



## **Role of co-Curricular Activities On Academic Performance Of Students: A Case Study In Some Secondary Schools Of Burdwan District In West Bengal,India**

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### **Abstract:**

*This study attempts to analyze the impact of co-curricular activities of some secondary level school students in Burdwan district of West Bengal. The study covers two hundred students both in urban and rural areas encompassing students consisting of boys' and girls'. The whole students (N = 200) were divided into two equal groups: one is experimental and the other is control group. The pre-test and post-test scores were used to evaluate the impact of co-curricular activities on academic score of the students. The present study also covers one hundred teachers and schools' authorities as well as guardians to find out the relationship between co-curricular activities and academic achievement of students. The results of 'Chi-square' test revealed that co-curricular activities have had a significant positive impact on academic level achievement of students. A binary logit regression model has been used to determine the extent of relationship between co-curricular activities and academic achievement of students. Moreover, students'-t test has also been used to examine the assumed hypothesis whether any variation among pre-test and post-test situations within boys' and girls' as well as urban and rural students exist or not. Finally, the result revealed that the students of experimental group showed better performance than the students of control group as a whole.*

**Key words:**Co-curricular activities, Academic performance, Chi-square test.

### **1.Introduction**

A co-curricular activity is defined as a program or out-of-class activity, supervised and/or financed by the school, which provides curriculum-related learning and character building experiences. Co-curricular activities are voluntary, are not part of the regular school curriculum, are not graded and do not earn credits. In other words, "Co-curricular activities" means activities conducted on or off school premises by clubs, associations, and organizations of pupils sponsored by the Board of Education. "Co-curricular activities" also includes the pupil clubs, associations, and organizations that conduct those activities. It does not include athletic competitions or practices or athletic teams or organizations (Kochhar, 1990). Co-curricular activities (CCAs), previously known as Extracurricular Activities (ECA) are activities that educational organizations in some parts of the world create for school students. They are activities which all school students must attend alongside. Co-curricular activities may often believe extra activities for school students are a means to enhance social interaction, leadership, healthy recreation, self-discipline and self-confidence. At higher levels of education, CCA participation may even translate into academic points (Ahmad). Although several studies have been conducted to assess the impact of co-curricular activities for all round development of students ( Kumar et al, 2004; Broh, 2002; Darling et al, 2005; Marsh and Kleitman, 2002; Thompson and Austin, 2003; Mahoney et al, 2003; Bauer and Liang, 2003 etc.), however, no systematic effort has yet been made to look into the role of co-curricular activities on various dimensions of achievement of students in a comprehensive manner. This paper attempts to explore the impact of co-curricular activities in academic achievement of students and its associated linkages to personality development of children in the secondary schools of Burdwan district in West Bengal.

### **2.Objectives**

The objectives framed in this study are as follows-

To enumerate the importance of co-curricular activities in school education.

To assess the role of co-curricular activities on academic achievement of students.

To find out the factors which are sole responsible for academic achievement among the school students through the active participation of co-curricular activities.

### **3.Hypotheses**

The hypotheses selected in our study are-

### *3.1.Null Hypotheses*

The null hypotheses are the following -

Is there any significant association between co-curricular activities and academic achievement among students?

There is no significant variation between the academic score of the students involved in co-curricular activities as compared to those who did not take part in co-curricular activities for boys.

There is no significant variation between the academic score of the students involved in co-curricular activities as compared to those who did not take part in co-curricular activities for girls.

There is no significant variation between the academic score of the students involved in co-curricular activities as compared to those who did not take part in co-curricular activities for urban students.

There is no significant variation between the academic score of the students involved in co-curricular activities as compared to those who did not take part in co-curricular activities for rural students.

### *3.2.Alternative Hypotheses*

The alternative hypotheses are –

There is significant association between education and secularism among students.

There is significant difference between the academic score of the students involved in co-curricular activities as compared to those who did not take part in co-curricular activities for boys.

There is significant difference between the academic score of the students involved in co-curricular activities as compared to those who did not take part in co-curricular activities for girls.

There is significant difference between the academic score of the students involved in co-curricular activities compared to those who did not take part in co-curricular activities for urban students.

There is significant difference between the academic score of the students involved in co-curricular activities compared to those who do not take part in co-curricular activities for rural students.

#### 4.Data Source And Methodology

The study is mainly experimental in nature. The primary data has been collected during 2011-2012 from 200 Secondary school students and 100 teachers, guardians and schools' authorities both in urban as well as in rural areas in Burdwan district in West Bengal. By dividing the whole students into two specific groups (experimental and control) academic scores of the students (both at the pre-test and post-test situations) have been collected. The following factors have been selected to analyze the effect of co-curricular activities on academic performance of students (Rasid et al, 2005):

Exercise

Creativity

Self-expression

Appreciative activities

Social administration

A binary logit model has been used in order to analyze the effect of the above selected factors on academic achievement of the students. Moreover, students't- test has been used to examine the selected hypotheses (Kumar et al, 2004).

