

TRAINING THE PRIMARY SCHOOL TEACHERS AND THE  
DIET FACULTY OF UNION TERRITORY OF PONDICHERRY

IN CONDUCTING

## **ACTION RESEARCH**

SPONSORED BY GOVT OF PONDICHERRY

### **REPORT**

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**REGIONAL INSTITUTE OF EDUCATION**  
[NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING]

**MYSORE 570 006**

## Different Phases of the Programme

### Phase I :

26.1.99 to 30.1.99 : Workshop I

### Phase II :

15.2.99 to 17.2.99 : Workshop II

### Phase III :

22.2.99 to 27.3.99 : Field Work

### Phase IV :

16.4.99 to 20.4.99 : Workshop III

**Teacher – Action Researchers and the collaborating DIET faculty**

<b>Sl.No.</b>	<b>Teacher – Action Research Team</b>	<b>Collaborating DIET faculty</b>
1.	i. Mr R Bashiam, GPS, Sanarpet ii. Mr R Veerappan, GPS, Nainarmandapam	Mr R Gopal
2.	i. Miss P M Muthulakshmi, GMS, Manapet ii. Mrs S Vany, GPS, Thondamanathan	Mrs B Gnanambal
3.	i. Mr R Elumalai, GPS, Odiampet ii. Mr Arunagiri, GPS, Karayambathur	Mrs B Gnanambal
4.	i. Mr R Anbalagan, GPS, Randasozhanallur ii. Mr R Muthusamy, GPS, Bahourpet	Mrs P Oucharani
5.	i. Mr K Lingasamy, GMS, Pannithittu ii. Mr S Ravisandhiran, GMS, Nallavodu	Mrs P Oucharani
6.	i. Mr A Kuppuraj, GPS, Tavanandapuram ii. Mr V Jayabalane, GPS, Velrampet	Mrs P Oucharani
7.	i. Mrs P Dharmambal, GPS, Ecole Anglaise, Pondicherry ii. Mrs C Datchayany, GMS, O K Palyam	Dr K Sridharan
8.	i. Mr G Muthukrishnan, GPS, Rayanpalyam ii. Mr R Saravanan, GPS, Serumavilangai	Dr K Sridaran
9.	i. Mrs M Sanda Coumary, GPS, Karasu ii. Mr D Parameswary, GPS, Perungalur	Dr R Thirumavalavan
10.	i. Mr S Vassou, GPS, Kothapurinatham ii. Mr P Rajendiran, GPS, Kalithurthalkuppam	Dr R Thirumavalavan
11.	i. Mr Maria Rajkumar, GPS, Kirumampakkam ii. Ms T V Meenambal, GPS, Archivackpet	Mr R Ilangovan
12.	i. Mrs P Muthumanikkam, GPS, Kakkanthope ii. Mrs A Jansi, GMS, Kalmandapam	Mr R Ilangovan
13.	i. Mrs N Santhabai, GPS, Indra Nagar ii. Mrs R Alli, GPS, Vinayagampet	Mr M Doss

- |     |     |   |                    |
|-----|-----|---|--------------------|
| 14. | i.  | Mr M Shanmugavelu, GPS, Muppaingudu           | Mr M Doss          |
|     | ii. | Mr G Rajendiran, GN P S, T R Pattinam         |                    |
| 15. | i.  | Mr K Devadoss, GPS, Pillaiyarkuppam           | Mr R Parthasarathy |
|     | ii. | Mr S Radjasegarane, GPS, Tavalkuppam          |                    |
| 16. | i.  | Mrs C Madhavy, GPS, Salai Street              | Mr R Parthasarathy |
|     | ii. | Mrs D Tamijarasy, GBPS, Villianur             |                    |
| 17. | i.  | Mrs S Bumadevi, GBPS, Muthialpet              | Mr S Muralidharan  |
|     | ii. | Mrs R A Lakshmi, GPS, Perumal Koil Street     |                    |
| 18. | i.  | Mr J Mounissamy, GPS, Pakkamudianpet          | Mr S Muralidharan  |
|     | ii. | Mrs Darling Vince Indira, GPS,<br>Sendanatham |                    |
| 19. | i.  | Mr A Rajaraman, GPS, Pangoor                  | Mr E S Dharmakan   |
| 20. | i.  | Mr C Murugaiyan, GPS, Pettai                  | Mr T Ponnambalam   |
|     | ii. | Mr S Anbarasan, GNPS, T R Pattinam            |                    |

## Preface

Action Research is aimed at improving one's professional competence by one's own efforts. The two functions 'Action' and 'Research' are performed by the same functionary in their own surroundings in order to improve things in the given context. The term 'action' refers to a carefully proposed change in strategy aimed to improve the situation whereas the term 'research' is used in the simple sense of evaluating the 'action'. So 'Action Research' is not research in the traditional sense of the word. This type of research is of immense value to the classroom teachers as it aims at improving their teaching practices in their own classrooms in their own schools for their own students.

As 'Action Research' is not a part of the teacher training curriculum in most of our primary school teacher training programmes, the Primary Teachers have to be trained to take up Action Research. Teachers have to be given a very thorough understanding and practical experience of Action Research. In this direction, when the Director of Education, Govt of Union Territory of Pondicherry requested the Principal of Regional Institute of Education (NCERT), Mysore to take up in November 1998 an Action Research Project for the primary teachers, Principal of Regional Institute of Education, Mysore readily accepted to provide all academic inputs required for the project. All the administrative responsibilities were carried out by the District Institute of Educational <sup>Training</sup> Technology, Pondicherry. Forty teachers from primary schools of Union Territory of Pondicherry were selected as Action Researchers and the members of the faculty of DIET Pondicherry were associated as collaborators with the Action Research teams of teachers.

In all twenty Action Researches were taken up.

Of the 20 Action Researches conducted, 4 are in Tamil, 4 in English, 5 in Mathematics, 5 in EVS and 2 on non content topics. Improving the skills of Primary school students in listening, reading, writing, handwriting, interacting and communicating in English, computation with understanding, drawing scientific diagrams and labeling them, activity based learning in large sized classrooms, learning through field visits, improving general knowledge have been the main concerns in these Action Researches. There is also an interesting Action Research on making students attentive throughout the day.

The improvement in the performance of the students due to these Action Research Intervention range from 17% to 57% as revealed by the Statistical Analysis. Apart from these marked improvements, active and enthusiastic involvement of the students both in classroom and home experiences to a greater degree of participation in the learning has been reported. In some cases improvement in class attendance has also taken place. This is quite encouraging in the Primary Education scenario. The Teacher-Action Researchers as well as the collaborating DIET faculty also participated in the whole programme with keen interest and enthusiasm.

**Project Team**

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## **The programme at a glance**

Action Research is aimed at improving one's professional competence by one's own efforts. The two functions 'Action' and 'Research' are performed by the same functionary in his own surroundings in order to improve things in the given context. The term 'action' refers to a carefully proposed change in strategy aimed to improve the situation whereas the term 'research' is used in the simple sense of evaluating the 'action'. So 'Action Research' is not research in the traditional sense of the word. This type of research is of immense value to the classroom teachers as it aims at improving their teaching practices in their own classrooms in their own schools for their own students.

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### **Objectives**

1. To help the selected teachers and the members of faculty of DIET to develop a clear concept of Action Research
2. To develop professional competence in them to conduct Action Research

### **The Project Team**

The project team consists of the project coordinator Dr B S Upadhyaya and six other resource persons – Dr P Veerappan, Mr P R Rao, Dr U Lakshminarayana, Mrs S K Shyamala, Dr M Suresh and Mr D N Nagaraj drawn from various departments of RIE, Mysore and outside to provide academic inputs. Mr A Ramadas, Principal, DIET, Pondicherry is the Administrative Coordinator to carryout various administrative responsibilities of the project.

## **Preliminary Preparations**

The project team met informally many times at RIE, Mysore and prepared an elaborate Action Plan for the project. A tentative time schedule was also prepared for the various phases of the project. Formats required in different phases of the project were also developed.

The target group: It was planned to train 40 primary school teachers to conduct action research. Ten DIET faculty members were to be associated with them as collaborators so that the DIET Pondicherry may use them in training further batches of teachers to conduct Action Research. Two teachers were to select a single Action Research problem commonly concerning them, so that totally there will be 20 such Action Researches. One DIET faculty member was to be associated with each such Action Research team as a collaborator.

The different phases: The whole project was to be carried out in four phases.

### Phase I : Workshop I

Theoretical background of Action Research with illustrative examples – Identification of concerns – Probable causes – Possible change in Action – Planning for Action Research – Preparation of Action Research Proposals – Development of Tools/techniques for collection of data – Presentation and feedback.

### Phase II: Workshop II

Presentation of finalized proposals – daywise selection of activities and preparation of daywise time schedule – theoretical discussion of data analysis and interpretation – preparations for the field work.

### Part III: Actual field work

Implementation of the Action Research plan – Data collection – Data Analysis and Raw findings.

### Phase IV: Workshop III

Preparation of draft reports and their presentation and feedback - finalization of the reports – preparation of the abridged versions of the report.



#### Workshop I : 26.1.99 to 30.1.99

On the first day, after the inauguration, there was a discussion on the concept of Action Research, to provide the necessary theoretical background. This was followed by a discussion on Concerns and Research Questions, the first step in the process of Action Research. Illustrative examples of the concerns were discussed. This was followed by Group work on identification of concerns by the teachers along with the coordinating DIET faculty members. The concerns so identified were discussed and listed by each teacher. The project team analyzed these lists of concerns identified by each teacher and 20 Action Research concerns were selected. A team of two teachers was allotted each of these concerns based on the selection of concerns by each teacher. Totally there were 4 concerns in Tamil, 4 in English, 5 in Mathematics, 5 in EVS and 2 were of general nature. DIET faculty members were collaborated with each team based on the subject background of the DIET faculty.

On the second day, discussion on the process of Action Research was continued with a discussion on the steps of Plan, Observe and Reflect. This was followed by a Group Work on the Development of Action Research proposals based on the format prepared for the purpose by the project team. For the next two days, proposals were prepared, presented, discussed and finalized based on the feedback. On the last session of the fourth day, there was a discussion on Tools/Techniques for data collection. The last day was mainly devoted for the group work on development of Tools/Techniques needed for data collection. Checklists were prepared and supplied by the project team on the tasks to be completed by each team and the collaborating DIET faculty members before coming to the second workshop. Tentative time schedule for Workshop II was also prepared by the project team.

#### Workshop II: 15.2.99 to 17.2.99

The finalized Action Research proposals were presented. The tools prepared for the data collection were also presented and discussed. The daywise time schedule for the actual implementation of changed strategy was prepared by each group. This was followed by a discussion on Data Analysis and Interpretation. Next report writing –its structure, format – language – style – textual presentation – graphical presentation was discussed in great detail. Checklists on the tasks to be performed before Workshop III by the Action – Research teams and the collaborating DIET faculty was prepared by the Project Team and distributed.

## Field Work

After all necessary preparations, the changed strategies planned in the Action Research proposals were implemented from 22.2.99 to 27.3.99 in the respective schools of the Action Research team teachers. Necessary data was collected and recorded. The data was analyzed with the help of the collaborating DIET faculty between 28.3.99 and 14.4.99 and raw findings were recorded. Preliminary writing of the report was carried out.

