

# International Multidisciplinary Research Journal

## *Golden Research Thoughts*

Chief Editor  
Dr.Tukaram Narayan Shinde

---

Publisher  
Mrs.Laxmi Ashok Yakkaldevi

Associate Editor  
Dr.Rajani Dalvi

Honorary  
Mr.Ashok Yakkaldevi

## Welcome to GRT

**RNI MAHMUL/2011/38595**

**ISSN No.2231-5063**

Golden Research Thoughts Journal is a multidisciplinary research journal, published monthly in English, Hindi & Marathi Language. All research papers submitted to the journal will be double - blind peer reviewed referred by members of the editorial board. Readers will include investigator in universities, research institutes government and industry with research interest in the general subjects.

### ***International Advisory Board***

Flávio de São Pedro Filho Federal University of Rondonia, Brazil	Mohammad Hailat Dept. of Mathematical Sciences, University of South Carolina Aiken	Hasan Baktir English Language and Literature Department, Kayseri
Kamani Perera Regional Center For Strategic Studies, Sri Lanka	Abdullah Sabbagh Engineering Studies, Sydney	Ghayoor Abbas Chotana Dept of Chemistry, Lahore University of Management Sciences[PK]
Janaki Sinnasamy Librarian, University of Malaya	Ecaterina Patrascu Spiru Haret University, Bucharest	Anna Maria Constantinovici AL. I. Cuza University, Romania
Romona Mihaila Spiru Haret University, Romania	Loredana Bosca Spiru Haret University, Romania	Ilie Pinteau, Spiru Haret University, Romania
Delia Serbescu Spiru Haret University, Bucharest, Romania	Fabricio Moraes de Almeida Federal University of Rondonia, Brazil	Xiaohua Yang PhD, USA
Anurag Misra DBS College, Kanpur	George - Calin SERITAN Faculty of Philosophy and Socio-Political Sciences Al. I. Cuza University, Iasi	.....More
Titus PopPhD, Partium Christian University, Oradea, Romania		

### ***Editorial Board***

Pratap Vyamktrao Naikwade ASP College Devrukh, Ratnagiri, MS India Ex - VC. Solapur University, Solapur	Iresh Swami	Rajendra Shendge Director, B.C.U.D. Solapur University, Solapur
R. R. Patil Head Geology Department Solapur University, Solapur	N.S. Dhaygude Ex. Prin. Dayanand College, Solapur	R. R. Yalikal Director Managment Institute, Solapur
Rama Bhosale Prin. and Jt. Director Higher Education, Panvel	Narendra Kadu Jt. Director Higher Education, Pune	Umesh Rajderkar Head Humanities & Social Science YCMOU, Nashik
Salve R. N. Department of Sociology, Shivaji University, Kolhapur	K. M. Bhandarkar Praful Patel College of Education, Gondia	S. R. Pandya Head Education Dept. Mumbai University, Mumbai
Govind P. Shinde Bharati Vidyapeeth School of Distance Education Center, Navi Mumbai	G. P. Patankar S. D. M. Degree College, Honavar, Karnataka	Alka Darshan Shrivastava Shaskiya Snatkottar Mahavidyalaya, Dhar
Chakane Sanjay Dnyaneshwar Arts, Science & Commerce College, Indapur, Pune	Maj. S. Bakhtiar Choudhary Director, Hyderabad AP India.	Rahul Shriram Sudke Devi Ahilya Vishwavidyalaya, Indore
Awadhesh Kumar Shirottriya Secretary, Play India Play, Meerut (U.P.)	S. Parvathi Devi Ph.D.-University of Allahabad	S. KANNAN Annamalai University, TN
	Sonal Singh, Vikram University, Ujjain	Satish Kumar Kalhotra Maulana Azad National Urdu University

**Address:-Ashok Yakkaldevi 258/34, Raviwar Peth, Solapur - 413 005 Maharashtra, India**  
**Cell : 9595 359 435, Ph No: 02172372010 Email: ayisrj@yahoo.in Website: www.aygrt.isrj.org**



