

IMPACT OF PRE-PRIMARY EDUCATION ON ACADEMIC ACHIEVEMENT OF ELEMENTARY SCHOOL STUDENTS IN BASIC SCHOOL SUBJECTS

Mrs. Swagatika Ray

Lecturer in Education, Rajdhani College, Bhubaneswar

Abstract

This paper highlights on the impact of pre-primary education on academic achievements of students at elementary level. The study was conducted in Nayagarh district on 120 sampled students. The findings of the study revealed that the students with Pre-Primary Education perform better in their oral and written test in Language, Numerical, Science and Social studies better than the students without Pre-Primary Education. The children with pre-primary education performed better than the children without Pre-Primary Education in language ability. The students with pre-primary school experience performed better in Numerical ability than the students without Pre-Primary Education experience. The children with Pre-primary Education performed better than the children without Pre-Primary Education in Science. There exists a significant difference between the achievement in social Studies of children with and without Pre-Primary.

Keywords: *pre-primary education, academic achievement and basic school subjects*



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Introduction

Education is a lifelong process which initiates from the womb to tomb. It helps the individual to develop his all potentialities by controlling the environment for his own successful life and living. Education starts its foundation from ones very early childhood on which whole super structure of educational achievement in all aspects of life can be shaped. This early childhood education is called pre-primary education. It starts from the age of three and ends at the age of six. As per the Indian Education Commission (1964-1966) early childhood education stimulates the beginnings of intellectual curiosity concerning the environment and to help them understanding the world in which they live and to foster new interest through opportunities to explore, investigate, experiment, with a view to promote physical, mental, social and aesthetic development of children. The pre-primary education occupies a pioneer role in the field of education. The modern trend in Educational policy is formed to emphasize pre-primary education especially for children for the age group from 3 years to 6 years in order to make integral development of little children. Early childhood is a state of wonder a time, when the world is fresh and every event is interesting. The child during this period tries to acquire control over the environment. The child is born without

fear and with a side eyed interest around his environment. So the child should be provided enriched environment for his sharp receptive mind to learn many things around him. Therefore, psychologists call this period as the period of plasticity as the impression that are made on the child's mind last throughout his life and influence his future career. Hence early childhood education should be free, flexible and comprehensive in finding the best ways of getting families and schools to work together.

Rationale of the Study

Present study emerges out of different reasons. There are some contradictory reports given by some earlier researchers related to the effectiveness of pre-primary education for better primary education. Some researchers reported that there is insignificant difference between the achievement of primary school students with and without pre-primary school experience. Some also reported that primary school students do better achievements with pre-primary education than without pre-primary education. Hence it is felt worthwhile to take this problem for further investigation.

Keeping the above facts into consideration the present problem has been selected for detail investigation. Chandrika (1989) reported that no sex difference was found in her study in the Raven's coloured progressive matrices and Weschler's Intelligence scale for children (WISE) scores. But Prabhakar (1989) reported that the achievement of girls with pre-primary schools experience performed better both in English and Mathematics than the girls without pre-primary schools experience, where as the difference is insignificant in case of boys with and without pre-primary school experience. Muralidharan and Benerji (1974) reported that children having Pre-Primary school experience had done consistently better in all aspects of language development in Primary School than the children without primary school. Das & Gary (1985) in their study reported that the children who had attended Pre-primary classes before joining primary class achieved slightly higher in class-V than who did not take Pre-Primary education. Whereas, Kasturi (1990) found that socio-economic status and Pre-Primary education have positive impact upon cognitive abilities. Age and Pre-School education have a significant effect on cognitive ability; also adolescent students performed significantly better than their Pre-adolescent counter parts, irrespective of their school experience. However, Mishra (1990) reported regarding the reason for failure of Pre-School education. The half percentage of teacher said that there was a negative attitude at the administrative level towards Pre-Schools and staff. So it is felt worthwhile to study the difference in achievement between boys and girls of primary schools children with and

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without pre-primary school experience. Hence the present study emerges out of above cited reasons and factors. The researcher has selected this topic entitled as “***Impact of Pre-Primary Education on Academic Achievement of Elementary School Students in Basic School Subjects***”.

Objectives of the Study

1. To study the overall achievement of elementary school students in basic school subjects with and without Pre-Primary education.
2. To compare the overall performance of elementary school students in basic school subjects like: language, mathematics, science and social science with and without having Pre-primary education.

Hypotheses of the Study

H₀1 There will be no significant difference in overall achievement of elementary school students in basic school subjects with and without Pre-Primary Education.

H₀2 There will be no significant difference in overall achievement of elementary school students in basic school subjects like language, mathematics, science and social science with and without Pre-Primary Education.

Methodology

The survey method was followed to carry out this research work. This method seemed most appropriate for this study. The study aimed at finding cause-effect relationship, the cause being the Pre-Primary education and the effect being performance at Primary school stage. Division of groups were already formed in this study such as students with and without Pre-Primary school experience. Hence, the investigator adopted the survey method for the researcher study.