## Workshop III: 16.4.9 to 20.4.99

On the first day each Action Researcher gave a brief account of his Action Research experiences. This was followed by preparation of the first draft of the report of the Action Research undertaken by each team. The project team members went through the drafts reports and gave necessary feedback. Based on these feedback, the reports were finalized. The reports in their final forms were submitted to the Principal, DIET, Pondicherry. Next, abridged versions of these reports were prepared in English in the formats prepared and supplied by the project team. The abridged versions were presented to the whole group. The learning aids used in these Action Researches were arranged and exhibited. A questionnaire developed by the Project team for evaluating the whole project was administered to get the feedback from the participating Teacher-Action Researchers and the members of the DIET faculty. Their responses were analyzed. The training programme as a whole has been rated as excellent or very good by most of the participants.

The programme ended with a Valedictory function presided over by the Director of Education of the Govt of Union Territory of Pondicherry who appreciated the successful effort of the RIE project team.

## Analysis

Of the 20 Action Researches conducted, 4 are in Tamil, 4 in English, 5 in Mathematics, 5 in EVS and 2 on non content topics. Improving the skills of Primary school students in listening, reading, writing, handwriting, interacting and communicating in English, computation with understanding, drawing scientific diagrams and labeling them, activity based learning in large sized classrooms, learning through field visits, improving general knowledge have been the main concerns in these Action Researches. There is also an interesting Action Research on making students attentive throughout the day.

The improvement in the performance of the students due to these Action Research Intervention range from 17% to 57% as revealed by the Statistical Analysis. Apart from these marked improvements, active and enthusiastic involvement of the students both in classroom and home

experiences to a greater degree of participation in the learning has been reported. In some cases improvement in class attendance has also taken place. This is quite encouraging in the Primary Education scenario. The Teacher-Action Researchers as well as the collaborating DIET faculty also participated in the whole programme with keen interest and enthusiasm.

#### Evaluation:

From the analysis of the responses to the questionnaires supplied at the end of the programme for the purpose of evaluation of the programme, it is observed that 71% of the participants rated the programme as a whole as Excellent or Very Good. 21% of the participants rated it as good and 8% as satisfactory. The participants were unanimous in their opinion that the strategies followed by the Project team during the workshops were effective. 97% of the participants opined that the objectives of the programme were attained.

The training programme has produced 20 valuable Action Research Reports and their abridged versions in English. The report of the whole project has also been prepared.

#### Conclusion:

This Action Research programme is unique in the sense that perhaps for the first time, 40 primary school teachers were trained to carry out Action Research – Methodology followed being – Learning by Doing. The evaluation by the participants has revealed that the objectives of the project have been achieved and the methodology of the training has been effective.

**CONCEPTS AND THE PROCESS**

## ACTION RESEARCH : A Concept

In the primary education scene, especially in the DPEP states the year 1998-99 can be regarded as 'ACTION RESEARCH' year. Most of the DPEP states have focussed on this exercise as the intervention necessary for the qualitative improvement, for it is believed that by adopting this methodology a practitioner can perform better on the job.

The concept of action research was first introduced in 1946 by Kurt Lewin. It is aimed at improving one's professional competence by one's own efforts. It involves two functions : action and research performed by the same functionary within the portals of his classrooms and/or school and on his own students. This effort is aimed at improving things in the given context. The term 'action' refers to a carefully proposed (based on sound principles of education) change in strategy which is assumed to result in a desired improvement in the specific situation which has been a source of grave concern to the functionary. The other term 'research' is not used in a sophisticated or technically rigorous sense. It refers to a simple, but properly organized method of collecting relevant information aimed at assessing the impact of the changed strategy/intervention.

### Action Research : Definition

The action research begins when a functionary becomes self-reflective. He introspects, self-evaluates the impact of his own performance with respect to the goals he is expected to achieve. Perhaps he is driven by an urge to be *accountable* to his profession or to derive satisfaction from his career. During his analysis on his own or by discussion with other functionaries he may identify the shortcomings, defects, difficulties, problems-labeled as concerns. Then he makes decision about the most apt, among some possible, strategy for bringing about improvement of the situation. Action begins. Self-reflection will become objective if the functionary collects the appropriate information regarding the impact of his new strategy. Hence research component is also of importance. The relation between the two functions can be given as Action  $\Leftrightarrow$  Research.

The action research may be undertaken by individual, teams or even on a *collaborative* basis involving different persons/teams in different places. A teacher with a certain concern in respect of his teaching when talks to other teachers in his school or schools in the neighbourhood may discover same or similar concerns bothering them. These teachers now form a team and attempt action research. Of course, each can make suitable modifications or variations to meet the requirements of his specific situation. If problems/concerns are associated with the school as a whole then all functionaries of that school can undertake action research collectively.

Next comes the 'scientific enquiry'. It is scientific because the stages of inquiry are organized or ordered. As in the process of science – so called 'Scientific Method' here too a cycle of steps is followed. The scope of this enquiry is properly spelled out in terms of space, time, focus, thrust and role of individual/members of the team. The cycle of steps is as follows :

- i) formulating a hypotheses/assumption on the contemplated change of strategy/ in intervention
- ii) designing a suitable plan of action to be carried out systematically – time and space bound, roles specified, etc.
- iii) Experimentation, measurement and collection of data using appropriately planned tools, good observation techniques and so on.
- iv) Analysing the collected data and drawing conclusions, interpreting the findings, identifying the limitations in the study and suggesting the ways of improving. This step helps one to make better decisions regarding interventions.
- v) Preparation of a report of the action research
- vi) Dissemination of the experiences of action research

In case the findings of this micro-research is in conformity with the assumption one may look for more validation in repeating the study in subsequent year when faced with same concern. Or the study can be repeated modifying the procedure to overcome the limitations experienced. And, if the findings do not reflect the hypotheses made one can formulate new hypotheses and repeat the experimentation. Thus the Action Research is not a one-shot affair. It is a spiraling process.

Thus, as done by Kurt Lewin Action Research may be defined as “a form of collective, self-reflective, scientific enquiry undertaken by practitioners in their immediate situations in order to improve their own social or educational practices”.

Hitherto, in the teaching profession this concept has been in vogue with a limited number of teachers, here and there – a brand of teachers who have a sense of professional commitment for being accountable. With these teachers, the function has mostly been confined to 'action' part. Some out of them have attempted the 'research' component, documented their study and have presented in national/state seminars. Some of these may have been lucky to receive awards. The basic idea behind action research is improving one's professional competence, which in turn, improves the quality of learning by students inside and outside classrooms thus enabling the most desired goal of the primary education : qualitative improvement which in turn may help in quantitative improvement too (especially in the retention of students). Further the action research can be undertaken by a teacher with only an ordinary training and a general understanding of the subject-education. By applying the method of action research, a practitioner looks at one's own actions and interventions in a new way (based on the information collected in a sort of a low-key research) and decides on further actions and interventions, thus defining one's roles and responsibilities. It is functionally relevant, productive

and useful. Hence the thrust on this *capacity building* of every functionary at every level associated with the primary education. Let us hope that every practitioner becomes involved in this pace-setting role of striving for excellence in primary education.

### **Some Points to Remember**

1. Action research is NOT method of teaching like lecture, demonstration or project method.
2. It is NOT the usual thing that teachers do during the course of their regular teaching.
3. It is that aspect of the professional responsibility (neglected or ignored by most hitherto) concerned with finding specific solution to specific concerns which hinder the achievement of the prescribed or targeted goals in his subjects students.
4. The findings of the action research are situation specific. However, they can be applied to similar situations elsewhere. [The purpose of action research is NOT to develop and test educational theories and to obtain universally applicable principles].

### List of Reference Books for Action Research

1. Children and their Primary Schools, Great Britain, Dept of Edn and Science, London, HM SO 1967
2. Raising the achievement level of children in Primary Education, Unesco Regional Office, Bangkok.
3. Innovative Experiments and Practices in Preprimary and Elementary School Education, NCERT, 1993.
4. Innovative practices in Primary Education, RIE, Bhubaneswar, 1996.
5. Research based interventions in Primary Education, NCERT, 1994.
6. Learning needs and problems in Primary Education, Unesco, Regional Office, Bangkok.
7. Classroom and Workshop Tested Games, Puzzles and activities for elementary school, Kinghorn Harriet, Parker Publishing Company, New York, 1975.
8. Elementary Education – Experiences and Expectations – Sharma S N., Kanishka Publishers, New Delhi, 1995.
9. Primary Education in India, World Bank Washington, New Delhi Allied Publishers, 1997.
10. Improving Reading Skills – Bhardwaj Amita, New Delhi, Sarup and Sons, 1997.
11. Counting and Measuring – Churchill E M, London, Routledge, Kaganpaul, 1961.
12. The Primary Teacher in Action, Boydell, D., London Open Books 1978.
13. Innovations in Teaching Learning process by Chauhan S, Vikas Publishing, New Delhi, 1979.
14. Creativity in Classroom, Deshmukh, M N, S Chand & Co, New Delhi, 1984.
15. Innovative Teaching through Games by Sampat Vrithi and Others, Regency Publication, New Delhi 1997.
16. Action Research to improve School Practices by Corey S N, New York, Teachers College, Columbia University, 1953.
17. Practical Classroom Research by Teachers by Corey J.M. and Shukla J.K., New Delhi, Maragh Publication, 1962.



### **Key Points about Action Research**

1. Action Research takes place in an immediate situation.
2. It is performed collaboratively.
3. It is a scientific attempt to put practices, ideas and assumptions to test.
4. It is participatory; it is a research through which people work towards the improvement of their own practices.
5. It is an approach for improving education by changing it and learning from the consequences of changes.
6. It begins with small groups of collaborators, but widens the community of participating action researchers.
7. It is a cyclical process of planning, action, observation and reflection.
8. It offers a flexible approach to School improvement through critically informed action and reflection.
9. It simultaneously assists in practical problem-solving and expands scientific knowledge.
10. RESEARCH is used to evaluate ACTION and ACTION provides an experimental situation for RESEARCH.

Hult and Lenning (1980)

Kemmis and McTaggart (1988)

## Action Research - The Process

The starting point of the Action Research is the genuine concern of the people to improve whatever is happening around them. To find out the felt difficulty or dissatisfaction; a deficiency, defect or weakness of any other kind from the working atmosphere, method or tools, one should be open-eyed and open-minded. They have to LOOK with CONCERN.

**LOOK** at what causes one concern; what one's concerned about; what needs to be improved. The concern may be related to classroom teaching, discipline, administration or any situation in the community. Once the concern is identified, questions are posed. This helps to focus upon the problem and analyze it. Such questions which ask – why things are, what they are and how can they be improved – make up the **Research Questions**.

The Concern and Research questions serve as the starting point for the ACTION RESEARCH. Then the research goes through repeated cycles of planning, action, observation and reflection.

**PLAN** – Evolution of the plan is borne out of the discussions with collaborators, colleagues and others. A review of literature may help in choosing strategies and alternate methods. Expert's opinion or sheer intuition also help in the evolution and drafting of the plan.

Various alternatives are thought of and critically analyzed. Finally, one or two strategies may be tried. The solution to the problem is hypothesized. The plan should be flexible but well defined, feasible and plausible in the existing situation.

