

Differential Analysis on Academic Achievement

Summary of test of significance of difference between the means of contrasts of the sample on the Academic achievement

Variation	Sub Samples	N	Mean	SD	S _{ED}	df	't'	Remark
Gender	Boys	240	57.89	13.4	1.22	478	1.172	NS
	Vs. Girls	240	59.32	13.2				
Locale	Rural	240	56.85	12.0	0.782	478	2.894	S(p<.01)
	Vs. Urban	240	60.36	14.3				
Management	Govt.	240	49.45	6.85	0.782	478	20.615	S(p<.01)
	Vs. Private	240	67.77	11.9				

On perusal of the table it was evident that the obtained value of 't' ratio in case of gender variation (1.17) was lesser than the tabulated value (1.96) at 0.05 level of significance and for 478 degrees of freedom. As the 't' ratio in case of gender variation was not significant, the null hypotheses that there is no significant difference in the academic achievement of students with regard to gender variation could not be rejected. The result was in conformity with earlier studies conducted by Rafai (2008).

The 't' ratio was significant at 0.01(2.58) level of significance in the locale variation. The 't' ratio in case of locale variation (2.894) was less than the tabulated value (2.58) at 0.01 level of significance for 478 degrees of freedom. Hence the 't' ratio in case of locale variation was significant. So, the null hypotheses that there does not exist significant difference in the academic achievement of students with regard to locale variation was rejected. This revealed that there existed significant difference in the academic achievement of rural and urban students. The result was in conformity with studies conducted by Mohanty (2007) Rafai (2008). Therefore the investigator desired to conclude that the urban students displayed more achievement than that of the rural students. The study revealed the urban people consciousness to grow in education.

The 't' ratio in case of management variation (20.615) was higher than the tabulated value (2.58) at 0.01 level of significance for 478 degrees of freedom. As the 't' ratio in case of management variation was significant, the null hypothesis that there is no significant difference in the academic achievement of the students with regard to management variation was rejected. This revealed that there existed significant difference in academic achievement of government and non-government school students. The result was in conformity with studies conducted

by Mohanty (2007) and Rafai (2008). Therefore, the investigator desired to conclude that the non-government students displayed more achievement than that of the government students. In urban areas, the non-government institutions were very popular and advanced compared to government institutions. Hence this result was obtained.

Main and interaction effect of the Subsamples on academic achievement

Source	Sum of Squares	df	Mean Square	F	Sig.	Remarks
Gender	245.102	1	245.102	2.784	.096	NS
Locale	1473.502	1	1473.502	16.738	.000	S p <.01
MGMT	40278.352	1	40278.352	457.545	.000	S p <.01
Gender & locale	1.302	1	1.302	.015	.903	NS
Gender & MGMT	32.552	1	32.552	.370	.543	NS
Locale & MGMT	1980.469	1	1980.469	22.497	.000	S p <.01
Gender , locale & MGMT	20.419	1	20.419	.232	.630	NS
Error	41550.883	472	88.032			
Corrected Total	85582.581	479				

On perusal of the table it was observed that the main effect of gender variation was non significant, where as locale and management variations did have significant effects. The 'F' ratio was significant at 0.01 level (critical value of 'F' for df (1, 479) at 0.01 level being 6.69 and calculated value being 16.738 for locale and 457.545 for management variation). In case of interaction effect of gender, locale and management variation it was non significant.

Relationship Study

Coefficients of correlation between self-concept and academic achievement

Subsamples	N	Self-concept and Academic achievement	Level of Significance
Total Sample	480	0.193	S p<.01
Total Boys	240	0.113	NS
Total Girls	240	0.142	S p<0.05
Total Rural	240	0.102	NS
Total urban	240	0.140	S p<.05
Total Government	240	0.254	S p< 0.01
Total Non Government	240	0.213	S p < .01

The 'r' values as presented in table 23, indicated significant relationship at 0.01 level in case of total sample and total government as well as non-government subsamples. It was non-significant in case of boys and rural, but significant at 0.05 level in case of girls & urban subsamples. Hence the investigator desired to conclude that there exists positive significant relationship between self-concept and academic achievement.

