



## Academic Achievement Among Tribal Students

### KEYWORDS

Tribal students, ashram schools, academic achievement, minimum level of learning, teaching methodologies

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**ABSTRACT** A study was undertaken in three ashram schools in tribal areas on 60 male and 120 female students were included. The group tests, namely Culture Fair Intelligence Test (CFIT) and Draw-a-Man Test of Intelligence (DMTI) was administered for assessing learning abilities. The Achievement Values Anxiety Inventory (AVAI) and School Adjustment Inventory (SAI) was administered to assess the achievement motivation and adjustment at school respectively. It was thus revealed that the students have potential to excel in academics but their academic achievement is low. The study concluded that the role of gender in academic performance is limited.

### Introduction

Academic achievement is the ability to learn and incorporate in behaviour at respective levels of the standard. It also denotes the knowledge attained and skill developed in the school curriculum. A reliable indicator of achievement and learning outcomes is a child is learning effectively, acquiring knowledge and skills, and growing socially and morally (Aggarwal, 2000; Govinda, 2002). According to Li (2007) in most countries males had significantly higher average marks than females in both mathematical literacy and in advanced mathematics in the final years of secondary school. The analysis of the Progress in International Reading Literacy Study (PIRLS) confirms the findings on skill-related gender differences for younger students. (Mullis, 2004a and 2004b; Mullis, 2007). Moreover, recent studies show that gender disparities in education have been changing in favour of girls, both in terms of participation and performance (Jha and Kelleher, 2006). Vijayalaxmi and Natesan (1992) studied factors influencing academic achievement and their findings showed that girls had a higher mean academic achievement compared to boys. Among various empirical studies conducted regarding academic achievement of tribals, research by Sujata (1987) and Govinda (2002) suggests that tribal children do possess the basic cognitive abilities and psychological dispositions for successful participation in schools. In a study conducted by Jabbi and Rajalakshmi (2001), it was found that most of the tribal children have cognitive abilities desirable for educational development irrespective of age and sex. In spite of this, studies on learning achievements of tribal children, both girls and boys at primary classes have shown lower levels of achievements as compared to non-tribals (Singh 1996). The objectives of the study were: to study the academic achievement of tribal students of ashram schools, to study the impact of gender and innate and learned behaviour on academic achievement and to suggest appropriate strategies for improvement in academic achievement.

### Methodology :

Qualitative data related to school, teaching methodologies and family background was collected For Minimum Levels of Learning (MLL), a test used in Sarva Shiksha Abhiyan (SSA) was administered to respective grades. Draw-a-Man Test of Intelligence (DMTI) by Pramila Phatak, 1956; and Culture Fair Intelligence Test (CFIT) by Cattell and Cattell, 1920 were administered for measuring learning abilities. School Adjustment Inventory (SAI) by Sinha and Singh, 1971 was administered for assessing the nature of school adjustment among students. Achievement Values Anxiety Inventory (AVAI) by Prayag Mehta was administered for assessing the motivation levels.

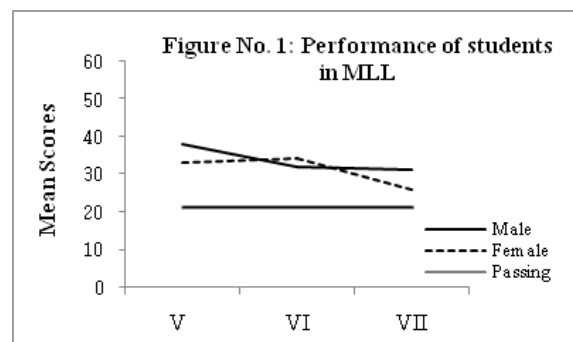
### Data and analysis :

The socio-economic situation of students shows 80% parents

are either illiterate and 90% belong to BPL category. Basic facilities are not available in 50% families, parents interaction with teachers was minimal. It was also found that there is no significant gender discrimination at family level in case of children. Absenteeism is high among both boys and girls. It is thus noted that family background is not conducive irrespective of gender.