## AMELIORATION OF CREATIVE PROBLEM SOLVING ABILITY RELATED TO CRITICAL THINKING BY THE EFFICACY OF SIX THINKING HATS STRATEGY



**P. Sridevi**

**Research Scholar in Education, Manonmaniam Sundaranar University, Tirunelveli, Tamil Nadu.**

Co - Author Details :

**Mumtaz Begum**

**Associate Professor, School of Education, Pondicherry University, Puducherry.**

### ABSTRACT

In order to face the challenges in this modern competitive world, Education should be reformed so as to direct towards its sustainability. Changes are impossible without learning, just as learning is impossible without changes. New ways of thinking are required for all the fields to survive and achieve their goals. In this context, society is in need of new form of education. People tend to approach problems and situations from different perspectives. De Bono's six thinking hats is an effective method to help the learners to analyze a situation from different perspectives. The present study has been specifically designed to experiment the efficacy of Edward de Bono's six thinking hats strategy for the amelioration of creative problem solving ability in relation to the critical thinking of B.Ed. Teacher trainees of Puducherry.



**KEYWORDS :** *Creative Problem Ability, Critical Thinking, Six Thinking Hats.*

### INTRODUCTION :

Teaching is not everybody's cup of tea. It is an intricate, exciting and challenging job. Teachers should make the intellectual leader rather the blind followers. For that Teacher education should produce the teacher as intelligent leaders with creative thinking and with problem solving ability. But Today, Pre-service teacher education mainly aims at developing knowledge rather than improving candidates' functional and flexible skills that are essential for everyday practice. The program of pre-service teacher training is usually divided into general education, specialized knowledge, professional knowledge and practice. Pre-service training does not give enough support for candidates to improve their professional abilities and skills but it mainly focused on developing content knowledge rather than preparing them for facing the real life class room problems. Often conflict arises in the classroom because of learners having different ideas. All learners are unique and so are their thoughts. They tend

to approach problems and situations from different perspectives. De Bono's thinking hats helps to take care of that conflict and develop a useful technique to accommodate all the different learners in a creative way. This method can help to divide the facts, the emotions, the discernment, optimistic side and the creative ideas of a problematic situation.

### NEED AND SIGNIFICANCE OF THE STUDY

Problem solving is an essential skill for teachers and the pressure is always on to find new, innovative ways of dealing with issues. To promote learning is not just a question of preparing the cognitive subject matter, but also of organizing a motivating learning environment that incorporate and appreciate social relations so that the students experience benefits that counter-balance the greater efforts in virtual forums.

De Bono's six thinking hats is an effective method to help the learners analyse a situation from different perspectives. Six thinking hats is a thinking tool for group discussion and individual thinking. Combined with the idea of parallel thinking which is associated with it, it provides a means for groups to think together more effectively, and a means to plan thinking processes in a detailed and cohesive way. This effectiveness is represented in quicker and more effective planning, problem solving, team working, seeking new improvements, meetings, decisions and even day to day communications. The six hats represent six modes of thinking and are directions to think rather than labels for thinking. That is, the hats are used proactively rather than reactively. The present study has paved the way to explain the application of six hats theory in education enhancing creative problem solving ability.

### REVIEW OF RELATED LITERATURE

Eman Salman Taie and Ahmad A. El kamel conducted a quasi experimental study to explore the effect of using six thinking hats in managing meetings effectively in Dar el-Shefaa hospital in Cairo, Misr University. This study clearly showed the majority of the studied samples had low score for meeting management before using of the six thinking hats and high score after using of them. Khansa' Hassan Hussein Al-Bahadli conducted a experimental study on the Impact of the six thinking hats as a teaching technique on EFL college students' performance in composition writing. The study was designed to test the hypotheses that there is a significant difference between the experimental group performances to that of the control group in the components of the composition writing of post test. The result indicates that using the Six Thinking Hats Technique developed students' performance in the components of composition writing.

Mary F. Powers and Judy Jones-Walke (2005) have studied an Interdisciplinary Collaboration to Improve Critical Thinking among Pharmacy Students. The result shows that the six thinking hats method provided a structure for group problem solving and provided a useful approach to ethical dilemmas confronted in pharmacy.