**ACT** is the deliberate and controlled implementation of the plan. It is a careful and well thought of variation of the existing practice. The plan is carried out step by step.

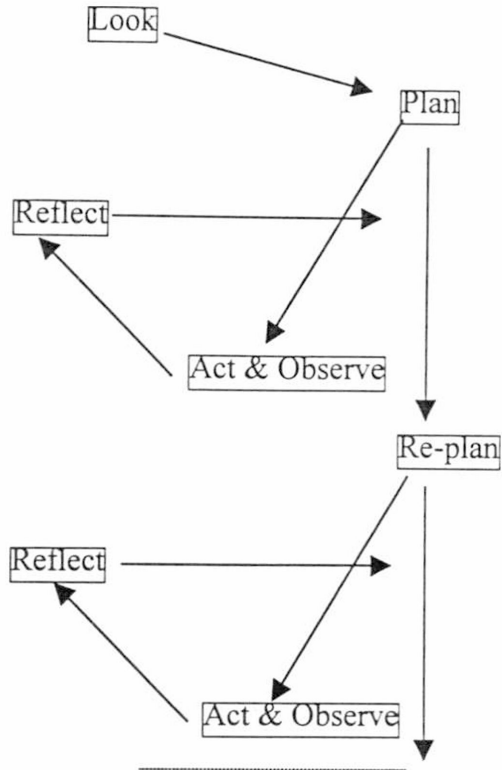
**OBSERVE** – When the change is being put to test, there should be clear, elaborate and careful documentation of the effects of the changed practice. The collected data may be qualitative or quantitative. Utmost care and sincerity should be exercised in documenting the evidence, as this provides the basis for Reflection.

**REFLECT** - The scrutiny of the data brings out the efficacy of the changed action. If the research yields positive result, the new procedure catches the interest of the colleagues, faculty of the other schools and later of the district and the state in ever increasing subsequent cycles. On the other hand, if the research has not yielded positive results, alternate

strategies can be planned and the cycle of Replan – Act – Observe and Reflect can be set into action.

**VALIDATION** Validation is done by analyzing the data. Quantitative data needs statistical analysis and qualitative data demands requisite procedures to validate it. Reporting the research leads to critical and constructive discussions among the like minded people.

## ACTION RESEARCH SPIRAL



## MOVES IN ACTION RESEARCH

LOOK	PLAN	ACT	OBSERVE	REFLECT
<ul style="list-style-type: none"> <li>• Concern</li> </ul>	<ul style="list-style-type: none"> <li>• Collaborator</li> </ul>	<ul style="list-style-type: none"> <li>* Change in action</li> </ul>	<ul style="list-style-type: none"> <li>* Evidence for change</li> </ul>	<ul style="list-style-type: none"> <li>• Findings</li> </ul>
↓	↓			↓
<ul style="list-style-type: none"> <li>• Research Questions</li> </ul>	<ul style="list-style-type: none"> <li>• Evolution of the plan</li> </ul>			<ul style="list-style-type: none"> <li>• Validation</li> </ul>
→	↓	→	→	
	<ul style="list-style-type: none"> <li>• Proposed change in practice</li> </ul>			
	→			

## LOOK

### Concern

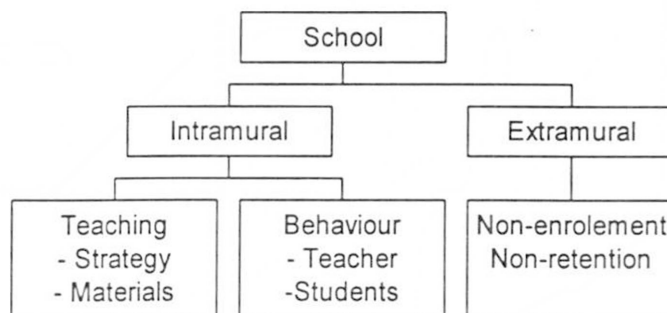
#### *Nature*

- Problem/ issue/something that causes dissatisfaction
- Situation / strategy / practice that needs to be /could be improved.
- General / specific.
- Clear / ill-defined

#### *Sources*

- Self introspection – reflecting on each lesson, making notes and planning for improvement or a different treatment while teaching next time.
- Students : behaviour, performance (written, oral and practical) and questions / doubts/ comments.
- Colleagues : Discussion / comparing notes.
- Parents : Complaints / remarks.
- Community : Conversations
- Press (educational columns)

#### *Areas*



**Selection :** To be determined by the teacher's jurisdiction and capacity to effect any change.

## Research Questions

- What -       What do we want to change ?  
              What change do we want to effect ?  
              The subjects in whom we want to see the effect of the change.  
              Stated in simple and unambiguous words.
- Why -        Help in delineating the concern.  
              Compel us to analyse the situation  
              Give a proper direction to action research.  
              Help in determining and stating the objectives.

## ACTION RESEARCH is Collaborative

- Identify parties concerned
  - Form groups
1. Evolution of the Plan :
- Evolve a plan through discussion with colleagues and identified parties.
  - Expert counselling / opinions.
  - Sheer intuition.
  - Professional reading (review of related literature and studies).
2. Proposed change in Action (practice)
- What strategies can be adopted to effect a change for better ?
  - Various alternatives may be considered.
  - Selection of one or two action strategy(ies).
  - The solutions to the problem have to be *hypothesized*.
  - Plan for change should be forward looking.
  - Flexible enough to adapt under the existing conditions.
  - *Methodology* to be decided for the Study.

## PLAN

### *Questions to be kept in mind while planning*

- What is the Study about ?
- Why is the Study being made ?
- Where will the Study be carried out ?
- What type of data is required ?
- Where can the required data be found ?
- What periods of time will the Study include ?
- What will be the sample design ?
- What techniques of data collection will be used ?
- How will the data be analysed ?
- What will be the style of reporting ?

### *How to go about Planning ?*

- Use your experience and intuition.
- Discuss with your collaborators, colleagues and experts.
- If possible, do professional reading of relevant literature.
- Revise / Refine the plan based on feedback from
  - Collaborators, colleagues and experts
  - Pilot Study

### *Characteristics of a Good Plan*

- Objective/Goal oriented
- Forward looking
- Flexible : Sensitive to context and constraints

### *How to make the Plan succeed ?*

- Plan together
- Plan all aspects of the programme
- Put the plan in black and white
- Obtain continuous feedback – make adjustments if necessary
- Communicate the plan to your collaborators
- Adhere to the time schedule
- Don't lose track of the goals at any stage of the operation
- Keep in mind your strengths and constraints while planning
- Keep reviewing the programme in the context of the plan
- Choose a small problem to begin with : success gives confidence.
- Remember : Plan is not the end nor is it sacrosanct.

## ACT AND OBSERVE

### Execution of Action Research

The success of any action research depends on the way in which it is executed. The effective execution of action research always depends on the following :

- \* Components : Meaningful, purposeful and goal-directed activity/ies.
- \* Data : The data should be collected through appropriate and suitable tools and should be adequate and dependable;
- \* Course : Sequential and logical arrangement of the designed tasks;
- \* Time frame : Proper time allocation to the proposed task and its completion within that time frame;
- \* Recording : All the evidences have to be recorded and maintained diligently with proper coding so that smooth analysis of the data can be carried out;
- \* Field check : Occasional field check is necessary to judge the authenticity of the data collected.

#### 1. ACT

##### **The Change of Action**

- Deliberate Implementation of the Plan
- Careful and thoughtful variation of the existing practice
- Flexibility
- Tool Preparation

#### 2. OBSERVE

##### **Evidence for Change**

Action researcher has to collect adequate evidence for the effectiveness of the change of action. The evidences have to be gathered through **multiple sources.**

There are *several methods* of collecting data.

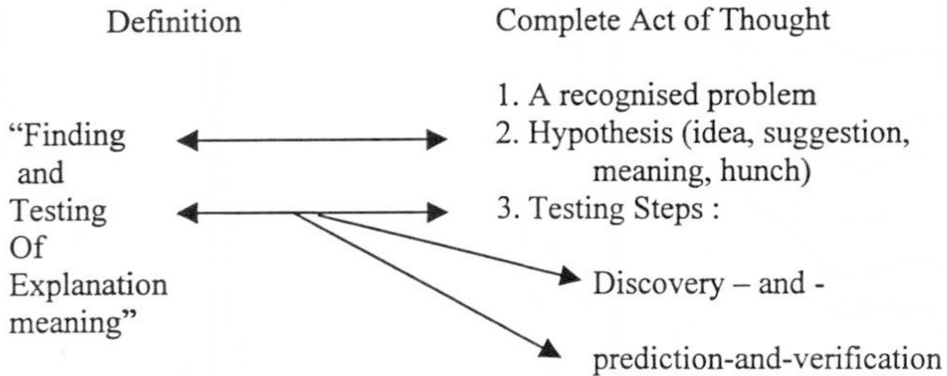
- Observation method
- Interview method
- Questionnaire
- Schedules (Proforma containing a set of questions)
- Tests

Apart from these methods, the evidences collected through documents such as **school records, cumulative records, mark registers and teachers' diaries** also help in getting better insights while analysing and interpreting the data.



## REFLECT

“Thinking is finding and testing of meanings” (Boyd H. Bode, 1921)



**Reflect** is a basic process of thinking to assess the action undertaken to solve the problem and the observation documented with utmost care and sincerity.

- Observing the action and data collected;
- Approving of the activity, strategy or method used;
- Finding patterns and generalization in them;
- Forming conclusions based on observations;
- Assessing conclusions based on observations;
- Thinking critically – identifying unstated assumptions; and
- Confirming conclusions with facts.

### **Tools**

In any type of educational research, tools are essential to collect necessary data. Depending on the nature of problem under investigation, a researcher has to select from the available tools which would provide data he needs for testing hypotheses. If the available tools do not suit, then a researcher has to prepare one which suits his problem under investigation. For this it is necessary to acquaint with different types of tools. The major research tools are classified as follows:

1. Psychological tests
2. Inquiry forms
3. Observation
4. Interview and
5. Sociometric Techniques

#### **1. Psychological Tests**

The most useful tools of educational research are psychological tests. They are designed to measure intelligence, aptitudes, creativity,

achievement, personality traits, interests, attitudes, etc. As these tests are objective and standardized, they are mostly used in educational research.

*Development of Test* : When available tests are not suitable to the problem under investigation, a researcher may have to develop a test. The procedure to be followed in developing a test is as follows.

*Planning*: While developing a test, a researcher should first think of the purpose, time, cost and sources. The nature of population for which the test is intended should be clearly defined. Researcher also has to plan the length of test, type of test items and method of scoring.

*Preliminary Draft* : After planning for the test, researcher has to prepare a preliminary draft items. While preparing the draft items he has to consult the existing tests in the area. The preliminary draft must have more than double the items required for the test. Items are then edited and carefully worded. These draft items are to be given to experts for their comments.

*The Tryout*: The preliminary draft then is to be administered to a tryout sample. The responses of subjects are to be scored according to the scoring key.

*Item analysis*: In order to assess how far each item, of the preliminary draft is able to discriminate from high and low groups, item analysis is carried out. Only then test items which are able to discriminate between high and low are retained and remaining items are removed.

*Final draft*: Final draft consists of those items which are accepted in the item analysis. This final test would be administered to the original sample.

