



Full Length Research Article

A COMPARATIVE STUDY OF ACADEMIC ACHIEVEMENT IN SCIENCE OF SECONDARY SCHOOL STUDENTS IN LAKHIMPUR AND KARBI ANGLONG DISTRICTS OF ASSAM

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ABSTRACT

The present study investigated the Academic Achievement of secondary school students in Lakhimpur and Karbi Anglong district of Assam. The study is conducted on a sample of 800 students comprising of 420 boys and 380 girls selected randomly from both Government and Private Schools of the districts. For collection of data descriptive survey method is used. The study clearly revealed that in the whole sample the secondary school students studying in government and private schools as well as belonging to urban and rural areas show significant difference in respect of their science subject. But no significant difference was found in achievement in science subject of male and female students of Lakhimpur and Karbi Anglong Districts.

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INTRODUCTION

The Dictionary meaning of the word achievement is “to perform successfully”. Achievement in education implies one’s knowledge, understanding and skills in a specified subject or group of subjects. It may also be viewed as the progress made by students after a particular period of training imparted by their teachers in the school. Thus we may define achievement as the performance of the student in the classroom situation also which determines the extent to which the instructional objectives have been attained. So, it may be referred to as the knowledge attained and skills developed among students during their academic career in the subjects which are assessed by the school authorities with the help of teacher made or standardized tests. Academic achievement is the specified level of attainment of proficiency in academic work as evaluated by teachers, standardized test or by a combination of both (Ashman & George, 1982). Those who attain specific proficiency in achievement also should have mastery in attaining in certain realized situation like higher order learning and problem-solving. Academic achievement is multidimensional and multifaceted phenomenon.

There are innumerable factors which affect academic achievement viz. intelligence, personality, motivation, heredity, home environment, learning experiences, environment of schools and class in particular etc. The factors like interest, aptitude, family background and socio-economic status of the parents also influence the child’s academic achievement. The main emphasis in teaching-learning process is laid on the learning or performance of the students. The learning or scholastic outcomes of the students are measured with the help of their achievement or performance. Performance assessment is the process of measuring the terminal behaviors of the students has acquired the required level of knowledge before proceeding to the next complement of instruction. Achievement is supposed to be the end-product of the instruction usually in terms of verbal performance. In the achievement test main emphasis is given on content coverage or course materials along with the realization of objectives. The teaching objectives are assessed in terms of terminal behaviors of the students. In other words, achievement tests are controlling process of teaching learning activities. It helps in evaluating the effectiveness of teaching instructions. It also provides the feedback to the students as well as to the teachers. An achievement test has a great significance in all types of instructional progress of the

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individual. A classroom teacher depends upon such tests for measuring the progress of his students in his subject areas. Several educational and vocational decisions about students are taken on the basis of their performance in the achievement tests.

Review of Related Literature

Asha (1980) investigated the relationship between creativity and academic achievement from secondary school children and results revealed a significant relationship between creativity and academic achievement for both sexes. Creative subjects were superior to non-creative subjects in academic achievement. Singh, T.J. and Soni, J.C. (1984) conducted a study on attitude and achievement in science of high school students in Manipur with the major objective to compare the attitude and achievement of boys and girls in science subject. The major findings of the study were (i) the boys and girls do not differ in their attitude towards science, (ii) the boys and girls do not differ in their achievement in science. Ansari, A.M. (1984) studies on construction and standardization of achievement tests in general science for standards V, VI and VII for children studying through Hindi as the medium of instruction in greater Bombay. The objectives of the study were (i) to construct and standardize a battery of achievement tests in general science for standards V, VI and VII for children studying through Hindi as the medium of instruction in greater Bombay, (ii) to compare the achievement in science of children studying in municipal and non-municipal schools in the city of greater Bombay, (iii) to compare the achievement of boys and girls in science. The major findings of the study revealed that (i) the performance of boys were better than that of girls, (ii) the students of non-municipal schools had a better performance in general science than those of municipal school, (iii) these findings held good for all the classes, viz. Class V, VI and VII.

