A Comparative Study on Intelligence of Secondary School Students of Arunachal Pradesh

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Abstract: The present study investigated the Intelligence of Secondary School Students of Arunachal Pradesh. The study was conducted on eight hundred (800) class-X students by giving due representation to boys and girls as well as rural and urban localities of two districts in Arunachal Pradesh, namely: East Siang and Lohit. The schools were selected using stratified random sampling technique. The selected schools belong to the category of government as well as private schools which are affiliated to CBSE i.e., Central Board of Secondary Education, New Delhi and controlled and supervised by the Department of Education, Govt. of Arunachal Pradesh. The descriptive survey method is used for data collection. As far as intelligence was measured by using the group test of mental ability constructed and standardized by Dr. S. Jalota. The findings of the study reported that on intelligence the mean scores of students of Lohit district is better than that of East Siang district; and comparison between government and private school students on intelligence of both the districts it is found that both districts private school students are mentally (intelligence) better than government school students.

Keywords: Intelligence and Secondary School Students.

1. Introduction

Education is the harmonious development of all the power of the human being- physical, mental and spiritual. Hence, it is necessary for life. Education works like a catalyst for a better life, a socially desirable life. Education is the most valuable wealth of man. It is necessary for his survival. It makes man brave and fearless. Education makes a healthy, rich and sound state of mind of man by which he does profound, perspective and scholarly work. Education helps not only in buildings personality, character and intelligence but also his productive capacity and his ability to perform his shared work more efficiently. Education develops a child to be a person who is physically strong mentally well equipped, emotionally balanced and with right attitude towards life.

2. Meaning of Intelligence

Intelligence is power or faculty which helps us in understanding thinking and reasoning about the things. Intelligence is the only word which makes the human being difference from animal. Gods given us with certain cognitive ability to man, by which man become a rational being. David Wechsler said, “Intelligence is the aggregates or global capacity of an individual to act purposefully, to think rationally and to deal effectively with his environment.” Our learning and thinking are possible through intelligence only. It is an organization comprising the abilities of readiness, correctness and of understanding complicated and abstract things and with its help a person shows necessary mental control and action in solving problems. Intelligence is a term describing one or more capacities of the mind. In different context the term intelligence can be defined in different ways, including the capacities for abstract thought, understanding, communication, reasoning, learning, planning, emotional intelligence and problems solving. Intelligence is most widely studied in human, but it is also observed in animals and plants.

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.

The process of achievement fostered the development of intelligence. Kornhaber, Krechevsky and Gardener (1990) convinced of intelligence as the product of dynamic process involving individual abilities, the values and opportunities afforded by society. This statement emphasizes that the development of individual abilities infers the development of intelligence in a given social environment. The development of intelligence is correlated with the development of individual abilities through individual experience in particular environment. The process of achievement is an important individual experience and displays directly the development of individual competencies.

Intelligence is evidenced by past and present achievement used for predicting future achievement. Intelligence sets up the foundation of achievement. The occurrence of achievement requires not only the corresponding intelligence but also motivated and the supported by appropriate academically congenial environment.

3. Brief History of Secondary Education in India and Arunachal Pradesh.

The secondary education has a special role to play and as the system as a whole moves toward universalizing secondary
education. In our country, secondary education is regarded as the connecting link between the primary and the higher education. According to Secondary Education Commission (1952-1953), four aims of secondary education are: (i) Development of democratic education (ii) All-round development of personality (iii) Development of vocational efficiency and (iv) Development of leadership quality. Secondary education helps the children to become a full member of a complex modern society of today. It develops the highest potentiality of child’s ability, aptitudes, interests and qualities of character.

The mass scale provision of elementary education and an increasing aspiration for secondary education during the post independent period have resulted in tremendous growth of secondary education in India. The constitution analyzed the various problems facing secondary education and has suggested suitable remedies for them. Two major tendencies discernable at the secondary stage since 1950, via a gradual transition of traditional pattern of bookish education into a vocational one and attempts to make secondary education a self-contained stage. The education commission (1964-66) has also recommended a rapid vocationalization of secondary education. This leads to making the secondary stage a self-contained one in itself and related more and more to the life of the individuals as well as to the community. The national education policy has also recommended in 1968 a structural change in the formal secondary in the country by adopting the 10+2+3 structure. The All India Education Council for Secondary education was set up in August 1955. The main functions of the council were to review from time to time the progress of secondary education throughout the country and to serve as an expert body to advise the state and central governments on the improvement and expansion of secondary education are being presented with the change of language. A long list of aims of first ten years of school education are presented in the national curriculum of framework prepared by NCERT in 2000. In the national curriculum framework 2005 more emphasis has been laid on rational values and secularism. At present the aims of secondary education are as follows:

