

# Intelligence of Secondary Stage Students in Ziro – I Block of Lower Subansiri District in Arunachal Pradesh

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### Abstract

The present study investigated the intelligence level of secondary stage students of Ziro-I block in Lower Subansiri district of Arunachal Pradesh. The study was completed adopting descriptive-cum-survey method of educational research. The sample of the study comprised of one hundred and eleven (111) ten grade students selected from six (6) schools out of existing eighteen (18) secondary schools in the sample block by employing simple random sampling technique. GC Ahuja's developed and standardized group test of intelligence was used as the tool. The findings of the study revealed that Secondary stage students in Ziro – I block of Lower Subansiri District, Arunachal Pradesh possess below average level of intelligence. It means they are poor in their intelligence. The study further found that, there is significant difference in the intelligence mean score of secondary stage students in terms of their gender, school management types and race, however, no significant difference in intelligence level of students belonged to nuclear and joint families has been found in the study area.

**Keywords:** Intelligence, Secondary Stage Students, Ziro-I Block, Lower Subansiri District, Arunachal Pradesh.

### Introduction

The foundation for describing and assessing intelligence began since late 18<sup>th</sup> century with the work of Francis Galton, but, still there is no commonly agreed definition of intelligence. The reason is, what constitutes intelligence varies quite considerably according to our values and priorities. As values and priorities are contextual, therefore, intelligence has been defined in several ways by the investigators at different point of times. For instance, in hunting-gathering society, a person possessing hunting skills was considered intelligent. It means intelligence was defined in terms of hunting skills during early time. While, in contemporary society, intelligence is defined in terms of analytical skills, adjustment ability, language skills, technical/IT skills and so on. As nature of contemporary society is very complex, modern view on intelligence, thus, includes multiple abilities and skills needed to adjust and meet the need and demands of the contemporary complex society. According to Robert J. Sternberg (2020), human intelligence means "mental quality that consists of the abilities to learn from experience, adapt to new situations, understand and handle abstract concepts, and use knowledge to manipulate one's environment". According to Collins English Dictionary intelligence is "the ability to think, reason, and understand instead of doing things automatically or by instinct". Macmillan Dictionary defined intelligence as "ability to understand and think about things, and to gain and use knowledge". In William Stern's opinion "intelligence is the ability to adjust oneself to a new situation". Provided select definitions of intelligence are enough to understand that meaning of intelligence have emerged not only over the ages but also over the years especially in modern period.

## Review of Literature

In today's world, education has become an indicator of a person's status in the society. Education is linked to the life chances, income and well being (Chandra & Azimmudin, 2013). As such, in our society academic achievement occupies a very important place in education as well as in the learning process. Difference in school performance predominantly informs prospects for further education, which in turn lead to social and economic opportunities such as occupation and income (Plomin & Stumm, 2018). Therefore, educational institutions have a prime duty to promote academic excellence and achievement in every stage of education. But unfortunately the result of class X students of Arunachal Pradesh in CBSE board exam has worsened over the years. According to CBSE data (2019) the pass percentage of class X students was 41.13%; out of 13,748 candidates who appeared class X CBSE board exam only 5,655 candidates have passed the exam. Why students fail to achieve in school has always been analysed in different ways by the psychologists, educators and researchers. Score of early works concentrated on this direction have discovered that intelligence is one of the important predictors of academic achievement. During the school years, differences in intelligence are largely the reason why some children master the curriculum more readily than other children (Plomin and Stumm, 2018). However, the term intelligence has been defined differently by different people, but it is a proven fact that intelligence greatly determines academic achievement of students in school. According to Dandagal and Yarriswami, 2020, "Intelligence is defined as a general cognitive problem-solving skill. A mental ability involved in reasoning, perceiving relationships and analogies, calculating, learning quickly...etc. it is a very important key factor to determine the student's academic performance in school. Intelligence is cognitive potentiality which helps to increase the learning abilities in the student." In the world of work, intelligence matters beyond educational attainment because it involves the ability to adapt to novel challenges and tasks that describe the different levels of complexity of occupations (Plomin & Stumm, 2018). They further stated that, intelligence also spills over into many aspects of everyday life such as the selection of romantic partners and choices about health care. This is why intelligence – often called general cognitive ability – predicts education outcomes, occupational outcomes and health outcomes better than any other trait (Plomin & Stumm, 2018).

