

Academic Achievement of Science Students of B.Ed Course : A Comparative Study on Kolkata Region

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ABSTRACT: A comparative study was conducted on Academic Achievement of B.Ed students of science subjects. Participants in the study were 100 students, where 50 boys and 50 girls from science stream of different B.Ed colleges at Kolkata. The obtained academic score referred year wise performance of students. The achievement scores were calculated by using the Mean, Paired t-test of significance and One Way ANOVA. Results indicated that academic achievement profile of boys significantly differs from that of girls, though girls had a higher mean score of achievement than boys. The gradual progress of boys and girls in three consecutive years is also differs from each other.

Key words: Academic Achievement, Comparative study, Science, B.Ed College

1. Introduction:

Achievement is the end-product of all educational endeavors. Academic achievement of pupils refers to the knowledge attained and skills developed in academic subjects. So, academic achievement means the achievement of students in the academic subjects in relation to their knowledge attaining ability or degree of competence in college tasks usually measured by standardized tests and expressed in grades or units based on pupil's performance.

Good (1959) refers to academic achievement as, "the knowledge attained or skills developed in the school subjects usually designed by test scores or marks assigned by the teacher". Crow and Crow (1969) defined academic achievement as the extent to which a learner is profiting from instructions in a given area of learning.

The world is becoming more and more competitive time to time. Quality of performance has become the key factor for personal progress. The importance of academic achievement has raised important questions for educational researchers. Studies have been conducted from time to time on academic achievement. The present researcher also felt a need to conduct this research because various studies have been conducted on academic achievement in different places but scanty study has been conducted in B.ed area specially. Therefore the present researcher has made a humble attempt to conduct a comparative study on the academic achievement of boys and girls of three consecutive years studying in different B.ed colleges.

2. Brief Review of Related Literature :

Hafiz, M., & Dilruba, S, Y. (2013) studied on a comparative study of scientific temper and academic achievement of kashmiri and pakhtoon students. The results show that the attitude of Kashmiri and Pakhtoon girls towards science is similar. The attitude of Kashmiri boys and Pakhtoon boys towards science is similar. Kashmiri boys showed better academic achievement than Pakhtoon boys. Kashmiri girls showed better academic achievement than the Pakhtoon girls.

Maryam, S., & Siti, A, H. (2013) studied on performance among male and female Iranian eighth grades students. The results indicated that there is a statistically significant difference between boys and girls in science performance. In the science performance; the mean of the girls group is more than the boys.

Olaitan, W., & Olusegun, J. (2013) studied on a comparative study of the classroom treatment of male and female students of the Federal Polytechnic. This study concludes that gender does not play any significant role on how students perceive their class experiences and interactions. Teachers should engage in gender-neutral practices that promote equal opportunities for both males and females.

Parveen, A., Syed, N., & Syed, K, Nazir. (2013) studied on comparative study of the academic achievement of 10th class boys and girls studying in different high schools of District Pulwama of (J&K). The study concludes that the boys and girls have not shown any significant difference in academic achievement in General Science. Boys and girls have not shown any significant difference in academic achievement in Math.

Sarwat, M., Safia, S., & Manzoor, H, A. (2013) studied on attitude towards mathematics and academic achievement in mathematics among secondary level boys and girls. The result shows that boys differed in their mathematical achievement from girls. Girls achieved better results as compared to boys.

Yusuf, Y, O., & Yakubu, K, O. (2013) studied on comparative study of gender difference performance in geography: A case study of some selected schools in Zaria inspectorate division of Kaduna state, Nigeria. The findings show that the girls perform better than boys in Geography in the selected schools. There is no significant difference in their achievements as the correlation between the two is relatively high.

Hashemi, S, A., & Ghaffari, S. (2014) studied on investigating the relationship between learning strategies and motivational strategies with academic achievement of high school students in the academic year 2013-2014 in lamerd city. Results of this study showed that the relationship between academic achievement and homework worth is significant. There was a negative relationship between test anxiety and academic achievement. There was a significant relationship with academic achievement and the expansion.

Petter, W, H. (2014) studied on academic achievement of a student is greatly influenced by several psychological and sociological correlates. The results show that the co-education students are better than the boys in the socio-economic status of state board schools. Co-education students are better than boys and girls in their academic achievement of state board schools.

Suvarna, V, D. (2014) studied on a study of stress management in relation to emotional intelligence of B.ed students at mandya district. The study told that the 8.20% of B.Ed students falling under stress management score at high level and 1.85% at low level. 25.66% of B.Ed students falling under emotional intelligence score at high level and 2.64% at low level.