Sample

The researcher adopted a mixture of three sampling methods for selection of students. First cluster method was followed four schools were selected randomly, two schools with Pre-Primary classes and other two schools without Pre-Primary classes, Secondly stratified methods was followed, i.e. 15 boys and 15 girls from each school were selected. Thirdly random sampling method was followed where only 15 boys and 15 girls were selected out of many students reading in that class.

The participants were the students of four Schools, out of which two schools are attached with Pre-Primary classes and other two schools without it. The first groups of schools are

Saraswati Sishu Mandir, at Nayagarh, and Saraswati Sishu Mandir, at Itamati. The other group of schools are college lane Primary school, Nayagarh and New Town Primary school,

Tools used

In the research study different tools and techniques are employed for the collection of data on the basis of which generalization is made and conclusions are arrived at. There are a lot of tools used and applied in order to collect data. Here the researcher used achievement test on Language, Numerical, Science and social studies as the objectives are to assess the performances in school subjects. Here the achievement test on different school subjects was used a tool. This achievement test questionnaire was prepared by the investigator with the help of the researcher's guide and other senior professors of the department of education. The test questionnaire was prepared on the syllabi for Class-I. This test measured the performance of the students with and without Pre-Primary education in Language, Numerical, science and social studies through oral and written test. Importance was given to knowledge, understanding and application ability on this achievement test. A blue print of this test has been prepared which shows the weightage to different subjects, objectives and type of test items.

Technique

For the present study mean, standard deviation and t-test were employed in order to compare the overall achievement in different individual subjects MEAN, SD and t-test were employed for subject wise comparison between students with and without Pre-Primary school experience. The difference between students with and without Pre-Primary education were tested for significance by t-test, for individual subject wise comparison mean, SD were also calculated and t-test was employed to know the significance difference between students with and without Pre-Primary education. Taking boys separately, their MEAN, SD were calculated for their performance in overall achievement for comparison. This technique was employed for girls with and without Pre-Primary education.

Procedure of Data Collection

The performance of the students with and without Pre-Primary education was tested by administering an achievement test questionnaires for Class-I syllabus. The questionnaire were administered among the students of selected schools i.e. two schools having Pre-Primary education facility and other two schools without it. First the investigator went to one school, met their Headmaster/Headmistress/Head Acharya and convinced them about the purpose of the present study. Then the investigator fixed the date for administration of the achievement

test with permission of the Head of the institution and the class teachers. On the fixed date the investigator went to the school. The questionnaire was administered among the sample of students taking 15 boys and 15 girls of class-I. Both written and oral test was held with the help of the class teacher. In this way data were collected from fixed four schools for necessary interpretation.

Data Analysis and Interpretation

Table-1: Overall Achievement of Students With and Without Pre-Primary Education

Subjects	Children With Pre-Primary School Experience			Children Without Pre-School Experience			t-value
	N	Mea n	S.D	N	MEA N	S.D	
Language, Numerical, Science, and Social Studies	60	57.65	14.83	60	50.85	18.90	3.1

Table-1 shows that overall achievement of students both in oral and written test, the t-value is 3.1 which is significant at 0.01 level with df 118. This reflects that there exists a significant difference between overall achievement of students with and without Pre-Primary education. In the light of this finding, the null hypothesis, namely there will be no significant difference between overall achievement of students with and without Pre-Primary education is rejected. As the Mean of the students having pre-Primary education is 57.65 and having no Pre-Primary education is 47.85, we can infer that achievement of students having Pre-primary education is significantly superior as compared to that of having no Pre-Primary education.

Table-2: Overall Achievement of Students With and Without Pre-Primary Education in Language

Subject	Children With Pre-School Experience			Children Without Pre-School Experience			t-ratio
	N	Mean	S.D	N	Mean	S.D	
Language	60	20.01	11.83	60	15.71	8.73	3.7

Table-2 shows that the calculated t-value for language study is 3.7 which is significant at 0.01 level of significance with df 118. This reflects that there exists a significant deference between language ability of students with and without having Pre-Primary education. In the light of this, the null hypothesis, namely, there will not be any significant difference between overall achievement in language ability of the students with and without Pre-Primary education, is rejected. Further, as the Mean of the language study of the students having Pre-primary education is 20.01 and that of students having no Pre-Primary education is 15.71, we

can infer that Pre-Primary experience is having significant contribution in language ability of the students.

Table-3: Overall Achievement of Students With and Without Pre-Primary Education in Numerical Ability

Subject	Children With Pre-Primary School Experience			Children Without Pre-Primary School Experience			t-ratio
	N	Mean	S.D	N	Mean	S.D	
Numerical	60	17.21	3.37	60	13.35	4.32	5.5

Table-3 shows that ‘t’ value for Numerical Test is 5.8 which is significant at 0.01 level with df=18. This reflects that there exists a significant difference between Numerical ability of students with and without Pre-Primary education. In the light of this result, the null hypotheses, namely there does not exist any significant difference between Numerical ability of the students having with and without Pre-Primary education is rejected. As the Mean of the Numerical study of the student with pre-primary education is 17.21 and that of students having no Pre-Primary education is 13.35, we can infer that the performance of students having Pre-Primary background is significantly better than the students having no Pre-Primary education.

