



ISSN: 2395-7476  
IJHS 2016; 2(2): 94-96  
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www.homesciencejournal.com  
Received: 18-03-2016  
Accepted: 19-04-2016

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## A study on the impact of pre-school factors on creativity of young children

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### Abstract

The present study attempted to investigate the impact of pre-school factors on creativity of young children. Subjects were drawn from randomly 20 pre-schools and 7 anganwadi situated in five different zones of Kolkata i.e. south, east, west, north and central. The sample comprised of 225 young children belonging to the age group of 4 to 5 years. A Questionnaire was developed on the different conditions of the pre-school environment to measure the school factors influencing creativity. A standardized test by Baquer Mehdi was administered on the subjects to assess creativity of the children. After scoring the responses, mean, standard deviation, one-way ANOVA and logistic regression were computed for analysis. The findings suggest that there is a significant influence of pre-school factors on the creativity of the pre-school children and method of teaching is the most significant predictor of creativity which implies that if the pre-school children are provided with an environment where they have the freedom to explore themselves, they will be able to create unique products and express their originality.

**Keywords:** pre-school factors, creativity of children.

### 1. Introduction

The pre-school is the first stepping stone towards later formal education. One of the major objectives of pre-school education is to encourage independence and creativity by providing the child with sufficient opportunities for self-expression. Thus pre-school education that caters to the education during the early childhood years (2-6 years) should give importance to the curious, imaginative mind of the child. Since the child of this age loves to explore the surroundings, have novel ideas hence it is essential to provide adequate services for the pre-school child, if the natural potential of the talent is to be fully utilized and developed.

Creativity has been considered in terms of process, product or person (Barron and Harrington, 1981) [2] and has been defined as the interpersonal and intrapersonal process by means of which original, high quality, and genuinely significant products are developed. Guilford (1969) [3] also states that creativity sometimes refers to creative potential, sometimes to creative production and sometimes to creative productivity.

Development of creativity follows a predictable pattern. During the early childhood years children go through a variety of experience and progress at different levels. Childhood experiences influence creativity which is the outcome of spontaneity in an atmosphere of freedom- to explore, to manipulate, to construct and even to destroy. In this process the child learns to respond divergently and forms concepts about himself and his environment. Creativity sparked by imagination helps the child in learning to learn, to formulate abstractions and solve problems of a complex nature. Imagination, curiosity and the joy of physical and emotional involvement play an important role in the development of creativity.

There has been a growing interest among researchers to find out the different preschool conditions associated with creativity. Some of the important factors that have been identified as responsible for creating a conducive environment in the preschool are - adequate freedom, appropriate opportunities and atmosphere for creative expression, adequate training for encouraging originality and flexibility.

P.A. Cameron (2010) [6] examined how pre-school environments nurture the development of pre-school children's creative skills and relationships.

In a recent study the variation in the school environment has been found to be the major factor that affected the creative abilities among Government and private school children. Lack of

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opportunities, facilities and encouragement in Government schools has been identified as adverse factors affecting the creativity levels (Naira Tasaduq and Hummara Azim, 2012) [7]. Against this backdrop the present study has been carried out to examine the effect of some important preschool factors on creativity of the young children.

### Objectives

1. To find out the influence of the preschool factors associated with the development of creativity (elaboration and originality) of the pre-school children.
2. To find out whether there is any school wise difference in the creativity of these children.

### 2. Method

#### Hypotheses of the study

1. There is a significant influence of preschool factors on the creativity of the pre-school children.
2. There is a significant relation between creativity of the children and type of pre-school.

#### Sample

The study population included the preschool children of Kolkata. In order to draw a representative sample, firstly, Kolkata was divided into 5 zones, namely, East, West, North, South and Central. Secondly, from each zone 4 (2 new- less than 10 years, and 2 old- more than 10 years) schools were selected randomly from the list of preschools downloaded from the internet and 2 ICDS centres from the list of ICDS centres obtained from the CDPO office. But finally 20 pre-schools and 7 anganwadi were considered in this study. All the children of each school belonging to the age group of 4-6 years were considered as samples. The size of the sample was 225. Both boys and girls were in the sample. Majority of the children belonged to middle socio-economic status.

#### Tools

For measuring the school factors influencing creativity, a questionnaire was developed on the different conditions of the pre-school environment comprising of Preliminary information, Official information, Infrastructural facilities, Method of teaching, Curriculum and Evaluation.

For measuring the creativity of the pre-school children, standardized test by Baquer Mehdi (1973) was used on the subjects. Considering the age of the subjects only the Nonverbal part of the test was used. This part comprises of - Picture Construction Activity, Incomplete Figures Activity, Triangles and Ellipses Activity.

#### Procedure

Data were collected from the children of the selected pre-schools and ICDS centres with the permission of the authority concerned. The standardized test was administered individually with proper instructions. The investigator was present while the child was responding and provided help for any kind of difficulty.

The information on the pre-school factors was collected from the respective class teachers with the help of the questionnaire prepared by the investigator.

In this Correlational research study descriptive statistics, one-way ANOVA and logistic regression were computed. The statistical analysis was carried out in SPSS-16.