3. Method of Study :

3.1 Research Gap : From the above literature I would like to conclude that some predominant literature and research present in academic achievement of boys and girls in geography and science, especially in mathematics of secondary and higher secondary standard, academic achievement of boys and girls in polytechnic. But there is scanty research present in -

- a. The academic achievement of boys and girls in B.Ed Course.
- b. The gradual progress of academic achievement between boys and girls in B.Ed Course.

3.2 Research Question : After going through the literature obviously some natural questions arises. They are -

- a. Is there any comparison of academic achievement between boys and girls of B.Ed Course?
- b. Is there any significant difference of gradual progress of academic achievement between boys and girls in three consecutive years?

3.3 Objectives :

- a. To determine the comparison of the academic achievement between boys and girls of B.Ed Course.
- b. To study the gradual progress of academic achievement between boys and girls in three consecutive years.

3.4 Hypotheses:

- a. There would be no significant difference of academic achievement between boys and girls of B.Ed Course.
- b. There would be no significant difference in gradual progress of academic achievement between boys and girls in three consecutive years.

4. Research Methodology:

4.1 Sample Size: The present study was conducted on a sample of 100 students, where 50 boys and 50 girls from B.Ed colleges.

4.2 Sample Area: The study was conducted at two B.Ed Colleges of Kolkata. They were

- (i) Kamala Devi Sohan Raj Singhvi Jain College of Education, Cossipore,
- (ii) Gangadharpur Sikshan Mandir, Gangadharpur, Howrah.

4.3 Sampling Techniques: Survey method was adopted here. Interview following discussion was the technique to collect data. Information Blank was developed by the researcher to ascertain the subject wise marks obtained by the students in the science subjects of B.Ed course.

4.4 SAMPLING TOOL:

- a. The data was subjected to statistical analysis by computing Mean and Paired t-test of significance.
- b. The data was subjected to statistical analysis by computing One Way ANOVA.

5. Analysis :

Table 5.1 : Comparison of the academic achievement between boys and Girls of B.ed course.

Source : Calculation done by authors

t-Test: Paired Two Sample for Means		
	<i>BOY</i>	<i>GIRL</i>
Mean	68.7	70.82
Variance	120.1734694	78.88530612
Observations	50	50
Pearson Correlation	0.101511684	
Hypothesized Mean Difference	0	
df	49	
t Stat	-1.119543826	
P(T<=t) one-tail	0.134183064	
t Critical one-tail	1.676550893	
P(T<=t) two-tail	0.268366128	
t Critical two-tail	2.009575199	

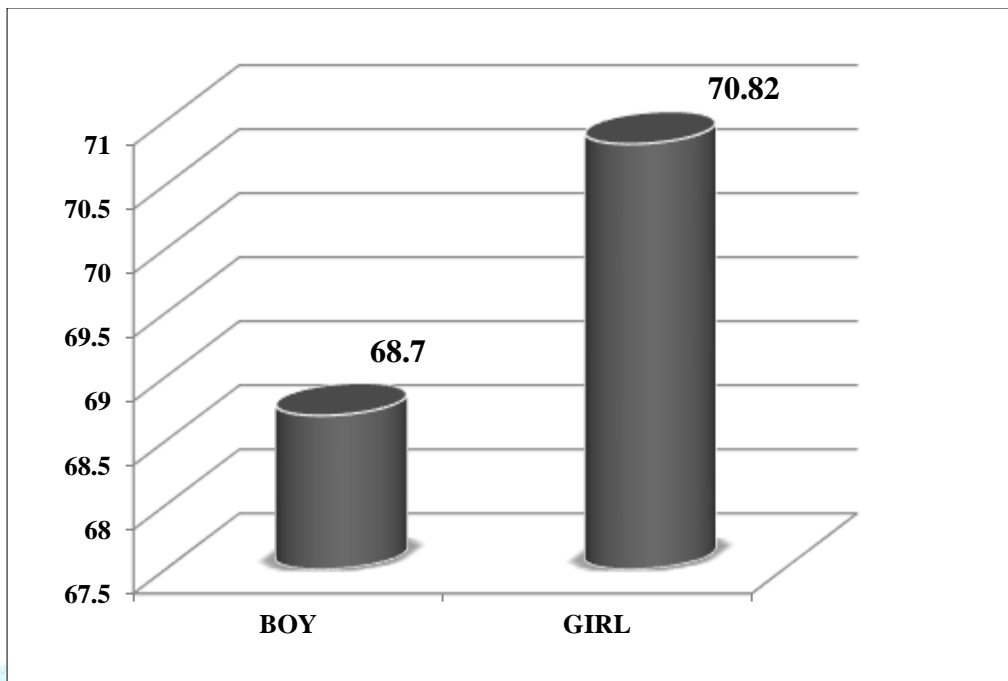


Chart 5.1 : Graphical representation of the mean score of boys and girls

Source : Calculated by authors

Table 5.2 : Gradual progress of academic achievement of boys in three consecutive years