Mevlûde Karadağey, Serdar Saritas and Ergin Erginer (2006-2007) conducted a study to test the use of a creative teaching method in developing teacher educators' critical thinking skills. The result shows that this method facilitated to generate creative ideas and developed their system of thinking.

Saroja Dhanapal, Khoo Tabitha Wern Ling conducted a study to investigate how Six Thinking Hats Enhance the Learning of Environmental Studies. The researcher used mixed methods of both quantitative and qualitative to explore and identify the effectiveness of the Six Hats in encouraging higher-order thinking skills and enhancing learners' interests, leading to better academic performances. The results proved that the Six Thinking Hats Enhanced the Learning.

## PRINCIPLE OF SIX THINKING HATS

The underlying principle of the method is that the human brain thinks in a number of distinct ways which can be identified, deliberately accessed and hence planned for use in a structured way allowing one to develop strategies for thinking about particular issues.

### The key reasons for using the STH are to:

- encourage parallel thinking
- encourage full-spectrum thinking
- separate ego from performance

## OBJECTIVES OF THE STUDY

- To study the effectiveness of six thinking hats strategy on the development of creative problem solving ability among the B.Ed. teacher trainees of Puducherry.

## HYPOTHESES OF THE STUDY

1. There is no significant difference between Control and Experimental group with respect to creative problem solving ability after treatment.
2. There is no significant difference between Pre test and Post test of the groups with respect to creative problem solving ability.
3. There is no significant difference between critical thinking with respect to creative problem solving ability after treatment.
4. There is no interaction effect of Six Thinking Hats Strategy on development of creative problem solving ability among B.Ed. teacher trainees.

## Experimental Research Design and Methodology

The experimental study uses Pre-test, Post-test Control Group Design. The variable of creative problem solving was studied at two levels, namely Six Thinking Hats strategically method and Conventional method. The variable of critical thinking was studied. The variable of testing occasions varied in two-ways i.e. Pre-test and Post-test.

Sample of the Study: A sample of 60 B.Ed teacher trainees of Puducherry was taken for the collection of data.

## Tools

The following tools were used for the collection of data

- Creative problem solving tool was constructed by the investigator.
- Watson Glaser Critical Thinking Appraisal

## Procedure Used in the Experiment

**A. Pre-Test: Test:** Creative problem solving

**B. Treatment:** The selected problems were taught by using Six thinking hats strategy to the Experimental group Teacher trainees and the same problems were taught by using conventional method to the controlled group Teacher trainees.

**C. Post-Test:** Immediately after the completion of the treatment, the Experimental Group and the Control Group were Post-tested.

## Analysis of Data

**Table 1: Mean scores of B.Ed. Teacher Trainees on creative problem solving ability for different treatment groups**

Experimental Variable	Treatment Groups	Mean	Std. Error Mean	Significant Value
Six Thinking Hats Strategy	Experimental Group	39.33	1.674	0.000 (Significant at 0.01 Level)
	Controlled Group	21.07	1.150	

**Table 2: Mean scores of B.Ed. Teacher Trainees' critical thinking skills**

Independent Variable	Groups	Mean	Std. Error Mean	Significant Value
Critical thinking skills	Experimental Group	40.03	1.555	0.000 (Significant at 0.01 Level)
	Controlled Group	20.53	1.292	

**Table 3: Correlation values of Creative Problem solving ability and Critical thinking skills of B.Ed. Teacher trainees**

S. No.	Variables	N	Mean	S.D.	Creative Problem solving ability	Critical thinking skills
1	Creative Problem solving ability	30	39.33	9.170	1	0.188
2	Critical thinking skills	30	40.03	8.520	0.188	1

## ANALYSIS AND INTERPRETATION

- It was found that there is a significant difference between Control and Experimental group with respect to creative problem solving ability after treatment.
- It was found that there is a significant difference between Pre test and Post test of the groups with respect to creative problem solving ability.
- It was found that there is a significant difference between critical thinking with respect to creative problem solving after treatment.
- It was found that there is an interaction effect of Six Thinking Hats Strategy on development of creative problem solving ability among B.Ed. teacher trainees.