1) To train children to look after their health and develop it.
2) To provide children knowledge of different subjects and to make them proficient in thinking, imagination and decision making.
3) To socialize children knowledge and to bring about necessary social change.
4) To provide children knowledge of different cultures and develops cultural tolerance among them.
5) To inculcate social, cultural, moral and rational values among children to guide them to behave accordingly and to develop their character and morality.
6) To guide children to do some physical work according to their interest, ability and need.
7) To provide children knowledge about principles of democratic system of governance and to train them in democratic way of living.
8) To make children aware about the rational goals-conservation of environment and population in control and to develop among them scientific attitudes, national integration and feeling of internationalism.
9) To provide children general information about the main religions of the world and to develop religious tolerance.

Now, it is clear that the role of education is no longer considered as a mechanism for the perpetuation of the best with traditions above but it is now being viewed as an investment in social transformation, human resource development and in advancing revolutionary development in the field of science and technology for the life of mankind as a whole. Secondary school level of education is significantly important as it is a period of intense vibrancy and energy. UNESCO’s recently published global monitoring report discovers systematic standards as the appropriate context of the quality debate. From this point of view the child’s performance needs to be treated as an indicator of systematic quality as reflected in national curriculum framework 2005. The thrust objective of secondary education during the tenth plan has been achieved only partly and therefore the 11th plan (2007-11) aims to:

1) Raise the minimum levels of education to class X and accordingly universalize access to secondary education for all.
2) Ensure good quality secondary education with focus on science, mathematics and English and
3) Remove disparities and education in gender, social, regional gaps in enrolment, dropout and secondary retentions.

The norm will be to provide a secondary school within 5 kms and a higher secondary school within 7 kms of every cluster of habitation. The gross enrolment ratio (GER) in secondary education is targeted to increase from 52% in 2004-05 to 75% by 2011-12 and higher secondary GER from 40% to 60% in the same periods.

An amount of Rs 5000 crores is being provided during the 11th plan for providing ICT (information communication technology) infrastructure in secondary schools. In order to bridge social gaps in secondary education in respect of „SC”, „ST”, minorities and OBC, the eleventh plan addressed specific areas including:

1) Upgradation of elementary schools to secondary schools in geographic concentration areas relevant to social groups.
2) Supply of free uniforms, textbooks and foot wears.
3) Supply of bicycles and wheel chairs.
4) Hostels for boys and girls.
5) Stipends to the deserving children.
6) Support to all madrasas for adaptation of general education.
7) Pre-metric and post metric scholarships.
8) Special remedial coaching with in local area schools for weaker students
9) An area intensive approach with community participation.

4. Review of Related Literature

Zacharia (1982) found that the fantasy in the students were negative for the educational achievement of all subjects. Intelligence and personality decreased the negative relationship between the family life and educational achievement.

Study by Shanmugasundaram (1983) supported that women had higher intelligence, greater achievement motivation and
better study habits and they also performed academically better than men students.

Pathak (1983) in his study showed that besides influencing in academic achievement, intelligence also worked for creative writing. The creative writers showed higher intelligence as compared to an average population. The high creative writers were better able to handle anxiety producing situations, tension and were more sensitive and quicker in their reaction to environmental stimuli.

Habibolla, N. and Abdullah, H. (2010) in their study entitled "Intelligence and academic Achievement: An investigation of gender differences" found that there existed a significant relationship between intelligence and academic achievement for both male and female separately and in total sample.

Dhull, Jitender (2012) in a comparative study of the achievement in science in relation to intelligence, academic anxiety and reading interest of the X class students in government and private schools of Haryana, revealed that there was a significant difference in the mean scores of academic anxiety of government and private school students. It might, therefore be concluded that government school students had less academic anxiety in comparison to private school students.

Saikia.Pallabi andChoudhary (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 class 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: (i) there is difference between boys and girls student on the academic achievement in the test examination, (ii) there is difference between rural and urban students on the average academic achievement in the test examination and (iii) it is also found that the mean score of intelligence for both rural and urban students is quite high.