## **2. Inquiry Forms**

Inquiry forms gather information about a phenomena under study. Questionnaire, schedule, checklist, rating scale and opinionnaire or attitude scale are some of the important tools coming under this category.

### *Questionnaire*

Questionnaire consists of questions to obtain necessary information from the respondents. It is a popular and widely used tool to collect data in educational research. It may either be administered personally or sent through mail to the respondents. In a questionnaire, questions may be in closed or open form.

#### *Guidelines for preparing a questionnaire*

1. The objectives of the study should be reflected in the questions.
2. Questionnaire should motivate the respondents to communicate required information.

3. Language used in the questionnaire should be suitable to the level of respondents.
4. Questionnaire should ask such questions for which information is available with respondents.
5. There should be no leading questions in the questionnaire.
6. Questions should be arranged in a logical sequence.
7. Questionnaire should not be too lengthy.
8. Questions should be given to experts for assessing their relevance.
9. Questionnaire should be tried out in a tryout sample.
10. Validity and reliability of the questionnaire need to be established.

*Schedule:* Schedule is a device consisting of a set of operations which are asked and filled by the researcher in a face-to-face situation.

*Checklist:* A checklist is a simple device consisting of a list of items relevant to the problem under study. The respondent/observer would indicate the presence or absence of the items by checking 'yes' or 'no' in the space provided against each item.

*Rating Scale:* Rating scale consists of a set of points which describe varying degree of the dimension of an attribute being observed. There are number of rating techniques which enable the observers to ascribe numerical values or ratings to their judgements of behaviour. These techniques are - 1. Numerical scales, 2. Graphic scales, 3. Standard scales, 4. Rating by cumulative points and 5. Forced choice ratings.

*Numerical Scales:* In these types of scales, a sequence of defined numbers is supplied to the observer. The observer assigns to each item, an appropriate number to indicate his rating.

*Graphic Scales:* In this scale, against each item, a line is provided, with a response continuum. The rater will provide his judgement on that item by checking one point in this continuum.

*Standard Scales:* In Standard scales a set of standards is provided to the rater. The standards are usually objects of same kind to be rated with pre-established scale values.

*Rating by cumulative points:* The unique feature of this type of rating is in the method of scoring. The rating score of an individual is the sum of the weighted or unweighted points.

*Forced choice ratings:* In this method the rater is asked to say whether an individual has more of one trait than another of a pair.

### *Guidelines in preparing a rating scale:*

1. A clear definition of the trait to be rated should be provided.
2. Rating scale should have a relevant and suitable response continuum, to the trait that is to be rated.
3. Though there is no strict rule on the number of scale divisions to be used, it is advisable to have 5 to 7 point scales.

### *Opinionnaire or Attitude Scale*

The inquiry form that attempts to assess the attitude or belief of an individual is known as an opinionnaire or attitude scale.

### **3. Observation**

In the process of observation, an observer observes the happenings in real life situations and record them according to a pre-planned scheme. Proper planning, implementation and recording is necessary for effective observation.

*Planning:* While planning for observation following factors are to be considered.

1. Definition of specific activities to be observed
2. Length of observation
3. Scope of observation
4. Recording procedures
5. Training of observers

*Implementation:*

1. Focussing attention on the specific activities to be observed.
2. Using appropriate recording procedures.

*Recording:* The recording may take place either simultaneously or soon after observation observer should take precaution to minimize the influence of his bias, attitudes and feelings on the observation report. Anecdotes, time sampling method, incident sampling method and diary method may be used in recording.

The advantages of observation method are - (1) it is an effective way to gather data in a particular situation, and (2) behaviour is recorded at the time of its occurrence. The important limitations are - (1) subject may hide his behaviour when he knows that he is being observed and (2) it is time consuming.

### **4. Interview**

The interview is a process in which researcher would collect necessary information or data from the subjects in a face-to-face situation. Interviews are classified as 'structured' and 'unstructured'. Standardized and predetermined procedure is followed in structured interview to collect relevant

information. Unstructured interview is flexible. Though the procedure and questions to be asked are decided in advance, researcher is free to modify them depending on the situation. The advantage of interview is that, it helps to gather more information. Limitations of interview are that it is time consuming and efficacy mostly depends on the skill of interviewer.

## **5. Sociometric techniques**

Sociometric techniques attempts to describe preferences between members of a group. Some of the important sociometric techniques are - sociogram, sociometric matrices, guess who techniques and social distance scale.

Sociogram may be used by a classroom teacher to study the interpersonal relationships of their class. A sociometric matrix is a rectangular arrangement of numbers indicating the choices of the group members. In guess - who technique, students are asked to read a descriptive statement and asked to write down the name of student who best fits the description. Social distance scale is another technique to measure social relationship.

The advantage of these techniques is that they are easy to administer and interpret. The limitations are - information provided is limited by the nature of sociometric questions and individuals do not reveal the reasons why they preferred some members of the group.

## Analysis and Interpretation

Analysis is an essential and important component of any research or systematic experimentation. In this case, it may include :

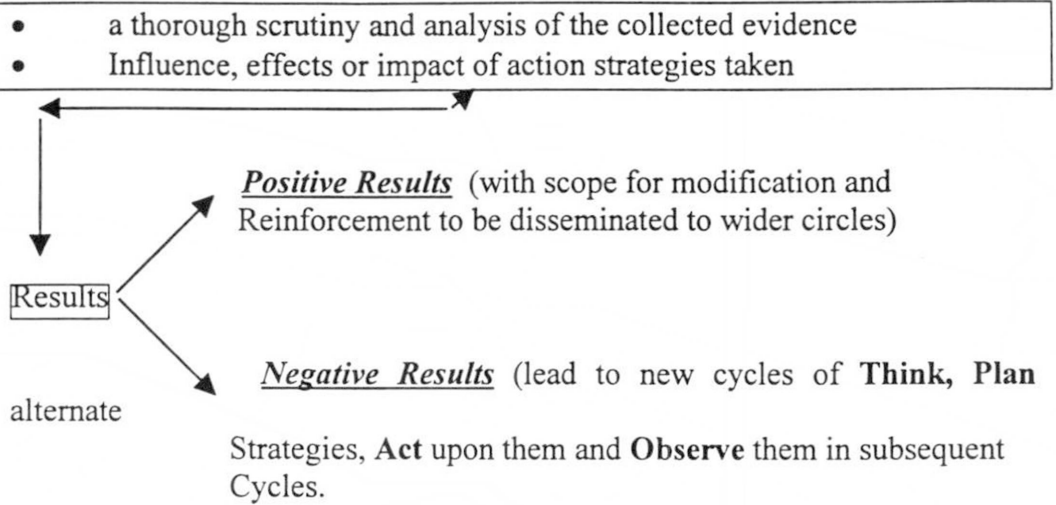
- A brief description of the course or progress of the action programme as planned and carried out.
- A critical analysis or qualitative evaluation of the programme (process in particular) emphasizing the strengths and weaknesses, the plus points and the minus points, difficulties encountered and ways of overcoming them, objective-subjective perceptions of the target groups and participants etc. (Separately, or integrated with the above description).
- Qualitative evaluation of the 'outcomes' or 'effects' assessed through continual observation and other informal and formal techniques of evaluation and depicting the trends of changes/gains; variables - taken in wholes or in components (like different levels/kinds of achievements, cognitive abilities, etc).
- Descriptive statistics, giving pictures of the initial, intermediate and final positions, extent of changes or gains, comparisons between such positions etc (as appropriate).
- Graphical representation of initial and final positions, and more importantly of the extent of gain.
- Inferential statistics, testing the significance of difference between the initial and final positions and such other statistics as appropriate.

These may be done separately for different target groups or institutions. The above would yield kinds of findings of the action research.

These may be **interpreted** in terms of their meaning, significance, cause-effect relationships, implications for practice and change, etc (not necessarily as additions to knowledge); they may also be compared with findings in similar (not identical) or comparable projects; and together they may yield moderately valid generalizations on viable alternatives, superior strategies and practices (though the intention was not to seek generalized inferences and conclusions).

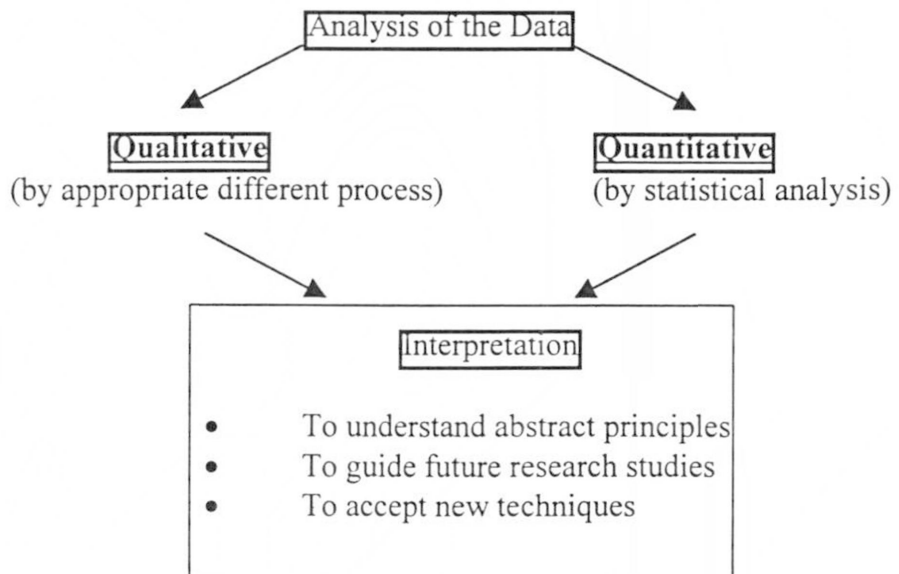
## FINDINGS

*Findings based on :*



## VALIDATION

Each act of finding calls for explanation; each prediction needs to be verified.



## REPORT WRITING

### PREPARATION OF THE REPORT

- Logical analysis of the subject matter
- Preparation of the final outline
- Preparation of the draft
- Preparation of the Final Draft
- Compilation of Bibliography (Name of the Author(s); Title; Place/Publishers/year; Number of Volume/Journal).



