

A Comparative Study on Intelligence and Academic Achievement of Secondary Level Students of Lakhimpur District of Assam

Abstract

The present study investigates to measure the intelligence and overall academic performance of secondary school students of Lakhimpur district of Assam. The study conducted on a sample of 924 students comprised of Government and private; Rural and Urban; and Boys and Girls where each of the sample groups has 462 students. The descriptive survey method is use for the data collection. The importance of the study is to find the impact of intelligence on overall academic performance.

Keywords: Intelligence, Academic Achievement.

Introduction

Achievement means the scholastic achievement of the pupils at the end of an educational programme or the competence they actually show in the school subjects in which they have received instruction. Achievement is the accomplishment or acquired proficiency in the performance of an individual with respect to a given knowledge or skill. Thus, achievement is the glittering crown which reflects a sense of sincerity, candidness and perseverance on the part of the achievers.

Intelligence means the intellect, understanding, sagacity and rational behavior. A more accurate clarifications is that intelligence is the ability of animals (which includes man) to adopt to changes in environmental condition through changes in behavior. Intelligence reflects particular sensory, motor and central nervous capacities including the capacity of learning from previous experiment.

Intelligence means mental ability of every human beings and academic achievement means performance in all subjects. In real sense, the test of intelligence is also tests of achievement.

Review of Literature

Maria Araceli Ruiz (2011) studied that Informal formative assessment: The role of instructional dialogues in assessing students' learning. This paper focuses on an unceremonious type of formative assessment - informal formative assessment --- in which much of what teachers and students do in the classroom can be described as potential assessments that can provide evidence about the students' level of understanding. More specifically, the paper focuses on assessment conversations, or dialogic interactions or exchanges, which continuously happen in the classroom and that are at the centre of informal formative assessment. It is argued that assessment conversations make students' thinking explicit in an unobtrusive manner, and when students' thinking is explicit, it can be examined, questioned, and shaped as an active object of constructive learning. The paper conceptualizes informal formative assessment at the centre of effective instructional activities with the use of instructional dialogues as assessment conversations, a typical informal formative assessment practice.

Dr. Muhammad Javedlqbal, Moiz Uddin Ahmed, Abdul Rauf (2011)-studied on Evaluation of Examination system. Major Findings:(i) Assessment activities (assignments and workshops) and final exams were appropriately designed for the distance learning and reflected the objectives of the respective course. They stimulated and brainstormed the students to work. (ii) Every portion of the content was given appropriate weightage in assessment activities. (iii) Checked assignments helped the students in correcting their mistakes. (iv) The ratio of the marks of



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assignments and exams for final aggregate was suitable. (v) They recommended the inclusion of MCQs. (VI) Language used in the question papers was easy to understand and result was declared within the scheduled time.

LAL K (2013) studied the Academic stress among adolescent in relation to intelligence and demographic factors. The research revealed that students in their teens are facing stress which is believed to be caused by the various problems that exist such as problems at school, financial problems, family problems and other problems in their surroundings. However in schools to avoid academic stress the teachers should try to remove unwanted academic stress from high and average I.Q.by generating factors from learning environment by taking necessary steps.

Matore M E E M et al. (2015). 'The influence off AQ on the Academic Achievement among Malaysian Polytechnic Students.' The study was selected using the proportionate clustered multistage stratified sampling technique. Data collected for this study was analysed using regression analysis and the results showed that the findings of the analysis showed that AQ contributed only 0.9% ($r = .098$) changes in the variance of academic achievement score.

Objectives of the Study

The objectives of the study are

1. To compare the intelligence and academic achievement of class X students.
2. To study the relationship between intelligence and academic achievement scores of class X students of (i) Government and Private, (ii) Rural and Urban, (iii) Boys and Girls.

Hypotheses

The following hypotheses were formulated for the study

1. There is no significant mean difference in intelligence scores of (i)Government and private, (ii) Rural and Urban, (iii) boys and girls.

Table-1 Showing the mean and Critical Ratio (t)-values on Intelligence for all sub-groups of the selected sample.