Chi-square test of independence between self-concept and academic achievement

		Self-concept			Total
		High	Average	Low	
Academic Achievement	High	32	83	30	145
	Average	34	105	68	207
	Low	21	72	35	128
Total		87	260	133	480

df = 4 = 2.78 at 0.05 and 4.60 at 0.01 level of significance

$$\chi^2 = 10.77, p < 0.01.$$

The computed value of chi-square being 10.77 is much higher than both the critical values of chi-square at 0.05 and 0.01 levels. Hence it is taken to be quite significant. Consequently the null hypothesis that there is no significant relationship between self-concept and academic achievement was rejected. Such a result gave evidence in support of the attribute of self-concept that the predictor differentiates the high, average and low scoring groups on academic achievement.

Coefficient of correlation between achievement motivation and academic achievement

Subsamples	N	'r' Achievement Motivation and Academic Achievement	Level of Significance
Total Sample	480	0.189	S p < .01
Total Boys	240	0.187	S p < .01
Total Girls	240	0.189	S p < .01
Total Rural	240	0.144	S p < 0.05
Total urban	240	0.121	NS
Total Government	240	0.193	S p < .01
Total Non Government	240	0.139	S p < .05

'r' df 478 at 0.05 = 0.088 and 0.01 = 0.115

'r' df 238 at 0.05 = 0.138 and 0.01 = 0.181

On perusal of the table 25, it was observed that significant relationship was there at 0.01 level in case of total sample, boys, girls and total government subsamples. It was also quite evident that the 'r' values are significant at 0.05 level of significance for total rural and total non - government subsample. The investigator therefore desired to conclude that there does exist significant relationship between achievement motivation and academic achievement

Chi-square test of independence between achievement motivation and academic achievement

		Achievement motivation			Total
		High	Average	Low	
Academic Achievement	High	24	58	37	145
	Average	59	102	68	207
	Low	39	60	33	128
Total		122	220	138	480

χ^2 (df = 4) 2.78 at 0.05 and 4.60 at 0.01 level of significance

$\chi^2 = 3.394$

The computed value of chi-square being 3.394 was found to be significant at 0.05 level of significance for four degrees of freedom. Such a result gave evidence in support of the attribute of achievement motivation that the predictor differentiated the high, average and low scoring groups on academic achievement.

Coefficients of correlation between self-concept and achievement motivation

Subsamples	N	Self-concept and Achievement motivation (<i>r</i>)	Level of Significance
Total Sample	480	0.191	S p < .01
Total Boys	240	0.143	S p < .05
Total Girls	240	0.225	S p < .01
Total Rural	240	0.131	NS
Total urban	240	0.189	S (p < .01)
Total Government	240	0.170	NS
Total Non Government	240	0.151	S (p < .05)

r df 478 at 0.05 = 0.088 and 0.01 = 0.115
 r df 238 at 0.05 = 0.138 and 0.01 = 0.18

From the table it was quite evident that the ‘ r ’ values was significant in total sample boys, girls, total urban and total non government. Hence the investigator desired to conclude that there existed positive significant relationship between self-concept and achievement motivation

Chi-square test of independence between self-concept and academic achievement

		Self-concept			Total
		High	Average	Low	
Academic Achievement	High	26	94	27	147
	Average	16	122	66	204
	Low	35	52	42	129
Total		77	260	133	480

χ^2 df = 4 (2.78) at 0.05 and 4.60 at 0.01 level of significance

$\chi^2 = 32.99$

The computed value of chi-square being 32.995 was much higher than both the critical values of chi-square at 0.05 and 0.01 levels. Hence it is taken to be quite significant. Consequently the null hypothesis that there is no significant relationship between self-concept and achievement motivation is rejected. This

gave evidence in support of the attribute of self-concept that the predictor differentiates the high, average and low scoring groups on achievement motivation.

