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NAS

SCIENTIFIC APTITUDE AMONG COLLEGE STUDENTS OF HIMACHAL PRADESH

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Abstract

The study was undertaken with the major objectives as to compare the scientific aptitude of college students of Himachal Pradesh which was conducted on a sample of 150 college students from different college students of Mandi and Hamirpur districts of Himachal Pradesh.

The findings of the studies are the science vs arts and science vs commerce college students differed significantly on their scientific aptitude whereas the rural vs urban, rural boys vs urban boys, rural girls vs urban girls and arts vs commerce college students did not differ significantly. From the present study, it is concluded that special emphasis needs to be given on the development of scientific aptitude.

Keywords: *Scientific Aptitude, College students, Stream and locality.*

INTRODUCTION

Aptitude being one psycho-social construct is found in different forms in the individuals. It is the inborn ability of the individual which is reflected in different areas like literature, art and science etc. Aptitude may be described as special ability or specific capacity distinct from the general intellectual ability which helps an individual to acquire the required degree of proficiency or achievement in a specific field.

Scientific aptitude is the application of general intellectual capacity to scientific materials and problems. Scientific aptitude may be considered to the qualities which all individuals possess in varying degrees. Scientific aptitude is one such aptitude which needs to be nurtured in the school as well as the home also. It refers to a special inclination towards science based objects, prevalence of scientific thoughts. Presence of scientific aptitude gets reflected in one's mental acuity, creative abilities, critical thinking ability to see relationships and open mindedness. A scientific aptitude is a potential for acquiring certain skills or knowledge which accelerates the quality of life of the people.

RATIONALE OF THE STUDY

Scientific aptitude is a potential for acquiring certain skills or knowledge. The quality of living of the people is mostly by obtaining the knowledge. The quality of the people is mostly dependent upon their knowledge and skill and how they are adjusting with different societal challenges and forces. Due to technological and scientific advancements in different aspects, people in general are expected to be in tune with such changes but this will be possible only if the people are having a strong scientific aptitude. The role of parents and teachers is very important in developing scientific aptitude among children.

The review of related researches by the researchers' like Bhattacharya (1989), Ghosh (1989), Rao (1990), Mukhopadhyaya (1991) reported that urban students showed better scientific than rural students. Srivastva (1988) found that males had better scientific aptitudes in comparison to female students.

Hence, sincere attempt has been made by the investigator to find out the scientific aptitude of college students in relation to their stream and locality of Himachal Pradesh. In view of this, the investigator decided to undertake the study with the title "A study of the scientific aptitude of college students of Himachal Pradesh in relation to their stream and locality".

OBJECTIVES OF THE STUDY

1. To compare the scientific aptitude of rural and urban college students.
2. To compare the scientific aptitude of rural boys and urban boys college students.
3. To compare the scientific aptitude of rural girls and urban girls college students.
4. To compare the scientific aptitude of science and arts college students.
5. To compare the scientific aptitude of arts and commerce college students.
6. To compare the scientific aptitude of science and commerce college students.

HYPOTHESES OF THE STUDY

1. The scientific aptitude of rural and urban college students do not differ significantly.
2. The scientific aptitude of rural boys and urban boys college students do not differ significantly.

3. The scientific aptitude of rural girls and urban girls college students do not differ significantly.
4. The scientific aptitude of science and arts college students do not differ significantly.
5. The scientific aptitude of arts and commerce college students do not differ significantly.
6. The scientific aptitude of science and commerce college students do not differ significantly.

METHODOLOGY

The study under investigation comes under survey method of descriptive type of research.

Sample of the Study:

In the study, the investigator has selected the sample by adopting purposive sampling procedure by giving special attention to the factor of gender stream and locality. The investigator has also used the purposive sampling procedure in the selection of college from which the sample is drawn. Considering the time as an important factor, the investigator selected only 150 students as the sample of the study covering boys and girls from different college students of Mandi and Hamirpur districts of Himachal Pradesh.

Tool Used:

The investigator has used the scientific aptitude test developed by Dr Dr. A.K.P. Sinha and Dr. L.N.K. Sinha for the collection of the data.

