

# Development of Problem Solving skills among Children with hearing impairment studying in Inclusive School

## ABSTRACT

SSA 2000 and RMSA 2009 recommends for the inclusion of children with special needs including children with hearing impairment. School curriculum started addressing life skill education as a part of Co-Scholastic Activities, to provide opportunity for children to develop holistically. Among the ten core life skill according to WHO (1999), the Problem solving is a cognitive process of the brain, which investigates the solution to a given problem or finds a way to realize the given aim (Zhong et al., 2010). Problem solving skills are quite important in terms of learning. Problem solving skill is one of the main skills which every child has to develop to face the problem as well as solve the problem independently in routine life. Hence, present study was conducted with the objective of the development of problem solving skills among children without hearing impairment with the help of single group pre-test and post-test experimental research design for the purposive sampling of 9<sup>th</sup> standard students with hearing impairment. Intervention was carried out for the duration of three months with different types of strategies.

Findings show that there is significant improvement in the problem solving skill among children with hearing impairment who are studying in inclusive set-up.

**Keywords:** Problem Solving Skills, Children with hearing Impairment, Inclusive Education

## INTRODUCTION

The latest curriculum in School covers diversified areas to develop numerous skills among children along with basic literacy skills, with the aim of preparing children to face the world independently, judiciously. These varieties of activities cover two headings scholastic activities and Co-Scholastic activities. Moreover, as a result of Savra Shiksha Abhiyan(SSA,2000), Right to Education Act (2009), Rashtriya Madhyamika Shikshya Abhiyan (RMSA, 2009) classroom needs to addresses the heterogeneous group to make them to equip with numerous skills to survive in the competitive world. One of the categories among the heterogeneous group is children with Special Needs including Children with Hearing Impairment, who have heterogeneity among themselves. Hence, School curriculum started addressing life skill education as a part of Co-Scholastic Activities, to provide opportunity for children to develop holistically. Life skill Education has ten core skills namely Decision making, Problem solving, Creative thinking, Critical thinking, Effective communication, Interpersonal relationship skills, self-awareness, Empathy, Coping with emotions and Coping with stress defined by WHO (1997). The Problem solving is a

cognitive process of the brain, which investigates the solution to a given problem or finds a way to realize the given aim (Zhong et al., 2010). Problem solving skills are quite important in terms of learning. Through problem solving behaviors, children learn how to focus their thoughts on a subject, produce alternative solutions, and apprehend cause and effect relationships and estimate results (Aydogan & Omeraglu 2003).

## REVIEW OF LITERATURE

- Dusek. G & Auhan. B.A (2014) found that the problem solving skills have not significant differences at children from broken family and full parent's family, boarding attending situations of the children have not significant differences at children from broken family and full parents family.
- Erozkhan. A (2013) found that the communication skills and interpersonal problem solving skills were correlated to social self-efficacy and communication skills and interpersonal problem solving skills important predictors of social self-efficacy.
- Caudhry.G.N & Rasool. G (2012) says that problem solving skills play a significant role in technical capabilities of people in general but more so for students and engineering studying in applied science and engineering areas, such as, CS, Secondly, problem solving skills can be "measured" and thirdly, problem solving skills can be improved with exercising and training.
- Swanson L.H, Jerman. O & Zheng. X (2008) found that working memory is an important predictor of children's problem solving beyond the contribution of reading, calculation skills and individual differences in phonological processing, inhibition and processing speed.
- Smiley. F.D, Thelin W, Lance. D.M, Muenchen. A.R (2009) studied that there were no significant differences between the hearing impairment group and normal hearing group in the ability to solve mathematical equations involving the use of languages and mathematical compilation problems. Additionally, it was found that problem-solving ability was related to language ability, but not to hearing ability in the children with Hearing Impairment.
- Treffinger. J.D & Isaksen. G.S (2005) presented the summary of creative problem solving in gifted education. During the process of collection of reviews about five decades of research, development and practical application, they have discussed about the implications of changes within the creative problem solving over period of time.

## RATIONAL OF THE STUDY

Education system in India at primary and secondary level is included the subject matter to teach several life skills as part of Co-scholastic activities. Basically, there are ten core life skills; problem solving skills is also one among them. At the same time as a result of SSA (2000), Right to Education Act (2009), RMSA (2009), regular school started catering the education of every child under the coverage of three kilometers of any particular school. Children with hearing impairment have also started attending regular

school to acquire education on par with typically developing children. Problem solving skill is one of the main skills which every child has to develop to face the problem as well as solve the problem independently in routine life. To develop the skills such as problem solving and decision making skills among children requires systematic training, regular teaching, so that children will have mastery on the skills. It is more important to solve the problem which arises in routine life such as in school environment, among peers groups, at neighborhood and at home atmosphere. As for as problem solving skills is concerned, a problem is any unsatisfactory or undesirable condition that needs to be corrected. It is tendency of the people that they may attempt to rationalize their problems away or to ignore them in the hope that problems will disappears on their own. This will lead to the inadequate problem solving capacities. It is important that people should be taught problem solving skills (Hepworth & Larsen, 1993:446, Myrick, 1997:161 Potgieter 2004:220-222 Swart, 2000:356). As an evident school education system is focusing on development of life skill education as a part Co-Scholastic activities. Moreover, every child are getting equal amount of education with same methods and techniques of teaching irrespective of their abilities and disabilities. Hence, the present study was planned to investigate the “Development of Problem Solving skills among Children with hearing impairment in inclusive school”.