## Preparation

### Preliminary Pages

- Acknowledgement
- Foreword
- Table of Contents
- List of Tables
- List of Illustrations

### MAIN TEXT

- **Introduction** Importance of the skill/ achievement
- **Look** Concern  
Probable Causes  
Possible changes in action to improve the  
Existing situation/context  
Proposed change in  
action/strategy(including Appropriate  
Learning aid)
- **Action Hypotheses**
- **Statements of Objectives**
- **Plan** Collaboration  
Evolution of the Plan  
Procedure (strategies spelled out in  
Respect of Time, space, focus and thrust)  
Techniques/tools – Principles on the  
basis of which these are prepared  
(variables, parameters, objectives)
- **Act & Observe**  
Implementation Procedure briefly  
explained.  
Details of any new innovative strategy/  
learning aid if any  
Methods of administering tools for data  
collection.
- **Analysis**
  1. Qualitative
  2. Quantitative – frequency tables,  
bar graphs, etc.
- **Reflection** Findings from 1. Qualitative data and  
From 2. Quantitative data,  
Interpretation
- **Limitations**
- **Suggestions for further improved study**
- **Conclusions**

### END MATTER

- **Annexure** (Questionnaire/tools used, data  
Spread sheet, diary, etc)
- **Bibliography**

## TRANSACTIONS

## Brief Summary of the Proceedings of the workshops

### Workshop I :

27.1.99

The first workshop under Action Research Project for the Primary School teachers of Union Territory of Pondicherry was inaugurated on 27.1.99 at 10 am by Mr G Panneerselvam, Director of Education, Govt of Pondicherry. In his inaugural address he observed that Action Research is a new concept which has picked up some momentum of late in Indian Education. In fact, few states have started encouraging Action Research among the teachers. He expressed happiness that Regional Institute of Education has come forward to train the primary teachers and DIET faculty of Union Territory of Pondicherry in conducting Action Research. He advised the teachers and the DIET faculty to take the tasks assigned to them seriously and work seriously for the success of the project. Dr B S Upadhyaya, Project Coordinator in his key note address explained the importance of Action Research for the classroom teachers - for providing 'local solutions' to 'local problems'. He explained the background under which this project was taken up. He gave the objectives of the project as well as its design - the sequence of activities in different phases of the project. He thanked the Director of Education, Union Territory of Pondicherry for reposing faith in the RIE faculty for carrying out this innovative project. Mr E Venu, Deputy Director of Education (W), who was one of the special invitees also gave a special address. The programme started with a welcome speech by Mr A Ramadas, Principal of DIET Pondicherry, who is also the Administrative Coordinator of this project. The inaugural session ended with a vote of thanks by Mr R Gopal, Lecturer, DIET, Pondicherry.

The workshop was attended by all the forty teachers selected for the project and the ten collaborating DIET faculty members.

In the second session, Dr Upadhyaya gave a detailed account of the planned training. The Approach Paper - 'Action Research - A Concept' was presented by Mr P R Rao. He started with the salient features of Action Research - what it means - its importance for classroom teachers to find local solutions to local problems without waiting for the intervention by the higher ups.

The afternoon session started with a discussion on concerns faced by the teachers in their classrooms - what is it that is worrying them in their classrooms that they want to improve - How to state these concerns? With the initiation for thinking about the concerns, the next session was devoted for the identification, listing and prioritization of the concerns. Each teacher was asked to think and list what his concern was and prioritize them.

28.1.99 :

On 28.1.99, the morning session started with the presentation of the prioritized list of identified concerns by each teacher. In the next session, there was a detailed discussion on the different steps of the Process of Action

Research - viz Plan, Act and Observe and Reflect. The third session of the day was devoted for reinforcing the theoretical discussions of the morning session with suitable illustrative examples of Action research. Meanwhile the project team had gone through the prioritized lists of concerns prepared by each teacher and selected 20 Action Research concerns. Each of these 20 Action Research concerns were allotted to 2 teachers each according to the priorities indicated by them. Each one of the ten DIET faculty members were associated with each of the Action Research teams of two teachers as collaborators.

The last session of the day was devoted to the group work on the preparation for the development of Action Research proposals by each group with the guidance of the project team and the collaborating DIET faculty.

29.1.99:

Whole morning of 29.4.99 was devoted for the development of the Action Research proposals and writing them in the formats prepared by the project team for this purpose.

In the afternoon, each group presented its Action Research proposal. There was detailed discussion after each presentation. The feedback was noted down and the Action Research teams were asked to rewrite their proposals based on these feedback.

30.1.99:

Presentation of the Action Research proposals and their discussion continued for the first three sessions on 30.1.99. In the last session of the day, there was discussion on the Tools/Techniques for data collection.

31.1.99:

The first two sessions of 31.1.99 were devoted for the finalization of the Action Research proposals based on the feedback given by the Project Team. In the afternoon there was group work on the development of blue print of tools/techniques for the collection of data during the implementation of the Action Research Intervention. The first workshop ended with a discussion on the preparations for workshop II. Tentative time schedule of the 2<sup>nd</sup> workshop to be held from February 15 to 17, 1999 was prepared and supplied to each team. Checklists indicating the tasks to be completed by the teachers and the collaborating DIET faculty between February 1, 1999 and February 14, 1999 prepared by the project team was also distributed.

## **Workshop II :**

15.2.99:

During the recess between the first and second workshop, the teacher-action researchers had been assigned with the following tasks.

1. Finalize the Action Research proposals
2. Develop the tools/techniques required for data collection
3. Prepare day-wise time table for the implementation of the Action Research Intervention.
4. Prepare/collect Teaching-learning materials required for the implementation of the changed strategy.

This workshop was mainly intended to present the above, before the Project team for further review if necessary. The workshop was also intended to give the Teacher-Action Researchers a clear idea about the Data Analysis and Interpretation so that as soon as the data is collected, they would be able to analyze and interpret the data. So on the first day there was a detailed presentation of each of the finalized Action Research proposals. Small changes if any suggested by the project team was incorporated.

16.2.99:

On the second day, the first three session were devoted for the presentation by each Action-Research team, the tools they had prepared for the collection of data. The tools were finalized based on the feedback. The last session of the day was utilized for the presentation and finalization of the daywise time schedule for the implementation of the changed strategy.

17.2.99:

On the last day, there was lecture by Dr U Lakshminarayana on Data Analysis and Interpretation. The importance of both qualitative and quantitative data and their role in interpretation of the outcome was discussed. Simple statistical tools that can be employed for the quantitative analysis were discussed in detail giving concrete examples. Next there was a lecture on report writing – structure, format, language, style, textual presentation, graphical representation were discussed.

Afternoon session was devoted for discussion on the planning for workshop III. The tasks to be completed before coming to the workshop III were discussed. The Teacher-Action Researchers were asked to analyze the data they have collected and draw raw findings from them. Under the guidance of the collaborating DIET faculty they were also asked to start writing the draft reports.

### **Workshop III:**

16.4.99 to 20.4.99

This workshop was intended to finalize the draft reports prepared by the Teacher-Action Researchers with their collaborating DIET faculty. It was also intended to prepare and finalize the abridged versions of the Action Research reports. On the first day, the session started with each teacher narrating his/her experiences during the implementation of the Action Research Intervention. They narrated the wonderful cooperation extended by

the Headmasters, other colleagues as well as students in their endeavour. Some of them even received help and appreciation from the parents as well as outside people. Except one teacher every teacher reported nice experiences.

Next two sessions were utilized for the completion of the writing of the draft reports. The draft reports were presented by each team. This was followed by discussions and feedback.

The presentation of the draft reports continued for the whole of the second day also.

On the third day, the reports were rewritten based on the feedback got. In all 20 Action Research Reports are ready in their final form now.

Next day, i.e. on 19.4.99, in the first session writing of the Abridged versions of the report was discussed in the format developed by the project team. This was followed by group work on writing the abridged versions of the Action Research reports.

On 20.4.99, the last day, in the morning sessions, the abridged versions were presented and finalized based on the feedback. An exhibition of the teaching-learning aids used during the action research intervention was also organized. In the afternoon first session, the questionnaires prepared by the Project team for the purpose of evaluation of the programme was distributed and participants were asked to fill them up. Their responses were immediately analyzed.

The workshop ended with the valedictory address by Mr G Panneerselvam, Director of Education, Union Territory of Pondicherry.

**ABRIDGED VERSIONS  
OF ACTION RESEARCH REPORTS**

## ABRIDGED VERSION OF THE REPORT

### TITLE OF ACTION RESEARCH:

Making the students of classes I & II more attentive throughout the day

A.

**Action Researchers :** 1. Mr R Bashiyam  
2. Mr M Veerappan

**Area:** General

<b>Schools:</b>	<b>Strength of Target Groups:</b>
1.GPS, Sanarapet	1. 44
2.GPS, Nainarmandapam	2. 56

B.

### LOOK

#### **Concern:**

Students of I and II Std are found to be inattentive and inactive during the III and IV periods and in the afternoon sessions.

#### **Action hypothesis:**

Selected activities involving simple assessment activities, songs, drawing pictures and physical activities will improve students' attentiveness in the class.

### PLAN

#### **Collaborators:**

Mr R Gopal, Lecturer, DIET  
Mr G Gaspar, SGT, GPS, Sanarapet  
Mrs P Rajalakshmi, SGT, PGS, Nainarmandapam

#### **Evolution of the Plan:**

Discussion with the collaborating teachers and DIET faculty and by discussion with the resource persons from RIE, Mysore.

### ACT & OBSERVE

#### **Implemented Strategy:**

Between two successive periods (III & IV) and VI and VII, simple assessment activities like colour cancellation, spotting, drawing, songs, simple physical activities were given to the students of classes I and II.



**Tools and Techniques for data collection:**

Pre-test, Post-test

10 Behavioural Indicators (observed by the Researcher)

**ANALYSIS**

**Evidence for Change:**

By observing students during the four weeks period, from the analysis of pre-test and post-test.

**REFLECTION**

**Findings:**

The students of classes I and II can be motivated to become active and attentive throughout the day, when simple assessment activity, simple songs, and simple physical activity are taught to them in between two successive periods.

**SUGGESTIONS FOR FURTHER IMPROVED STUDY**

Further study may be undertaken in only one type of activity namely 'songs'.

## ABRIDGED VERSION OF THE REPORT

### TITLE OF ACTION RESEARCH:

Improving the skill of conversion in 'Metric Measures' among class IV students

A

#### Action Researchers:

1. Selvi P M Muthulakshmi
2. Mrs S Vany

**Area:** Mathematics

#### Schools:

1. G M S, Manapet
2. GPS, Thondamanathan

#### Strength of Target Groups:

1. 31
2. 35

B

### LOOK

#### Concern:

In class IV, when the students' performance on 'Metric measures' was assessed it was found that they were unable to convert a given unit into its multiples or submultiples.

#### Action hypothesis:

Guided group activities aimed at establishing the inter-relationship among multiples and sub-multiples of a unit and drilling technique will improve the skill of conversion in 'Metric Measures' among the class IV students.

### PLAN

#### Collaborators:

Mrs B Gnanambal, Lecturer, DIET

#### Evolution of the Plan

1. Intuition of the Action Researchers
2. Detailed discussion with colleagues and DIET faculty

### ACT & OBSERVE

#### Implemented Strategy:

By way of (1) recalling the basic units, (2) experiences of actual measurements in establishing the inter-relationship among the multiples and submultiples of a given unit through guided group activities and (3) drilling through solving problems and home assignments the skill of conversion is reinforced.

\

**Tools and Techniques for data collection:**

1. Pre-test, 2. Post-test,
3. Researcher's Activity diary,
4. Observations of collaborating DIET faculty,
5. Feedback from students.

**ANALYSIS**

**Evidence for change:**

1. Performance of the students in Pre-test and Post-test,
2. Perusal of Researcher's activity diary and
3. Comments of DIET faculty

**REFLECTION**

**Findings :**

Guided group activities and drilling improved the skill of conversion in class IV Standard as evident from the increase of 42% in scores from the Pre-test to Post-test.

**SUGGESTIONS FOR FURTHER IMPROVED STUDY:**

For a higher percentage of success, one may take the same topic for research with more emphasis on drilling.