#### 5.Results & Observations

##### 5.1.Co-Curricular Activities And Academic Performance Of Students:A Non-Parametric Analysis

The present study has attempted to make an assessment of perceptions of the guardians of students, teachers and school authorities about the role of school's co-curricular activities on academic achievement of students of the secondary level school's students in terms of non-parametric 'Chi-square' analysis. The opinions of the respondents collected from the field survey can be expressed in the following table (vide table- 1).

Respondents	Yes	Uncertain	No	Total
Guardians	30	15	05	50
Teachers and Authorities	35	05	10	50
Total	65	20	15	100

*Table 1: Opinions Of Different Respondents Selected For The Study*

*Source: Field Survey, 2011-12*

The calculated value and the observed value of 'Chi-square' are shown in the table below (vide table 2).

Variables compared	Calculated value ( $\chi^2$ )	Critical value (5% level)	Critical value (1% level)	Degrees of freedom	Remark	
					5 %	1 %
Co-curricular activities and Academic achievement of students	7.04	5.99	9.21	2	Significant (P< 0.05)	Insignificant (P>0.01)

*Table 2: Testing Of The Hypothesis*

*Source: Authors' Calculation Based On Field Survey, 2011-12*

It should be noted (Vide table- 2) that the observed value of Chi-square ( $\chi^2$ ) i.e., 7.04 is less than the critical value at 1 % of significance (i.e.,  $\chi^2_{.01, d.f. 2} = 9.210$  for degrees of freedom 2 but more than the value at 5 % level of significance, therefore the null hypothesis is rejected and the alternative hypothesis is accepted at 5 % level of significance. So, we can conclude that there exists significant association between school's co-curricular activities and academic performance among the students (Darling et al, 2005; Broh, 2002).

### *5.2.Co-Curricular Activities And Academic Performance Of Students: An Analysis Of Binary Logit Regression*

The term co-curricular activity is a multi-dimensional analysis. This depends on the availability of various kinds of school's infrastructural facilities as well as home atmosphere of the students. Since the ideal environment of learning depends on both mental and physical development of the students. For the sake of simplicity, we have selected a set of indicators (as indicated in our methodological portion) influencing the academic achievement of students. Now an attempt has been made to explain the determinants of the academic achievement among students through co-curricular activities on the basis of a set of selected variables by a binary logit model.

<b>AAS = C<sub>0</sub> + C<sub>1</sub>*E + C<sub>2</sub>* C + C<sub>3</sub>*SE + C<sub>4</sub>*AA + C<sub>5</sub>*SA</b>				
<b>Variable</b>	<b>Coefficient</b>	<b>Std. Error</b>	<b>Z-Stat</b>	<b>Prob.</b>
C	-9.321456	2.324651	5.145872	0.0000
Exercise	0.002514	0.002175	4.254136	0.0000
Creativity	3.215436	1.532451	5.274168	0.0000
Self-expression	4.315487	0.458631	6.345617	0.0000
Appreciative activities	6.234579	1.258745	5.145892	0.0000
Social administration	1.254816	0.546129	0.487562	0.6152
Mean dependent var	0.325461	SD dependent var		0.854632
S.E. of regression	0.584761	Akaike info criterion		0.546128
Sum squared resid	11.124758	Schwarz criterion		0.253614
Log Likelihood	-52.25461	Hannan-Quinn criter		0.187654
Restr. Log likelihood	-324.2413	Avg. log likelihood		-0.065123
LR statistic(5df)	489.3546	McFaddenR-squared		0.324156
Probability (LR stat)	0.00000	-		-

*Table 3: Logit Analysis Describing Role Of School's Co-Curricular Activities On Academic Achievement Of Students*

*Source: Authors' Calculation Based On Field Survey, 2011-12*

*Dependent Variable = Academic Achievement Of Students*

*Total Number Of Observations = 100*

*Note: AAS = Academic Achievement Of Students; E = Exercise; C = Creativity; SE = Self Expression; AA = Appreciative Activities; SA = Social Administration*

It is evident from the results (Vide table 3) that all the factors (e.g., exercise; creativity, self expression, appreciative activities, social administration) have been found to be positively associated with the academic achievement among the students. But it is

interesting to note that the probabilities of all the factors except social administration by the students have been found to be highly significant. Although the coefficient of the explanatory variable i.e., 'social administration of students' suffers from the problem of insignificance. This suggest one important view that in order to enhance the better academic achievement through co-curricular activities among students, proper control by the school and home must be ensured (Thomson and Austin, 2003).

### *5.3.Co-Curricular Activity And Academic Achievement Of Students: An Analysis In Pre-Test And Post-Test Situations*

The effect of co-curricular activity on academic performance of students have been experimented at the pre-test scores (i.e.' group of students who did not take part in co-curricular activities) and post-test scores (i.e., group of students who did take part in co-curricular activities).