Begum T.S. and Phukan M. (2002) conducted a study in English medium schools in Jorhat district following the syllabus of Board of Secondary Education Assam (SEBA). The sample consisted of 180 students of class IX. Out of which 118 were male and 62 were female. Total annual marks obtained by the students in the last annual examinations were considered as their academic achievement records. A questionnaire on socio-economic status was prepared. Results revealed that type of the family, number of siblings, education of the parents and family income had significant impact on academic achievement of students. Devi, Uma (2009) studied relationship between problem solving ability and academic achievement of secondary school students found that there is no significant difference in problem solving ability of boys and girls and students studying in private and government schools. A positive relationship is found between problem solving ability and academic achievement of ninth standard students. Yomgam, Bige (2009) conducted a study to find out the academic achievement of secondary school students of Arunachal Pradesh and found that there is a wide gap among the different categories of students' viz. male, female, tribal and non-tribal in their academic achievement in the subjects namely English, Hindi, Mathematics, Science and Social Studies.

Sethi *et al.* (2013) conducted a study on "Anxiety and Academic Achievement of Senior Secondary School Students". The study used a sample of 150 students of class XII students from different schools of Dehradun district. Out of these 75 were boys and 75 girls and was selected by simple random sampling technique. The findings of the study were: (i) English medium schools and Hindi medium students have high levels of anxiety; (ii) Boys and Girls of Senior Secondary class have similar anxiety; (iii) Boys of Senior Secondary class of English medium schools and Hindi medium schools do not differ in anxiety level and (iv) the relationship between Anxiety and Academic Achievement of Senior Secondary School Students is negligible. There are negative correlations between the two variables. Saikia, Pallabi and Choudhary (2014) conducted a study on "Effect of intelligence on Academic Achievement of secondary school students - A Study in Lakhimpur District of Assam". The objective of the study was to study the Academic Achievement of 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 provincialized schools of Lakhimpur District of Assam. The normative survey method is used for data collection. The major findings of the study were: (i) there is difference between boys and girls student on the academic achievement and test examination. (ii) There is difference between rural and urban student on the academic achievement in the test examination. (iii) it is also found that the mean score of intelligence for both rural and urban students is quite high.

Need of the Study

The present study has been designed to study the Academic Achievement of secondary school students in Lakhimpur and Karbi Anglong districts of Assam. Here, the Academic Achievement refers to educational performances of students in science subject studying in schools. The study will try to give a picture of the achievement of secondary students in H.S.L.C. examination by taking into account the marks obtained by them in science. The performance will be analysed qualitatively and comparisons of performance of boys and girls as well as their performance in rural and urban schools will be done. The present study seeks to investigate that there was no significant difference in the academic achievement of government and private school students; there was no significant mean difference in the academic achievement of school boys and girls and there was no significant mean difference in the academic achievement of rural and urban secondary school students of Lakhimpur and Karbi Anglong districts of Assam.

Statement of the problem

The problem of the present study is "A comparative study of academic achievement in science of secondary school students in Lakhimpur and Karbi Anglong Districts of Assam".

Objectives of the Study

The study was designed with the following objectives:

- To compare the academic achievement in science of (a) male and female, (b) urban and rural and (c) government and private secondary school students of Lakhimpur District of Assam.
- To compare the academic achievement in science of (a) male and female, (b) urban and rural and (c) government and private secondary school students of Karbi Anglong District of Assam.
- To compare the academic achievement in science of (a) male and female, (b) urban and rural and (c) government and private secondary school students of Lakhimpur and Karbi Anglong Districts of Assam.

Hypotheses of the study

- There is no significant mean difference in academic achievement scores in science of male and female secondary school students of Lakhimpur district of Assam.
- There is no significant mean difference in academic achievement scores in science of urban and rural secondary school students of Lakhimpur district of Assam.
- There is no significant mean difference in academic achievement scores in science of government and private secondary school students of Lakhimpur district of Assam.
- There is no significant mean difference in academic achievement scores in science of male and female secondary school students of Karbi Anglong district of Assam.
- There is no significant mean difference in academic achievement scores in science of urban and rural secondary school students of Karbi Anglong district of Assam.
- There is no significant mean difference in academic achievement scores in science of government and private secondary school students of Karbi Anglong district of Assam.
- There is no significant mean difference in academic achievement scores in science of male and female secondary school students of Lakhimpur and Karbi Anglong districts of Assam.
- There is no significant mean difference in academic achievement scores in science of urban and rural secondary school students of Lakhimpur and Karbi Anglong districts of Assam.
- There is no significant mean difference in academic achievement scores in science of government and private secondary school students of Lakhimpur and Karbi Anglong districts of Assam.