Source : Calculated by authors

Anova: Single Factor						
SUMMARY (Achievement Score of Boys)						
Groups	Count	Sum	Average	Variance		
Year 1	15	1163	77.53333	50.26667		
Year 2	17	1260	74.11765	53.36029		
Year 3	18	1288	71.55556	92.14379		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F _{crit}
Between Groups	292.6375	2	146.3188	2.201379	0.121932	3.20
Within Groups	3123.942	47	66.46686			

Total	3416.58	49
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Table 5.3 : Gradual progress of academic achievement of girls in three consecutive years

Source : Calculated by authors

Anova: Single Factor						
SUMMARY (Achievement Score of Girls)						
Groups	Count	Sum	Average	Variance		
Year 1	16	1117	69.8125	152.6958		
Year 2	17	1182	69.52941	132.7647		
Year 3	17	1136	66.82353	86.40441		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	91.35662	2	45.67831	0.370334	0.6925	3.195
Within Groups	5797.143	47	123.3435			
Total	5888.5	49				

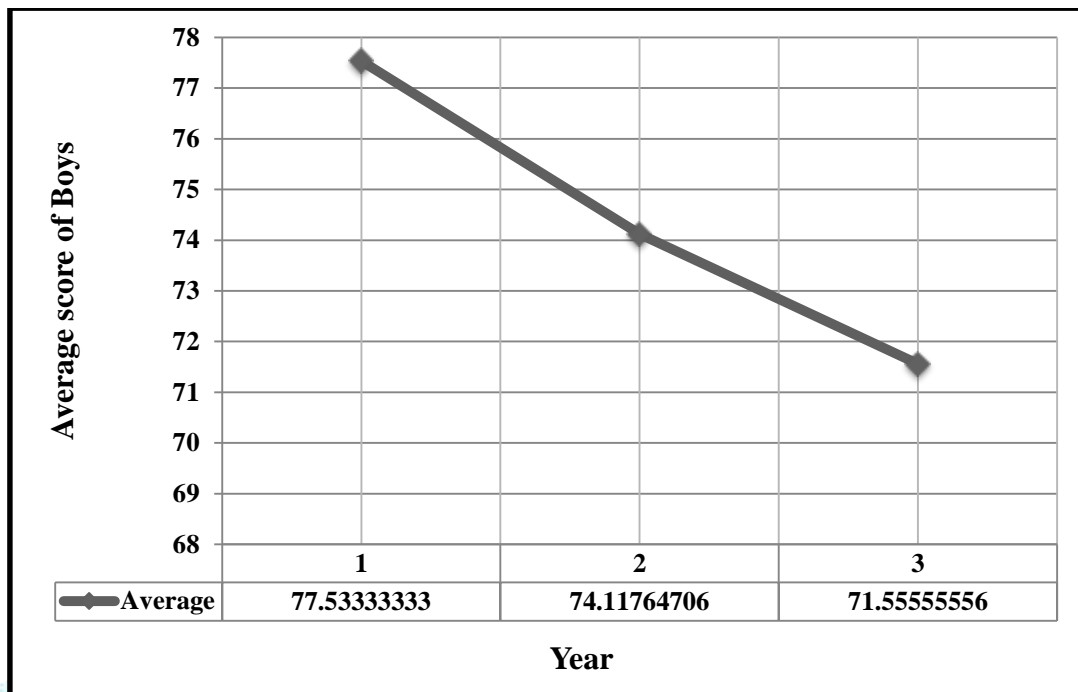


Chart 5.2 : Graphical representation of the average score of boys

Source : Calculation done by authors

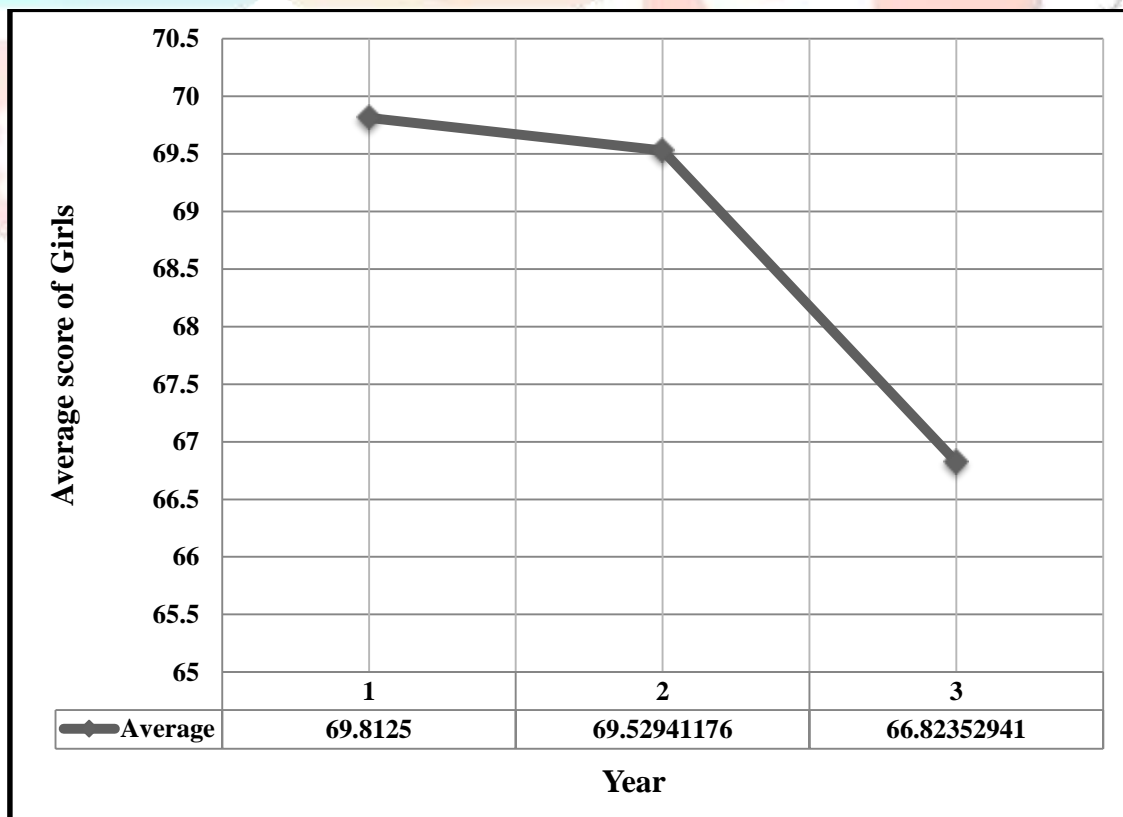


Chart 5.3 : Graphical representation of the average score of girls

Source : Calculation done by authors

6. Results and Discussion :

According to the statistical representation of the data regarding the comparison of the academic achievement of boys and girls, Table 5.1 shows that, the p-value of two tailed t-test is 0.2683, which is less than significance level of 0.05 ($\alpha = 2.0095$). It is the strong evidence against null hypothesis. So the null hypothesis is rejected.

Chart 5.1 shows that the mean score of boys and girls are 68.7 and 70.82 respectively. We can conclude that there is a significant difference of academic achievement between boys and girls of B.Ed course.

On the other hand, the study shows that in case of both boys and girls the critical values (α) for column 2 and row 47 are 3.20 and 3.195 at 5% level of significance respectively. Table 5.2 shows that the p-value for boys is 0.12 and Table 5.3 shows that the p-value for girls is 0.69, that is in both cases the p-value $< \alpha$. So the null hypothesis is rejected at 5% level of significance.

Chart 5.2 and Chart 5.3 shows the graphical representation of average score of boys and girls respectively in three consecutive years. Therefore we can conclude that there is a significant difference in gradual progress of academic achievement between boys and girls in three consecutive years.

7. Conclusion :

With the help of this study, we came to know the academic achievement of boys and girls is not same. Teacher plays the most important role in academic grows up of a student. A teacher after knowing the academic score of students can change his teaching methodologies, teaching aptitude and attitude towards this group in order to get good academic results. Hence academic achievement occupies a very important place in education as well as in the learning process. The present study shall be the guideline for the future education trainers, teachers and policy makers while taking any decision regarding the education of girl students.

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