## DELIMITATIONS OF THE STUDY

- The present study was constrained to B.Ed. teacher trainees only.
- The data collection was constrained to Puducherry region only.

## EDUCATIONAL IMPLICATIONS

- Six Thinking Hats training is fast-paced, practical, and interactive. Participants learn how to separate emotion from facts, the positive from the negative and critical thinking from creative thinking.
- Encourage students to reflect upon their 'Thinking' and learn to apply different ways of thinking for different situations.
- Use these hats as a guide to reflect upon thinking types when.....

- Brainstorming new ideas for classroom management, classroom rules and discipline strategies.
- Planning class projects such as assembly items, performances and Class meetings
- Problem solving techniques like role playing, Group projects
- Book reports / character profiles (how do others think)
- Discussing cause and effect

### CONCLUSION

The lack of teachers' practical skills leads to misunderstanding, helplessness and bad decision-making in problematic classroom situation. Therefore, the theoretical preparation of pre service training should provide more practical approach that can help candidates to transform their theoretical knowledge into everyday practice. The training also should put more emphasis on improving candidates' problem-solving skills by analyzing and understanding pedagogical situations. To promote learning is not just a question of preparing the cognitive subject matter, but also of organizing a motivating learning environment so that the student experiences that the benefit in terms of inspiring social relations and further outcomes of solving tasks are worth the effort. Learners are unique and so are their thoughts. De Bono's six thinking hats is an effective method to help the learners analyze a situation from different perspectives. Six Hats is a tool that promotes quality thinking and communication for students, teachers, and educational leaders and it enhances learning beyond cognition.

### REFERENCES

1. Brookfield, S. (1996). Breaking the code: Engaging practitioners in critical analysis of adult educational literature. In R. Edwards, A. Hanson, & P. Raggatt (Eds.), *Boundaries of adult learning* (pp. 57-81). London and New York: Routledge.
2. Caine, G., Caine, R., & Cromwell, S. (1996). *Mindshifts: A brain-compatible process for professional development and the renewal of education*. Melbourne, Vic.: Hawker Brownlow Education.-
3. de Bono, E. (1990). *Six thinking hats*. London: Penguin.
4. Manktelow, J. (2005). *Mind Tools: Essential Skills for an Excellent Career*. Victoria: Department of Education and Early Childhood Department.
5. McGregor, D. (2007). *Developing Thinking: Developing Learning: A Guide to Thinking Skills*. London: Library of Congress cataloguing-in- Publication Data CIP data.
6. Serrat, Q. (2009). *Wearing Six Thinking Hats*. Philippines: Knowledge Solutions
7. Six Thinking Hat – the most powerful tool available at <http://www.edwdebono.com/>



# Publish Research Article International Level Multidisciplinary Research Journal For All Subjects

Dear Sir/Mam,

We invite unpublished Research Paper, Summary of Research Project, Theses, Books and Book Review for publication, you will be pleased to know that our journals are

## Associated and Indexed, India

- ★ International Scientific Journal Consortium
- ★ OPEN J-GATE

## Associated and Indexed, USA

- ✍ EBSCO
- ✍ Index Copernicus
- ✍ Publication Index
- ✍ Academic Journal Database
- ✍ Contemporary Research Index
- ✍ Academic Paper Database
- ✍ Digital Journals Database
- ✍ Current Index to Scholarly Journals
- ✍ Elite Scientific Journal Archive
- ✍ Directory Of Academic Resources
- ✍ Scholar Journal Index
- ✍ Recent Science Index
- ✍ Scientific Resources Database
- ✍ Directory Of Research Journal Indexing

Golden Research Thoughts  
258/34 Raviwar Peth Solapur-413005, Maharashtra  
Contact-9595359435  
E-Mail-ayisrj@yahoo.in/ayisrj2011@gmail.com  
Website : [www.aygrt.isrj.org](http://www.aygrt.isrj.org)