S. No.	Groups	Mean	SD	t-value
1	Govt. Boys	36.47	10.937	0.333(ns)
	Private Boys	36.86	14.025	
2	Govt. Girls	39.57	12.719	3.745**
	Private Girls	43.87	11.938	
3	Govt. Tribal Boys	35.53	9.349	1.577(ns)
	Private Tribal Boys	38.19	13.721	
4	Govt. Tribal Girls	40.51	12.395	2.798**
	Private Tribal Girls	45.04	9.584	
5	Govt. Non-tribal Boys	37.13	11.911	0.810(ns)
	Private Non-tribal Boys	35.83	14.225	
6	Govt. Non-tribal Girls	39.01	12.918	2.515*
	Private Non-tribal Girls	42.99	13.405	
7	Govt. tribal (B+G)	37.90	11.155	3.050**
	Private tribal (B+G)	41.58	12.314	
8	Govt. Nontribal(B+G)	38.10	12.454	1.165(ns)
	Private Non-tribal(B+G)	39.44	14.250	
9	Rural Govt. Boys	34.67	10.973	2.374*
	Urban Govt. Boys	38.06	10.700	
10	Rural Govt. Girls	36.35	13.003	3.985**

Remarking An Analisation

2. There is no significant mean difference in the mean scores on academic achievement of students of (i) Government and private, (ii) Rural and Urban, (iii) boys and girls.
3. There is no significant relationship between intelligence and academic achievement of (i) Government and Private, (ii) Rural and Urban and (iii) Boys and Girls.

Methodology of the Study

The Descriptive approach is used in the study. The present study is a comparative study on intelligence and academic achievement of Secondary School Students in Lakhimpur districts of Assam. Keeping in view the nature of study, the survey method is found to be more suitable.

Population of the Study

The population of the present study constitutes all the secondary school students studying in class X of Lakhimpur district of Assam.

Sample of the Study

The sample is of small number of representative individuals from the population. This study is conducted on a sample of 924 Students, 462 students from government schools, 462 students from private schools, 462 students from rural and urban and 462 students from boys and girls selected randomly from 30 Government and Private secondary schools of Lakhimpur districts of Assam. The final sample is selected randomly.

Tools Used

In this study Jalota's intelligence test used and students performance taken from the school record book.

Statistical Techniques Used

In this study various statistical measures such as percentage, Mean, SD and t-test are used.

Results

Results is to be discussed according to the objectives-
Objective 1

To compare the intelligence and academic achievement of class X students.

11	Urban Govt. Girls	42.82	11.605	0.844(ns)
	Rural Private Boys	36.04	13.045	
	Urban Private Boys	37.60	14.862	
12	Rural Private Girls	44.63	11.380	0.969(ns)
	Urban Private Girls	43.11	12.470	
13	Rural Govt. tribal Boys	34.26	7.561	1.176(ns)
	Urban Govt. Tribal Boys	36.53	10.517	
14	Rural Govt. tribal Girls	39.10	13.869	1.010(ns)
	Urban Govt. tribal Girls	41.80	10.881	
15	Rural Govt. Non-tribal Boys	34.92	12.727	2.126*
	Urban Govt. Non-tribal Boys	39.21	10.767	
16	Rural Govt. Non-tribal Girls	34.85	12.343	4.245**
	Urban Govt. Non-tribal Girls	43.47	12.079	
17	Rural private tribal Boys	32.04	12.256	5.082**
	Urban private tribal Boys	44.46	12.306	
18	Rural private tribal Girls	44.14	10.750	0.966(ns)
	Urban private tribal Girls	46.00	8.171	
19	Rural Private Non-tribal Boys	39.55	12.798	2.744*
	Urban Private Non-tribal Boys	32.83	14.687	
20	Rural Private Non-tribal Girls	45.03	11.928	1.708(ns)
	Urban Private Non-tribal Girls	41.07	14.487	

*means 95% significant, **means 99% significant

Ns means not significant

Table-2 Showing the mean and Critical Ratio (t) –values of academic achievement for all sub- groups of the selected sample

