International Journal of Research in Social Sciences
Vol. 13 Issue 01, January 2023,
ISSN: 2249-2496 Impact Factor: 7.081
Journal Homepage: http://www.ijmra.us, Email: editorijmie@gmail.com
Double-Blind Peer Reviewed Refereed Open Access International Journal - Included in the International Serial Directories Indexed & Listed at: Ulrich's Periodicals Directory ©, U.S.A., Open J-Gate as well as in Cabell's Directories of Publishing Opportunities, U.S.A

A COMPARATIVE STUDY ON INTELLIGENCE OF GOVERNMENT AND PRIVATE SECONDARY SCHOOL STUDENTS OF RURAL AND URBAN AREA IN NAINITAL DISTRICT OF UTTARAKHAND

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ABSTRACT:

The ability to reason, plan, think abstractly, comprehend ideas and language, and learn are all components of intelligence. Understanding, comprehension, and learning through experience are all components of intellectual capacity. In any field of activity, intelligence is a significant determinant of one's performance; it attempts to predict one's future success or failure. It is a future benchmark used to estimate how well-advanced or successful a person will be in a given field or activity. The objectives of the study is to find out the intelligence of government and private secondary school students, to find out the difference between rural and urban areas secondary school students in relation to intelligence in Nainital district of Uttarakhand. Survey method was used for the study. 160 Secondary School Students of age ranged from 14 – 17 years for both males and females from nainital district were taken as sample. The Group Test of General Mental Ability by Dr. S. Jalota (1976) was used to measure the intelligence of high school students. Frequency, percentage, mean, standard deviation and t test were used to analyze the data. The results showed that there is significant difference in intelligence test scores of secondary school students in terms of area of study (urban/rural area) and types of school (government/private school). There is a significant difference between government and private secondary school students (t-value -5.714). It is found that intelligence level was higher in private school students as compared to government school students. Comparison of the Intelligence in rural and urban secondary students revealed that there is a significant difference (t-value 0.475). It was concluded that urban area students have higher intelligence level as compared to rural area students.

Keywords: Intelligence, Secondary School Student

1. INTRODUCTION

Intelligence refers to a student's ability and capacity and maintaining a definite direction in thinking to attain goal. **Wundt in Germany, Galten in England and Cattel** in America discovered that individuals differ in the accuracy and speed of their responses when they are tested in single functions. Intellectual development responds to the influence of this nature. Al through dull children can't be made bright children, who tend to remain bright, yet there are

evidences that a child may be born with high degree of potential ability to act intelligently, but unless he is stimulated through learning (improved environment) to exercise that capacity he may appear to be relatively dull or retarded. In a study published in 2012, **Edmore Mutekwe, Maropeng, Modiba, and Cosmas Maphosa** investigated how female students perceived gender and academic accomplishment in Zimbabwean schools. According to the report, female students don't think they receive the same treatment as boys do. High school female students held certain assumptions that they believe had a negative impact on their academic success. for improved academic attainment, the study suggests that gender awareness should be taken seriously in homes, schools, and society at large. Intelligence is the necessary condition for achievement. It is impossible to achieve without corresponding intelligence which is comprised of mental abilities. Ability is about the quality of being able to do something which serves as the foundation of achievement. **Stern (1914)** defined intelligence as a general capacity of an individual consciously to adjust his thinking to new requirements. It is the general mental adaptability to new problems and conditions of life.

Panda (2005) studied correlation between academic achievement and intelligence of class IX students with the objective to study the relationship between academic achievement and intelligence by taking a sample of 765 secondary school adolescents studying in government, aided and private schools and found that there was lower relationship between intelligence and academic achievement in different categories of school and also there was a significant difference in academic achievement of students studying in different categories of school.