#### 5.3.1.Pre-Test Situation

The estimated t-test results including calculated mean and standard deviation (S.D.) of boys', girls' and rural as well as urban students at the pre-test situations are shown in terms of table- 4,5,6,7.

<b>Group</b>	<b>Sample(N)</b>	<b>Mean</b>	<b>S.D.</b>	<b>t</b>	<b>Prob.</b>	<b>df</b>
Experimental	50	33.79	8.13	1.84	P> 0.05	98
Control	50	32.82	8.91			

*Table 4: Comparison Of Mean Scores Of Boys' Students On Experimental And Control Groups At Pre-Test Situation*

*Source: Authors' Calculation Based On Field Survey, 2011-12*

<b>Group</b>	<b>Sample(N)</b>	<b>Mean</b>	<b>S.D.</b>	<b>t</b>	<b>Prob.</b>	<b>df</b>
Experimental	50	34.25	8.52	1.79	P> 0.05	98
Control	50	31.46	8.72			

*Table 5: Comparison Of Mean Scores Of Girls' Students On Experimental And Control Groups At Pre-Test Situation*

*Source: Authors' Calculation Based On Field Survey, 2011-12*

Group	Sample(N)	Mean	S.D.	t	Prob.	df
Experimental	50	34.21	8.35	1.74	P> 0.05	98
Control	50	33.93	8.71			

*Table 6: Comparison Of Mean Scores Of Urban Students On Experimental And Control Groups At Pre-Test Situation*

*Source: Authors' Calculation Based On Field Survey, 2011-12*

Group	Sample(N)	Mean	S.D.	t	Prob.	df
Experimental	50	34.54	8.14	1.66	P> 0.05	98
Control	50	32.19	9.11			

*Table 7: Comparison Of Mean Scores Of Rural Students On Experimental And Control Groups At Pre-Test situation*

*Source: Authors' Calculation Based On Field Survey, 2011-12*

The results indicated that the calculated values of t are less than the tabulated values at 5 % level of significance and there is slight variation of mean and S.D. This means that the null hypotheses are accepted indicating that there is no significant variation between the academic score of the students between the control groups (i.e., groups not involved in co-curricular activities) and experimental groups (i.e., involved in co-curricular activities) for boys', girls' and urban as well as rural students (Mohoney et al, 2003).

### 5.3.2. Post-Test Situation

The estimated values of t, mean and S.D. of the experimental and control groups of students are shown in the following table (vide table- 8, 9, 10, 11). The calculated values of sample mean and S.D. showed significant variation which means that co-curricular activities act as an conducive factor for better academic scores of the students.

Group	Sample(N)	Mean	S.D.	t	Prob.	df
Experimental	50	57.32	13.57	3.93	P< 0.05	98
Control	50	45.21	14.29			

*Table 8: Comparison of mean scores of boys' students on experimental and control groups at post-test situation*

*Source: Authors' calculation based on field survey, 2011-12*



Group	Sample(N)	Mean	S.D.	t	Prob.	df
Experimental	50	57.10	13.15	3.56	P< 0.05	98
Control	50	43.25	14.12			

*Table 9: Comparison Of Mean Scores Of Girls' Students On Experimental And Control Groups At Post-Test Situation*

*Source: Authors' Calculation Based On Field Survey, 2011-12*

Group	Sample(N)	Mean	S.D.	t	Prob.	df
Experimental	50	56.34	12.69	3.12	P< 0.05	98
Control	50	44.37	13.24			

*Table 10: Comparison Of Mean Scores Of Urban Students On Experimental And Control Groups At Post-Test Situation*

*Source: Authors' Calculation Based On Field Survey, 2011-12*

Group	Sample(N)	Mean	S.D.	t	Prob.	df
Experimental	50	55.13	12.14	3.05	P< 0.05	98
Control	50	42.57	13.20			

*Table 11: Comparison Of Mean Scores Of Rural Students On Experimental And Control Groups At Post-Test Situation*

*Source: Authors' Calculation Based On Field Survey, 2011-12*

Again the critical values of t in all the cases are greater than the tabulated values at 5 % level of significance with significant variation of mean and S.D. Therefore, we can conclude that the performance of the experimental groups of boys', girls' and urban, rural students are significantly better than the control groups at the post-test situations (Marsh and Kleitman, 2002; Bauer and Liang).

## **6. Conclusion**

This paper highlights the role of factors affecting extent of academic achievement of secondary level school students of Burdwan district in the state of West Bengal. The result revealed a significant positive association between co-curricular activities and academic achievement of students. The results further indicated that there has been significant positive influence of co-curricular activities of students in experimental groups as compared to students of control groups by considering pre-test and post-test

scores. Finally, it is concluded that co-curricular activities should be organized in a school in such a way so that each student participates, contributes his maximum and prepares himself for becoming a good citizen of the society (Aggarwal, 1994).

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