



SCIENTIFIC TEMPER AND ACADEMIC ACHIEVEMENT OF RURAL AND URBAN SECONDARY SCHOOL STUDENTS

Sabahat Aslam

Research Scholar, Faculty of Education University of Kashmir

Abstract

The present research was taken up with broad objective to study the scientific temper and academic achievement of rural and urban secondary school students in Kashmir valley. The sample comprised of 400 secondary school students (200 Rural and 200 Urban students). The sample for the study was selected randomly from the different schools of Srinagar (as urban district) and Bandipora (as rural district). The sample was selected in such a way to ensure that every unit of the population could get equal chance to be selected in the sample. Scientific Temper Scale developed by Prof. Nadeem's and Showkat's Scientific was administered for the present sample and Academic Achievement was obtained from the previous two years performance records of the sample subjects. Result findings suggest insignificant difference between rural and urban secondary school student's on Scientific Temper. The results also suggest significant mean difference between rural and urban students on their Academic Achievement and urban student's have higher Academic Achievement as compared to rural secondary school students.

INTRODUCTION

- “Science education will be strengthened, so as to develop in the child, well developed abilities and values such as the spirit of inquiry, creativity, the courage to questioning and our aesthetic sensibility. Science education programmes will be designed to enable the learner to acquire problem solving and decision-making skills and to discover the relationship of science with health, agriculture, industry and other aspect of daily life.”
- Academic Achievement or academic performance is the outcome of education- the extent to which a student, teacher or institution has achieved their educational goals. Academic Achievement is commonly measured by examinations or continuous assessment but there is no general agreement on how it is best tested or which aspects are most important – procedural knowledge such as skills or declarative knowledge such as facts. Beyond any doubts, Academic Achievement is important for the successful development of young people.

OBJECTIVES OF STUDY

The following objectives were formulated for the present Investigation:

- To study the Scientific Temper of Rural and Urban Secondary School Students.
- To study the Academic Achievement of Rural and Urban Secondary School Students.
- To compare Rural and Urban Secondary School Students on Scientific Temper.
- To compare Rural and Urban Secondary School Students on Academic Achievement.

HYPOTHESES

The following hypotheses were formulated for the present study:

- Rural and Urban Secondary School Students differ significantly on Scientific Temper.

Rural and Urban secondary school students differ significantly on Academic Achievement

OPERATIONAL DEFINITION OF VARIABLES

Scientific Temper: For the purpose of present study, Scientific Temper has been operationally defined as the score which the investigator got by administering Prof. Nadeem's and Showkat's Scientific Temper Scale.

Academic Achievement: For the purpose of present study, Academic Achievement has been operationally defined as the score which was obtained from the previous two years performance records of the sample subjects.

SAMPLE

The sample for the study consisted of 400 secondary school students (200 Rural and 200 Urban students). The sample for the study was selected randomly from the different schools of Srinagar (as Urban district) and Bandipora (as rural district). The sample was selected in such a way to ensure that every unit of the population could get equal chance to be selected in the sample.

SELECTION AND DESCRIPTION OF TOOLS

The tools for the present study were selected in a manner to achieve an optimum level of confidence by the investigator for the objectives of the study. Since the study principally contained two variables namely scientific temper and academic achievement, therefore, such tools were decided to be chosen as could validly and reliably measure these variables. The investigator after screening a number of available tests finally selected the following tools to collect the data:

- Scientific Temper Scale developed by Prof. N.A Nadeem and Showkat Rashid Wani.

Academic Achievement of rural and urban secondary school students were collected from the official records of the respective schools.

ANALYSIS AND INTERPRETATION

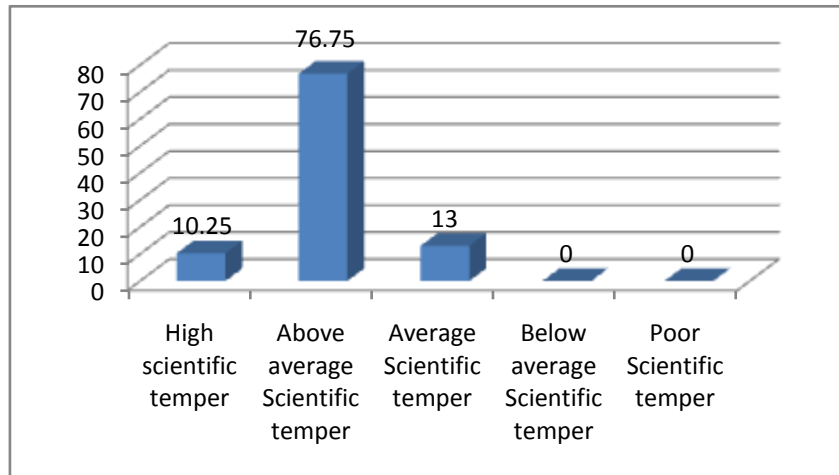


Fig. 1: Showing the percentage-wise classification of Secondary School Students (Rural and Urban) on Scientific Temper (N=400)

