



## Gender-based Aspects Of Academic Achievement Among Tribal Students

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### Abstract:

*Academic achievement is a critical dimension of learning at school and reflects acquisition of competencies to meet the challenges in education at school level and beyond. Several studies have highlighted that trends in academic achievement varies between male and female students at all levels in education. Though the gap is narrowing, much remains to be done to bridge the difference. On this background, a study was undertaken in three ashram schools in tribal areas of Ahmednagar district, Maharashtra state. Total 60 male and 120 female students were included in the study. The data related to school infrastructure was collected with help of schedule for School Profile and parents and teachers were interviewed with respective interview schedule. The marks of students in semester exam were compiled to understand their performance in curriculum-based assessment while test for Minimum Level of Learning was administered to measure the basic competencies attained at respective grades. 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. The data was analysed gender and grade-wise. The findings revealed that the students have acquired basic competencies in corresponding grades. Male and female students alike underperformed in Maths compared to languages with male students performing marginally higher than females. Similar trend was observed in case of semester exam but the performance was poor since majority students barely passed the exam. The gender difference is not significant. In case of learning abilities, the performance of students was similar irrespective of gender. The motivation level of female students was higher than male while level of school adjustment was same among male and female students. 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. Unfavourable family background, low quality of education at school and inconsistencies in curriculum are proximate and most significant factors affecting the academic achievement of the tribal students.

**KEY WORDS:** Tribal students, ashram schools, academic achievement, minimum level of learning, teaching methodologies.

### INTRODUCTION

Academic achievement is the extent to which a learner is profiting from instructions in a given area of learning and achievement is reflected by the extent to which skill and knowledge has been imparted.

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It also denotes the knowledge attained and skill developed in the school curriculum, usually designated by test scores. A reliable indicator of achievement and learning outcomes is whether a child is learning effectively, acquiring knowledge and skills, and growing socially and morally (Aggarwal, 2000; Govinda, 2002). Academic achievement has several biological, psychological, and social dimensions which are inter-related. These involve innate factors like learning abilities and achievement motivation and learned behaviour, mainly involving adjustment. The influence of external factors related to family background and quality of education is also critical in context of academic achievement.

It is observed that academic achievement varies across gender, geographical areas, social class and cultures. Among these, gender disparity in education is an old phenomenon and traditionally girls have been at a disadvantage. However, the present, general trends shows that gender disparities in education are turning in favour of girls in terms of participation and performance the disparities are narrowing. Underachievement of girls in maths has narrowed in all countries, and in some countries it is nil or has been reversed while underachievement of boys in reading remains considerable.

To date theoretical frameworks detailing gender inequity in academics have essentially been divided between biological factors, socialization factors, supported and/or a combination of the nature vs nurture theory (Campbell, Verna and O'Connor-Petruso, 2004), suggests that while genes (nature) would account for no more than 50% of variance for most traits, the other 50% can be attributed to family and environmental factors (nurture) (Plomin, 1997).

