



## **EFFECTIVENESS OF REMEDIAL TEACHING PROGRAMME (R.T.P.) ON THE COGNITIVE PROCESSES IN MATHEMATICS FOR STANDARD IX STUDENTS.**

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### **Abstract**

Learning is essential for development of child's personality. Teaching processes plays vital role in development of learning processes. Teaching, learning processes are found from ancient period but Pedagogy provides systematicness & scientificness to teaching processes. In teaching processes teacher's role is important but in future teacher must be like as a guide and learning processes completed with teacher as well as peer guide learner. Hence researcher construct a Remedial Teaching Programme (R.T.P.) based on Peer- Learner and Peer- Guide. Thorndike's trial and error theory use in this programme specially Law of Practice. Researcher arrange this programme in N.M.V.Boy's School Pune. This programme is for six days on 80 Students from IX standard students selected by easily available method these students divided in to two groups i.e. Control and Experimental equal groups by random method, Provide Pre-test R.T.P. and Post –test. Researcher found significant difference between Pre-test and Post-test with t test. Researcher got findings that Some students cannot learn in only one time teaching they required frequent teaching for same unit. For Such learner, Peer guidance is beneficial for proper learning.

#### **Introduction**

“Every student can learn, just not on the same day, or the same way.” (Brucher,J.S. 1969), “Education is the most powerful weapon which you can use to change the world” ” (Sharma G.R.1970) The founder of idealism, Plato said that “Do not train children to learning by force and harshness, but direct them to it by what amuses their minds, so that you may be better able to discover with accuracy the peculiar bent of the genius of each.” Ancient Indian thinkers describe as ‘education man self-reliant and others’ in Rig-Veda, ‘The end product of Education is to get salvation’ in Upanishads. Kautilya, as a philosopher and a statesman of outstanding class mentioned that ‘education means training for the country and love for the nation’. In education or learning processes new concepts can understand but some learner can get it quickly but some learner require frequent teaching, In future teacher is not available for frequent and single guidance hence, Peer group guidance can use as Remedial Teaching. For this purpose researcher construct Remedial Teaching Programme (R.T.P.) based on Peer- Learner and Peer- Guide and test it's Effectiveness..

#### **R.T.P. Remedial Teaching Programme.**

**First Step -** Teacher can teach teaching Units

Teacher gives Assignment Teacher makes two groups 1) Peer Guide who solve assignment accurately. 2) Peer Learner Who cannot solve assignment accurately.

**Second Step-** Teacher gives second time assignment, such assignment evaluate by Peer Guide and arranged remedial teaching to complete assignment

**Third Step -** .Teacher gives third time assignment, such assignment evaluate by Peer Guide and arranged remedial teaching to complete assignment

**Forth Step -** Teacher gives test for all student and evaluate it.

**Background**

.In education or learning processes new concepts can understand but some learner can get it quickly but some learner require frequent teaching (Deshprabhu,S 2010), AS per Pedagogy frequent teaching is essential for proper learning, menace a learner can not understand learning concepts than again and again teaching is proper solution for their learning. In future teacher has teaching for same unit. In this situation peer group teaching will prefer and peer guide can teach same unit frequently for proper learning. Again and again teaching is called Remedial Teaching

**Theoretical Background**

**(i)Thornadike's Trial and Error Theory of Learning**—In 1898 Thornadike explain this theory in his book Animal Intelligency. From this theory Law of Practice says that teaching conduct frequently for same learner and same unit than Learning processes become perfect.in present study R.T.P. also based on frequent teaching i.e. Remedial Teaching.

{ii} **Maxims of Education. Induction to Deduction** --- Induction means drawing a conclusion from a set of examples whereas deduction is its opposite. The teacher should proceed from induction to deduction. For example, in English while teaching conversion of active voice into passive voice, the teacher should first convert a few sentences of active into the passive voice and on the basis of those conclude the general rule for conversation of active voice into passive voice.