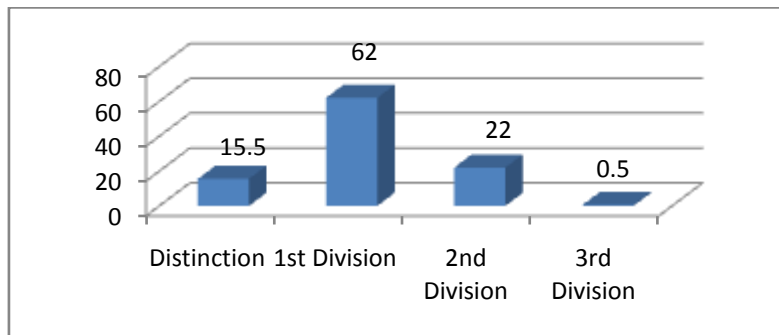


Figure 2: Showing the percentage-wise distribution of Secondary School Students (Rural and Urban) on Performance Standards of Academic Achievement (N=400)

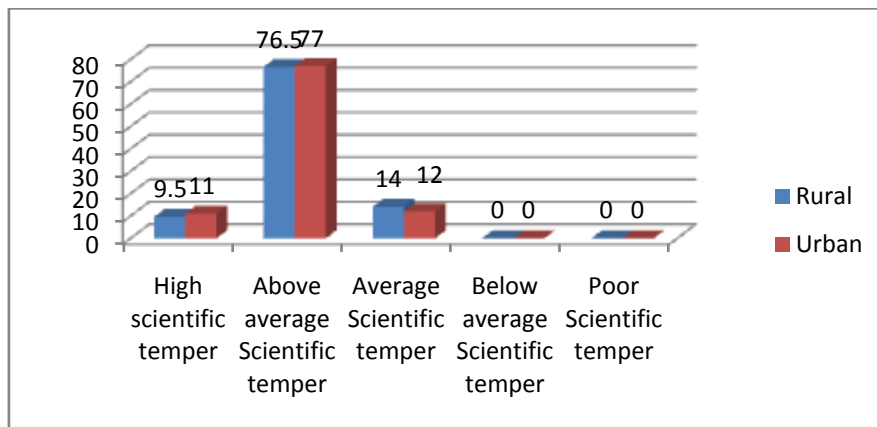
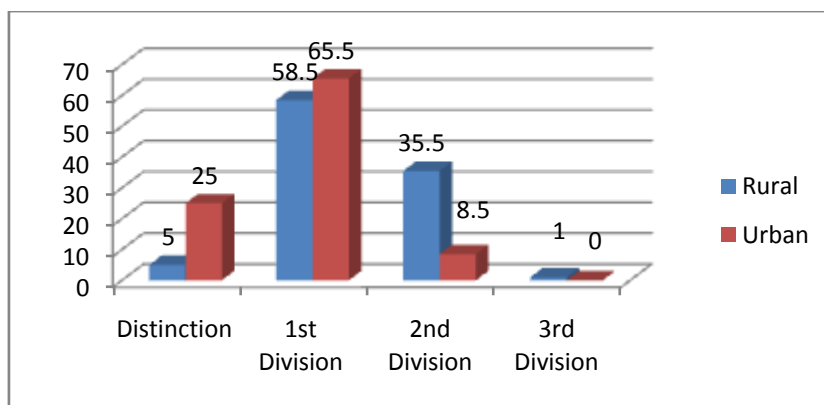


Figure 3: Showing the percentage-wise classification of Rural Secondary School Students and Urban Secondary School Students on Scientific Temper (N=200 each)