#### PREVIOUS STUDIES

Trends in International Mathematics and Science Study (TIMSS) is one of the most comprehensive examinations of students' learning of mathematics and science across national boundaries (Mullis et al. 2000). The authors examined these gender differences among Asian countries, European countries, and America and analyzed these disparities in terms of the accepted gender paradigms developed to explain the variations. According to Li (2007) the findings of the TIMSS reveal that 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 results of the Programme for International Student Assessment (PISA) also shows significant gender gaps in performance across fields of study at the age of fifteen. In all OECD countries, while males show a lower engagement in reading, females reported higher levels of anxiety with respect to mathematics. Additionally, the analysis of the Progress in International Reading Literacy Study (PIRLS) confirms the findings on skill-related gender differences for younger students. For example, girls have better reading skills than boys at the age of nine (Mullis, Martin, Gonzalez and Chrostowski, 2004a and 2004b; Mullis, Martin and Kennedy, 2007). In the 1980s and 1990s gender research gained attention and revealed a slight but consistent male advantage in mathematics, as boys tend to outperform girls (Linn and Hyde, 1989). Gender plays a minor role in explaining the differences in mathematics and science, and slightly larger role with respect to reading (Francis 2000; Pickering 1997; Salisbury and Jackson 1996; Skelton 1997). Recent investigation has shown conflicting findings. While some studies suggest that gender variations remain static despite innumerable efforts to ameliorate them (Campbell, Verna and O'Connor-Petruso, 2004), other authors have shown a narrowing trend in the gender gap over time (Connolly, Hatchetter and McMaster, 1999; Hyde, Fennema and Lamon, 1990). Additionally, a body of research has found that gender differences in math performance do not really exist in the general population because girls now perform as well as boys on standardized tests (Hyde and Mertz, 2009). 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. The most visible and clear gender difference is the advantage of girls in reading. In mathematics, boys and girls have similar results in the fourth and eighth year of schooling. Boys' advantage emerges in the later school years and is especially noticeable among students in the same study programmes/streams and year groups. Gender differences in science achievement are the smallest (Education, Audiovisual and Culture Executive Agency, 2009). All these empirical studies were focussed on general population and proportion of minority population like tribals was negligible. 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 (Shukla et al, 1998; Kingdon 1996; Aggarwal 2000, Singh 1996). It has also been found that the achievement gap between tribal children and others is larger in mathematics than in language (Singh, 1996).

Numerous researches have thus presented empirical evidence regarding gender disparity in academic achievement of male and female students. All these studies have highlighted that though gender differences are observed, gender is only one of the factors that account for variation in achievement in different subject fields; socio-economic status is a more significant factor. The literature thus reveals that gender-wise variation in academic achievement among students is an outcome of differences in innate and learned behaviour factors which translate into variation in academic achievement. These gender differences in turn are influenced by biological, psycho-social and socio-cultural factors. Research on gender differences shows that it is difficult to separate gender-specific innate from learned behaviours in context of academic achievement since these are deeply interlinked.

The current study is an effort to gain holistic understanding regarding gender differences in light of learning abilities, achievement motivation and school adjustment in addition to socio economic status and quality of education at schools. The specific objectives of the study are:

1. To study the academic achievement of tribal students of ashram schools.
2. To study the impact of gender and innate and learned behaviour on academic achievement
3. To suggest appropriate strategies for improvement in academic achievement.

The study was conducted in three Ashram Schools in Akole Block (area covered under TSP) of Ahmednager district in Maharashtra State. Several interventions are being made through TSP, schemes like Sarva Shiksha Abhiyan and other non-government organisations for educational development of tribals in this area.

The ashram schools were selected for the study as they met the criteria of inclusion under TSP, classes up to secondary level and located in vicinity of tribal community. Based on these criteria, three schools Kohane Madyamik Shasakiya Ashram Shala, Kohane, Kothale Prathamik Madhyamik Anudanit Ashram Shala, Kothale, Mutkhel Madhyamik Shasakiya Ashram Shala, Mutkhel (hereafter called as Kohane, Kothale and Mutkhel. Total of 180 students studying in grade V, VI and VII. were selected. The sample included 60 male and 120 female. The sample was skewed due to two reasons:

- 1) The enrolment of girls was high in these schools since they were in proximity to the community. The boys had been enrolled in schools located farther.
- 2) Absenteeism among students was high due to which number of students appearing all the tests was low. Due to this, several students were dropped from the study.

#### **METHODOLOGY**

Qualitative data related to school (infrastructure in the school, co-curricular activities), teaching methodologies and family background was collected with help of Schedule for School Profile and Interview Schedule for teachers. Interview Schedule was used for collecting data related to socio-economic background of the students. The marks obtained in semester exam were considered for assessing curriculum-based achievement. For measuring basic competencies, Minimum Levels of Learning (MLL), a test used in Sarva Shiksha Abhiyan (SSA) was administered to respective grades. The MLL is related with expected level of grade-specific skills of 3 R's and basic knowledge of Marathi, English and Maths. 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. All the tests were administered in groups and performance of students was measured according to standardised norms. Though optimum score obtainable in MLL test is 20 for each subject, the actual scores were converted into scores out of 100 so as to make the comparison of the scores of the test and marks obtained in the semester exam easier.