### 3. Result and Discussion

**Table 1:** School wise distribution of the scores of creativity

Components of creativity	Type of pre-school	N	Mean	S.D.
Elaboration	Old	121	15.08	7.507
	New	69	16.01	6.837
	ICDS centres	35	14.00	5.765
Originality	Old	121	19.24	18.407
	New	69	19.67	16.512
	ICDS centres	35	16.69	17.228

School wise distribution shows that for both the components of creativity the mean values for both the old and new schools were more or less same. But the mean scores of the children belonging to Anganwadi are lower than the other two types of pre-schools. However, the F ratios (1.083 & .377) are not significant for both the components.

**Table 2:** Logistic Regression Analysis of Elaboration on selected variables

Variables	B	Standard Error	Likelihood Ratio	P value
Infrastructural facilities	-.130	.271	.231	.631
Method of teaching	.762	.275	7.669	.006
Curriculum	.687	.275	6.239	.012
Evaluation	.502	.271	3.444	.063

**Table 3:** Logistic Regression Analysis of Originality on selected variables

Variables	B	Standard Error	Likelihood Ratio	P value
Infrastructural facilities	.049	.272	.033	.856
Method of teaching	.660	.278	5.642	.018
Curriculum	.519	.277	3.511	.061
Evaluation	.220	.271	.657	.418

In the present study the effect of preschool factors on creativity has been assessed by logistic regression analysis. So infrastructural facilities, method of teaching, curriculum and evaluation followed in preschools have been considered as independent variables, and Elaboration and Originality as dependent variables. Both independent and dependent variables have been coded as 1 and 0 for scores above mean and below mean respectively. Table 2 and 3 represents the logistic regression analysis of Elaboration and Originality on the four important pre-school factors. By examining the P values it is evident that method of teaching, curriculum and evaluation are significant for Elaboration. In case of Originality, method of teaching and curriculum are significant. By analysing the B values it is seen that it is maximum for method of teaching for both Elaboration and Originality. Thus it can be said that Method of teaching is the most significant predictor of creativity. This finding is consistent with previous researches. Pelfrey, Regina Ed. D (2011) [5] have found that teachers who encourage collaboration, student choice, imagination, risk-free environment and use enquiry to facilitate learning, connect learning to student's lives, tie the arts into everyday learning for all students and accept more than one right answer during instruction can help in nurturing creativity to some extent.

**Table 4:** Effect of some items of pre-school factors on creativity: Summarized Results of One-Way ANOVA

Independent variable	Dependent Variable			
	Elaboration		Originality	
	F value	df	F value	df
Teacher- student ratio	10.248	221, 2	3.915	221,2
No. of classes	5.456*	221, 6	2.019	221,6
School timings	0.069	221, 2	0.382	221,2
Socio-Economic Status	5.207	221, 2	3.698	221,2
Playground	8.646**	223,1	3.155*	223,1
Snacks and meals	.605	223,1	.637	223,1
Quiet place in the classroom	.543	223,1	.769	223,1
Teacher's training	9.747**	223,1	5.386*	223,1
No. Of attendants	3.374	221, 1	0.278	221,1
Teaching aids	2.967**	221, 5	2.906**	221,5
Art & craft equipments	3.431**	221, 13	2.531**	221,13
Pre-School facilities	0.595	221, 5	1.720	221,5
Teacher's initiative	.310	223,1	.151	223,1
Accepting the responses	10.720**	223,1	5.836*	223,1
Encouraging to behave in own way	.002	223,1	1.384	223,1
Individual differences	.002	223,1	.235	223,1
Time allotted for art work	.599	222,2	1.724	222,2
Facilities for child	2.954	221, 5	2.697	221,5
Activities	9.614**	221, 3	4.878	221,3
Themes	3.644	221, 6	2.441	221,6
Emphasizing creative activities	7.881**	221, 4	3.364	221,4

\*\*Significant at .01 level

\*Significant at .05 level

It is evident from table 4 that teacher-student ratio, timings of the school, socio-economic status have no significant influence on the two components of creativity i.e. Elaboration and Originality. However, the type of classes has significant effect on elaboration. This means that teaching children in separate groups facilitates development of different ideas.

Necessary equipments for art and craft, sufficient teaching aids, teacher's training in ECE, play opportunities for the children significantly determine both the components of creativity.

Planning different types of activities for the children, emphasizing on creative activities are significantly associated with Elaboration. Teacher's accepting the divergent responses is significantly associated with both Elaboration and Originality which indicates that creativity can be stimulated by encouraging and accepting divergent responses from the children.

#### 4. Conclusion

The findings of the study are partially consistent with the earlier researches in this area. The children are able to produce a variety of original and novel responses. Among the preschool factors, infrastructural facilities and method of teaching have significant influence on creativity of pre-school children but method of teaching is the most significant predictor of creativity. So the study fulfils the first hypothesis but the second hypothesis which was to ascertain the relation between creativity and type of the pre-school has failed to produce any significant result and this may be due to

inadequate representation of the sample from the Anganwadis.

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