## ABRIDGED VERSION OF THE REPORT

### TITLE OF ACTION RESEARCH :

Improving the skill of division of three digit number by single digit numbers among class V students

#### A

##### Action Researchers:

1. R Elumalai, SGT
2. M Arunagiri, SGT

Area: Mathematics

##### Schools:

1. GPS, Odiampet
2. GPS, Karayambuthur

##### Strength of Target Groups:

1. 30
2. 53

#### B

#### LOOK

##### Concern:

The students of class V are lacking the skill of division of three digit numbers by single digit numbers. They do not know the application of tables in division and the way to check the answers after division.

##### Action hypothesis:

The skill of division of three digit numbers by single digit numbers can be improved through group activities and drilling practices.

#### PLAN

##### Collaborators:

Tmt B Gnanambal, Lecturer in DIET

##### Evolution of the Plan:

Self experiences and intuition of the researchers.  
Suggestions from the colleagues of two schools.  
Discussion with the DIET faculty

#### ACT & OBSERVE

##### Implemented Strategy:

1. Group activities for division of one digit, two digit, three digit numbers by single digit numbers.
2. Drilling practices in the application of tables in division.
3. Drilling practices in the division of different types of three digit numbers and checking of answers.

**Tools and Techniques for data collection:**

1. Pre-test and post-test
2. Perusal of Activity Diary
3. Feedback from the students

**ANALYSIS**

**Evidence for Change:**

1. Analysis of the pre-test and post-test
2. Analysis of the activity diary
3. Comments of DIET faculty

**REFLECTION**

**Findings :**

The skill of division of three digit numbers by single digit numbers among class V students have improved through group activities and drilling practices by 27%.

**SUGGESTIONS FOR FURTHER IMPROVED STUDY:**

1. Exposing the students for more drilling practices may further improve the skill of division.
2. Peer group learning may arouse the interest in learning division.

## ABRIDGED VERSION OF THE REPORT

### TITLE OF ACTION RESEARCH:

Improving the basic skill of addition for the students of second standard

#### A

##### Action Researchers:

1. R Anbalagan, SGT
2. R Muthusamy, SGT

##### Area:

Maths Addition Skill (upto two digits)

##### Schools:

1. GPS, Randasozhanallur
2. GPS, Bahour Pet

##### Strength of Target Groups:

- |    |    |
|----|----|
| 1. | 35 |
| 2. | 32 |

#### B

#### LOOK

##### Concern:

Students of school standard lack the skill of addition of numbers between 0-99 involving carrying over.

##### Action hypothesis:

Selected group activities using colour beads, flash cards, maths kit, place value box and abacus will improve the skill of addition involving carrying over in the second standard students.

#### PLAN

##### Collaborators:

1. Smt P Oucharani, Lecturer, DIET faculty
2. Smt P Usha, SGT, GPS, P S Nallur
3. Smt J Vatchala, SGT, GPS, P S Nallur

##### Evolution of the Plan:

1. By self experience and intuition
2. Discussion with colleagues
3. Discussion with DIET faculty members

#### ACT &

#### OBSERVE

##### Implemented Strategy:

1. The importance of place value was emphasized.
2. Application of the understanding of the concept of place value in doing addition involving carrying over.
3. Transfer of learning using concrete object to solving problems without the objects.

**Tools and Techniques for data collection:**

1. Pre-test and Post-test
2. Action Researcher's activity diary
3. Observations of collaborating DIET faculty
4. Feedback from the students.

**ANALYSIS**

**Evidence for Change:**

1. Analysis of the performance of students in pre-test and post-test. The mean in pre-test 33.3 was increased to 68.9 in the post-test.
2. Perusal of the Action Researcher's Activity Diary
3. Increased involvement of the students in the classroom process.
4. Opinions of the collaborating DIET faculty

**REFLECTION**

**Findings :**

The process based guided activities have improved the class III students in the basic addition skill.

**SUGGESTIONS FOR FURTHER IMPROVED STUDY:**

Selected group activities like place value boxes, flash cards and abacus only may be taken for further study.

## ABRIDGED VERSION OF THE REPORT

### TITLE OF ACTION RESEARCH:

Improving the ability to arrange numbers in ascending and descending order among class II students.

### A

#### Action Researchers:

1. K Lingasamy, SGT, GMS, Pannithittu
2. S Ravsandhiran, SGT, GMS, Nallavadu

Area: Mathematics

#### Schools

1. Govt Middle School, Pannithittu
2. Govt Middle School, Nallavadan

#### Strength of Target Groups:

1. 27
2. 35

### B

### LOOK

#### Concern:

Children of class II identify the numbers but are unable to arrange in ascending and descending order when the numbers are given at random.

#### Action hypothesis:

Guided activities using graded exercises and flash cards will improve the V standard students' ability in arranging numbers in ascending and descending order when given at random.

### PLAN

#### Collaborators:

Smt P Oucharani, Lecturer in DIET, Pondicherry

#### Evolution of the Plan:

By intuition, Discussion with DIET faculty, Discussion with colleagues

### ACT &

### OBSERVE

#### Implemented Strategy:

1. Guided exercises were given for comparing two numbers.
2. Flash cards were used to arrange numbers in ascending and descending order when given at random.
3. More graded exercises were given to arrange numbers in ascending and descending order when given at random.



**Tools and Techniques for data collection:**

Pre-test and Post-test,  
Action Researchers' Activity Diary

**ANALYSIS**

**Evidence for Change:**

Analysis of the students' performance in the pre-test and post-test.  
Observation of the students' involvement and enthusiasm as evident from the activity diary.

**REFLECTION**

**Findings :**

There is an increase of 39.2 marks in the performance of the students from pre-test to post-test.  
The guided activities using graded exercises and flash cards have improved the ability of the students in arranging numbers in ascending and descending order when given at random.

**SUGGESTIONS FOR FURTHER IMPROVED STUDY:**

## ABRIDGED VERSION OF THE REPORT

### TITLE OF ACTION RESEARCH :

Improving the subtraction skill of class III pupil involving borrowing and zeros

#### A

##### Action Researchers:

1. A Kuppuraj
2. V Jayabalane

**Area:** Mathematics

##### Schools

1. GPS, Jeevanandapuram Zone I
2. GPS, Velrampet, Zone II

##### Strength of Target Groups:

- 1.13
- 2.22

#### B

#### LOOK

##### Concern:

Though the learners of class III are conversant with simple types of subtraction not involving borrowing and zeros, they find it extremely difficult with subtractions where borrowing and zeros are involved.

##### Action hypothesis:

Graded and guided activities using the place value box, coloured beads, etc. can improve the skill of subtraction involving borrowing and zeros of class III pupils.

#### PLAN

##### Collaborators:

1. Mrs P Oucharany, DIET Faculty

##### Evolution of the Plan:

Action Researchers' own intuition, past experience and discussion with the DIET faculty helped them in evolving the plan.

#### ACT &

#### OBSERVE

##### Implemented Strategy:

1. Practice was given for mental subtraction of numbers ranging from 1 to 20.
2. Using the place value box, subtraction involving borrowing considering only two digit numbers (with zeros and without zeros) was practiced. Children were split into small groups and used the place value box for doing the problems. This procedure was extended to practise subtraction problems involving borrowing and zeros considering only 3 digit numbers and both 3 digit and 2 digit numbers.

**Tools and Techniques for data collection:**

1. Pre-test and Post-test – both written tests
2. Activity Diary of the two researchers.

**ANALYSIS**

**Evidence for Change:**

1. Analysis of the performance of the pupils in the pre-test and post-test.
2. Perusal of the Action Researchers' Activity Diary
3. Feedback from the pupils.

**REFLECTION**

**Findings :**

Graded and guided activities using the place value box, coloured beads, etc. have improved the skill of subtraction involving borrowing and zeros of class III pupils. We observed a gain of 47.1 marks in average.

**SUGGESTIONS FOR FURTHER IMPROVED STUDY:**

More number of individualised activities may be included in a future study.

## ABRIDGED VERSION OF THE REPORT

### TITLE OF ACTION RESEARCH:

Improving the handwriting skill in Tamil of I standard students

A

#### Action Researchers:

1. P Dharmambal
2. C Datchayany

Area: Tamil

#### Schools

1. Govt Primary School,  
Ecole Anglaise, Pondicherry
2. Govt Middle School,  
O K Palayam, Pondicherry

#### Strength of Target Groups:

1. 18
2. 23

B

LOOK

#### Concern:

The students are not able to write Tamil alphabets, words, sentences in two lines, four line note books properly.

#### Action hypothesis:

Systematic and guided activities will improve the handwriting skill of the I standard children.

PLAN

#### Collaborators:

Dr K Sridaran

Lecturer in Tamil, DIET Pondicherry

#### Evolution of the Plan:

1. Action Researchers own classroom experiences.
2. Discussion with DIET faculty
3. Headmasters/colleagues of concerned schools

ACT &

OBSERVE

#### Implemented Strategy:

1. Training to the students to write over shapes of the letters.
2. Training to write on four line notebooks
3. Training to write on two lines notebooks
4. Training to write on single line notebooks

**Tools and Techniques for data collection:**

1. Pre-test/Post-test
2. Observation of DIET faculty
3. Feedback from the students
4. Observation schedules

**ANALYSIS**

**Evidence for Change:**

1. Analyzing of pre-test and post-test
2. Perusal of the action research activity diary
3. DIET faculty comments

**REFLECTION**

**Findings :**

The systematic and guided activity improved the skill of handwriting.

All the students improved 33.7% to 90.25% in handwriting achievements significantly.

**SUGGESTIONS FOR FURTHER IMPROVED STUDY:**

## ABRIDGED VERSION OF THE REPORT

### TITLE OF ACTION RESEARCH :

Improving the transformations from colloquial to standard Tamil in class IV students

#### A

##### Action Researchers:

1. G Muthukrishnan
2. R Saravanan

Area: Tamil

##### Schools

1. Govt Primary School,  
Rayanpalayam
2. Govt Primary School,  
Serumavilangai

##### Strength of Target Groups:

1. 18
2. 13

#### B

#### LOOK

##### Concern:

Students are unable to understand the difference between colloquial and standard Tamil.

##### Action hypothesis:

Group activities will improve the understanding of the Transformations from colloquial to standard Tamil.

#### PLAN

##### Collaborators:

Dr K Sridaran

##### Evolution of the Plan:

By personal experience of the teacher/researcher.

Discussion with DIET faculty members.

#### ACT &

#### OBSERVE

##### Implemented Strategy:

Students are divided into groups. Peer groups selecting correct words. Each group collected colloquial form. Groups shared the transformation from colloquial to standard form.

**Tools and Techniques for data collection:**

Objective type written Test I and Test II.

Evaluation of the observation made by the student

**ANALYSIS**

**Evidence for Change:**

Analysis of the performance of the students in Test I and Test II evaluation.

**REFLECTION**

**Findings :**

The achievement has increased from pre-test to post-test. By using tape recorder improve the understanding of the difference between colloquial and standard Tamil.

**SUGGESTIONS FOR FURTHER IMPROVED STUDY:**

It may be tested whether the group activities will give more improvement in the transformation from colloquial to standard Tamil.