ANALYSIS AND INTERPRETATION

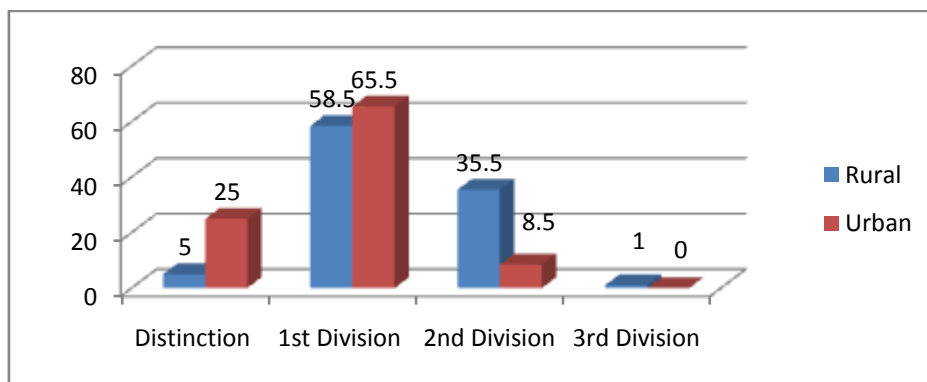


Table 1: Significance of difference between Means of Urban and Rural Secondary School students on ‘Curiosity’ Dimension of Scientific Temper

Group	N	Mean	S.D	t-value	Significant
Rural	200	7.98	0.97	1.08	Insignificant
Urban	200	7.87	1.06		

The above table shows the mean difference between Rural and Urban secondary school students on curiosity dimension of scientific temper. The table reveals that there is no significant mean difference between Rural and Urban Secondary school students on Curiosity dimension.

As there was no significant mean difference found between Rural and Urban secondary school students on Curiosity dimension which confirms that Rural and Urban students are equally curious to learn the things.

Table 2: Significance of difference between Means of Rural and Urban Secondary School Students on Open Mindedness dimension of Scientific Temper

Group	N	Mean	S.D	t-value	Level of significant
Rural	200	7.10	1.13	0.84	Insignificant
Urban	200	6.99	1.26		

The above table shows the mean difference between Rural and Urban Secondary school students on open mindedness dimension of scientific temper. It was found that there is no significant mean difference between Rural and Urban secondary school students on open mindedness dimension of scientific temper which confirms that both Rural and Urban secondary students are equally Open minded.

Table 3: Significance of difference between Means of Rural and Urban Secondary School Student's on Objectivity dimension of Scientific Temper

Group	N	Mean	S.D	t-value	Level of significance
Rural	200	8.97	0.85	0.62	Insignificant
Urban	200	9.02	0.92		

The above table shows that the mean difference between Rural and Urban secondary students on Objectivity dimension of Scientific temper. The above table reveals that there is no significant mean difference between Rural and Urban secondary school student on Objectivity dimension. As there is no mean difference between rural and urban secondary students on objectivity dimension, hence both the groups are equally objective.

Table 4: Significance of difference between Means of Rural and Urban secondary school students on Rationality dimension of Scientific Temper

Group	N	Mean	S.D	t-value	Significant
Rural	200	6.87	1.18	6.20	Significant at 0.01 level
Urban	200	7.57	1.09		

The above table shows that the mean difference between Rural and Urban secondary school students on Rationality dimension of Scientific temper. The above table reveals that there is significant mean difference between Rural and Urban students on Rationality dimension and difference was found to be significant at 0.01 level. As the mean difference favoured urban secondary students which confirms that urban students were found to be more Rational than Rural secondary level students.

Table 5: Significance of difference between Means of Rural and Urban Secondary School Students on Aversion to Superstition dimension of Scientific Temper

Group	N	Mean	S.D	t-value	Level of significance
Rural	200	4.92	1.49	2.85	Significant at 0.01 level
Urban	200	4.46	1.73		

The perusal of above table shows the mean difference between Rural and Urban secondary school students on Aversion to superstition dimension of Scientific temper. The above table reveals that there is significant mean difference between Rural and Urban students on Aversion to Superstition dimension and difference was found to be significant at 0.01 level. As the mean difference favoured rural secondary students which confirms that rural students were found to be more averted to superstitious thoughts than urban secondary students.

Table 6: Significance of difference between Means of Rural and Urban Secondary school students on Composite Score of Scientific Temper

Group	N	Mean	S.D	t-value	Level of significance
Rural	200	35.79	3.13	0.45	Insignificant
Urban	200	35.92	3.09		

The perusal of above table shows the mean difference rural and urban secondary school students on composite score of scientific temper. The table revealed that there is a insignificant difference between rural and urban secondary school students on composite score of scientific temper.

Table 7: Showing the mean comparison between rural and urban secondary school students on their academic achievement

Groups	N	Mean	S.D	t-value	Level of Significance
Rural	200	62.40	7.43	10.14	Significant at 0.01 level
Urban	200	69.61	6.90		

The above table shows that there is significant difference between rural and urban secondary school students on their academic achievements. The above table reveals that there is significant mean difference between rural and urban students on their academic achievement and difference was found to be significant at 0.01level. As the mean difference favoured urban secondary school students which confirms that urban students have higher academic achievement as compared to rural secondary school students.