Data and analysis

#### **FAMILY BACKGROUND**

The socio-economic situation of students was studied to understand the factors related to education of parents, resources for education and awareness and perception of parents regarding education.

The qualitative findings revealed that there are average five members in the family. Total 80% parents are either illiterate or educated up to primary level. All families are economically vulnerable and 90% belong to BPL category. Basic facilities like electricity, T.V., radio, etc. are not available in 50% families, leading to lack of exposure to development beyond the tribal environment. Their interaction with teachers is minimal. It was also found that there is no significant gender discrimination at family level in case of children. Both have equal share in meagre resources, engage in family occupation or domestic activities. Efforts of parents for educational development were not observed in either of the cases. Absenteeism is high among both boys and girls. It is thus noted that family background is not conducive irrespective of gender.

#### QUALITY OF EDUCATION

All three schools have necessary infrastructure, but it is insufficient and not maintained. Separate classrooms as per norms are available, but maintenance is low. The classrooms are not properly lighted and ventilated. The roofs leak and walls dampen during monsoon. Two schools do not have benches upto upper primary level. The classroom environment thus is not conducive for the teaching – learning process. Learning facilities like laboratory and library are not available in these schools and computers are defunct. Residential facilities are available only for girls and boys stay in classrooms along with their belongings after school hours. The hostels of girls are overcrowded and poorly maintained. Sanitation facilities are inadequate and ill maintained, causing considerable difficulties to the female students. The school infrastructure is thus inadequate irrespective of gender and grade.

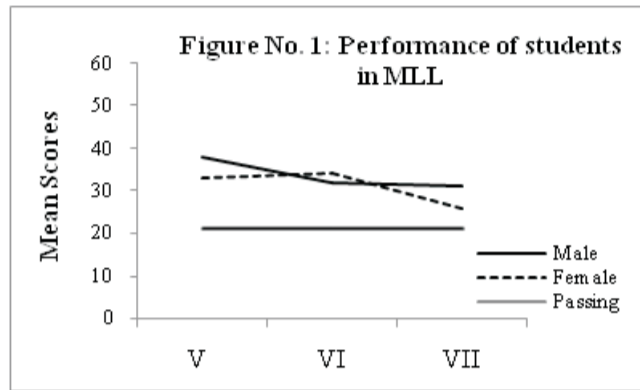
Interviews of teachers revealed that the teaching methodology is restricted to reading and explaining from textbook. There is dearth of teaching aids which compounds the problems created by lack of learning facilities and inconsistencies in curriculum in context of natural and socio-cultural tribal environment. This causes considerable difficulties to teachers. Regarding gender – specific performance of students, there is no particular trend between male and female students. The response to teaching and efforts to excel is low among both according to the teachers.

The discussions revealed that the motivation level of teachers is low partly due to reasons related to resources teaching, low response of students, lack of co-operation from parents, isolation, lack of adequate residential facilities, and frequent transfers. This further impacts the quality of teaching leading to low performance of the students.

#### 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 ( $F=6.053, p < 0.05$ ). The trend is similar among both male and female students. The score of male students is marginally higher than the female students but the variation is not significant ( $F=1.315, n.s. p > 0.05$ ).

MLL	Grade	V		VI		VII		Gender	Std
		Male	Female	Male	Female	Male	Female		
	N	17	49	21	33	22	39	F	F
MLL Marathi (out of 20)	Mean	13	13	15	17	15	12	0.376	4.908
	SD	5.310	6.001	4.875	3.260	5.282	5.550		
MLL English (out of 20)	Mean	14	12	11	9	8	7	3.113	21.083
	SD	4.440	4.364	4.117	4.106	4.123	4.231		
MLL Maths (out of 20)	Mean	10	8	6	8	8	7	0.059	1.802
	SD	8.687	5.418	4.512	3.704	4.488	4.391		
MLL Total (out of 60)	Mean	38	33	32	34	31	26	1.315	6.053*
	SD	14.496	12.163	9.631	8.551	8.831	10.831		