MATERIALS AND METHODS

Method

Descriptive survey method has been used in the present study. The study is conducted based on mainly primary data, which is collected from different schools of the districts. Secondary data and pertinent literature was compiled from published sources.

Population

All the students studying in class X of secondary schools of government and private management of Lakhimpur and Karbi Anglong districts of Assam form the population.

Sample

The study is conducted on a sample of 800 class X students by giving due representation to boys and girls as well as rural and urban localities and 33 schools are selected using stratified random sampling technique.

Tools Used

Academic Achievement Record was used as the tool of the present study. For this purpose the investigator visited the selected schools and collected the performance records of the selected students i.e. marks obtained in science by the students in the H.S.L.C. Final Examination, 2014-15.

Analysis and Findings

Data were analysed in terms of Mean, Standard Deviation and t-test method. The results have been presented in the following tables hypothesis wise.

Objective: 1. To compare the academic achievement in science of (a) male and female, (b) urban and rural and (c) government and private secondary school students of Lakhimpur District of Assam.

Hypothesis: 1. There is no significant mean difference in academic achievement scores in science of male and female secondary school students of Lakhimpur District.

Table 1. Mean, SD and t-value of male and female secondary school students of Lakhimpur district of Assam

Subject	Sex	N	Mean	SD	t-value	Remarks
Science	Male	220	45.27	17.00	0.64	Not Significant
	Female	200	44.10	20.12		

Interpretation: Above table reported a t-value 0.64. This was found not significant. Hypothesis is accepted. This means that there is no significant mean difference in science subject of male and female secondary school students of Lakhimpur district.

Hypothesis: 2. There is no significant mean difference in academic achievement scores in science of urban and rural secondary school students of Lakhimpur District.

Table 2. Mean, SD and t-value of urban and rural secondary school students of Lakhimpur district of Assam

Subject	Locality	N	Mean	SD	t-value	Remarks
Science	Urban	224	51.17	17.11	0.46	Not Significant
	Rural	196	50.40	17.18		

Interpretation: Comparing the mean scores of both the groups, it is found that the calculated t-value 0.46 is less than the table value 1.97 at the 0.05% level of significance. This

means that mean difference is not significant. Hence, hypothesis is accepted. This means that there is no significant mean difference in science subject of urban and rural secondary school students of Lakhimpur district.

Hypothesis: 3. There is no significant mean difference in academic achievement scores in science of government and private secondary school students of Lakhimpur District.

Table 3. Mean, SD and t-value of government and private secondary school students of Lakhimpur district of Assam

Subject	Type	N	Mean	SD	t-value	Remarks
Science	Government	228	44.54	14.80	9.96	Highly Significant
	Private	192	61.02	18.52		

Interpretation: It is found that the mean scores of both the groups are 44.54 and 61.02 and calculated t-value 9.96 is greater than the table value 1.97 at the 0.05% level of significance. This means that mean difference is highly significant. Hence, null hypothesis is rejected. This further means that the students studying in both government and private secondary schools have a dissimilar level of performance in science subject.

Major Findings: The above tables indicate that the male and female students of Lakhimpur District are found to have similar level of performance. Similarly, no difference is found in the achievement of urban and rural students in science subject. But private students have better performance than that of government in Lakhimpur District.

Objective: 2. To study the academic achievement in science of (a) male and female, (b) urban and rural and (c) government and private secondary school students of Karbi Anglong District of Assam.

Hypothesis: 4. There is no significant mean difference in academic achievement scores in science of male and female secondary school students of Karbi Anglong District.

Table 4. Mean, SD and t-value of male and female secondary school students of Karbi Anglong district of Assam

Subject	Sex	N	Mean	SD	t-value	Remarks
Science	Male	200	40.35	15.43	0.43	Not Significant
	Female	180	39.67	15.21		

Interpretation: The above table reported a t-value 0.43. This was found not significant. Hypothesis is accepted. This means that there is no significant difference in science subject of male and female secondary school students of Karbi Anglong district.

Hypothesis: 5. There is no significant mean difference in academic achievement scores in science of urban and rural secondary school students of Karbi Anglong District.

Interpretation: To compare the mean scores of both the groups, it was found that the calculated t-value 4.35 is greater than the table value 1.97 at the 0.05% level of significance.

This means that mean difference is significant. Hence, hypothesis is rejected. This further means that the boys and girls of both rural and urban areas government secondary schools have a dissimilar level of performance in science subject.