Study of Contribution of the Predicting Variables to the Criterion Measure

Zero- order correlation between the variables

Variables	Correlation co-efficient <i>R</i>	Level of significance
Self-concept and Academic Achievement	0.193	S (p < .01)
Achievement Motivation and Academic Achievement	0.189	S (p < .01)
Self-concept and Achievement Motivation	0.191	S (p < .01)

$r_{0.05 \text{ for df } 478} = 0.88$

$r_{0.01 \text{ for df } 478} = 0.115$

On perusal of the above table, it was observed that the variables are having very high and positive correlations with each other. All of them were significant at 0.01 level of significance. Therefore, the null-hypotheses formulated in relation to the relationship between any two variables were all rejected. Relationship of self-concept with academic achievement, achievement motivation with academic achievement and self-concept with achievement motivation were found to be positive and significant. The studies of Mohanty (1997), Laskar (2008) also established strong positive relationship with self-concept and academic achievement, studies of Mishra (2007), Bari (2008) established relationship with achievement motivation and academic achievement. Hence the investigator was inclined to conclude that these existed positive significant relationship between self-concept, achievement motivation and academic achievement.

Conclusions: One of the findings of the study was that non significant difference was observed in the self concept of the student gender, locale and management variation. Therefore, conclusion is drawn to the effect that in spite of variations in gender, locality and management of the institutions students didn't have difference in the way they look at themselves and the personality characteristics including the cognitive structure they takes into account a set of attitudes, values that means the personality of self –esteem, self concept and self confidence and how pupils view themselves are all exhibited by everybody in the same quantum and same degree.

This revealed that self concept wise all the adolescents displayed their characteristics equally.

The second finding of the study was in respect of non significant difference in achievement motivation with regard to gender and locale variation but significant differences in relation to management variation therefore, conclusion is drawn in the following way.

Students reading in non government schools by paying exorbitant fees are well aware of the value of such expense and the need to achieve. Achievement motivation in non government school students were less compared to the government school students who had incurred in less education. Thus the study purports to encourage non government students to grow as more accountability of teachers and more dedication and devotion to duty are observed.

Another finding of the study was the significant difference in the academic achievement of the students with regard to locale and management variation. Therefore conclusion is drawn to encourage rural school students for higher level of academic achievement. Urban students were exposed to modern educational technology and modern trends in the educational set up. Such type of facilities need to be provided to the rural schools where by the students can be imbued to achieve more rigorous practices in drilling exercises, revision work, expose to modern media may be of greater help to encourage the rural students to do better.

So far as management is concerned rural schools are all government school because of communication mode civilization rural students are deprived of getting better facilities in schooling. Non government school in the urban area are having mushroom growth when the community members can afford to higher expenses in schools of their children. This aspect is not visible in rural area. Therefore conclusion is drawn in respect of drawing the attention of government to equip the rural schools with all sorts of facilities and fixing accountability of teachers for exhibiting the drive for better achievement by recruiting well and equip and efficient leaders who are resourceful and making all other resources suitable for enhancing quality of education.

The study revealed significant relationship between the two variables of self-concept, achievement motivation and academic achievement. The multiple co relation was also significant. Therefore the better the self concept and more the drive to achieve the better was the school achievement. Therefore, school students should be encouraged to develop their self concept and an atmosphere of need to achieve may be created in students for greater academic achievement

Recommendations

The study purports to measure the contributions of the predictors to the criterion. As such the findings provide ample scope both to the administrators and the educationists in promoting achievement and making parents, teachers, students and all other concerns well informed about the same. The following recommendations have been made basing on the findings of the present investigation.

Differentiation of physical self from the external environment - The sense of 'Bodily self' is reflected in the general attitude of trust or mistrust, which stems from a positive or negative sense of continuing self. So the teacher must help the

students to withdraw their attention on bodily self and concentrate on the other aspects of external environment. This can be done by encouraging students to do well in academic activities as well as in the non academic activities like dance, drama, sports debates etc.