**(iii) Principle of Collaboration**—In this R.T.P. Peer guide provide Remedial Teaching for Peer learner, in this processes collaboration found between both peers , with it peer learner complete his learning.

**Need and Importance Of The Study --**

(i)Remedial Treatment can involve in this study hence one unit will teach for three times for Peer learner and he completed his learning properly.

(ii) Solution on Dropout/Stagnation, if learner provides R.T.P than he get proper learning and understand the proper concepts .It is found that some students cannot understand properly concepts , they left out from main stream but use of R.T.P. must control on such dropout.

(iii) Inter-reaction between Peer Guide and Peer Learner is found better than Inter-reaction between student and teacher because a student can spend his maximum time with his peer learner than any teacher.

(iv) In R.T.P. Teacher and Students are actively involved, teacher has to prepare assignment work at least three times on every unit and students are busywith solve that assignment if it may incomplete or wrong than such Peer learner can rectify it from his Peer Guide also get the knowledge about it.

(iv) R.T.P. is proper treatment for Learning Disabled students learning disabled student menace a student cannot understand learning concepts quickly but teaching arrangement frequently on same unit for them than they must understand learning units.

(v) We found Continuous and Comprehensive Evaluation in R.T.P. in R.T.P. in first step, teacher can teach units and give assignment for students some students can properly complete it but some cannot complete it because they cannot understand learning units properly. For such learner Remedial teaching arrange through Peer Guide again and again for two times.

### **Statement Of The Problem**

To develop Remedial Teaching Programme to study mathematics subject for IX standard students from N.M.V. Boy's school Pune and test its effectiveness.

### **Definitions Of Important Terms**

**Remedial Teaching Programme(R.T.P.)** – A teaching arrangement on un understood learning units for students who cannot learn properly learning units, such arrangement make through Peer Guide.

**Peer Guide** – A student who can able to understand learning units taught by teachers only one time.

**Peer Learner** – A student who cannot able to understand learning units taught by teachers only one time.

**Mathematics subject**-A subject based on numeral activities, this subject is compulsory as per S.S.C. Board pattern.

**IX Standard Student** A Student who qualify VIII standard and learning in IX Standard.

**N.M.V. Boy's school Pune** In AppaBalwantChowck Pune City, Secondary Boy's school.

### **OBJECTIVES**

(i) To prepare the R.T.P. on mathematics subject for IX standard students from N.M.V. Boy's school Pune

(ii) To Implement the R.T.P. on mathematics subject for IX standard students from N.M.V. Boy's school Pune

(iii) To test the effectiveness of the R.T.P. on mathematics subject for IX standard students from N.M.V. Boy's school Pune

(iv) To study the opinion of IX standard students about R.T.P.

### **SCOPE**

(i) This study is related to IX standard students who learn mathematics subject.

(ii) This study is related to teachers who teach IX standard students learning mathematics subject.

(iii) This study is related to Head Masters, who administrate IX standard students learning mathematics subject.

### **Limitations**

(i) This study is limited to Psychological and Physical aspects of the samples.

(ii) This study is limited about any disaster like bad light .

### **Dilimitations**

(i) This study is limited to R.T.P.

(II) This study is limited to 80 students from N.M.V. Boys school pune.

(iii) This study is limited to quadratic equation unit from mathematics subject.

**Hypotheses**

- (i) Null hypotheses – There is no difference between mean score of pretest and posttest of this study.
- (ii) Research hypotheses – There is significant difference between mean score of pre-test and post-test of this study.

**Research Methodology**

**Method of Research** Proposed study is related to experimental method because researcher conduct a experiment with R.T.P. on IX standard students from N.M.V.Boy’s School Pune.

**Population and Sample** Population of proposed research is 600 students from IX standard N.M.V. Boy’s School Pune. Researcher select 80 students from population by easily available non probable method.