**Objectives:**

1. To investigate the development of problem solving skills among children without hearing impairment.

**IV. METHOD:**

**Research Design:** Single group pre-post-test experiment design was used as a research design.

**Sample techniques:** Purposive sample technique was followed.

**Participants Selection Criteria:**

- Children with hearing impairment studying in 8<sup>th</sup> Standard of Kannada medium School of Mysuru city.
- Children who follow the Karnataka State board syllabus for their schooling.
- Total numbers of children are 9.

**Tool for data collection:**

- A Questionnaire was developed to assess the problem solving skills of the children in routine life at pre-test and post-test stage.
- A questionnaire was developed on the basis of available reviews on the problem solving skills, also on the basis of the observation made among the children about taking decision in routine life.
- Questionnaire was validated in terms of content validity, face validity and item analysis. Suggestions were incorporated.
- Final questionnaire contains 19 multiple choice questions.

**Data collection procedure:**

- Prior permission was sought from the school authority to conduct the pre-test, followed by intervention and post-test.
- Students were oriented about the test to be administered. 45 minutes were given for complete the questionnaire at pre-test level.
- On the basis of the pre-test results intervention materials were prepared. Literatures were reviewed to select the strategies to be followed and the topics to be covered to develop the problem solving skills among the children with hearing impairment.
- On the basis of the reviews story telling strategy was chosen to provide the intervention, also the topics such as manners, learning from failure, first aid and self-defense were selected to provide the intervention to develop problem solving skills.
- Intervention was carried out for the period of one and half month with the duration of 45 minutes to one hour.
- At the end of the intervention post-test was administered.

**Data analysis:**

't' test as an inferential statistics with the help of SPSS package was used to analyze the obtained data.

**V. RESULTS AND DISCUSSION**

The objective of the study is to develop the problem solving skill among Children with Hearing Impairment. Accordingly, data were gathered, analyzed, results and discussion was presented below:

Table 1: 't' test and significance level of Problem Solving Skills (PSS) among Children with Hearing Challenged

Particulars	t	df	Sig.(2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Pre_PSS	10.221	8	.000	7.888	6.109	9.668
Post_PSS	31.027	8	.000	12.666	11.725	13.608

At 0.05 level on 95% confidence interval of the difference the significant level (2-tailed) is 0.000 which is not significance. It shows that there is a difference between the performances of children with hearing challenged on the pre-test and post-test of Problem Solving skill. It shows that intervention has the effect on development of problem solving skills among children with hearing challenged. A systematic,



planned classroom teaching at inclusive set-up with specific objectives will improve the learning behavior among children with hearing challenged also, even though they faces problem in communication, proper perception of speech and language. It is evident from this result that the strategies used for intervention i.e story telling has an effect on development of problem solving skill among children with hearing challenged. Gyongyer Molnar (2003) found that Pupil's level of reading skills was the most influential factor to performance on complex problem solving tests in secondary school still. Besides reading, the determinial effect of the developmental level of inclusive reasoning that helps the realization of relationships proved to be important.

## VI. CONCLUSION

Problem solving skill is high intellectual based skill requires to understand systematic procedure of solving the problem. To teach procedures of solving the problem, one has to have systematic planning with the help of appropriate strategies. Children with hearing challenged will acquire problem solving skills if regular intervention is given with proper attention. It is the duty of the inclusive school teachers to concentrate on learning style of the children with hearing challenged to make to learn on par with other typically developing children by understanding their nature of learning, difficulties faced in learning process and style of learning.

## DELIMITATION OF THE STUDY

- Less number of participants were selected for the study.
- Only Mysore city was chosen to conduct the study.

## REFERENCES:

- Smita.C.G(2017), "Inclusive Education In India: A Developmental Milestone from Segregation to Inclusion. Journal of Educational System, Volume 1, Issue1, 2017 PP 53-62.
- Dusek.G and Ayhan.A.B (2014), 'A study on problem solving skills of the children from broken family and full parents family attending regional primary boarding school. Journal of Procedia-Special and Behavioural Sciences 152-137-142.
- Erozkhan, Atilgan (2013), 'The effect of Communication Skills and Interpersonal problem solving skills on social self-Efficacy.' Educational Sciences: Theory and Practice-13(2).

- Choudry.G.A and Ghulan. Rasool(2012), 'A case study on improving problem solving skills of undergraduate computer science students, world applied sciences journal.
- Armagan.O.F, Sagir and Celik (2009). 'The effects of students' problem solving skills on their understanding of chemical rete and their achievement on this issue. Procedia Social and Behavioral Sciences-1 2009, 2678-2684.
- Smiles. F.D, Thelin.W.J, Lance.M.D and Robert.A.M (2009), 'Problem-Solving Ability in Elemntary School-Aged children with Hearing Imapirment. Journal of Educational Audiology, Vol.15, 2009.
- Swanson.L.H, Jerman.O, Zheng (2008), 'Growth in working memory and Mathematical Problem Solving in Children at Risk and Not Risk for Serious Math Difficulties. Journal of Educational Psychology. Vol.100, No.2, 343-379.
- Treffinger.J.C and Isaksen.G.S (2005), 'Creative Problem Solving: The History, Development and Implications for Gifted Education and Talent Development. Gifted Child, the evolution of CPS in gifted Education, Fall 2005, Vol.49, No.4.