## ABRIDGED VERSION OF THE REPORT

### TITLE OF ACTION RESEARCH:

Improving the reading skill in Tamil for class III students

A

#### Action Researchers:

1. Tmt H Sanda Kumary
2. Tmt D Parameswary

Area: Tamil – Reading

#### Schools

1. GPS, Karasur
2. GPS, Perungalur

#### Strength of Target Groups:

- |    |    |
|----|----|
| 1. | 13 |
| 2. | 36 |

B

### LOOK

#### Concern:

Students of III std in the schools mentioned above have not been able to read Tamil properly.

#### Action hypothesis:

Model reading by the teacher, peer group reading, individual reading, group work and role play will improve the reading skill of students.

PLAN

#### Collaborators:

Dr R Thirumavalavan, Lecturer, DIET

#### Evolution of the Plan:

1. Discussion with DIET faculties
2. Discussion with Headmasters of the concerned schools and
3. Own experience

ACT &

OBSERVE

#### Implemented Strategy:

1. Pre-test
2. Training and drilling to read with correct pronunciation, pause and intonation
3. Training and drilling to read with correct punctuations
4. Training and drilling to read written manuscripts and printed books.
5. Training and drilling to read with comprehension
6. Post-test



**Tools and Techniques for data collection:**

1. Pre-test, weekly tests and post-test
2. Action Researchers' Activity Diaries
3. Collaborating DIET faculty's observations and opinions
4. Feedback of the students
5. Observation schedule and
6. Checklists

**ANALYSIS**

**Evidence for Change:**

1. Analysis of pre-test and post-test
2. Perusal of Action Researchers' Activity Diaries
3. DIET faculties comments
4. Observation schedule

**REFLECTION**

**Findings :**

From the analysis of the pre-test and post-test of the Action Research the following findings are :

1. Attendance of the students increased to 100%.
2. 11 out of 44 students got marks between 90-100 in post-test
3. the result of the students was 31.44% in the pre-test and it increased to 78.85% in post-test
4. as a whole all the 49 students in the target group improved their reading skill considerably.

**SUGGESTIONS FOR FURTHER IMPROVED STUDY:**

## ABRIDGED VERSION OF THE REPORT

### TITLE OF ACTION RESEARCH :

Improving the Listening Skill in Tamil for class IV Students

#### A

##### Action Researchers:

1. S Vassou
2. P Rajendiran

**Area:** Tamil – Listening skill

##### Schools

1. GPS, Kothapurinatham
2. GPS, Kalitheerthalkuppam

##### Strength of Target Groups:

- 1.41
- 2.35

#### B LOOK

##### Concern:

Students of IV standard in the concerned schools have not been able to listen properly.

##### Action hypothesis:

Group activities

Word play and

Recorded audio cassette will improve the listening skill of the school children.

#### PLAN

##### Collaborators:

Dr R Thirumavalavan, Lecturer, DIET, Pondicherry

##### Evolution of the Plan:

1. Discussion with DIET faculty
2. Discussion with Headmasters and co-teachers of the concerned schools
3. Own experience

#### ACT & OBSERVE

##### Implemented Strategy:

1. Pre-test
2. Training and drilling to listen carefully with the help of model reading.
3. Telling the story and asked questions
4. Using word play to listen in groups
5. Playing the recorded audio cassette and questioning.

**Tools and Techniques for data collection:**

1. Pre-test and post-test
2. Action Researchers' Activity Diaries
3. Collaborating DIET faculty's observation and opinion
4. Feedback of the students
5. Observation schedule

**ANALYSIS**

**Evidence for Change:**

1. Analysis of the pre-test and post-test
2. Perusal of action researchers' activity diaries
3. DIET faculty's comments.

**REFLECTION**

**Findings :**

From the analysis of the pre-test and post-test of the action research, the following findings are listed out.

1. 35 out of 76 students got marks between 81 and 90 in post-test.
2. The result of the students in pre-test for 51.39, it increased to 78.15 post-test.
3. As a whole all the 76 students in the target group improved the listening skill considerably. As a result the taken hypotheses is there.

**SUGGESTIONS FOR FURTHER IMPROVED STUDY:**

Prose lessons only have been taken in the action research. Poetry may be taken to the research in future.

## ABRIDGED VERSION OF THE REPORT

### TITLE OF ACTION RESEARCH :

Improving reading skill in English for class IV students

#### A

##### Action Researchers:

1. G Maria Rajkumar
2. T V Meenambal

**Area:** Language – English  
**Schools**

- |    |      |               |         |  |
|----|------|---------------|---------|--|
| 1. | Govt | Primary       | School, |  |
|    |      | Kurumampakkam |         |  |
| 2. | Govt | Primary       | School, |  |
|    |      | Archivackpet  |         |  |

##### Strength of Target Groups:

1.40

2. 29

#### B

#### LOOK

##### Concern:

Students of class four do not pronounce correctly while reading. They do not know the right usage of pause while reading. They don't read with comprehension.

##### Action hypothesis:

Changed strategies like model reading by the teachers. Individual loud reading, peer group reading, using some selected guided activities will improve the class IV students reading with proper pause. Pronunciation and comprehension reading.

#### PLAN

##### Collaborators:

Mr R Ilangovan, Lecturer, State Training Centre, Pondicherry

##### Evolution of the Plan:

1. By own experience
2. Sharing with colleagues

#### ACT &

#### OBSERVE

##### Implemented Strategy:

1. Model reading and individual loud reading
2. Language game
3. Silent reading of small passage for comprehension
4. Model reading and reading practice

**Tools and Techniques for data collection:**

1. Pre-test and post-test
2. Checklist for evaluating students' response
3. Observation schedule to assess the progress of students.

**ANALYSIS**

**Evidence for change:**

1. Analysis of performance of students in pre-test and post-test
2. Perusal of the action research activity diary
3. Opinion of the collaborating DIET faculty
4. Comments of colleagues
5. Students' response

**REFLECTION**

**Findings :**

1. The performance of student based on guided activity has improved reading skill of class IV students. The gain of students' performance in post-test over pre-test is 28.48.

**SUGGESTIONS FOR FURTHER IMPROVED STUDY:**

## ABRIDGED VERSION OF THE REPORT

### TITLE OF ACTION RESEARCH:

Improving the handwriting in English for III Std students

#### A

##### Action Researchers:

1. Mrs P Muthumanikkam
2. Mrs A Jansi

**Area:** Language –English

##### Schools

1. GPS, Kakkayanthope
2. GMS, Kalmandapam

##### Strength of Target Groups:

- |    |    |
|----|----|
| 1. | 18 |
| 2. | 20 |

#### B

#### LOOK

##### Concern:

Most of the students are not able to write the alphabet and words with proper stroke, size, shape and space.

##### Action hypothesis:

By using model handwriting of teacher and regular drilling practice in handwriting and by regular feedback, the students of III std will be able to write English alphabet and words in the cursive form with proper stroke, size, shape and space.

#### PLAN

##### Collaborators:

Mr R Ilangovan, Lecturer, STC

##### Evolution of the Plan:

1. Personal experience of the teachers
2. Discussion with colleagues and Headmaster
3. Discussion with DIET faculty

#### ACT &

#### OBSERVE

##### Implemented Strategy:

1. Model handwriting was given on the blackboard
2. Students copied the letters and words in four line notebooks
3. Students copied the letters and words in single line notebooks
4. Repeated exercises were given with a view of drilling

**Tools And Techniques For Data Collection:**

1. Pre-test and post-test question papers
2. Pre-test and post-test evaluation sheets
3. Teachers' Activity Diary
4. Observation record prepared by Action Researchers

**ANALYSIS**

**Evidence for Change:**

1. By the analysis of pre-test and post-test marks
2. Observation in the Activity Diary
3. Observation record prepared by Action Researchers
4. The comments of Headmaster and colleagues
5. Perusal and observation of the DIET faculty
6. Students' active participation

**REFLECTION**

**Findings :**

1. There is considerable improvement in the handwriting of III std students by using Model handwriting and drilling exercises
2. It is observed that the gain in the performance of the students in post-test over pre-test is 41.4.

**SUGGESTIONS FOR FURTHER IMPROVED STUDY:**

## ABRIDGED VERSION OF THE REPORT

### TITLE OF ACTION RESEARCH :

Improvement of Classroom interaction of students of III Std in English

A

#### Action Researchers:

1. Mrs N Santhabai
2. Mrs R Alli

Area: English

#### Schools

1. Govt Primary School, Indra Nagar, Pondicherry
2. Govt Primary School, Vinayagampet, Pondicherry

#### Strength of Target Groups:

1. 53
2. 28

### B LOOK

#### Concern:

The prevailing of classroom condition did not help the students of III Std to interact in English with teachers and fellow students.

#### Action hypothesis:

The classroom interaction of Std III students will be improved through drilling of selected simple structures in English

### PLAN

#### Collaborators:

Mr M Doss, Lecturer in English, State Training Centre

#### Evolution of the Plan:

1. Discussion with STC Faculty
2. ELT source book

### ACT & OBSERVE

#### Implemented Strategy:

1. Introduction of selected simple sentences through oral and situational method.
2. Drilling of structures through mechanical, meaningful and manipulative techniques
3. Introducing of selected structures from Std III English Reader for reinforcing
4. Using group work, playway method and role play method to ensure classroom interaction



**Tools and Techniques for data collection:**

1. Pre-test
2. Observation schedule
3. Checklist
4. Post-test

**ANALYSIS**

**Evidence for Change:**

1. Gain of 56 Arithmetic Mean with the performance of the students.
2. Improvement in responding to teacher's questions to a greater extent.

**REFLECTION**

**Findings :**

The implementation of the new strategy helped the students to interact with others.

**SUGGESTIONS FOR FURTHER IMPROVED STUDY:**

Time schedule is insufficient to conduct pre-test and post-test for a larger group.  
Questions may be reduced.

## ABRIDGED VERSION OF THE REPORT

### TITLE OF ACTION RESEARCH :

Improving listening comprehension in English for the students of V Standard

A

#### Action Researchers:

1. M Shanmugavelu
2. G Rajendiran

**Area:** Language – English

#### Schools

1. GPS, Muppaithangudu
2. GNPS, T R Pattinam

#### Strength of Target Groups:

- |    |    |
|----|----|
| 1. | 13 |
| 2. | 21 |

B

### LOOK

#### Concern:

Most of the students are not able to understand the subject matter through listening. Since they have very poor ear training.

#### Action hypothesis:

The listening comprehension can be improved among V Standard students by various activities in the classroom.

### PLAN

#### Collaborators:

Mr M Doss, Faculty of STC, Pondicherry and the colleagues

#### Evolution of the Plan:

By our own experiences and discussions with the collaborators (M Doss and others)

ACT &

### OBSERVE

#### Implemented Strategy:

The following various types of exercises for improving listening comprehension skills were given.

1. Listening with discrimination – Homophones
2. Listening with contextual understanding
3. Listening with understanding

**Tools and Techniques for data collection:**

Pre-test and post-test

Slip tests were designed to record the students' performance

**ANALYSIS**

**Evidence for Change:**

Performance of the pre-test and post-test

Observation record of the researcher and comments of colleagues and headmasters

**REFLECTION**

**Findings :**

Comparing with the pre-test level. The achievement of the students had enhanced in the post-test. The gain of percentage is 21.97.

This shows that there is considerable improvement in the listening comprehension skills of V std students.

**SUGGESTIONS FOR FURTHER IMPROVED STUDY:**

This can be implemented in the lower classes II and III Standards.