A cursory glance on research done by earlier researchers relating to secondary stage education in the state showed that Tok, B.R. (2005) had investigated the creative ability of school going adolescents of Arunachal Pradesh in relation to some variables by taking Papumpare, Lower Subansiri and West Siang district. Yomgam, B. (2009) had examined the academic achievement of secondary school students in West Siang, East Siang, East Kameng and West Kameng districts. Nyicyor, R. (2016) had examined the intelligence, creativity and academic achievement of secondary school students by taking East Siang and Lohit Districts of Arunachal Pradesh. Baruwa, S. (2017) studied the creative thinking ability between the school going adolescents of Arunachal Pradesh and Assam in relation to some cognitive and non-cognitive variables. The sample districts of Arunachal Pradesh were Papumpare and West Kameng Districts and of Assam were Lakhimpur and Dhemaji. Dupak, S. (2017) had investigated personality of secondary school students in East Siang, West Siang and Lower Dibang Valley districts of Arunachal Pradesh in relation to some cognitive and non-cognitive variables. Despite of the fact that intelligence is an important predictor of academic achievement, review of related literature made it clear that there is hardly any other study which was conducted previously on intelligence of secondary stage learners except the work of Nyicyor, R. (2016). But his study was also carried out taking only two districts; East Siang and Lohit District. Therefore, the investigators felt that it is important to carry out the present piece of research.

## Brief History of the Study Area

Arunachal Pradesh is a mountainous state located in the eastern most corner of the country. The state is composed of twenty-five districts namely Tawang, West Kameng, East Kameng, Pakke Kesang, Papumpare, Kurung Kumey, Kra Daadi, Lower Subansiri, West Siang, Shi – Yomi, East Siang, Siang, Upper Siang, Lower Siang, Lepa Rada, Lower Dibang Valley, Anjaw, Lohit, Namsai, Changlang, Tirap, Longding, Kamle, Upper Subansiri and Dibang Valley. By and large division of districts is based on the tribes. With 26 major tribes and around 110 sub-tribes, Arunachal Pradesh is an embodiment of diverse culture, language and natural resources.

Present study was conducted in Ziro-I block, which is located in Lower Subansiri district of the state. The name of the district is derived from the river Subansiri, a tributary of mighty Brahmaputra which flows through the district. Till

1914, the district was a part of the Lakhimpur district of Assam. In 1914, the area of the district becomes a part of the "Lakhimpur Frontier tract" of the North East Frontier Tract. In March, 1919 the Lakhimpur Frontier Tract alongwith western sector was renamed as "Balipara Frontier Tract".

In 1946,"Subansiri area" was curved out from the 'Balipara Frontier Tract' with it's headquarter at North Lakhimpur. In 1954, Subansiri area was renamed as "Subansiri Frontier Division" with Kimin as its temporary headquarter. Later, it was shifted to Ziro. Like other parts of NEFA, the district was also under the Ministry of External Affairs and overall in-charge was a political officer. On September 1, 1965, the Ministry of Home Affairs took over the administrative charge of NEFA "Subansiri district". On 13th May, 1980, Subansiri district was bifurcated into Lower Subansiri and Upper Subansiri districts. On 2nd September, 1992 Papum Pare district was formed carved out from Lower Subansiri district. Again on 1st April, 2001, Kurung Kumey district was formed out of Lower Subansiri district. Nyishis, and Apatanis are the main inhabitants of the district.

### Objective of the Study

To study the intelligence level of secondary stage students of Ziro – I block in Lower Subansiri District of Arunachal Pradesh with respect to gender, race, school management type and family structure.

### Hypotheses

1. There is no significant difference between the mean score of intelligence of secondary stage students of Ziro- I block in Lower Subansiri district of Arunachal Pradesh with respect to gender.
2. There is no significant difference between the mean score of intelligence of secondary stage students of Ziro – I block in Lower Subansiri district of Arunachal Pradesh with respect to race.
3. There is no significant difference between the mean score of intelligence of secondary

stage students of Ziro-I block in Lower Subansiri district of Arunachal Pradesh with respect to school management type.

