International Journal of Academic Research and Development
ISSN: 2455-4197, Impact Factor: RJIF 5.22
www.academicsjournal.com
Volume 2; Issue 4; July 2017; Page No. 511-513

A comparative study of problem solving ability of science and arts senior secondary school schools

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Abstract
Problem solving is based on the process of finding out solutions to a problem by using an organized thought process. This is process where creative and critical thing is processed in reasoning out or solution to problems faced by the student within a group or individually. It is a mental process which gives effective problem solving techniques in concluding and overcoming difficulties that appears to interfere with the attainment of solution.
Problem solving ability can be developed in students to help them effectively deal with problems that they faced daily. The ability involves critical thinking skills, analytical skills, creative thinking ability and logical reasoning of the student towards a problem that is presented in current situation or within their daily life. Developing problem solving ability enhances the student's ability to approach problems systematically and tackle the problems effectively. In the present paper researcher investigated the difference between problem solving ability of science and arts senior secondary school students.

Keywords: problem, techniques, students

Introduction
Present age is the age of competition. Scientific and Technological advancement all over the globe has made man very conscious and sensitive about his studies, vocation, lifestyle, relations etc. This immense progress has given rise to certain problems. One of the major problems of today's world is "stress". Every person has a unique nature as regard to capabilities, attitudes, personality characteristics and interest. The students have a major impact of stress due to bloodshed competition in every field. The parents and teachers are eager to know the various factors, which enhance the stress among students. Stress is a term in psychology and biology, first coined in the biological context in the 1930s, which has in more recent decades become commonly used in popular parlance.
It refers to the consequence of the failure of an organism – human or animal – to respond appropriately to emotional or physical threats, whether actual or imagined. As people from all walks of life cope with the hustle and bustle of life, school children are not spared with the academic stress either. This passage therefore serves to highlight some of the things students can do to cope with their stresses in school.
The most important element of doing well in school is to be consistent with the school work. Students who do last minute school work or prepare for their exams at the very last minute are the ones who will most likely suffer from academic stress. Therefore, one should always revise consistently, finish all assignments on time, ask and clear all questions when in doubt. In this way, by keeping up with the school work, students will less likely suffer from stress during the examinations. However, the most important way to cope with academic stress is not to study hard but to study smart. Students who memorize diligently without understanding will find it very stressful to digest such a huge amount of information. Drawing mind maps can be a very effective way to help students see the big picture in a particular situation. Students who have difficulty understanding certain topics should try to employ the use of mind maps to help them get a clearer picture. So the educational systems need to be modified in such a way that they can enable the students to learn the ways to reach the knowledge, to improve the skills of decision-making and to solve problems. Students encounter a lot of problems in their lives and they try to find particular ways to solve these problems. Problem is the condition of the effort spent on gaining some tasks and needs various equipments in gaining these tasks. Problem solving is an activity which needs not only information of the subject field but also using appropriate methods.

Justification of the study
Developing and enhancing ability of problem-solving skills of students have long been important objective of education. Instead of giving ready prepared information, teaching students to learn how to learn, make comments, getting them to understand and apply the information are needed. Furthermore, making them gain skills of problem solving and behaviours and helping them to gain a habit of scientific thinking should be taught. Therefore, it is needed to improve students' skills of problem solving. Research indicates that poor problem-solving skills are related to higher stress levels (D'Zurilla & Sheedy, 1991; Davila, Constance, Burge, Paley, & Daley, 1995; Fraser & Tucker, 1997). There is evidence that simply feeling equipped to handle a problem, whether one actually has the skills or not, will lead to lower stress levels in the face of a challenge (D'Zurilla & Sheedy, 1991). Students who have confidence in their problem-solving abilities are less likely to become overwhelmed because they feel that they can overcome the obstacles that they are facing. Student affairs professionals who understand the relationship between problem solving confidence and stress are better able to intentionally develop interventions and programs that assist in the development of problem-solving efficacy. Several studies

have been done on school students and graduates but problem solving ability in relation to academic stress were very few. The investigator could not find much work in this area. The studies, which she came across, were really touches the fringes only. The researcher herself obtained the different phenomena prevailing in the society about the problem solving ability of school students and the present study.

