



A STUDY ON PROBLEM SOLVING ABILITY OF BOYS AT SECONDARY LEVEL

Tagaram Kondala Rao

*Assistant Professor in Education, Faculty of Education, Dayalabagh Educational Institute
(Deemed to be University) Agra UP.*

Abstract

Every day, we face various problems in our day-to-day life. Some people go through it successfully and came up with solutions whereas others give up in the face of failures. So, there is a need of improvement in problem solving ability as one of the higher order thinking skills. School education may focus on developing those problem-solving abilities. Our present education shall not only be limited to knowledge at school level, but to provide problem solving abilities too. The present research paper tried to look in to this aspect. To find out problem solving ability, 183 boys (12-17 years age group) have been surveyed. The results are interesting when they are analyzed. Based on the results, some conclusions are drawn that may be helpful in dealing and improving problem solving ability in the students.

Key words: *Problem solving ability, HOTS, cognition, creative thinking, school.*

Introduction

Problem solving ability is one of the major dimensions of cognitive psychology that deals with identifying the problem, analyzing and drawing valid solutions. It is primarily a mental process in which people try to eliminate unnecessary components, irrelevant information involved in the problem that may create barriers in the way of solving the problem. It not only attempts to solve, but also try to find the reasons or causes of happening a problem or an issue. During the process of solving a problem, people also use some Meta cognitive aspects such as how and where the particular problem is occurring. People with high determination and cognitive functionality likely to reach targets in the stipulated time. Psychological theories say problem solving ability may be associated with law of exercise referring to practice makes man perfect. By practicing regularly, people can improve their problem-solving ability. Behavioristic theories advocated reinforcement for enhancing problem solving ability. Gestalt theories believe in configuration approach and perception that may play key role in solving problems. Analytical philosophy is found to be dealing with the problem-solving skills and critical thinking.

Emergence and justification of the problem

The focus of our education system has been the same over the years though there seems to be little changes. Every parent wants their child to be an engineer or a doctor or settle in any job. Gradually, parent expectations are climbing up and forcing their children to do rather than what child wants to do. The learner somewhere struck in between parents' expectations and individual wishes keeping themselves in helpless state. Finally, unable to cope up when the learner is confronted with conflicts. The boys are always compared with girls in terms academic achievement, discipline, good habits and so on. They are often criticized don't cry like a girl when they are in tears. These kinds of statements raise doubts in themselves while dealing with problems or any stressful situations. It may not turn good in developing self-confidence. The present study went in this direction in order to know the problem-solving ability among boys but not comparing with girls.



Statement of the problem

The present paper has been titled as ‘the study on problem solving ability in boys at secondary level.

Research objective

To investigate the problem-solving ability in school boys.

Hypotheses

There will be no significance difference in problem solving ability among school boys.

Delimitations

The present study is limited to REI, Dayalbagh only

The present study is limited to boys (age group 12-16 years) only.

Method of research

Descriptive survey method has been used in the present study. Descriptive survey is one of the simplest and finest method of research as it deals with exploring current problems and situations. It tries to describe what the situation is and how it happens. In the survey method, there are some important components that greatly influence success rate of research. They are selection of sample and tools adaptation.

Sample

180 boys aging 12-17 years from REI were participated in the survey during B.Ed. internship. These students were taken part of survey voluntarily and selected conveniently. They were provided clear instruction for filling out the problem-solving ability test.

Instrument

The information regarding problem solving ability was collected through problem solving ability test developed and standardized on a sampling of 1640 students across levels by L N Dubey. The spearman-Brown reliability was .78 and validity .68 (group intelligence). The major objective of this test is to assess creative thinking and reasoning. In problem solving, people strive to reach solution by overcoming difficulties and attain their goals. PSAT consists 20 items meant for the age groups belonging to 12-17 years. 40 minutes given to complete the test, only 30 students allowed participating at a time.

Scoring scheme

Scoring was done as per the instruction provided in the problem-solving ability manual. The students were categorized age wise, score wise and percentage was calculated that are presented in the next section.

Analysis and interpretation

To investigate the problem-solving ability in school boys.



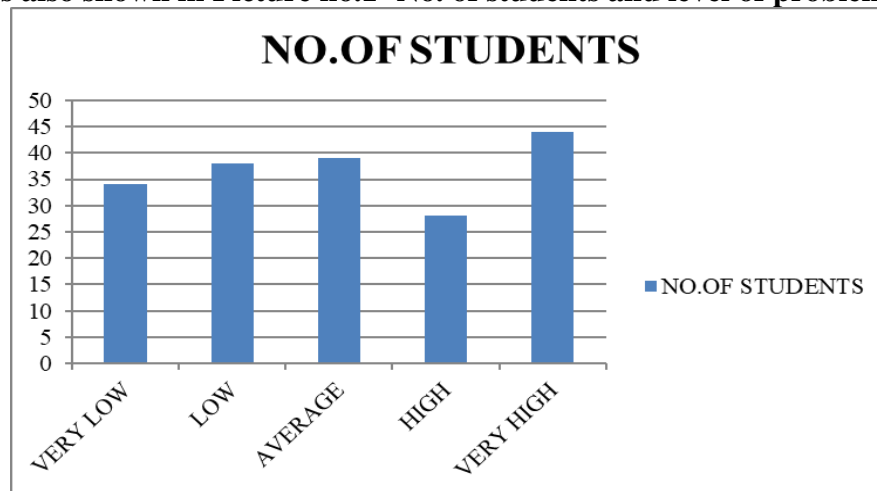
Table no.1 – Levels of problem-solving ability, percentage with reference to 12-17 age groups

| Ability | No. of Students | Age Group | Percentage |
|-----------|-----------------|-------------|------------|
| Very Low | 34 | 13-16 Years | 18.6 |
| Low | 38 | 13-16 Years | 20.8 |
| Average | 39 | 13-16 Years | 21 |
| High | 28 | 13-16 Years | 15.3 |
| Very High | 44 | 13-16 Years | 24.04 |
| | 183 | | |