**Tools for Data Collection.** Researcher prepare Pre-test and Post-test as achievement test for achieve third objective and prepare opinionnaire to achive forth objective.

**Analysis And Interpretation Data**

The researcher used Pretest—Posttest Equivalent –groups Design from True Experimental Design. R O1X O2

R O3 C O4

Researcher administered R.T.P. on sample for 6 days time table as follow The program had been conducted on above students for total 6 days and total Time required is 6 hours. Following table represents the details of the program:

**Table 10.1**

Name of the Topic	Activity Conducted	Date of Activity Conducted	Max Required Minutes	Time in
Quadratic Equation	Pre test	2-2- 2016	45	
	Orientation	3-2- 2016	60	
	R.T.P. Treatment	4-2- 2016	60	
	R.T.P. Treatment	5-2- 2016	60	
	R.T.P. Treatment	6-2- 2016	60	
	Post-test	8-2- 2016	45	

**Analysis for objective 3**

Objective 3 is to find out effectiveness of developed R.T.P. to teach mathematics subject for IXstandard students. To achieve this objective researcher arranged comparison between pre test and post-test with t test.

**Table 10.2 Comparison between pre test and post test from same group**

	Mean	S.D.	Standard error of mean	d.f.	t calculated	t critical on 0.01 level	Decision
Pre test	13.1	1.76	0.28	39	20.63	2.71	Significant
Post	22.13	2.25	0.36				

test

**Observation**

From this table it observed that ‘calculated t’ value is greater than ‘t critical value’ means difference between pre-test and post-test is significant on 0.01 level.

**Interpretation**

From this observation difference between mean score of pre test and post test is significant hence null hypothesis should be rejected on 0.01 levels. It means developed R.T.P. is effective to teach mathematics subject for IX standard students.

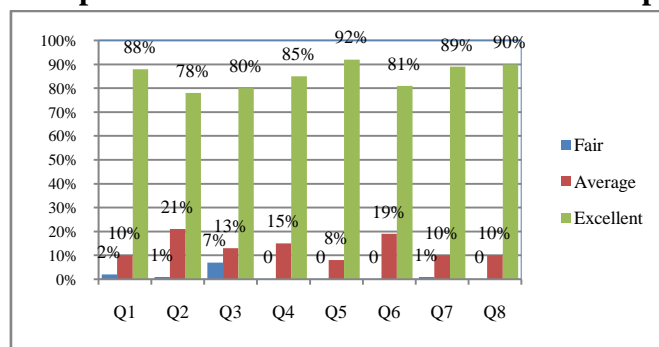
**Analysis of objective 4**

Objective 4 is to find IX standard students opinion towards developed R.T.P.. To achieve this objective researcher has prepared an opinionnaire analysis it as follows

**Table 10.3 IX Standard Students opinion towards R.T.P.**

Response	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Fair							1%	
Average	10%	21%	13%	15%	8%	19%	10%	10%
Excellent	88%	78%	80%	85%	92%	81%	89%	90%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

**Figure10.3 Graphical presentations for IX Standard Students opinion towards.T.P**



**Findings**

- a) R.T.P. is effective for teaching mathematics subject for all, talent as well as normal IX Standard students from N.M.V. Boy’s School Pune.(Table 10.2).
- b) Concept about Peer Guide and Peer Learner is excellent by the opinion of IX Standard Students from N.M.V. Boy’s School Pune.(Table 10.3).
- c) With R.T.P. learning units can be learn properly as per (Table 10.3)opinion of IX Standard Students from N.M.V. Boy’s School Pune.

**Conclusions and Discussions**

Developed R.T.P. which is based on Peer Guidance is effective for teaching mathematics subject i.e. Quadratic Equation for IX Standard Students, this scheme will use not only for mathematics subject but also all subjects, with R.T.P. teacher became little but free he may use this time for research in Education, Inter-reaction between Peer Groups became Educational.

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