Objectives of the study

The main objectives of the respective study are follows:

- To study the problem solving ability of male and female science students of senior Secondary schools.
- To study the problem solving ability of male and female arts students of senior Secondary schools.
- To study the difference if any in the problem solving ability of science and arts senior secondary school students.

Hypothesis

In order to realize the objectives of the respective study following null hypothesis was formulated:

- There is no significant relationship in the problem solving ability of science and arts senior secondary schools students.

Design and methodology of the study

Descriptive Survey method was used for the present study.

Sample

In this respective study a sample of 100 students was randomly selected from the government and private schools.

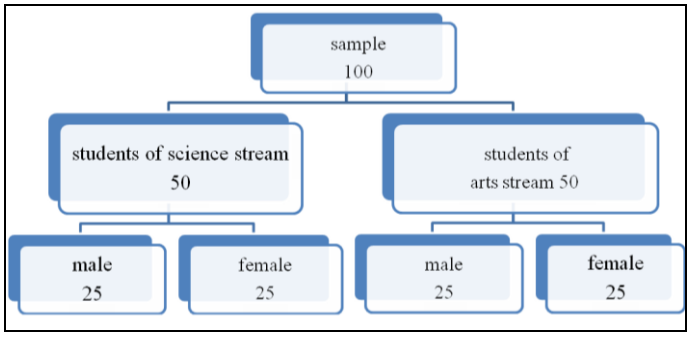

Fig 1

Tools used

Problem solving ability test PSAT-D prepared by L.N. Dubey was used for the present study.

Statistical techniques to be used

The following statistical techniques was used in the analysis of data: 1) Mean, 2) Standard deviation, 3)'t' Test

Findings

Table 1: Comparison of the problem solving ability of male and female science students of senior secondary school level

	N	Mean	S.D.	't' Value
Male students	25	56.76	9.6	0.84
Female students	25	57.60	11.56	Not- Significant at 0.01 & 0.05 levels

Table no.1 shows that there exists no significant difference in the Mean scores of the problem solving ability of male and female science students of senior secondary schools level. Calculated t- value was 0.84, which is not significant at 0.01 and 0.05 level. Thus our H1 i.e. there is no significant difference in the problem solving ability of male and female science students of senior secondary schools is accepted.

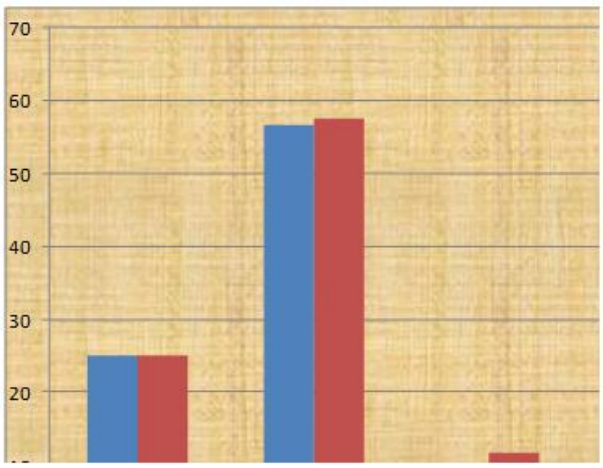

Fig 1: Showing mean and S.D. of the problem solving ability of male and female science students of senior secondary school level.

Table 2: Comparison of problem solving ability of male and female arts students of senior Secondary schools level.

	No.	Mean	S.D.	't' VALUE
Male students	25	25.8	18.3	0.7
Female students	25	28.85	23.5	Not- Significant at 0.01 & 0.05 levels

Table no. 2 shows that there exists no significant difference in the Mean scores of the problem solving ability of boys and girls adolescents. The calculated t- value was 0.7, which is not significant at 0.01&0.05 level. It shows that, there is no significant difference in the problem solving ability of male and female arts students of senior Secondary schools level.Thus our H2 is accepted.