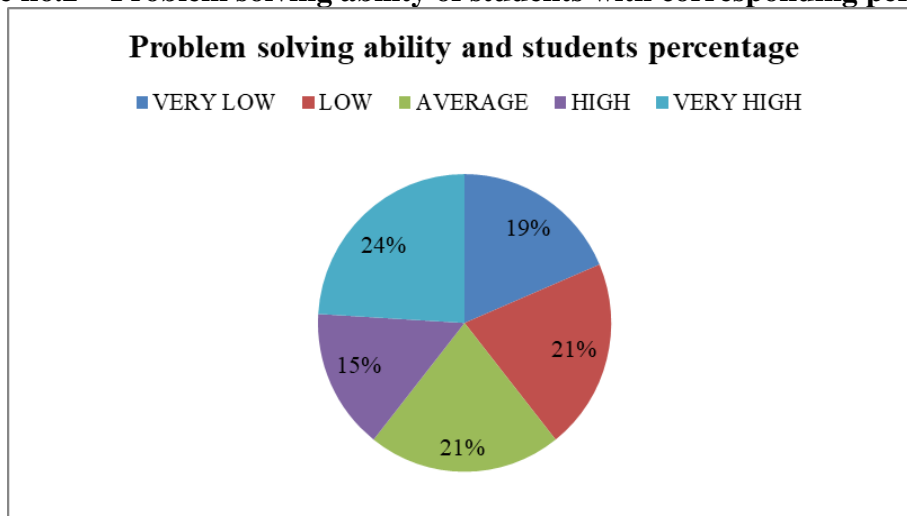
From table no. 1, it can be seen that

- 34 students have shown very low problem-solving ability with the percentage of 18.6
- 38 students have shown low problem-solving ability with the percentage of 20.8
- 39 students have shown average problem-solving ability with the percentage of 21
- 28 students have shown high problem-solving ability with 15.3%
- 44 students have shown very high problem-solving ability with 24.04%.

The same results also shown in Picture no.1- No. of students and level of problem-solving ability



Picture no.2 – Problem solving ability of students with corresponding percentage





Result and discussion

From the analysis, it can be observed that problem solving ability differences in boys. Most of the boys of 12-17 age group falling under the category of very high problem-solving ability. For these students, some challenging tasks may be introduced in order make them competitive and they may be provided guidance services accordingly. If the teachers, do not channelize their problem-solving ability properly students may lose their momentum. 2out 5 sections of the circle showing comparatively equal percentage with minute differences 21% and 21% respectively. These students are put under high/average level. To make them some more competent, teachers shall engage with confidence building activities. So that, these students may try to reach up to very high problem-solving ability. The 4th section of students stands at 19% needing more practice in solving problems. They should be reinforced continuously to pick up slightly challenging tasks. Teachers may use wide range of methods, techniques and approaches during teaching to increase problem solving ability of the foresaid students. The fifth part of the circle with 15% showing very low problem-solving ability indicating special attention towards those students. These students require extra classes, additional support and even remedial teaching sessions. Teacher should try to diagnose where exactly the problem is arising and provide them conceptual clarity. Individual instruction may be provided by the teacher, if needed.

Conclusion

To conclude, identifying problem solving ability would help teacher to categories the teacher and dealing with them successfully. So that, these students may be catered and their needs are fulfilled. Once they are able to solve problem, their confidence level also goes on increasing. It is not only the responsibility of teacher, but also parents. Parents should cooperate with the teaching personnel, school and system

References

1. Baars, Martine; Leopold, Claudia; Paas, Fred (2018) Self-Explaining Steps in Problem-Solving Tasks to Improve Self-Regulation in Secondary Education *Journal of Educational Psychology*, v110 n4 p578-595.
2. Dubey, L.N. (2015). *Manual for problem-solving Ability Test-D (English Version)*. Agra, India: National Psychological Corporation.
3. Ehtesham Anwar (2015) Problem Solving Ability of Secondary School Students in Relation to Their Attitude towards Mathematics *paripex - Indian journal of research* Vol.04 -10.
4. Garrett, H.E. (1973). "Statistics in Psychology and Education". Bombay: Vakils, Pfeffer and Simons Pvt. Ltd.
5. John. W. best, "Research in Education", 4th Edition, Prentice Hall of India (P) Ltd., New Delhi,
6. Kothari, C. R. (2000). "Research Methodology"; *Methods and Practice Techniques*, Wishwa Publication, New Delhi.
7. Kumari, J. (2016). A study on problem-solving ability of senior secondary school students. *Edutracks*, 15(7), 21-23.
8. Mangal, S.K. (2010). *Advanced educational psychology*. (2nd ed.). Delhi, India: PHI learning.
9. Manohara, J.L., & Ramganesh, E. (2009). Creative problem-solving ability of standard XI students, *Edutracks*, 9(4), 29-31.