Dutta.Jadab, Chetia, Pranab and Soni, J.C (2015) conducted a study on “A Comparative Study on Intelligence of Secondary School Students in Lakhimpur District of Assam”. This study is conducted on a sample of 500 Students comprised of 250 boys and 250 girls selected randomly from 16 Government and Private secondary schools of Lakhimpur district of Assam. The descriptive survey method is used for data collection using group test of mental ability was constructed and standardized by Dr. S. Jalota. The findings of the study reported that there are no difference on intelligence in respect of male and females of private and rural male/female private secondary school students. But it reported real difference in overall between government and urban private secondary school students.

Dutta.Jadab, Rajknower, Suresh and Soni, J.C (2016) conducted a study on “A Comparative Study on Intelligence of Secondary School Students in Sonitpur District of Assam”. This study is conducted on a sample of 500 Students comprised of 250 boys and 250 girls selected randomly from 16 Government and Private secondary schools of Sonitpur district of Assam. The descriptive survey method is used for data collection using group test of mental ability was constructed and standardized by Dr. S. Jalota. The study clearly revealed that in the whole sample the secondary school students studying in government and private schools as well as belonging to in urban and rural areas do differ significantly in respect of their intelligence. However, the separate comparison of male and female students of (a) government and private schools; (b) government schools located in urban and rural areas and as well as (c) private schools located in urban and rural areas showed no significant mean differences on their intelligence scores.

5. Need of the study

The present study has been designed to study the Intelligence of Secondary School Students in Arunachal Pradesh. Here, the Intelligence is a explained as the capacity for knowledge and understanding especially as applied to the handling of novel situation; the power of meeting novel situation successfully by adjusting behaviour to the total situation. It is an organization comprising of the abilities to readily, correctly, understand the complicated and abstract things. It is an inborn natural power that makes a man capable of overcoming difficulties and problems of life. In the present circumstance it is seen that there are few studies taken insomeIndian researchers. This prompted the researchers to take up the present problem for the study.

6. Statement of the Problem

The problem under study is stated as “A Comparative Study on Intelligence of Secondary School Students of Arunachal Pradesh”.

7. Objectives of the Study

The objectives of the study were:
1) To test the significance of the mean differences on intelligence of (a) male and female (b) rural and urban (c) government and private secondary school students of East Siang district.
2) To test the significance of the mean differences on intelligence of (a) male and female (b) rural and urban (c) government and private secondary school students of Lohit district.
3) To test the significance of the mean differences on intelligence of (a) male and female (b) rural and urban (c) government and private secondary school students of East Siang and Lohit districts (total sample) of Arunachal Pradesh.

8. Hypotheses of the Study

In view of the objectives of the study the investigators formulated the following hypothesis:
H: 01. There is no significant difference in the mean scores of intelligence between (a) male and female (b) urban and rural (c) government and private secondary school students of East Siang district.
H: 02. There is no significant difference in the mean scores of intelligence between (a) male and female (b) urban and rural (c) government and private secondary school students of Lohit district.
H: 03. There is no significant difference in the mean scores of intelligence between (a) male and female (b) urban and rural (c) government and private secondary school students of East Siang and Lohit districts (total sample) of Arunachal Pradesh.

9. Methodology of the Study

The Descriptive Survey Method is used in the study. It describes the current position of the research work. It involves interpretation, comparison, measurement, classification, evaluation and generalization. All these direct towards a proper understanding solution of significant educational problem. The present study attempted to find Intelligence of Secondary School Students of Arunachal Pradesh. Keeping in view the nature of the study, the survey method was found to be more suitable.

Population of the Study

The population of the present study constituted all the class X students studying in secondary schools of East Siang and Lohit districts of Arunachal Pradesh.

Selection of Schools and Final Sample

In Arunachal Pradesh two districts were considered for this present study. From these two districts two stratified groups namely rural and urban schools were selected. After completion of stratification with respect to rural and urban schools, sample was selected randomly with equal proportion from the said stratified groups (rural and urban). The selected schools belong to the category of government as well as private schools which are affiliated to CBSE i.e., Central Board of Secondary Education, New Delhi and controlled and supervised by the Department of Education, Govt. of Arunachal Pradesh. However, the data are collected from all the students in selected schools who are studying in class X. The investigator considered for study only 800 whose questionnaires and information were complete in all respects. The break-up of the final sample is shown in Table – 1.

