to better control food intake. This has the potential to affect overall dietary behavior and help achieve desired dietary goals.

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