S. No.	Groups	N	Mean	SD	t-value
1	Govt. Boys	231	336.6096	67.82961	2.62*
	Private Boys	231	355.4636	85.63624	
2	Govt. Girls	231	352.5575	75.88833	5.16*
	Private Girls	231	390.3991	81.52491	
3	Govt. Tribal Boys	95	314.8737	59.76519	6.08*
	Private Tribal Boys	101	359.3878	64.57324	
4	Govt. Tribal Girls	86	330.1279	67.55665	7.07*
	Private Tribal Girls	99	399.5051	65.28358	
5	Govt. Non-tribal Boys	136	352.1353	69.17783	0.017 (ns)
	Private Non-tribal Boys	130	352.3115	99.53894	
6	Govt. Non-tribal Girls	145	366.3357	77.64563	3.101*
	Private Non-tribal Girls	132	398.2481	92.19935	
7	Govt. tribal (B+G)	229	332.2402	70.33541	7.84*
	Private tribal (B+G)	229	384.6786	72.71583	
8	Govt. Nontribal(B+G)	233	357.0756	72.30614	1.99*
	Private Non-tribal(B+G)	233	373.0045	98.34092	
9	Rural Govt. Boys	126	324.9444	64.5581	6.73*
	Urban Govt. Boys	105	351.0196	69.30346	
10	Rural Govt. Girls	113	341.0354	75.21468	2.32*
	Urban Govt. Girls	118	364.0796	75.12895	
11	Rural Private Boys	116	360.9189	73.65992	0.99 (ns)
	Urban Private Boys	115	349.9083	96.34751	
12	Rural Private Girls	105	396.9626	64.05451	0.038 (ns)
	Urban Private Girls	125	397.3636	94.41036	
13	Rural Govt. tribal Boys	42	301.0476	46.90049	2.12 *
	Urban Govt. Tribal Boys	53	325.8302	66.67653	
14	Rural Govt. tribal Girls	41	315.9512	73.05065	1.86(ns)
	Urban Govt. tribal Girls	45	343.0444	60.06207	
15	Rural Govt. Non-tribal Boys	66	344.9841	71.88196	1.14(ns)
	Urban Govt. Non-tribal Boys	70	358.5714	66.50914	
16	Rural Govt. Non-tribal Girls	76	341.9859	62.68139	3.98*
	Urban Govt. Non-tribal Girls	70	391.3913	84.55669	
17	Rural private tribal Boys	51	336.1042	59.24462	3.82*
	Urban private tribal Boys	52	381.74	62.02232	
18	Rural private tribal Girls	51	395.8235	75.41172	0.37(ns)

19	Urban private tribal Girls	48	400.7917	53.64579	2.89*
	Rural Private Non-tribal Boys	58	378.6786	87.90369	
20	Urban Private Non-tribal Boys	72	329.9394	103.9167	0,59(ns)
	Rural Private Non-tribal Girls	64	400.5313	76.25666	
	Urban Private Non-tribal Girls	68	391.0769	105.6974	

*Significant level at 0.05 level, **significant at 0.01 level

*Significant level at 0.05 level, **significant at 0.01 level

Table -3 Summary table of mean and Critical Ratio (t)-values on Intelligence for Six Major Sub-Groups

Groups	Mean	SD	T-Value
Government	38.021	11.950	1.15(ns)
Private	40.433	13.409	
Rural	40.015	11.914	1.90(ns)
urban	38.436	13.509	
Boys	36.66	12.56	6.25*
Girls	41.791	12.428	

From Table-3 it is evident that the boys and girls differ significantly in their intelligence. However, no such difference is found between Government and private as well as rural and urban secondary school students.

Hypothesis 1

There is no significant mean difference in intelligence scores of 1) Government and Private, 2) Rural and Urban, & 3) Boys and Girls.

From the Table - 3, it is evident that in case of Government and Private and Rural and Urban groups of hypothesis-1is accepted. But Boys and Girls group is rejected.

Table-4

Summary table of mean and Critical Ratio (t)-values of academic achievement for six major sub-groups.