Table 5. Mean, SD and t-value of urban and rural secondary school students of Karbi Anglong district of Assam

Subject	Locality	N	Mean	SD	t-value	Remarks
Science	Urban	230	42.63	15.89	4.35	Significant
	Rural	150	36.03	13.46		

Hypothesis: 6. There is no significant mean difference in academic achievement scores in science of government and private secondary school students of Karbi Anglong District.

Table 6. Mean, SD and t-value of government and private secondary school students of Karbi Anglong district of Assam

Subject	Type	N	Mean	SD	t-value	Remarks
Science	Government	210	36.88	12.82	4.61	Significant
	Private	170	44.15	17.04		

Interpretation: It is found that the mean scores of both government and private secondary school students are 36.88 and 44.15 respectively. Applying the t-test to compare the mean scores of both the types, it was found that the calculated t-value 4.61 is greater than table value 1.97 at the 0.05% level of significance and this means that difference is significant. Hence, null hypothesis is rejected. This further means that the students studying in both government and private secondary schools have a dissimilar level of performance in science subject.

Major Findings: From the above tables it is found that the male and female students of Karbi Anglong District have similar level of performance. But a significant difference is found in the achievement of both urban and rural students and both private and government students in science subject of Karbi Anglong District.

Objective: 3. To study the academic achievement in science of (a) male and female, (b) urban and rural and (c) government and private secondary school students of Lakhimpur and Karbi Anglong Districts of Assam.

Hypothesis: 7. There is no significant mean difference in academic achievement scores in science of male and female secondary school students of Lakhimpur and Karbi Anglong districts of Assam.

Table 7. Mean, SD and t-value of male and female secondary school students of Lakhimpur and Karbi Anglong districts of Assam

Subject	Sex	N	Mean	SD	t-value	Remarks
Science	Male	420	42.81	16.22	0.76	Not Significant
	Female	380	41.89	17.67		

Interpretation: Comparing the mean scores of both the groups, it is found that the calculated t-value 0.76 is less than the table value 1.97 at the 0.05% level of significance. This

means that mean difference is not significant. Hence, hypothesis is accepted. This means that there is no significant mean difference in science subject of urban and rural secondary school students of Lakhimpur and Karbi Anglong district of Assam.

Hypothesis: 8. There is no significant mean difference in academic achievement scores in science of urban and rural secondary school students of Lakhimpur and Karbi Anglong districts of Assam.

Table 8. Mean, SD and t-value of urban and rural secondary school students of Lakhimpur and Karbi Anglong districts of Assam

Subject	Locality	N	Mean	SD	t-value	Remarks
Science	Urban	454	46.90	16.05	3.26	Significant
	Rural	346	43.22	15.32		

Interpretation: To compare the mean scores of both the groups, it was found that the calculated t-value 3.26 is greater than the table value 1.97 at the 0.05% level of significance. This means that mean difference is significant. Hence, hypothesis is rejected. This further means that students of both urban and rural secondary schools have a dissimilar level of performance in science subject.

Hypothesis: 9. There is no significant mean difference in academic achievement scores in science of Government and private secondary school students of Lakhimpur and Karbi Anglong Districts of Assam.

Table 9. Mean, SD and t-value of government and private secondary school students of Lakhimpur and Karbi Anglong districts of Assam

Subject	Type	N	Mean	SD	t-value	Remarks
Science	Government	438	40.71	13.81	10.38	Highly Significant
	Private	362	52.59	17.78		

Interpretation: It is found that the mean scores of both government and private secondary school students are 40.71 and 52.59 respectively. Applying the t-test to compare the mean scores of both the types, it was found that the calculated t-value 10.38 is greater than table value 1.97 at the 0.05% level of significance and this means that difference is significant. Hence, null hypothesis is rejected. This further means that the students studying in both government and private secondary schools have a dissimilar level of performance in science subject.

Major Findings: The above tables indicate that the male and female students of are found to have similar level of performance. But a significant difference is found in the achievement of both urban and rural students and both private and government students in science subject of Lakhimpur and Karbi Anglong Districts.

Conclusion

The study clearly revealed that in the whole sample the secondary school students studying in government and private schools as well as belonging to urban and rural areas show significant difference in respect of their science subject. But no significant difference was found in achievement in science subject of male and female students of Lakhimpur and Karbi Anglong Districts.

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