Saikia, Pallabi and Choudhary (2014) made a study on "Effect of Intelligence on Academic Achievement of Secondary School Students- A Study in Lakhimpur District of Assam". The objective of this study was to study the academic achievement of the secondary school students according to gender and place of residence; to determine the level of intelligence to gender and place of residence. This study is conducted on a sample of 100 classes X students from government and provincialised schools of Lakhimpur district of Assam. The normative survey method is used for data collection. The findings of the study was: 1) There is difference between boys and girls student on the academic achievement in the test examination, 2) There is difference between rural and urban students on the average academic achievement in the test examination and 3) It is also found that the mean score of intelligence for both rural and urban students is quite high.

Significance of the Study

The present study has been designed to study the Intelligence of Government and Private Secondary School Students of rural and urban area in Nainital District of Uttarakhand. Intelligence is the main focus of the educative process to improve the learning and performance of the students. The performance and academic achievement of students depends on variables like type of school, socio-economic status of students, parent's education, Intelligence, personality etc. Intellectual

development depends upon both environmental & biological factors. Since the intelligence is a strong indicator of student's successful academic career, it is imperative to assess the extent to which the intelligence influences the Academic Achievement, so that children with average IQ and even low IQ could optimize their academic achievements. So that findings of the study might provide their IQ level and this parameter categorizes the students as slow, average and fast learners and also provide necessary guidelines for enhancing the academic achievement of the secondary school students. The locale of the study was selected in Nainital District because there was no such research done before.

The problem of the present study has been stated as follows**: "A Comparative Study on Intelligence of Government and Private Secondary School Students of rural and urban area in Nainital District of Uttarakhand".**

2. OBJECTIVE OF THE STUDY

The study is designed with the following objectives:

1. To study the intelligence of Government and Private secondary school students in Nainital district of Uttarakhand.
2. To find out the difference between rural and urban secondary school students in relation to intelligence in Nainital district of Uttarakhand.

3. HYPOTHESIS OF THE STUDY

H1. There is no significant mean difference in intelligence of government and private secondary school students in Nainital district of Uttarakhand.

H2. There is no significant mean difference between rural and urban of secondary school students in relation to intelligence in Nainital district of Uttarakhand.

Limitations of the Study

- The present study was strictly limited to Uttarakhand state.
- Since the present research study was limited to only Secondary School Students, so overall intelligence of students can't be defined. Hence the results cannot be generalized. In a short span of time, it is not possible to cover all the variables. Due to shortage of resources the study was limited to two government and two private secondary schools only.