Differentiation of different categories of pupil - In a classroom all the students do not have same level of intelligence, Same standard of academic achievement or all are not equally good in different types of school activities. So it is the responsibility of the teacher to identify different categories of pupil and to classify them into different groups, which will make it easy to provide appropriate guidance for the development of self-concept of the students.

Stress on self evaluation - Teacher should encourage self evaluation through self rating system. Children should know the area in which they are competent and in which they are lacking. They should know about their own interest, achievement, intelligence so that they will try to do well.

Opportunities for development of self-esteem - The school curriculum should provide opportunities to students for the development of self-esteem. In this context the school should provide opportunities to make friends and should arrange integration camps of culturally diverse students as these can only be responsible for development of both self-esteem and language skills.

Development of achievement motivation - One of the most important psychosocial variables of this study which is responsible more than that of the other variables -self concept in determining the level of academic achievement is achievement motivation. From the present study it has been found that achievement has a perfect positive relationship with academic achievement. So in order to raise the academic achievement of the students it is essential to develop their achievement motivation. Therefore the situations in the home and in school should promote the need achievement of the pupil. In the context of the result in the present investigation the following recommendations have been made.

Emphasis on intellectual pursuit - Need achievement can be raised if the students develop their level of intelligence. Level of intelligence can be raised by encouraging the students to develop the problem solving ability, thinking, reasoning etc. by participation in different activities and studying the creative work of different persons. So far the development of achievement motivation among the students the intellectual development should be promoted. The school should organise different curricular and co curricular activities, like seminars, talks delivered by the intellectuals, debates, discussions etc. and should also promote students to gain correct and current information by studying the magazines, newspapers, journals, periodicals.

Affectionate parental behaviour - Achievement motivation is also influenced by the parental behaviour. Parents should be affectionate enough. They should listen and understand all the queries, problems and needs of their children and should try to solve them. They should encourage the children to meet each and every problem of their life. But they should not be over affectionate which may spoil their children.

Self actualization - Pupil of high self actualization are directed more by internal than external self-concept compared to that of those of low self actualisation. Pupil of high self actualization are more flexible and less rigid and do not depend upon

seeking approval from others, more capable of accepting themselves and others and the world around them.

Permissiveness of parents - Parents should be permissive. They should encourage the children to know, to gain information by participating in different life situations. They should encourage them to be flexible, fearless and perceive the correct knowledge only after scientific and objective investigation.

Development of level of aspiration - Pupils should have high level of aspiration. High level of aspiration is responsible for developing high need achievement. The teacher and the parents should set high goals before the students so that they should try to achieve them and they should develop the tendency to achieve more and more. But care must be taken that the goals should be set up by keeping an eye to the age, gender, intellectual standard and habitational variable or else it will have negative impact upon the children and may block their achievement.

Reducing frustration reactions - Need achievement is also hampered by frustration. Frustration results from repeated failure in any activities. The process of blocking or thwarting needs causes frustration in human beings. If the children repeatedly fail in any activities they develop frustration reactions, which block their motive to achieve. So the children should be encouraged to develop their patience and to continue the activity until the success is achieved.

Removal of prejudices and biases - Conservative attitudes, prejudices attached to different situations and Objects are responsible in reducing the achievement motivation. The attitude of the people attached with the resistance of girls education, caste system, child marriages, preconceived ideas about the quantity and quality of education often cause to reduce the achievement motivation in students. So care must be taken to free the society from these prejudices and biases.

Level of concept acquisition is to be highlighted - Teacher should make the concept clear before the students for which they are striving. Pupil should know about the problem and prospects of the concept, the idea so that they should try in different ways to achieve the same. So far the development of achievement motivation the level of concept acquisition is to be highlighted.

Better scope for training for enhancing achievement motivation - Achievement motivation can also be enhanced by properly planned training p Workshop training, refresher courses, in service training courses provided for the teachers to help them to equip with necessary competencies to enhance student's achievement motivation.

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