Table 1: Break up of Sample in terms of districts, locality and sample size wise

<table>
<thead>
<tr>
<th></th>
<th>East Siang</th>
<th>Lohit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schools</td>
<td>Rural (04)</td>
<td>Urban (06)</td>
</tr>
<tr>
<td>N</td>
<td>Male 75 125 75 125</td>
<td>Female 75 125 75 125</td>
</tr>
</tbody>
</table>

Tool Used

In order to fulfill the objectives of the present study the Intelligence test was used. The tool are described in the following sections:

Intelligence Test

First variable in the study is intelligence. The researcher used Dr. S. Jalota’s Intelligence test meant for secondary school students. The group test of mental ability was constructed and standardized by Dr. S. S. Jalota. This Intelligence Test comprises of five separate categories of twenty tasks each, namely: (i) Vocabulary (ii) Classification (iii) Number Series (iv) Analysis and (v) Reasoning. Only hour 15 minutes were given to administer it to the students. This test was employed by the researchers for the purpose of data collection.

Statistical Techniques Used

In this study various statistical measures such as Mean, SD and t-test were used for analysing and interpreting data.

Analysis of Data

After collecting data the investigators used the mean, standard deviation and correlation for analysing the data. The calculations were done by using Microsoft Excel in computer. The analysis is

Objective -1: To test the significance of the mean differences on Intelligence of (a) male and female (b) rural and urban (c) government and private secondary school students of East Siang district.

Hypothesis-1: There is no significant difference in the mean scores of intelligence between (a) male and female (b) urban and rural (c) government and private secondary school students of East Siang district.

Table 2: Showing the mean, standard deviation and t-value of the intelligence between (a) male and female (b) urban and rural (c) government and private secondary school students in East Siang districts of Arunachal Pradesh

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>t-value</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intelligence</td>
<td>Male 200</td>
<td>59.89</td>
<td>10.269</td>
<td>1.28</td>
<td>Not significant</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female 200</td>
<td>58.5</td>
<td>11.36</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rural 150</td>
<td>62.485</td>
<td>12.127</td>
<td>0.41</td>
<td>Not significant</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Urban 250</td>
<td>62.985</td>
<td>11.227</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Government 800</td>
<td>59.196</td>
<td>10.83</td>
<td>3.56</td>
<td>Significant</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Private 400</td>
<td>73.35</td>
<td>6.56</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
From the above Table, it can be observed that the mean scores of both male and female students are 59.89 and 58.5 respectively. When the t-test was applied to compare the mean scores of both the groups, it was found that the calculated t-value (1.28) is less than the table value 1.96 at 0.05 level of significance. Hence, the hypothesis is accepted. This means that there was no significant mean difference on intelligence of male and female secondary students of East Siang district.

The mean scores on intelligence of both rural and urban students are 62.485 and 62.985 respectively. When the t-test was applied to test the significance of the mean difference between these groups, it reported a CR (t) value 0.41. This was found to be not significant. Hence hypothesis is accepted. This further means that there was no significant mean difference on intelligence of both rural and urban secondary students of East Siang district.

The result from Table-02 showed that the mean scores of both government and private students were 59.196 and 73.35 respectively. The computed t-value between their mean differences was 15.56 which was found significant at 0.05 level. Hence hypothesis is rejected. Therefore government and private secondary students were found to have significant mean difference on intelligence of East Siang districts.

Objective -02: To test the significance of the mean differences on Intelligence of (a) male and female (b) urban and rural (c) government and private secondary school students of Lohit district.

Hypothesis-2: There is no significant difference in the mean scores of intelligence between (a) male and female (b) urban and rural (c) government and private secondary school students of Lohit district.

From the above Table, it can be observed that the mean scores of male and female students are 63.246 and 62.47 respectively. The computed CR (t) between their mean differences was 0.742. This was not found significant at 0.05 level. Hence hypothesis is rejected. Therefore rural and urban secondary students of Lohit district were found to differ significantly on intelligence.

The mean scores of both government and private students were 62.86 and 77.91 respectively. When the t-test was applied to compare the mean difference of both the groups, it was found that the calculated t-value (17.70) was greater than the table value 1.96 at 0.05 level of significance. This means that government and private secondary students of Lohit district have real difference on intelligence.

Objective -03: To test the significance of the mean differences on Intelligence of (a) male and female (b) rural and urban (c) government and private secondary school students of East Siang and Lohit districts (total sample) of Arunachal Pradesh.

Hypothesis-3: There is no significant difference in the mean scores of intelligence between (a) male and female (b) urban and rural (c) government and private secondary school students of East Siang and Lohit districts (total sample) of Arunachal Pradesh.