4. RESERCH METHODOLOGY

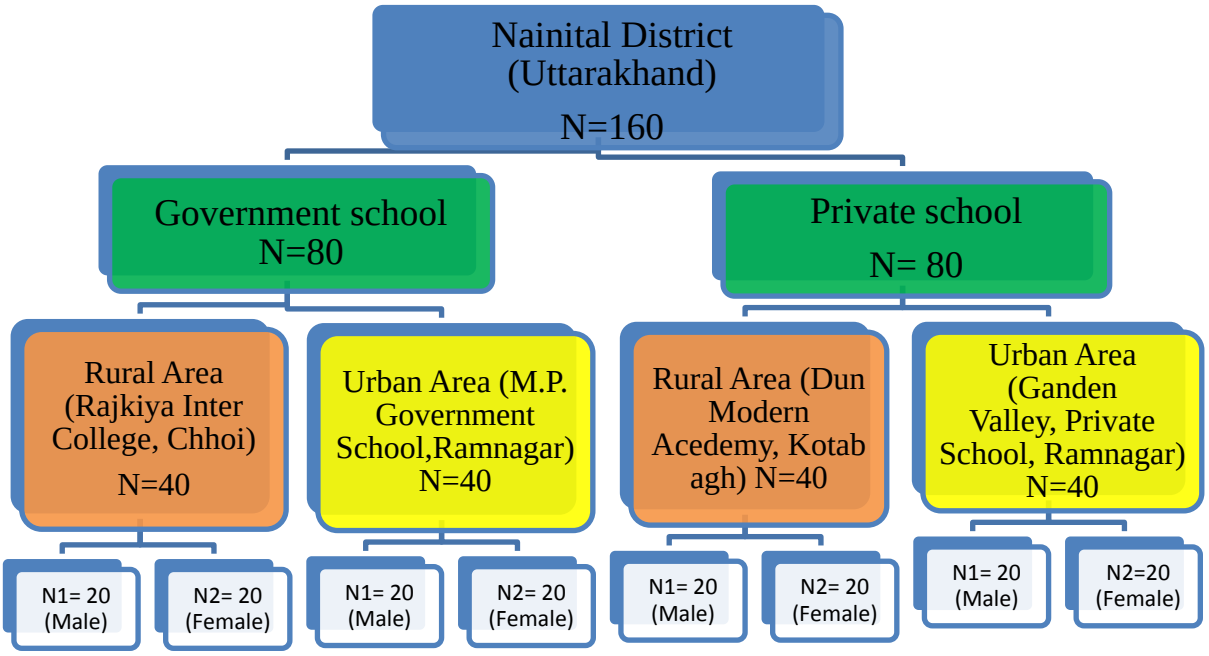
The present study was conducted exclusively in Uttarakhand State. It had been randomly selected. In Uttarakhand State, Nainital district was selected. Government school and Private School in rural and urban area were selected purposively to study in Nainital District of Uttarakhand. The Descriptive approach is used in the study. The present study is a comparative study on intelligence of government and private secondary school students of rural and urban area in Nainital District of Uttarakhand. Keeping in view the nature of study, the survey method was found to be more suitable. The population of the present study constitutes the secondary school students studying in class X in Nainital district of Uttarakhand.

1. Research Design

In the present study, intelligence of government and private school students of rural and urban area had to be assessed using structured instruments for data collection along with a rigid pre-planned design for statistical analysis. An overview of all research designs showed that it is the exploratory research design which discovers significant variables in the field situation and find out relations between them. As the researcher has no control over the variables; he/she can only report what has happened or what is happening. Thus, exploratory research design was employed for the present research study.

2. Selection of Sample

The sample for the present study comprised of total 160 Secondary School Students. The age ranged from 14 – 17 years for both males and females. Out of 160 Secondary School Students, 80 were purposively selected from rural area and 80 were selected from urban area.



3. Sampling Tools

For the purpose of data collection the following research instruments were used:

Structured Questionnaire

The Structured Questionnaire was designed to gather data about family demographics viz. age, family type, family income, education level and occupation of parents etc.

The Group Test of General Mental Ability by Dr. S. Jalota (1976) Purpose - For ensuring Intelligence among Secondary School Students.

Description of scale - It has 100 multiple choice questions employing various types of Sub-tests. It is verbal test meant for adolescents studying in schools. By this test we can measure the intelligence of a group and classify intelligent, average and dull categories. The test consists of 100 questions spread over five pages and is a group test. Each test is a multiple choice type with five alternatives. The test has five separate categories of 20 tasks- vocabulary, classification, number series, analogies and reasoning. The items are mixed. The test is to be completed within 20 minutes. The numbers of different types of items are given as under: Synonyms- 10 items, Antonyms- 10 items, Number Series- 20 items, Classification-

20 items, Appropriate Answers- 10 items, Reasoning- 10 items and Analogies- 20 items, Total- 100 items. Reliability – The Reliability of the test is 0.936. Validity – The Validity ranges from 0.30 to 0.78. Scoring – There are 5 pages of the test with 100 questions. There is only one correct answer to each question and one marks to every right question.

Giving Norms

I. Q. Reckoner	
I.Q.	Score
140	85
130	80
125	76
120	72
115	68
110	64
105	58
100	51
95	46
90	40
85	34
80	28
75	24
70	19
65	15
60	10

4. Collection of data

The investigator approached the Principal of Government Schools and Private Schools of rural and urban area in Nainital district of Uttarakhand in order to clarified the purpose of the study and their role in the present study. After the School agreed to assist the researcher in the present study, the samples for the present study were selected randomly. The randomly chosen were conveyed purpose of study and assured that the information provided by them would be kept confidential and utilized only for the research purpose. The Students who agreed to participate in the present study were interviewed for data collection.