4. There is no significant difference between the mean score of intelligence of secondary stage students of Ziro – I block in Lower Subansiri district of Arunachal Pradesh with respect to family structure.

### Delimitation of the study

The study was delimited to 111 tenth grade students studied in 6 sample secondary schools located in Ziro-I block of Lower Subansiri district, Arunachal Pradesh.

### Methodology

The present study was completed adopting descriptive-cum-survey method of educational research. There were 2 blocks in Lower Subansiri District of Arunachal Pradesh. Out of existing blocks, for the present study, Ziro – I block was considered as sample block and out of existing eighteen secondary schools in the study area, 6 secondary schools (33.33%) had been selected as the sample schools adopting simple random sampling technique. Intention was to collect the data from the entire ten grade students (150) studied in the six sample schools (three government and three private schools) but unfortunately during the visit days to respective schools, in every school some students were found absent. Consequently, the investigators could collect the data from one hundred and eleven (111) students who were found present during their visit to the schools. It took two days to cover a school (one day for taking permission and to fix a day for revisit to collect the data). Thus, twelve days to cover six schools. The detail of the sample is provided in the table-1. Group Intelligence test developed and standardized by G.C. Ahuja was used as the tool to collect the data. Data was analysed employing statistical techniques such as frequency, mean, standard deviation and t-test.

**Table – 1: Name of the sample schools and number of sample tenth grade students selected from Ziro –I block of Lower Subansiri District, Arunachal Pradesh.**

Sl. No.	Name of the sample schools	Management	No. of absent tenth grade students	No of sample tenth grade students		
				Total	F	M
1	Don Bosco School, Hapoli	Private	1	23	16	7
2	PadiLailang Memorial School, Hapoli	Private	6	31	16	15
3	Love Dale Residential School, Hapoli	Private	4	30	16	14
4	Govt. Sec. School, Hari	Government	Nil	3	3	Nil
5	Govt. Sec. School, Tajang	Government	7	7	3	4
6	Mihin Bagang Govt. Sec. School, Hapoli	Government	21	17	9	8
<b>Grand Total</b>			<b>39</b>	<b>111</b>	<b>63</b>	<b>48</b>

**Source:** Field visit, 2020, **Note:** M=Male, F= Female

### Result and Interpretation

The collected data was systematically analysed considering the objectives. Summary

of the results drawn with interpretation are as follows:

**Table – 2: Mean score and standard deviation of Intelligence level of Secondary Stage students in Ziro – I block of Lower Subansiri District, Arunachal Pradesh.**

N	Mean	SD	Remarks
111	71.89	20.95	Below average

**Source:** Field Visit, 2020

The table-2 reveals that the mean score of the intelligence level of secondary stage students of Ziro-I block in Lower Subansiri district, Arunachal Pradesh came out as 71.89. According to GC Ahuja's group test of intelligence score under the range 90-109 is average. As the calculated mean score is less

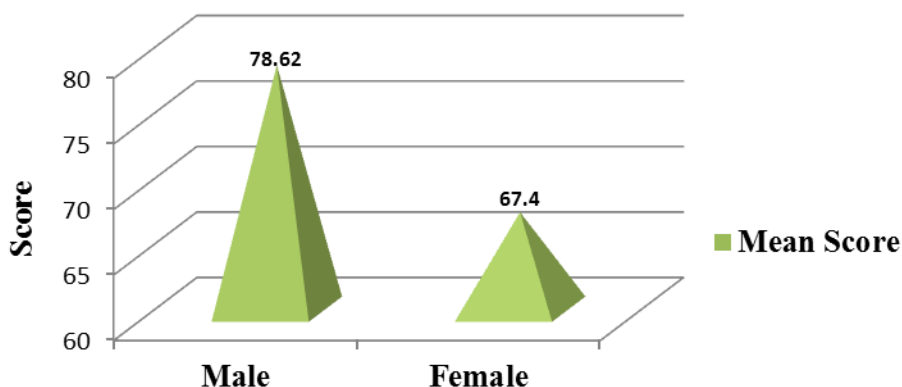
than 90, it is understood that intelligence level of secondary stage students in the study area is below average. Further the calculated standard deviation which came out as 20.95, further shows that deviation of score from mean intelligence score is very high among the secondary stage students.