ANALYSIS AND INTERPRETATION OF DATA

This section deals with the study of significance of mean difference between the mean scores with regard to gender, stream and locality. The analysis pertaining to the significance of the difference between the mean difference between the mean scores have been presented below.

Table 1. Study of Significance of Mean Difference on Scientific Aptitude of Rural and Urban College Students

Category	N	M	S.D.	SE_D	df	't'value	Remarks
Urban	75	25.39	2.37	0.35	148	1.28	Non Significant
Rural	75	25.84	2.03				

It is clear from the table 1 that the obtained 't' value is 1.28 which is non- significant at .05 level of significance with df 148. The null hypothesis Ho_1 "The Scientific aptitude of rural and urban college students does not differ significantly", was accepted. The mean scores of rural college students was estimated as 25.39 and that of urban college students as 25.84. It can be concluded that rural and urban students did not differ significantly.

Table 2. Study of Significance of Mean Difference on Scientific Aptitude of Rural Boys and Urban boys College Students

Category	N	M	S.D.	SE_D	df	't'value	Remarks
Rural Boys	38	24.89	2.05	0.18	73	0.03	Non Significant
Urban Boys	37	25.56	1.64				

It is clear from the table 2 that the obtained 't' value is 0.03.This value is not significant at .05 level of significance with df 73. This means that the null hypothesis Ho_2. "The Scientific aptitude of rural boys and urban boys do not differ significantly" was accepted. The mean scores of boys is 24.89 as that of girls are 25.56. It shows that both rural boys and urban boys do not differ significantly on their scientific aptitude.

Table 3. Study of significance of Mean Differences on the Scientific Aptitude of Rural Girls and Urban Girls College Students

Category	N	M	S.D.	SE_D	df	't'value	Remarks
Rural Girls	37	25.89	2.85	0.57	73	1.47	Non Significant
Urban Girls	38	25.05	2.13				

It is clear from the table 3 that the obtained't' value is 1.47which is non significant at .05 level of significance with df 73. This means that the null hypothesis Ho_3. "The scientific aptitude of rural girls and

urban girls do not differ significantly" was accepted. Although, the mean scores of rural girls and urban girls are 25.89 and 25.05. This means that both the groups have same scientific aptitude.

Table 4. Study of Significance of Mean Differences on Scientific Aptitude of Science and Arts College Students.

Category	N	M	S.D.	SE_D	df	't'value	Remarks
Science	50	26.96	1.30	0.41	98	6.04	Significant
Arts	50	24.48	2.70				

Significant at 0.01 level

It is clear from the table 4 that the mean scores of scientific aptitude of science and arts students are as 26.96 and 24.48 respectively. Further the S.D. with respect to science and arts students are 1.30 and 2.70 which shows that science students have more scientific aptitude than arts students. This means that the null hypothesis Ho_4. "The Scientific aptitude of science and Arts college students do not differ significantly" was rejected.

Table 5. Study of Significance of Mean Differences on the Scientific Aptitude of Arts and Commerce College Students

Category	N	M	S.D.	SE_D	Df	't'value	Remarks
Arts	50	24.48	2.70	0.45	98	0.93	Non Significant
Commerce	50	24.90	1.68				

It is clear from the table5 that the obtained 't' value is 0.93.which is non significant at .05 level of significance with df 98. This means that the null hypothesis Ho_5. "The Scientific aptitude of arts and Commerce College students do not differ significantly" was accepted. The mean scores of arts and science college students are 24.48 and 24.90. It shows that both the groups have same scientific aptitude.

Table 6. Study of Significance of Mean Differences on Scientific Aptitude of Science and Commerce College Students

Category	N	M	S.D.	SE_D	df	't'value	Remarks
Science	75	26.96	1.30	0.30	98	6.86	Significant
Commerce	75	24.90	1.68				

It is clear from the table 6 that the obtained't' value is 6.86 which is significant at .01 level of significance with df 98. This means that the null hypothesis Ho_7. "The scientific aptitude of science and Commerce College students do not differ significantly" was rejected. This means that the mean scores of science and commerce college students are26.96 and24.90. .From this, it may be inferred that science college students have more scientific aptitude than commerce college students.