5. Statistical analysis of data

The collected data was classified and tabulated in accordance with the objectives to arrive at meaningful and relevant inferences. The data was analyzed using statistical techniques like frequency, percentage, mean, standard deviation and t-test.

5. RESULTS AND DISCUSSION

The results obtained after statistical analysis are discussed in the light of the previous studies along with the presentation of results under following subheadings:

Table-1: Distribution pattern of Government and Private Secondary School Students across Socio- Demographic (Personal) variables.

Variable	Level	Government School (N=80)				Private School (N=80)			
		Male (N=40)		Female (N=40)		Male (N=40)		Female (N=40)	
		f	%	F	%	F	%	F	%
Age	14 year	5	0.125	7	0.175	4	0.1	5	0.125
	15 year	14	0.35	21	0.525	15	0.375	14	0.35
	16 year	20	0.5	11	0.275	16	0.4	13	0.325
	17 year	1	0.025	1	0.025	5	0.125	8	0.2
Birth Position	Eldest	10	0.25	16	0.4	23	0.575	18	0.45
	Middle	19	0.475	18	0.45	9	0.225	13	0.325
	Youngest	11	0.275	6	0.15	8	0.2	9	0.225
Final 9^{th} class result	Excellent	10	0.25	22	0.55	4	0.1	11	0.275
	Very good	15	0.375	11	0.275	22	0.55	15	0.375
	Average	15	0.375	7	0.175	14	0.35	14	0.35

It is clearly shows in table no. 1 that majority of the boys' age were 16 years and girls' age were 15 years in both the schools. It was found that age of majority of secondary students (0.5% in government and 0.4% in private) were 16 years boys and (0.52% in government and 0.35% in private) 15 years girls. So it was concluded that age of boys in secondary school students were 16 years and girls' age were 15 years.

Majority of the students in government school were middle birth position (0.475% males and 0.45% females) and got high scores (40 above out of 100) in tests and in private school, majority students were eldest birth position (0.575% males and 0.45% females) and got high scores (40 above out of 100) in tests.

Final 9^{th} class results were very good (0.55% in males and 0.375% in females) in private school students and in government school, majority of the girls results were excellent (0.55%) and boy results were very good (0.375%). So it was concluded that girls of government school have higher marks in final 9^{th} class result.

Table-2: Distribution pattern of Government and Private Secondary School Students across Socio-Economic (Family) variables.

Variable	Level	Government school (N=80)				Private school (N=80)			
		Male (N=40)		Female (N=40)		Male (N=40)		Female (N=40)	
		F	%	F	%	F	%	F	%
Father's Education	Illiterate	8	0.2	3	0.075	0	0	1	0.025
	Primary	11	0.275	7	0.175	3	0.075	3	0.075
	High school	11	0.275	10	0.25	11	0.275	5	0.125
	Intermediate	6	0.15	9	0.225	11	0.275	12	0.3
	Graduate	3	0.075	7	0.175	11	0.275	10	0.25
	PG	1	0.025	2	0.05	4	0.1	9	0.225
Mother's Education	Illiterate	11	0.275	4	0.1	0	0	0	0
	Primary	13	0.325	14	0.35	9	0.225	6	0.15
	High school	10	0.25	8	0.2	10	0.25	7	0.175
	Intermediate	4	0.1	6	0.15	12	0.3	12	0.3
	Graduate	1	0.025	7	0.175	5	0.125	7	0.175
	PG	1	0.025	1	0.025	4	0.1	8	0.2
Father's Occupation	Business	9	0.225	5	0.125	20	0.5	19	0.475
	Service	29	0.725	34	0.85	20	0.5	21	0.525
	Non working	2	0.05	1	0.025	0	0	0	0
Mother's Occupation	Service	6	0.15	5	0.125	9	0.225	3	0.075
	Housewife	34	0.85	35	0.875	31	0.775	37	0.925
Family Income	Low income	31	0.775	25	0.625	7	0.175	5	0.125
	Middle income	9	0.225	15	0.375	33	0.825	35	0.875
Family type	Nuclear	14	0.35	23	0.575	32	0.8	31	0.775
	Joint	26	0.65	17	0.425	8	0.2	9	0.225