Table-4: Overall Achievement of Students With and Without Pre-Primary Education in Science

Subject	Children With Pre-Primary School Experience			Children Without Pre-Primary School Experience			t-ratio
	N	Mean	S.D	N	MEAN	S.D	
Science	60	7.51	1.21	60	5.83	2.08	5.4

Table-4 shows that ‘t’ value for science Test is 5.4 which is significant at 0.01 level with df=118. This reflects that there exists a significant difference between science ability of students with and without having pre-primary experience. In the light of this, the null hypothesis, namely there does not exist any significant difference between science ability of children with and without Pre-Primary education is rejected. As the MEAN of science written test of the children with pre-primary education is 7.51 and that of children having no Pre-Primary education is 5.83, we can infer that Pre-primary experience is having significant contribution on science subject of the children.

Table-5: Overall Achievement of Children With and Without Pre-Primary Education in Social Studies

Subject	Children With Pre-School Experience			Children Without Pre-Primary School Experience			t-ratio
	N	Mean	S.D	N	MEAN	S.D	
Social Studies	60	7.69	2.07	60	6.21	2.51	3.8

Table-5 shows that ‘t’ value for social studies written test is 3.8 which is significant at 0.01 level with df=118. This reflects that there exists a significant difference between social studies ability of children with and without pre-primary education. In the light of this result, the null hypotheses, namely there does not exist any significant difference between social studies ability of the children having with and without pre-primary education is rejected. As the Mean of the social studies test of children with Pre-Primary education is 7.69 and that of children having no pre-Primary education is 6.21, we can infer that the performance of children having pre-Primary experience is significantly better than the children having no Pre-Primary school education have better impact on the performance in social studies ability.

Delimitation of the Study

The study was delimited to:

- ❖ Oriya medium school only.
- ❖ Class-I only.
- ❖ 15 boys and 15 girls from each school.
- ❖ Urban school only.
- ❖ Saraswati Sishu Mandir.
- ❖ Nayagarh District only.
- ❖ Survey method only.
- ❖ 120 samples only.

Major Findings

- i. There exists a significant difference between overall achievement of students with and without pre-primary education. This indicates that the students with Pre-Primary Education perform better in their oral and written test in Language, Numerical, Science and Social studies better than the students without Pre-Primary Education.
- ii. The children with pre-primary education performed better than the children without Pre-Primary Education in language ability.

- iii. The students with pre-primary school experience performed better in Numerical ability than the students without Pre-Primary Education experience.
- iv. The children with Pre-primary Education performed better than the children without Pre-Primary Education in Science.
- v. There exists a significant difference between the achievement in social Studies of children with and without Pre-Primary.

Educational Implication

It suggests that pre-primary education plays an important role in the learning, social development, and health of primary school children while there are arguments against pre-primary education, no research clearly supports not having pre-primary education. However, more research is needed to determine the current percentage of schools that have abolished the weightage to pre-primary education and assess the effort of no. pre-primary education policies on student test scores, attitudes and behaviours. Further special care should be taken for different school subjects at pre-primary level, for the cognitive development of the children.

For many years LB. Sharp's dictum "Those things which can be taught in the outdoors should there be taught" (Quoted by Donaldson and Donaldson, 1958) has been accepted as a truism by many nursery educators, and by extrapolation for all who promote outside the class room learning. Sharp, his associates, and their followers have provided numerous examples of situations where in the environmental learning was, or could be more effective than about the environmental learning in the class room. They also suggested that nursery or pre-primary education offers distinct educational advantages including cognitive ones, to other modes of instruction. Few of their pronouncements were supported by rigorous research; so sufficient weightage should be given to pre-primary education for the promotion of cognitive, affective and psychomotor domains of these students.

Suggestion for Further Research

1. Present study may be replicated for various grade levels, for different type of schools, for different level of organisational instructors, for different content areas, for different schools subjects over a large sample to confirm the generalizability of the results and conclusions of the study.
2. Research needs to be conducted to study the feasibility in terms of cultural milieu and teachers acceptance.

3. Effect of pre-primary education may also be studied in relation to individual differences and intelligence.
4. Variable like pupils cognitive level variability of schools, students background, conceptual level, environmental factors, creative potential and the like can be studied in relation to pre-primary education.
5. Studies can be undertaken on pre-primary education and its relation to the development of ten common core components that need to be developed at elementary stage, according to NPE-1986.
6. From the findings it is suggested that there may be pre-primary schools all over states in our country for all children within the age group +3 to +6 years irrespective of their caste, class, socio-economic status, sex etc.
7. The Government may make provision for pre-primary education centres in all parts of the State with necessary financial provision.
8. Teacher training institutions may give training to the Pre-Primary schools teachers for better pre-primary education for little children.
9. Provisions may be made at the administrative level to improve the existing pre-primary schools in different States now in our country.

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