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RESEARCH ARTICLE

BASIC LEARNING OF MONTESSORI KIDS – A CASE STUDY

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ABSTRACT

The current study aims at analysing the basic learning methods of Montessori kids and comparing the methods of learning between boys and girls. The Montessori education is concentrated on the self-directed activity, hands on learning and scientific observation of children. The two Montessori's of south Bangalore Leo kids and Samskruti were selected as the study area. The age group considered was from 3-5 years and were grouped as PKG (Pre Kinder Garden), LKG (Lower Kinder Garden), and UKG (Upper Kinder Garden). Out of 115 children, 67 were boys and 48 were girls. The performance level of boys and girls were analysed under four different tasks and activities classified under identification criteria, memory skills, physical ability and mathematical ability. The total percentage of performance level of boys was 82.09% and girls was 83.66%. The ANOVA - one way classification was used between groups and within groups. The f value was calculated and was compared with F critical value. In the conclusion drawn, there is no significant difference between the performance level between boys and girls at early age of Montessori education.

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INTRODUCTION

The childhood stage is considered to be the most important one in man's life because the child at this stage is most susceptible to the influence of the surrounding environment (Zahria. I. Abdel Haq *et al.,* 2015). This concept led Maria Montessori to establish a Montessori in 1907, Rome. She stressed that the organism and the mind form a structured whole and that mental development is the product of interaction between the structure of the organism and the structure of the environment (Solveiga Miezitis, 1971). Montessori classrooms came to light around 1900's and served preschool aged children in a housing project in Rome. Montessori's method quickly spread to serve different populations of children. In just five years, Montessori classrooms had opened, round the world. Maria Montessori was a physician and a professor, who just abounded her career in developing and refining the Montessori system. Montessori age grouping is divided into 3 to 6 years old, 6 to 9 and 9 to 12. (Angeline S Lillard, 2013). Montessori developed a set of manipulable objects designed to develop the learning of kid's sensorial concepts like colour, dimensions, shape and academic concepts of mathematics, literacy, and geography. With respect to engagement, children learnt on with engaging hands on materials most often individually, and even in pairs or small groups. During 'work cycle', they are guided by the teacher to choose their own activity. They have the freedom to choose what they like to work on.

It is the first study in India that systematically analysed the relationship between skills and exposure to television for children and doesn't suffer from any of the forementioned problems (Ashish Singh, Sarthak Gaurav, 2013).Movement is a positive addition to the classroom. It provides students with the opportunity to move while learning at the same time. Physical activity is said to help a child's brain cells and engages the child to want to learn. Movement not only affects the children, but it also affects the teachers since it gives teachers time to plan what will happen next while the child is off doing a movement break (Abby Akkerman, 2014). No competition is set up between the students and there is no system of extrinsic rewards or punishment. These two aspects-the learning materials and the nature of the learning, make Montessori classroom look strikingly different to traditional teaching (Chole Marshall, 2017). The merits of the Montessori system of education motivated the parents to join their kids to Montessori's. The research analysis have shown that the kids trained under Montessori system perform better when compared to traditional schooling. Montessori kids have better understanding with respect to vocabulary and even mathematical knowledge (John Robert Fero, 1997). The enrolment in a Montessori school was associated with higher academic achievement (Christopher Lopata, 2005). The current study aims firstly at, investigating the active involvement of boys and girls of the age group between 3-5 years. Secondly, to evaluate the performance level, vocabulary, writing and technical skills.

Table 1. Boys Performance According to Age Group in Different Activities

Age Group According To Class	Identification Criteria		Memory Skills		Physical Ability		Mathematical Ability		
	No	Percentage	No	Percentage	No	Percentage	No	Percentage	Avg %
PKG	15	78.94	15	78.94	14	73.68	17	89.47	80.25
LKG	23	82.14	22	78.57	20	71.42	23	82.14	78.5
UKG	18	90.00	19	95.00	13	65.00	20	100.00	87.5
AVERAGE	56	83.62	56	84.17	47	70.1	60	90.5	82.09

Table 2. Analysis of ANOVA and F value for boys

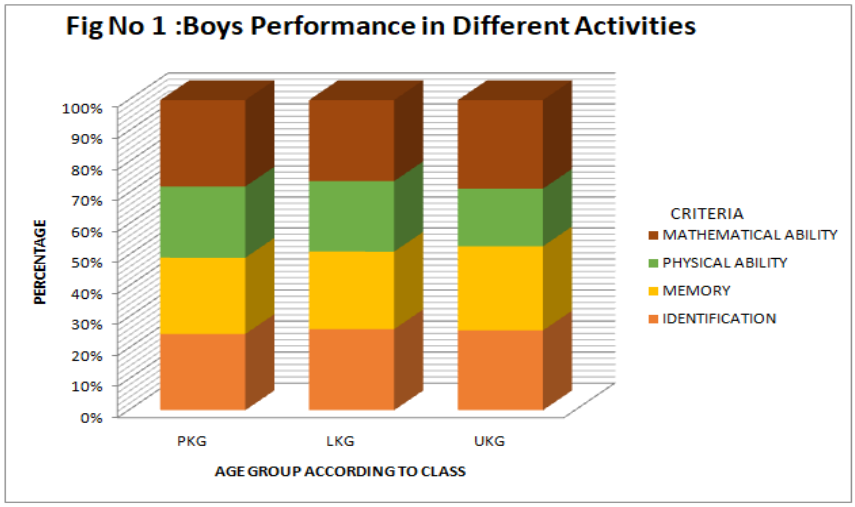
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	473.7826	3	157.9275	1.9364352	0.26548	6.591382
Within Groups	326.2233	4	81.55581			
Total	800.0059	7				