It shows that majority of the father's education of government school students were primary (0.275% males and 0.175% females) and high school (0.275% males and 0.25% females) and in private school, education of fathers were high school (0.275% male and 0.125% female), intermediate (0.275% male and 0.3% female) and graduation (0.075% male and 0.075% female). So study revealed that father's education of private school students was high as compared to government school students.

Mother's education of most of the government school students were primary (0.325% male and 0.35% female) and in private school, it were intermediate (0.3% male and 0.3% female). So it was concluded that Mother's education of Private school students was high as compared to government school students.

Father's occupation of majority government school students were service (0.725% male and 0.85% female) and father's occupation of private school students were business (0.5% male and 0.475% female) and service (0.5% male and 0.525% female) both. Majority of the students' mothers were housewife (in government, 0.85% male and 0.875% female, in private 0.775% male and 0.925% female) in both the schools.

Most of the Government school students were from low income family (0.775% male and 0.625% female) and private school students were from middle income family (0.825% male and 0.875% female). Majority of the students, in government school were belong to joint family (0.65% male and 0.425% female) and in private school, most of the students were belong to nuclear family (0.8% male and 0.775% female).

Table-3: Distribution pattern of Government and Private Secondary School Students across IQ type.

Variable	IQ Reconer	Government School (80)		Private School (80)	
Intelligence		Frequency	Percentage	Frequency	Percentage
	140	0	0	0	0
	130	0	0	0	0
	125	0	0	0	0
	120	0	0	0	0
	115	0	0	0	0
	110	0	0	7	.0875
	105	0	0	4	0.05
	100	2	.025	10	0.125
	95	6	.075	16	0.2
	90	14	.175	16	0.2
	85	28	.35	11	0.14
	80	24	.30	8	0.1
	75	4	.05	6	0.075
	70	2	.025	2	0.025
	65	0	0	0	0
	60	0	0	0	0

clearly shows that out of 80 private secondary school students, 0.0875% students have 110 maximum IQ, followed by 0.05% students have 105 IQ, 0.125% students have 100 IQ, 0.2 % students have 90 IQ, 0.14% students have 85 IQ, 0.1% students have 80 IQ, followed by 0.075% students have 75 IQ and 0.025% students have minimum 70 IQ.

On the other hand, out of 80 government secondary school students, 0.025% students have maximum 100 IQ, followed by 0.075% students have 95 IQ, 0.175% students have 90 IQ, 0.35% students have 85 IQ, 0.30 students have 80 IQ, 0.05% students have 75 IQ and 0.025% students have minimum 70 IQ. No one is gifted or mentally retarded student in any school.

Table- 4: Mean, Standard deviation and t-value of the marks of Government and Private Secondary School Students

Variable	Marks of the Students				t –Score
	Government School (N=80)		Private School (N=80)		
	Mean	SD	Mean	SD	
Intelligence	36.01	6.73	44.42	11.45	**-5.714***

Note:

1) ***Significant at p<0.05**
2) **T- values lie from -11.342 to -5.482**

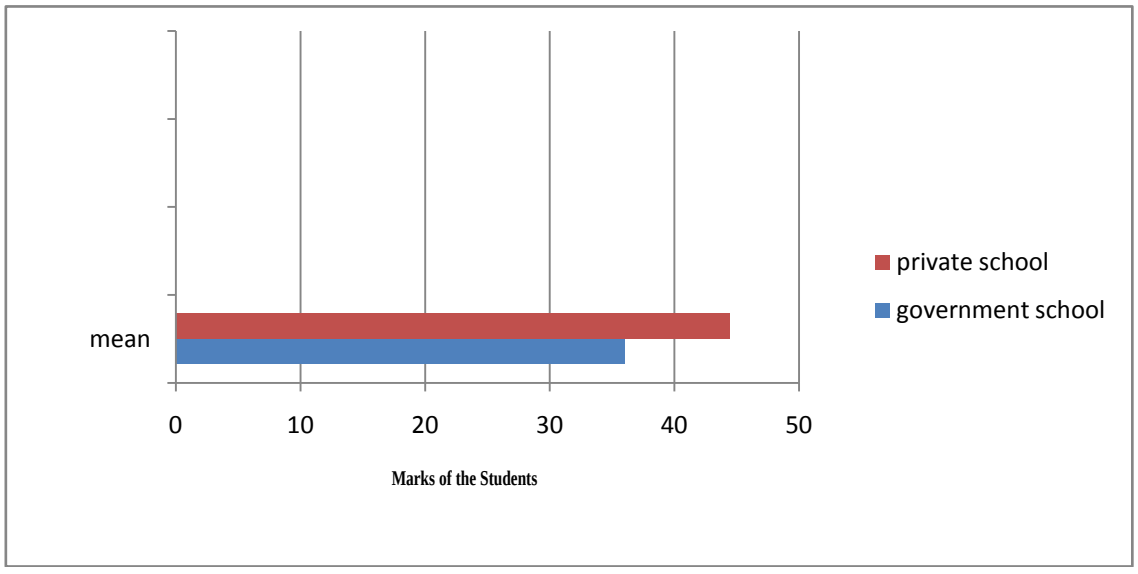


Figure 1: Bar graph showing mean of the marks of Government and Private Secondary School Students

It is clearly shown from table 4 that there is a significant difference in Intelligence between private secondary school students and government secondary school students. It is found that the

mean scores of the marks of both government and private students are 36.01 and 44.42 respectively.

When the t test was applied to test the significance of the mean difference of marks between these groups, it reported t-value -5.714. This was found to be significant. Hence hypothesis 1 is rejected. This means that there is a significance of mean difference in intelligence between government and private secondary students of Nainital district.

It means, private secondary school students have higher marks than government secondary school students. So it was concluded that private secondary students have higher level of intelligence as compared to government secondary students.

Table-5: Mean, Standard deviation and t-value of the marks of Rural and Urban Secondary School Students.

Variable	**Marks of the Students**				**t –Score**
	Rural School (N= 80)		**Urban School (N= 80)**		
	Mean	**SD**	**Mean**	**SD**	
Intelligence	39.85	10.58	40.58	9.99	**0.475***

Note:

1) ***Significant at p<0.05**
2) **T- values lie from -2.35 to 3.82**

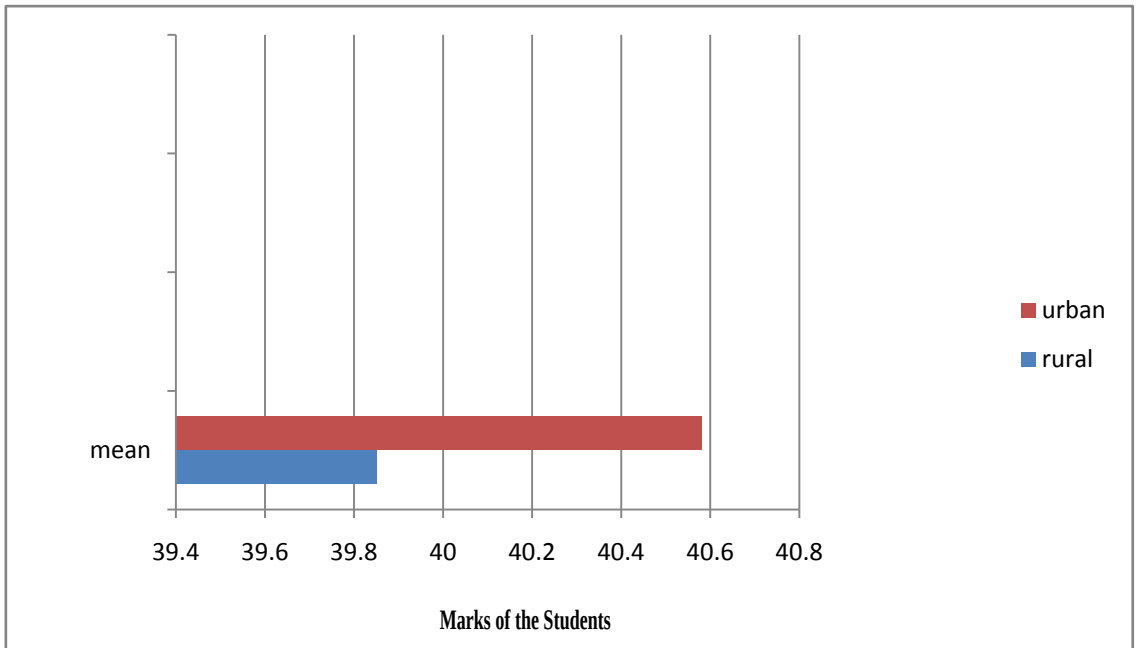


Figure 2: Bar graph showing mean of the marks of Rural and Urban Secondary School Students

It is clearly shown from table no. 5 that there is a significant difference in Intelligence in rural secondary school students and urban secondary school students. It is found that the mean scores of the marks of both rural and urban students are 39.85 and 40.58 respectively.

When the t test was applied to test the significance of the mean difference of marks between these groups, it reported t-value 0.475. This was found to be significant. Hence hypothesis 2 is rejected. This means that there is a significance difference in intelligence of rural and urban secondary school students of Nainital district.

Study revealed that urban students have high marks than rural students. So that urban students of both government and private secondary school have higher level of intelligence as compared to rural students.

6. SUMMARY, CONCLUSION AND IMPLICATIONS

It was found that IQ level of private secondary students was high (110) as Compared to government secondary students (100) and minimum IQ of private and government secondary students was 70. No one is gifted or mentally retarded in any school.

Assessment and comparison of the Intelligence in government secondary students and private secondary students revealed that there is a significant difference between government and private secondary school students (t-value -5.714). It is found that intelligence level was higher in private school students as compared to government school students.

Comparison of the Intelligence in rural and urban secondary students revealed that there is a significant difference (t-value 0.475). It was concluded that urban area students have higher intelligence level as compared to rural area students.

It was concluded that Intelligence was high in private secondary school students as compared to government secondary school students. Intelligence was high in urban as compared to rural secondary school students. IQ was maximum 110 and minimum 70 in private school students and in government school students, it was maximum 100 and minimum 70.

Implications of the study

The results would also help human development personnel understand the interplay between the government school and private school determining the levels of intelligence. The findings would also facilitate psychologists, counselors, policy makers and parents to develop an individualized programme for students.

Scope for future studies

- Studies are often carried out in relation to intelligence and emotional intelligence of students and it can be carried out in relation to academic achievement and emotional maturity of students at whole level.
- Similar studies on senior secondary students are going to be a significant area of research to depict their personality characteristics. This study is conducted on class-X Students; similar studies may be undertaken on this variable at the other levels of education as well.
- In this study cross sections that have been investigated are rural/urban and government/private. Many others cross sectional comparison of varied other categories of students like boys/girls, home/residence, tribal and non-tribal studying in Government/ private schools could also be carried out. Studies are often carried out in relation to adjustment and motivation of students at whole level.

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