CONCLUSION

- It was found that 10.25% were having high Scientific Temper, 76.75% were above average Scientific Temper, 13.0% were average Scientific Temper and 0% was below average and poor Scientific Temper in rural and urban secondary school students. It was

found that only 9.50% of rural secondary school students showed high Scientific Temper while 76.5% of students depicted above average Scientific Temper, 14% student`s showed average Scientific Temper and 0% of student`s fall in below average and poor Scientific Temper. In case of urban student`s.

- It was found that 11% of urban secondary school student`s fall high Scientific Temper, 77% of urban student`s fall in above average Scientific Temper, 12% urban student`s fall in the average Scientific Temper and 0% urban student`s fall in below average and poor.
- It was found that on performance standards of Academic Achievement of rural and urban secondary school students, 15.50% were distinction holders, 62.0% were 1st division holders, 22.0% were 2nd division holders and only 0.5% were 3rd division holders.
- It was found that on performance standards of Academic Achievement of rural secondary school students, 5% were distinction holders, 58.50% were 1st division holders, 35.50% were 2nd division holders and 1.0% were 3rd division holders. In case of urban secondary school student`s the table revealed that 25% were distinction holders, 65.50% were 1st division holders, 8.50% were 2nd division holders and 0% were 3rd division holders.
- It was found that there is no significant mean difference between rural and urban secondary school student`s on curiosity, open mindedness objectivity dimension of Scientific Temper.
- It was found that there is significant mean difference between rural and urban student`s on rationality dimension of Scientific Temper and urban student`s were found to be more rational than rural secondary level student`s. It was found that there is significant mean difference between rural and urban student`s on aversion to superstition dimension of Scientific Temper and difference was found to be significant and rural student`s were found to be more averted to superstitions thoughts than urban secondary student`s.
- It was found that there is a insignificant difference between rural and urban secondary school student`s on Scientific Temper.
- It was found that there is significant mean difference between rural and urban students on their Academic Achievement and urban student`s have higher Academic Achievement as compared to rural secondary school students.

SUGGESTIONS

- The present study may be replicated on a larger sample in order to increase the scope of generalization.

- The research was limited to rural and urban secondary schools. A similar study should be carried out in private schools to determine whether the students' perceptions of scientific temper and career preferences are similar to those in public secondary schools.
- Researcher may study factors related to fostering of scientific creativity, career preferences and their impact on academic achievement.
- Impact of Guidance and counseling strategies towards inculcation of scientific temper in the students may also be taken up.

References

- Aasiya Maqbool, Hafiz Mudasir, Andleep Zehta (2014) Scientific Temper of Government and Private Secondary School Students - A Comparative Study. Reports and Opinion 6(1):18-20.*
- Agarwal A., (2002) A study of relationship of academic achievement of boys and girls with intelligence, socio-economic status, size of the family and birth order of the child. Indian Journal of Educational, vol. 5(6): 43-46.*
- Nadeem, N. A. & Saima. (2013). Scientific Temper, Emotional Intelligence and Academic achievement of Kashmiri and Dogri Adolescent girls. Unpublished M.Phil Dissertation, Deptt. of Education, University of Kashmir.*
- Nadeem, N. A. & Syed, Nowsheen (2013). Emotional Intelligence, Learning Styles and Academic Achievement of Adolescent Students of 10th grade. Unpublished Dissertation, Deptt. of Education. University of Kashmir.*
- Nadeem, N.A. (2007). Education for Beginners. Dilpreet Publishing House. New Delhi*
- Nadeem, N.A. (2010). An Introduction to Education. Full Bright Publishing Company Kadi Kadal Karanagar Srinagar.*
- Qadir, F. (2010) Study of scientific temper and academic achievement of rural and urban adolescent girls. Unpublished M.Phil dissertation. Kashmir University, Hazratbal.*
- Rao, D.B (1990) Comparative study of scientific attitude, scientific aptitude and achievement in biology at secondary level. Fifth survey of Educational Research vol.2 pp (1258-1259).*
- Salvi, D.M.(1999) Inculcating scientific temper among school children through popular science books. School science, vol.xxxvii No.1 March 99,p.20.*
- Vaidya N. (1988) Science Education, cited in M.B. Buch, Fifth Survey of Educational Research, Delhi, NCERT, Vol.I pp 354.*