**Table-3: Mean, SD, SE<sub>D</sub> and t-value of intelligence of secondary stage students in Ziro – I block of Lower Subansiri District, Arunachal Pradesh with respect to gender.**

Gender	Mean	SD	SE <sub>D</sub>	t-value	Remarks
Male	78.62	16.85	3.46	3.23	Significant both at 0.01 and 0.05 level of significance
Female	67.40	17.09			

**Source:** field visit, 2020

**Fig. 1: Intelligence level of Secondary Stage students in Ziro-I block of Lower Subansiri district, Arunachal Pradesh with respect to Gender**



The table-3 reveals that the calculated t-value (3.23) for difference in intelligence level of male and female secondary stage students in Ziro- I block at 109 *df* is greater than the critical t-values i.e. 1.98 and 2.63 at 0.05 and 0.01 level of significance respectively. Hence, difference is significant. Therefore, the formulated hypothesis “there is no significant difference between the mean score of intelligence of secondary stage students of Ziro – I block in Lower Subansiri district of Arunachal Pradesh with respect to gender” is disapproved. It means male and

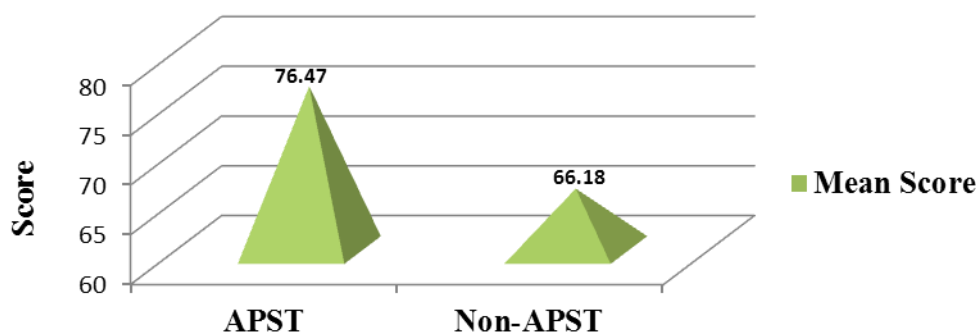
female secondary stage students in the study area significantly differ in their intelligence level. The provided fig.1 also reflects that though both the groups are found possessed below average intelligence, but male secondary stage students do have higher level of intelligence than their female counterparts as the mean score of the intelligence level of male secondary stage students which came out as 78.62 is higher than the mean score of their female counterparts which is 67.40.

**Table-4: Mean, SD, SE<sub>D</sub> and t-value of intelligence of secondary stage students in Ziro – I block of Lower Subansiri District, Arunachal Pradesh with respect to race.**

Race	Mean	SD	SE <sub>D</sub>	t-value	Remarks
APST	76.47	20.08	4.58	2.24	Significant at 0.01 level of significance
Non-APST	66.18	21.62			

Source: field visit, 2020, Note: APST = Arunachal Pradesh Scheduled Tribe, Non –APST = Non-Arunachali.

**Fig. 2: Intelligence level of Secondary Stage Students in Ziro - I block of Lower Subansiri district, Aruanchal Pradesh with respect to Race**



The table-4 reflects that the calculated t-value (2.24) for difference in intelligence level of secondary stage students with respect to race in Ziro- I block at 109 *df* is greater than the critical t-value - 2.63 at 0.01 level of significance. Hence, difference is significant. Therefore, the formulated hypothesis “there is no significant difference between the mean score of intelligence level of secondary stage students of Ziro – I block in Lower Subansiri district of Arunachal Pradesh with respect to race” get disapproved. It means Arunachal Pradesh