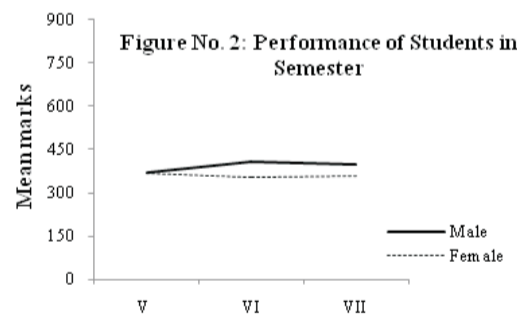


Analysis of data related to performance of students in MLL in each grade indicates that the variation is not significant both in context of gender and grade, though performance of male students and overall performance of students from VI is marginally higher. Subject- wise analysis indicates that the performance of students is better in Marathi and the students are able to understand and score better with progressive grades ( $F=6.654, p < 0.05$ ). The achievement in Maths is lowest which is an 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 table 2.

Semester	Std	V		VI		VII		Sex	Std
		Male	Female	Male	Female	Male	Female		
	N	17	49	21	33	22	39		
Marathi (out of 100)	Mean	35	37	45	42	54	46	1.691	6.654*
	SD	9.666	15.921	21.928	24.188	19.653	21.973		
English (out of 100)	Mean	29	30	38	34	36	34	0.572	1.708
	SD	20.575	14.862	14.993	21.006	16.422	19.436		
Maths (out of 100)	Mean	39	33	33	28	28	20	3.596	8.001
	SD	17.055	15.150	22.534	17.450	15.819	13.824		
Total (out of 900)	Mean	372	369	409	354	397	359	2.240	0.023
	SD	99.428	66.608	167.160	177.602	139.620	165.870		



The data in table 2 shows that overall performance is low in semester compared to MLL in all three subjects, and lowest in Maths. It is observed that in grade V, female students scored higher than male while male students performed better than female 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.

The findings regarding achievement of tribal students show that the trends are similar among tribal male and female students are similar to non-tribal and are consistent with the evidence-based conclusions drawn in the studies conducted previously. The analysis of national standardized tests and international comparisons have shown that the gender gap in maths performance may increase with age. Research has demonstrated that sex differences between boys and girls emerge in adolescence, when girls begin to lag behind boys in maths (Hyde et al., 2008). A study by Kaur and Gill (1993) showed that achievement in English and total achievement was independent of sex, but boys scored higher than girls in achievement in Mathematics. The analysis reinforces that lack of quality education and inconsistencies in curriculum in context of tribal environment are the critical factors related to school systems affecting the performance of students.

#### LEARNING ABILITIES

The learning abilities are genetic and universal in nature irrespective of social environment. In context of performance in school, the potential of a student to progress is directly linked to his / her abilities. These abilities can be enhanced to certain extent by providing stimulating environment and opportunities for application of these abilities in academic and non-academic situation. An objective and scientific assessment of learning abilities was conducted to understand the potential of the tribal students to excel in academic activities. Since exact age of students was not available, class was treated as proxy.

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.

Test for Learning Abilities		V		VI		VII		Gender	Grade
		Male	Female	Male	Female	Male	Female		
	N	17	49	21	33	22	39	F	F
CFIT	Mean	12	12	15	16	18	14	3.327	9.043
	SD	6.541	4.830	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	10.300	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 . 0.05) and grade (F = 9.043, n.s. p . 0.05) 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.

Research investigating gender differences in learning abilities concludes that in present times, boys and girls have similar levels of ability (NAS, 2006). Most of the literature has focused on similarities and differences in average scores on different cognitive measures. While females excel at many memory tasks including memory for objects and location, episodic memory, reading literacy or speech fluency, males stand out in visuospatial transformations, especially mental rotation. Even if there are gender gaps in spatial abilities, it is not clear whether such differences can be attributed to biological or social causes (Linn and Petersen, 1985). The fact that males and females can improve in any cognitive area (Halpern, 2006) means that the skills they possess are more likely to be attributable to differences in training rather than to innate ability (Hyde and Mertz, 2009).