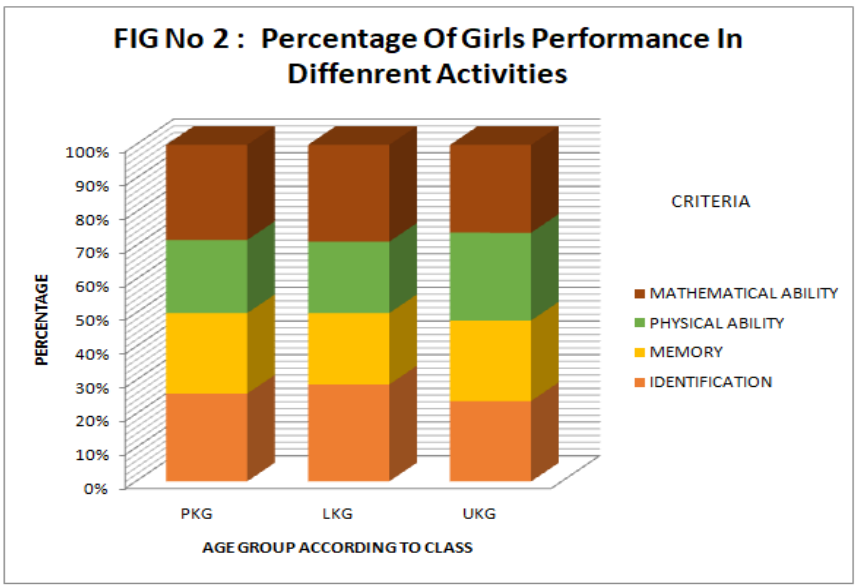
Table 3. Girls Performance according to age group in different activities

Age group according to class	Identification Criteria		Memory Skills		Physical Ability		Mathematical Ability		
	No	Percentage	No	Percentage	No	Percentage	No	Percentage	Avg %
PKG	12	80.00	11	73.33	10	66.67	13	86.67	76.66
LKG	19	90.47	14	66.66	14	66.66	19	90.47	78.56
UKG	11	91.66	11	91.66	12	100.00	12	100.00	95.83
Average	42	87.37	36	77.2	36	77.7	44	92.38	83.66

Table 4. Analysis of ANOVA and F value for girls

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	318.2359	3	106.0786	0.464038	0.7228476	6.5913821
Within Groups	914.3963	4	228.5991			
Total	1232.632	7				





The study also focuses on nurturing the basic concepts of learning like general knowledge, English and common science.

MATERIALS AND METHODS

In the current study, the two Montessori's of Bangalore south i.e. Leo kids and Samskruthi were selected. The survey included the total number of 117 children of which 67 were boys and 48 were girls and 2 were special kids. The age group considered was 3-5 years. The methodology in analyzing the basic learning methods included the simple English vocabulary and mathematical concept of learning. The English vocabulary included the identification of fruits, vegetables, animals, birds, colors, vehicles, animal sounds etc. The mathematical concept of learning included the counting of numbers and identifying shapes. Physical activities like running race and dropping the ball in the bucket were also conducted. A memory game was also organized to observe the active involvement of the children. The source of materials to conduct the study comprised of the charts, puzzles, pictures etc. YouTube was used as an audio output for the recognition of animal sounds. The data was collected and it was processed using ANOVA - one way classification. The null hypothesis was set up stating that there was no significant difference between the performance level between boys and girls.

RESULTS AND DISCUSSION

From the survey done for various activities among boys and girls with different age groups, it was found that girls' performance was better compared to boys. In the four criteria included, i.e. identification criteria, memory skills, physical ability and mathematical ability, among the boys group the UKG boys performance was fairly good in all the activities with an average of 87.5% whereas LKG boys' performance was low compared to PKG boys with a percentage of 78.5% and 80.25% respectively. Among the girls, the UKG girls excelled in all the tasks with an average of 95.83% whereas LKG girls performance was low than that of PKG girls sharing a percentage of 78.565% and 85.95% respectively. The performance level for various activities conducted for all the age group of boys, was found that mathematical ability showed a good performance level of 90.5%, whereas physical activity showed a low performance of 70%. Similarly, among the girls for all the age groups, they performed very well in mathematical ability i.e. 96.82% where as their performance in memory game was moderate with 80.97%. Further the overall performance level of boys and girls were analyzed and found that the overall percentage of boys was 82.09% and that of girls was 83.66%.

The statistical application, ANOVA one way classification was used to find out the variance between the means and weather two population means and variance are significant or not. The P value is larger for both boys (0.265) and girls (0.722) than the α level (0.05), the f value for boys is 1.95 and girls is 0.464 which is smaller than the f critical value (6.519). Hence indicating that the means of all the results are significant, hence the null hypothesis is accepted.

Conclusion

In India, the education system plays an important role in the overall development, language, communication skills of an individual and the exposure to technology. From the current study one can conclude that there is no gender bias in the basic methodology of education system. The performance of an individual may or may not depend on the exposure to society, their home environment, parental educational background, financial status etc. Hence, there is no exact method which can be quoted weather girls performance is better than boys or do boys excel when compared to girls. It's highly a debatable task to be concentrated.

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