Groups	Mean	SD	t- Value
Government	344.5485	72.31652	6.53*
Private	378.8415	86.58337	
Rural	356.6302	75.55007	1.87(ns)
Urban	366.6652	86.98883	
Boys	345.8683	77.57864	5.92*
Girls	377.0859	82.39309	

From Table-4 it is found that there is significant difference in academic achievement between government and private as well as boys and girls, but not between the rural and urban students for academic achievement.

From **Table-4** it is evident that in case of Government and Private and Boys and Girls groups of hypothesis 2 are rejected. But in the group of Rural and Urban is accepted.

Hypothesis-2

There is no significant mean difference in the mean scores on academic achievement of students of 1) Government and Private, 2) Rural and Urban, and 3) Boys and Girls.

Objective 2

To study the relationship between intelligence and academic achievement scores of class X students of (i) Government and Private, (ii) Rural and Urban, (iii) Boys and Girls.

Table-5 Correlation between Intelligence and Academic Achievement for All Sub-Groups in The Selected Sample

Groups	Correlation Scores (Intelligence and Academic Achievement)
Government Boys	.741(**)
Government Girls	.796(**)
Private Boys	.910(**)
Private Girls	.855(**)
Government Tribal Boys	.770(**)
Government Tribal Girls	.828(**)
Government Non-tribal Boys	.737(**)
Government Non-tribal Girls	.824(**)
Private Tribal Boys	.867(**)
Private Tribal Girls	.827(**)
Private Non-tribal Boys	.953(**)
Private Non-tribal Girls	.865(**)
Government Tribal	.802(**)
Government Non-tribal	.787(**)
Private Tribal	.857(**)
Private Non-tribal	.917(**)

Rural Government Boys	.917(**)
Rural Government Girls	.917(**)
Rural Private Boys	.917(**)
Rural Private Girls	.917(**)
Urban Government Boys	.917(**)
Urban Government Girls	.917(**)
Urban Private Boys	.917(**)
Urban private Girls	.917(**)
Rural Government Tribal Boys	.917(**)
Rural Government Tribal Girls	.917(**)
Rural Government Non-Tribal Boys	.917(**)
Rural Government Non-Tribal Girls	.917(**)
Rural Private Tribal Boys	.917(**)
Rural Private Tribal Girls	.917(**)
Rural Private Non-tribal Boys	.917(**)
Rural Private Non-tribal Girls	.917(**)
Urban Govt. Tribal Boys	.917(**)
Urban Government Tribal Girls	.917(**)
Urban Government Non-tribal Boys	.917(**)
Urban Government Non-tribal Girls	.917(**)
Urban Private Tribal Boys	.917(**)
Urban Private tribal Girls	.917(**)
Urban Private Non-Tribal Boys	.917(**)
Urban Private Non-tribal Girls	.917(**)

** Correlation is significant at the 0.01 level (2-tailed).

There is high positive correlation between intelligence and academic achievement for all the sub groups in the selected sample.

Table-6 Summary of correlation between Intelligence and Academic Achievement for six Major sub-groups

Groups	N	Correlation
Government	462	0.837**
Private	462	0.852**
Rural	462	0.895**
Urban	462	0.913**
Boys	462	0.884**
Girls	462	0.866**

** Correlation is significant at the 0.01 level (2-tailed).

From Table-6 it is evident that the intelligence and academic achievement among the students of major groups is found to be highly correlated with each other.

Hypothesis-6

There is no significant relationship between intelligence and academic achievement of (i) Government and Private, (ii) Rural and Urban and (iii) Boys and Girls. From Table-6, it is evident that this hypothesis is not accepted because intelligence and academic achievement is highly correlated to each other in all the sub-groups of the sample.

Discussion

The investigator discussed some of the major findings. These are-

- Boys and Girls have significant differences in case of intelligence scores but not among Government and Private and Rural and Urban students.
- As far as academic achievement is concerned, Boys and Girls as well as Government and Private Students have significant difference but not among Rural and Urban students.

- Intelligence and academic achievement were found highly correlated with each other.

Conclusion

From the above investigation it is found that there have some significant difference in intelligence and academic achievement in various sample groups and it also found that correlation is very high with each other.

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