The analysis of data regarding learning abilities of tribal students shows that their abilities are comparable to non-tribals and trends are similar with no significant difference between male and female students.

#### 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 4.

Test	Std	VI		VII		Gender
		Male	Female	Male	Female	
		21	33	22	39	
AVAI	Mean	21	23	20	22	0.679
	SD	7.914	7.290	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.  $p > 0.05$ ). 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. It is consistent with the finding of Keeves (1972, 1973) examined gender differences in the early studies and concluded (Keeves, 1986) that gender acts as an antecedent for motivation.

#### SCHOOLADJUSTMENT

School adjustment of the students was studied across dimensions of general school atmosphere, motivation of students to adjust, support of teachers and relationship with peers. School atmosphere included factors like quality of infrastructure, learning facilities, residential facilities and their utilisation by students. The dimension of motivation included aspects like willingness of students to adjust, efforts for excelling in academics and attitude towards education. The dimension of relationship with peers, involved aspects such as role of peers in school adjustment, their co-operation in curricular and co-curricular activities and their support in solving difficulties at personal level. The dimension of relationship with teachers involved, quality of teaching, attitude of teachers towards students, guidance at individual level and discipline. In the dimension of support of parents, their attitude towards education of child, awareness regarding his / her progress and interaction with children and teachers for understanding their difficulties were included. Table 5 shows adjustment of students with respect to school atmosphere, motivation to adjust and relationship with peers.

School Adjustment	Std	V		VI		VII		Gender	Std
		Male	Female	Male	Female	Male	Female		
		17	49	21	33	22	39		
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		
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		

The data presented in table 5 shows that the school adjustment among majority students is above average irrespective of gender and grade. The students are well adjusted with general school atmosphere and limited facilities. This could be because the facilities available at school are better than their homes and though limited and ill maintained, these suffice needs of the students. Score for relationship with teacher does not vary according to grade and gender. This is because interaction between students and teachers is very limited and does not vary according to gender or grade. The scores for relationship with peers also do not vary. Majority students belong to same community and are familiar to each other since community bonding among tribals is strong. It is observed that among various components of school adjustment, efforts at individual level and overall school adjustment increase with progressive grades. This is also an indicator of growing maturity and sense of responsibility among the students. It is also observed that overall school adjustment level rises with progressive grades.

Effort was made to understand the impact of learning abilities, school adjustment and achievement motivation on academic achievement since these are critical for success in academics. 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 6.

Factors	Test	Semester						MLL	
		N	$\chi^2$	r	F	$\chi^2$	r	F	
Learning Ability	CFIT	180	0.061*	0.281	3.508	0.002*	0.236	10.461*	
	DMTI	180	0.040*	0.139	0.025	0.535	-0.050	11.799*	
School Adjustment	SAI	180	0.042*	0.035*	3.853*	0.029*	0.201	5.616*	
Motivation	AVAI	115	0.013*	0.163	8.329*	0.098	0.184	10.793*	

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 ( $R = 0.035$ ,  $p = 0.05$ ) and achievement motivation ( $R = 8.329$ ,  $p = 0.05$ ) 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.

Gender of the student does not influence academic achievement. This is because the abilities, adjustment and motivation among male and female students is comparable. Students of both gender have disadvantaged family background and quality of education also remains constant. Due to this, it is observed that the performance of students is low with no significant differential between achievement of male and female students. Qualitative analysis indicates that low quality of teaching, inconsistencies in curriculum, isolation and unfavourable family background are the foremost factors affecting academic achievement of the students. Focussed, consistent and long term interventions are essential to mitigate the impact of these factors. The quality of teaching can be improved by conducting intensive trainings for teachers, providing orientation and incentives for adjusting with tribal environment and making arrangements for basic facilities. The schools should also be provided adequate teaching – learning material and learning facilities. Orientation to parents regarding education and performance of their children is essential to gain their co-operation and maintaining consistency in attendance by students. The curriculum should be modified to suit the learning needs of the students and supplementary study material should be developed to enhance their understanding. Integrated implementation of these measures is likely to lead to desired impact of



improvement in academic achievement of tribal students and bridge the academic divide between tribal and non-tribal population.

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