### Academic Achievement:

The trend in subject-wise achievement levels in MLL indicates that students have gained the attainment levels expected at respective grades as seen from the mean scores. It is also observed that the performance in Marathi is highest among the three subjects and lowest in Maths with respect to both gender and grade, indicating that the students are not only weak in this difficulty level of Maths but this will also affect the performance in this subject in semester examination. It is also observed that the achievement rises steadily, between grade V and VI, but drops thereafter. The variation according to grade is significant ( $F=6.053, p \leq 0.05$ ). The trend is similar among both male and female students (Fig 1). The score of male students is marginally higher than the female students but the variation is not significant ( $F=1.315, n.s. p \leq 0.05$ ).

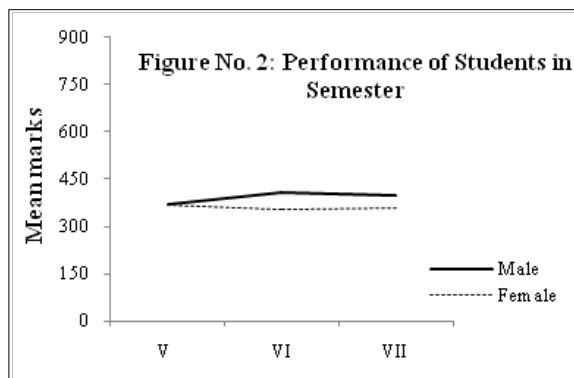


Subject-wise analysis indicates that the performance of students is better in Marathi and the students are able to understand and score better with progressive grades ( $F=6.654, p \leq 0.05$ ). The achievement in Maths is lowest which is indicative of the fact that the students will not be able to perform well in semester examination since the competency is low. The trend also shows that there is steady, marginal improvement in performance between V and VI grade. This drops after VI which corresponds with the trend in MLL. This is likely because the students may not be able to cope with the increasing complexities in the curriculum.

### Performance in semester :

Semester exam conducted by schools is based on curriculum

and the performance in semester is an indicator of learning attainment in the respective grades. In this context, the data was collected for Marathi, English and Maths (maximum obtainable marks per subject :100). The achievement in semester was analysed on basis of performance in these three subjects and aggregate performance in all subjects (maximum obtainable marks: total 900). The data is presented in Fig. 2.



It is observed that in grade V, female students scored higher than male while male students performed better than female

**Table No. 1: Performance of Students in Tests for Learning Abilities**

Test for Learning Abilities	N =	V		VI		VII		Gender Grade	
		Male	Female	Male	Female	Male	Female	F	F
CFIT	Mean	12	12	15	16	18	14	3.327	9.043
	SD	6.541	4.83	6.166	4.041	5.779	4.034		
DMTI	Mean	57	53	59	57	63	65	1.551	21.139
	SD	9.167	7.678	8.226	8.878	10.3	8.807		

The performance of students in CFIT and DMTI indicates that learning abilities gradually strengthen with progressive grade (that is age). In case of performance in CFIT, mean the score of female students is lower than male and this corresponds to the low scores in tests for academic achievement also. The CFIT is oriented towards logical abilities and hence it may be concluded that the logical abilities of male students in the sample may be marginally higher than the female students. The F score for gender (3.327 n.s.  $p \leq .05$ ) and grade ( $F = 9.043$ , n.s.  $p \leq .05$ ) indicate that the variation is not significant. In case of performance in DMTI test which is oriented towards memory and creativity, the performance of both male and female students shows consistent improvement from V to VII, but the rate of improvement among female students is higher among female. It is also observed that they surpass the male students marginally in grade VII though they performed lower in V. There is a possibility that the components of memory, abstract thinking and creativity grow with age and are stronger among female. The F score for gender (1.551) and grade (21.139) indicates no significant relationship with learning abilities showing that the variation observed is not critical.