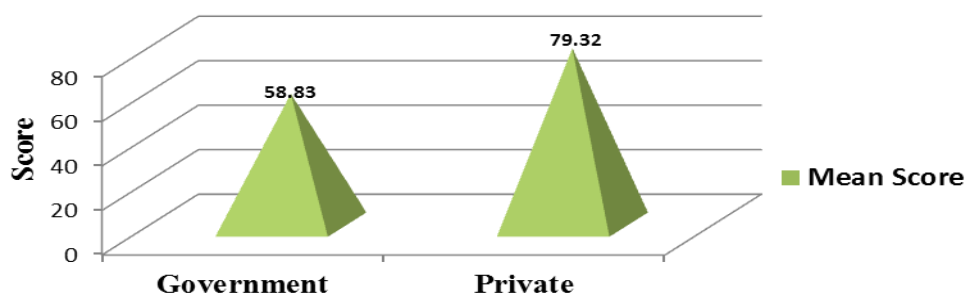
Scheduled tribe secondary stage students and their non-Arunachali counterparts in the study area significantly differ in their intelligence level. The provided fig.2 also reflects that the mean score of the intelligence level of APST students which came out as 76.47 is greater than the mean intelligence score of their Non-APST counterparts i.e. 66.18. These values show that though both the groups possess below average intelligence, the intelligence level of APST secondary stage students is higher than their non-APST counterparts.

**Table-5: Mean, SD, SE<sub>D</sub> and t-value of intelligence of secondary stage students in Ziro – I block of Lower Subansiri District, Arunachal Pradesh with respect to school management type.**

School Management type	Mean	SD	SE <sub>D</sub>	t-value	Remarks
Government	58.83	21.47	4.23	4.83	Significant both at 0.01 and 0.05 level
Private	79.32	14.43			

Source: field visit, 2020.

**Fig. 3: Intelligence level of Secondary Stage Students in Ziro - I block of Lower Subansiri district, Arunachal Pradesh with respect to School Mangement type**



The table-5 indicates that the calculated t-value (4.83) for difference in intelligence level of secondary stage students with respect to school management type in Ziro- I block at 109 *df* is greater than the critical t-values 1.98 and 2.63 at 0.05 and 0.01 level of significance respectively. Hence, difference is significant. Therefore, the formulated hypothesis “there is no significant difference between the mean score of intelligence level of secondary stage students of Ziro – I block in Lower Subansiri district of Arunachal Pradesh with respect to school management type” get disapproved. It

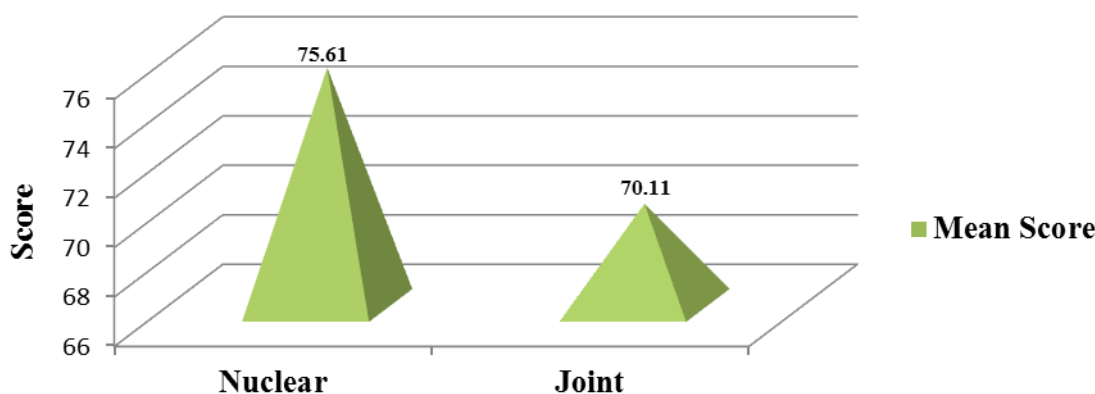
means government and private secondary stage students differ in their intelligence level. The given fig.3 also depicts that the mean score of the intelligence level of government secondary stage students which came out as 58.83 is less than the intelligence mean score of their private school counterparts i.e. 79.32. These values show that though both the groups are found below average intelligence level, secondary stage students studying in private schools do have higher level of intelligence than their government counterparts.

**Table-6: Mean, SD, SE<sub>D</sub> and t-value of intelligence of secondary stage students in Ziro – I block of Lower Subansiri district, Arunachal Pradesh with respect to family structure.**

Family Structure	Mean	SD	SE <sub>D</sub>	t-value	Remarks
Nuclear	75.61	18.43	10.23	0.53	Not significant both at 0.01 and 0.05 level
Joint	70.11	24.37			

Source: field visit, 2020.