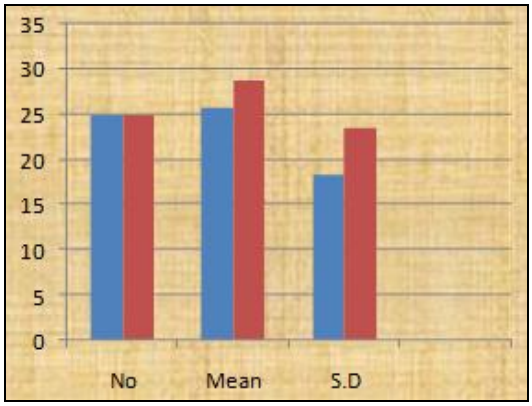

Fig 2: Showing mean and S.D. of the problem solving ability of male and female arts students of senior Secondary schools level.

Table 3: Comparison of the problem solving ability of male and female science and arts students of senior secondary schools level.

	No.	Mean	S.D.	't' VALUE
Male students	50	27	21.2	2.1
Female students	50	19.6	13.3	Significant at 0.01 level

Table no.3 shows that there is significant difference in the problem solving ability of male and female students of the science and arts students of senior secondary schools because calculated t-value is (2.1) is more than table value at .01level of significance. Thus, H3 i.e. there is no significant difference in the problem solving ability of male and female science and art students of the senior secondary schools is rejected.

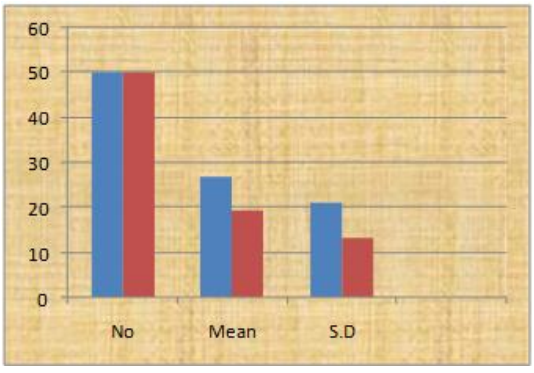

Fig 3: Showing mean and S.D. of the students of science and arts senior secondary schools students.

Educational Implications

The present study throws adequate light upon the selected variables –A comparative study of problem solving ability of the science and arts students of senior secondary schools level. Though, the study has its limited of time and space. Yet it gives us some very interesting and useful findings.

The present study can helping for teachers to pay special attention in developing desirable level of problem solving in children's.

1. This study can be helpful for parents to know about their children's level of adjustment.
2. Adjustment level of students are taken in to account can be helpful for a teacher to improve their methodology to teach them and to sort out their problems.
3. The present study can be helpful to mould the student' behavior in positive manner.

Suggestions for Further Studies

Due to the limitation of time and resources at the disposal of the investigator all the aspects of the problem cannot be expected to deal with. Therefore, the present study opens and certain avenues for research which are briefly listed below:

1. The same study can be conducted on post graduate students.
2. A useful study can be taken up on students of secondary schools.
3. The same study can be conducted on students in schools of rural and urban areas.
4. A same study can be conducted on adolescents of working and Non-working mothers.
5. A similar study can be made for a larger population to get more generalized conclusions.

Reference

1. Bandhana, Sharma D. Emotional Intelligence, Home Environment and Problem Solving Ability of Adolescents: Indian Streams Research Journal, 2012; 1(5):1-4.
2. Dillon JT. Problem Finding and Solving. The Journal of Creative Behavior, 1982; 16:97-111.
3. Gnanadevan R. A Study of Problem Solving Ability of Higher Secondary Students. Journal of Research and Reflection on Education, 2006; 4(1):2-3.
4. Hoovinabhavi BL, Kattimani VN, Edigar A. A Study on Problem Solving Ability of College Students. The Asian journal of psychology & education, 2004; 37(7/8):36-9.
5. Lee KS, Hwang DJ, Seo JJ. A development of the test for mathematical creative problem solving ability. Journal of the Korea Society of Mathematical Education Series D: Research in Mathematical Education, 2003; 7:163-189.
6. Nataraj PN, Manjula M. A study of problem solving ability among the matriculation school students. International Journal of Teacher Educational Research, 2012: 1(4):44-51.
7. Sharma I. Problem solving ability and scientific attitude as determinant of academic achievement of higher secondary students. E-journal of All India Association for Educational Research. 19 (1&2). http://www.aiaer.net/ejournal/vol19107/17.htm. 2007.