**School Adjustment:**

Table 3 shows adjustment of students with respect to school atmosphere, motivation to adjust and relationship with peers.

School Adjustment	Std	V		VI		VII		Gender	
		Sex	Male	Female	Male	Female	Male	Female	F
School Environment	Mean	6	6	6	6	6	6	0.000	1.157
	SD	1.590	1.634	1.209	1.146	2.036	1.141		
Efforts	Mean	20	18	21	22	21	21	0.475	3.781*
	SD	5.480	5.227	6.949	5.870	8.525	6.215		
Relationship with teachers	Mean	8	8	8	9	8	8	0.019	2.834
	SD	1.544	2.361	2.272	1.944	2.229	1.890		

in Maths. Performance of male students in Marathi and English shows progress till VII but performance in Maths declines. In case of female students, the performance in Marathi and English remains stable but declines in Maths. The declining trend in Maths corresponds with decline in trend in MLL – Maths. The F values indicate that the variation in performance according to subject and grade is not significant. The declining trend in Maths and lack of improvement among female students is a matter of concern. It also highlights that the students have acquired the basic competencies (as seen in performance in MLL) but they are unable to perform in semester exam which is based on curriculum.

**Learning Abilities :**

Data indicates normal distribution in scores of in both CFIT and DMTI. The scores are consistent across the dimensions of gender and grade. Marginal variation is observed in scores but this is not significant as seen from the ANOVA values for both CFIT and DMTI. It can be concluded that the students have potential to acquire competencies and ability to learn, assimilate and recall the content of the curriculum for excelling in academic activities. This is irrespective of gender and grade. It reiterates findings of other relevant research which established that tribal students have potential to excel in school education.

**Achievement Motivation:**

Achievement motivation has gained importance in context of school education since it has an impact on urge to take initiatives and efforts to learn. It is a contributory factor for success in academic activities and the results are reflected in performance of students in curricular and co-curricular activities. The data in this context is presented in table 2.

Test	Std	VI		VII		Gender
		Male	Female	Male	Female	
AVAI	Mean	21	23	22	39	0.679
	SD	7.914	7.29	3.672	7.544	

The data presented in table 4 shows that the motivation level as measured by AVAI is marginally higher among female students compared to male but the relationship is not significant ( $F = 0.679$  n.s.  $p \leq 0.05$ ). The mean values are more than 50% indicating that majority students are motivated to learn and school and make efforts to excel irrespective of gender and grade.

Relationship with peers	Mean	9	7	8	8	7	8	0.136	0.016
	SD	2.683	2.817	2.562	2.551	3.664	2.823		
School Adjustment	Mean	48	44	49	50	48	49	0.306	2.982*
	SD	16	49	21	33	22	39		

Statistical analysis for association, correlation and regression was conducted for understand the relationship between these factors and academic achievement. The results are presented in table 4.

Data analysis shows significant association between performance in semester exam and learning abilities. This is consistent with findings of study by Laidra, Pullmann, & Allik (2007) that students' achievement relied most strongly on their cognitive abilities through all grade levels rather than gender. Data also indicates that school adjustment ( $R = 0.035$ ,  $p \leq 0.05$ ) and achievement motivation ( $R = 8.329$   $p \leq 0.05$ ) have maximum impact on performance in semester examination. In case of MLL, all three factors have significant impact as indicated by the regression values when considered in isolation. It can be concluded that since no major impact of gender and grade on academic achievement has

been observed, the variation in performance is due to varying levels of learning ability, school adjustment and motivation.

#### Conclusion :

Comparison of trends in performance of students shows that intrinsic factors (learning abilities, school adjustment and achievement motivation of the students) improve with progressive grades irrespective of gender. Statistical analysis shows significant and direct relationship between intrinsic factors and academic achievement. In spite of this, the performance of students is low especially in mathematics at all levels. Further, the overall performance in semester and MLL decreases with progressive grades though the intrinsic factors show rising trend. This reflects influence of proximate and extrinsic factors associated with quality of education and family background.

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