**Fig. 4: Intelligence level of Secondary Stage Students in Ziro - I block of Lower Subansiri district, Aruanchal Pradesh with respect to Family Structure**



The table-6 indicates that the calculated t-value (0.53) for difference in intelligence level

of secondary stage students with respect to family structure in Ziro- I block at 109 *df* is less

than the critical t-values 1.98 and 2.63 at 0.05 and 0.01 level of significance respectively. Hence, difference is not significant. Therefore, the formulated hypothesis "there is no significant difference between the mean score of intelligence level of secondary stage students of Ziro – I block in Lower Subansiri district of Arunachal Pradesh with respect to family structure" get accepted. It means secondary stage students belonged to nuclear and joint families do not differ in their intelligence level.

### Findings

1. Secondary stage students in Ziro – I block of Lower Subansiri District, Arunachal Pradesh possess below average intelligence. It means they are poor in their intelligence.
2. Secondary stage students in the study area significantly differ in their intelligence with respect to gender, school management type and race.
3. However, the study found that secondary stage students belonged to nuclear and joint families in Ziro – I block do not differ significantly in their intelligence level.

### Discussion and Conclusion

The present study found that the intelligence level of secondary stage students in the study area is below average. This finding is consistent with the finding of Rani, M.U. & Prakash, S. (2015). Another finding which noted that gender influences intelligence of secondary stage students and male secondary stage students have higher level of intelligence than their female counterparts corroborates with the finding of the studies conducted by Rani & Prakash (2015) and Nyicor, R., Sohang, T. & Dutta, J. (2015) and contradict to the finding of Dandagal, S.N & Yarriswami, M.C., 2017. Dandagal & Yarriswami (2017) through a study revealed that both boys and girls students of secondary schools possessed similar intelligence. The finding that, in Ziro – I block, government and private secondary stage students significantly differ in their intelligence level and private secondary stage students do have higher level of intelligence in comparison to their government school counterparts verifies the finding of Nyicor, R., Sohang, T. & Dutta, J., 2015.

Difficult geographical condition has led most of the tribal areas in the country remain cut off from the mainlanders since long. Resultantly tribal people are relatively lagged behind in almost all the spheres of human life/society; socio-economic, educational, and health. It is well established fact that besides heredity, environment is another important factor that plays a vital role in determining the intelligence

level of an individual. But, sadly, as majority of tribal areas lack in civic and basic amenities, it is understandable that tribal children suffer from lack of proper environment to nourish their intelligence. The finding of the present study which revealed APST secondary stage students in the study area possessed below average intelligence portrays fragile picture of existing educational scenario of the state. Though both APST and Non-APST students in the study area are found possessed average intelligence but they significantly differ in their intelligence level. This finding corroborates with the finding of the study of George, S. & Rajaguru, S. (2016). However, George & Rajaguru (2016) found that non-tribal children studied in the different classes of high school possessed higher level of intelligence than their counterparts belonged to the tribal communities. The present study contradicts to this finding, as the study found that Arunachal Pradesh Scheduled Tribe (APST) secondary stage students' intelligence level is higher than their non-APST counterparts. It is generally believed that in joint family, children get wider opportunity to interact with variety of ideas and situations which give greater scope for manifestation of intelligence to children belong to joint family than children belong to nuclear family. But, finding of the present study revealed that there exist no significant difference in the intelligence level of secondary stage students belonged to joint and nuclear family groups. This finding contradicts to the finding of an earlier study carried out by Mathur, N. & Vaishnav, R. (2017). Mathur, N. & Vaishnav, R. (2017) through their study reported that high school students belonged to joint and nuclear family groups significantly differ in their intelligence level and children belonged to joint family group are more intelligent than their nuclear family group counterparts. As intelligence has empirically been proved as one of the predictors of academic achievement, therefore, poor intelligence of secondary stage students may be one of the reasons behind worsened performance of class X students in CBSE board exam in Arunachal Pradesh. To prove this presumption, however, it is suggested that further research should focus on analysis of relationship between intelligence and academic achievement of secondary stage students in the state.

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