From the above Table again it can be observed that the mean scores of both rural and urban students were 61.57 and 60.49 respectively. When the t-test was applied to compare the mean scores of both the groups, it was found that the calculated t-value 1.64 is less than the table value 1.96 at 0.05 level of significance and the null hypothesis is accepted. This means there was no significant mean difference between male and female secondary students of both the districts.

The mean scores of both rural and urban students were 68.23 and 65.47 respectively. The computed t-value between their mean differences was 2.34. This was found significant at 0.05 level. Hence hypothesis is rejected. Therefore rural and urban secondary students of Lohit district were found to differ significantly on intelligence.

The mean scores of both government and private students were 62.86 and 77.91 respectively. When the t-test was applied to compare the mean difference of both the groups, it was found that the calculated t-value (17.70) was greater than the table value 1.96 at 0.05 level of significance. This means that government and private secondary students of Lohit district have real difference on intelligence.

The results from Table-04 showed that the mean scores on intelligence of male and female students in the whole sample were 65.36 and 64.00 respectively. When the t-test was applied to compare the mean scores of both the groups, it was found that the calculated t-value 1.64 is less than the table value 1.96 at 0.05 level of significance and the null hypothesis is accepted. This means there was no significant mean difference between male and female secondary students of both the districts.

Table 3: Showing the mean, standard deviation and t-value of the intelligence between (a) male and female (b) urban and rural (c) government and private secondary school students in Lohit districts of Arunachal Pradesh

From the above Table, it can be observed that the mean scores of male and female students are 63.246 and 62.47 respectively. The computed CR (t) between their mean differences was 0.742. This was not found significant at 0.05 level. Hence hypothesis is accepted. This further means that there was no significant mean difference on intelligence of male and female secondary students of Lohit district.

The mean scores of both rural and urban students were 68.23 and 65.47 respectively. The computed t-value between their mean differences was 2.34. This was found significant at 0.05 level. Hence hypothesis is rejected. Therefore rural and urban secondary students of Lohit district were found to differ significantly on intelligence.

The mean scores of both government and private students were 62.86 and 77.91 respectively. When the t-test was applied to compare the mean difference of both the groups, it was found that the calculated t-value (17.70) was greater than the table value 1.96 at 0.05 level of significance. This means that government and private secondary students of Lohit district have real difference on intelligence.

Objective -03: To test the significance of the mean differences on Intelligence of (a) male and female (b) rural and urban (c) government and private secondary school students of East Siang and Lohit districts (total sample) of Arunachal Pradesh.

Hypothesis-3: There is no significant difference in the mean scores of intelligence between (a) male and female (b) urban and rural (c) government and private secondary school students of East Siang and Lohit districts (total sample) of Arunachal Pradesh.

Table 4: Showing the mean, standard deviation and t-value of the intelligence between (a) male and female (b) urban and rural (c) government and private secondary school students in East Siang and Lohit districts of Arunachal Pradesh

The results from Table-04 showed that the mean scores on intelligence of male and female students in the whole sample were 65.36 and 64.00 respectively. When the t-test was applied to compare the mean scores of both the groups, it was found that the calculated t-value 1.64 is less than the table value 1.96 at 0.05 level of significance and the null hypothesis is accepted. This means there was no significant mean difference between male and female secondary students of both the districts.

From the above Table again it can be observed that the mean scores of both rural and urban students were 61.57 and 60.49 respectively. When the t-test was applied to compare the mean scores of both the groups, it was found that the calculated t-value 1.37 is less than the table value 1.96 at 0.05 level of significance. This means that the mean difference is not significant. Hence, hypothesis is accepted. This further means that rural and urban secondary school students have similar level of intelligence in the total sample of both the districts.

The mean scores of both government and private students were 61.03 and 75.63 respectively. The computed CR (t) between their mean differences is 22.81. This is found to be
significant at 0.05 level. Hence hypothesis is rejected. This means that there is a great difference in intelligence of government and private secondary students of both the districts.

10. Finding of the Study

All the major findings of the study are as stated as under:

1) No significant mean differences were found for East Siang district students between the male/female and rural/urban on intelligence. But the government and private school students were found to differ significantly in the same district.

2) The male and female secondary school students of Lohit district were not found to differ significantly but the rural/urban and government/private secondary school students differed significantly on intelligence.

3) There is no significant mean difference on intelligence between male/female and rural/urban areas students but significant real difference was found between government and private school students of both the districts of Arunachal Pradesh.

References