FINDINGS OF THE STUDY

1. Rural and urban college students did not differ significantly on their scientific aptitude.
2. Rural boys and urban boys college students did not differ significantly on their scientific aptitude.
3. Rural girls and urban girls college students did not differ significantly on their scientific aptitude.
4. Science and arts college students differed significantly on their scientific aptitude.
5. Arts and commerce college students did not differ significantly on their scientific aptitude.
6. Science and commerce college students differed significantly on their scientific aptitude.

EDUCATIONAL IMPLICATIONS OF THE STUDY

1. The parents and teachers should provide conducive & free environment to the students in order to develop good scientific aptitude.
2. The teacher should assign different projects, assignments etc. so as to improve student's scientific aptitude.
3. Teachers should try to improve and develop scientific aptitude among students by giving some additional exposure like seminars, lectures, field trips and additional training programmes.

4. The teachers and the parents should provide not only the environment but also resources for the development of scientific aptitude.
5. More emphasis should be laid on practical work to enhance their aptitude for learning.
6. The teachers should be more vigilant and careful regarding the development of scientific aptitude.

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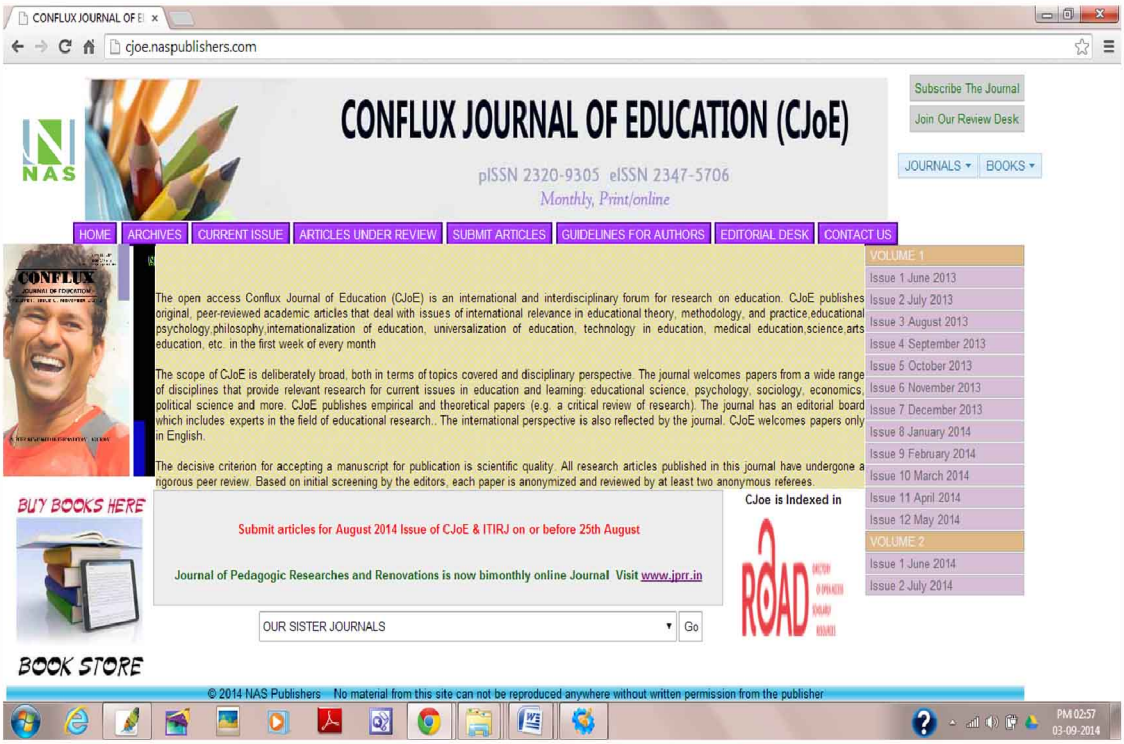

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