## ABRIDGED VERSION OF THE REPORT

### TITLE OF ACTION RESEARCH :

Improving the skill of drawing and labeling in General Science diagrams among fifth Standard Students.

#### A

##### Action Researchers:

1. K Devadoss
2. S Radjasegarane

**Area:** EVS

##### Schools

1. GPS, Pillaiyarkuppam (**B**)
2. GPS, Thavalakuppam

##### Strength of Target Groups:

- |    |    |
|----|----|
| 1. | 41 |
| 2. | 37 |

#### B

#### LOOK

##### Concern:

The students are unable to draw schematic science diagrams maintaining correct proportion, size, neatness and with proper labeling.

##### Action hypothesis:

The skill of drawing in schematic science diagram can be improved by giving (i) practice in the general skill of drawing, (ii) develop the lesson with necessary diagram drawn on the blackboard step by step during the development of the lesson and (iii) providing sufficient time for drawing in their notebook under teacher's supervision.

#### PLAN

##### Collaborators:

Thiru R Parthasarathy, Lecturer, DIET, Pondicherry

##### Evolution of the Plan:

Discussion with one of the action researcher who underwent a training neatly in Art Education

## ACT & OBSERVE

### **Implemented Strategy:**

1. Intensive practice in freehand line and curved drawing
2. Extensive of the above practiced training in drawing the diagram of simple objects
3. Guided drawing practice emphasizing the size, proportion, neatness associated and with proper labeling concurrently while developing the lesson
4. Resisting students to draw the diagram in their notebook and supervising
5. Drawing the diagram of the science model provided (Eclipse model)

### **Tools and Techniques for data collection:**

Pre-test, Post-test, Action Researchers' Activity Diary, and collaborating DIET faculty observation.

## ANALYSIS

### **Evidence for Change:**

- i. 137% improvement in the arithmetic mean between pre and post test.
- ii. Increased participation in the classroom with interest and enthusiasm.

## REFLECTION

### **Findings :**

This intervention helped a great extend the students in drawing schematic science diagram maintaining size, proportion, neatness. including proper labeling.

### **SUGGESTIONS FOR FURTHER IMPROVED STUDY:**

These exercises should be integrated with the drawing syllabus. The teacher should keep in mind the required skills for drawing science diagram in conducting drawing lessons.

## ABRIDGED VERSION OF THE REPORT

### TITLE OF ACTION RESEARCH:

Improving the learning outcome in Science through activity based teaching in large sized classes

A

#### Action Researchers:

1. C Mathavy, SGT
2. D Tamijarasy, SGT

Area: EVS

#### Schools

1. GPS, Salai Street
2. GBPS, Villianur

#### Strength of Target Groups:

- |    |    |
|----|----|
| 1. | 49 |
| 2. | 35 |

B  
LOOK

#### Concern:

It is difficult to involve all the students in the activity based teaching process in larger classes.

#### Action hypothesis:

The guided group activity based teaching will improve the learning outcomes in larger classes.

PLAN

#### Collaborators:

R Parthasarathy, DIET Faculty, Pondicherry

#### Evolution of the Plan:

1. Classroom experience
2. Perusal of MLL document

ACT &  
OBSERVE

#### Implemented Strategy:

The classroom teaching has been changed from traditional to guided group activity based teaching.

Students in groups have become the active participants in the activities.

Students are involved in activity based home work like observing the events and recording the result.

**Tools and Techniques for data collection:**  
Action Researchers Activity Diary  
Collaborating with DIET faculty observation  
Pre and post-test

**ANALYSIS**

**Evidence for Change:**

42% increase in the achievement of the students from pre-test to post-test in EVS II after the implementation of guided group activity teaching process.

Increased the students' interest and involvement in learning process

**REFLECTION**

**Findings :**

It is observed that 81% of the students were helped by this Intervention.

The guided group activity based teaching has improved the learning outcomes of the students in larger classes.

**SUGGESTIONS FOR FURTHER IMPROVED STUDY:**

## ABRIDGED VERSION OF THE REPORT

### TITLE OF ACTION RESEARCH:

Improving the learning outcomes in science through activity based teaching of class V students

### A

#### Action Researchers:

1. Mrs S Bumadevi
2. Mrs R A Lakshmi

Area: EVS

#### Schools

1. G B P S, Muthialpet
2. G P S, Perumal Koil Street

#### Strength of Target Groups:

- 1.35
- 2.23

### B LOOK

#### Concern:

The traditional way of teaching did not result in learning to the desired level in V Std students in EVS II (Science).

#### Action hypothesis:

The achievement of class V students in EVS II can be improved through Guided group activity and peer group discussion.

### PLAN

#### Collaborators:

Mr S Muralidharan

#### Evolution of the Plan:

Intuition

Discussion with DIET faculty

### ACT & OBSERVE

#### Implemented Strategy:

Following steps shown below for each topic/sub topic.

1. a) collection of needed materials, pictures, information,  
b) Model making and drawing pictures of relevant objects
2. Guided group discussion in the class using (a) and (b).
3. Presentation to the entire class.
4. Teacher summarizing the discussion



**Tools and Techniques for data collection:**

Performance of the senior batch in this unit post-test (unit test for the present batch).

**ANALYSIS**

**Evidence for Change:**

57.4% increase in the level of achievement in the present group. The students were more active and eager to perform learning activities. This attitude towards learning changed.

**REFLECTION**

**Findings :**

The action strategies adopted have yielded a positive result.

**SUGGESTIONS FOR FURTHER IMPROVED STUDY:**

Individual activities could be taken.

## ABRIDGED VERSION OF THE REPORT

### TITLE OF ACTION RESEARCH :

Improving the understanding of the concepts of Force, Work and Energy in students of class IV

#### A

##### Action Researchers:

1. J Mounissamy, SGT
2. Darling Vince Indira, SGT

Area: EVS – Studies

##### Schools

1. GPS, Pakkamudianpet,  
Pondicherry
2. GPS, Sendanatham,  
Pondicherry

##### Strength of Target Groups:

1. 24
2. 18

#### B

#### LOOK

##### Concern:

The performance of the students in a test after teaching this unit showed that the students of class IV do not have a clear understanding of the concepts of Force, work and Energy.

##### Action hypothesis:

Reteaching adopting demonstrations involving students and peer group activity will improve the understanding of the concepts of Force, Work and Energy among class IV students.

#### PLAN

##### Collaborators:

Mr S Muralidaran, DIET, Pondicherry

##### Evolution of the Plan:

1. Intuition
2. Discussion with DIET faculty

#### ACT &

#### OBSERVE

##### Implemented Strategy:

1. Guided demonstrations involving students and peer group activities aiming at formation of concepts by students.
2. Individual activities were performed for reinforcement.
3. Students were asked to cite examples (new).

**Tools and Techniques for data collection:**

1. Pre-test and post-test scores
2. Action Researchers' Activity Diary
3. The collaborators' observations and feedback from students.

**ANALYSIS**

**Evidence for Change:**

1. The gain in Arithmetic mean is 46, which in itself exhibits good improvement.
2. Increased involvement of students in classroom learning activities moves the change in learning process from recalling to concept formation.

**REFLECTION**

**Findings :**

The adopted strategies have enhanced the understanding of the concepts of force, work and energy.

**SUGGESTIONS FOR FURTHER IMPROVED STUDY:**

1. Practice to write answers in complete sentences to questions asked.
2. More attention to be given for the formation of concept of the gravitational force.

## ABRIDGED VERSION OF THE REPORT

### TITLE OF ACTION RESEARCH :

Improving the understanding of the public institutions in Std III students by using the local resources through field trips

A

#### Action Researchers:

1. A Rajaraman

Area: EVS

Schools

Govt Primary School, Pangoor,  
Pondicherry

Strength of Target Groups:

32

B

LOOK

#### Concern:

Students are unable to understand the functions and uses of public institutions when taught in conventional method.

#### Action hypothesis:

Field trips will improve the understanding of functions and uses of the public institutions among children.

PLAN

#### Collaborators:

E Swamiraj Dharmakan, Lecturer, DIET, Pondicherry

#### Evolution of the Plan:

By personal experience of the teacher/researcher  
Discussion with the DIET faculty

ACT &

OBSERVE

#### Implemented Strategy:

Students are taken in field trips to public institutions like hospital and postoffice.

Students are divided into groups and each group is assigned with some observation work.

Each group has collected information through interviews in the field (Hospital and postoffice).

Groups then shared the information they have collected among themselves.

**Tools and Techniques for data collection:**

Objective type written test, test I and test II

Evaluation of the observations made by the students.

**ANALYSIS**

**Evidence for Change:**

Analysis of the performance of the students in Test I and Test II.

Evaluation of the Action Researchers' Diary.

Individual analysis was made.

**REFLECTION**

**Findings :**

The achievement has been increased by 17% from Test I to Test II.

Field trips to the public institutions improve the understanding of the students remarkably than the conventional method of teaching.

The individual performance of the students is also remarkable.

**SUGGESTIONS FOR FURTHER IMPROVED STUDY:**

If the role play method follows the field trips more improvement in learning may take place.

## ABRIDGED VERSION OF THE REPORT

### TITLE OF ACTION RESEARCH :

Improving the general knowledge of the students of V Std

**A**

#### Action Researchers:

1. C Murugaiyan
2. S Anbarasan

Area: EVS

#### Schools

1. Govt Primary School, Pettai
2. Govt New Primary School, T R  
Pattinam, Karaikal

#### Strength of Target Groups:

- |    |    |
|----|----|
| 1. | 14 |
| 2. | 21 |

### B LOOK

#### Concern:

The students are lacking very much in general knowledge.

#### Action hypothesis:

A set of selected activities will improve the general knowledge of the class V students.

### PLAN

#### Collaborators:

Thiru T Ponnambalam, Lecturer, DIET

#### Evolution of the Plan:

Based on own classroom experience and discussion with colleagues.

### ACT & OBSERVE

#### Implemented Strategy:

1. Students were made to read Tamil dailies,
2. Slide shows related to general knowledge were shown to the students and their observations were collected.
3. Charts related to general knowledge and maps were displayed in the classroom.
4. Field trip was arranged to observe the local environments.

**Tools and Techniques for data collection:**

1. Pre-test was conducted, objective type questions were given covering all subjects.
2. Post-test was conducted on the same pattern of questions.
3. Feedback from the students was collected.
4. Observations made by Headmaster and colleagues were collected.

**ANALYSIS****Evidence for Change:**

1. performance of the students were observed by pre-test and post-test
2. observations made from Action Researcher's activity diary
3. opinion of the DIET faculty

**REFLECTION****Findings :**

1. Selected and planned activities have improved the general knowledge among the students, by 41.44% as evident from pre-test and post-test.
2. The curiosity to know about general knowledge increased among the students.
3. Observation skills have been increased among the students.

**SUGGESTIONS FOR FURTHER IMPROVED STUDY:**

1. General knowledge topics can be grouped into various headings like sports, science, politics, civics etc. for the purpose of conducting Action Research.
2. The media namely print, audio and video can be utilized under each heading.
3. Role play can be employed to encourage the students.

## EVALUATION



## Evaluation of the Programme Outcomes

### Action Research Studies

In all 20 Action Research studies were accomplished by the 40 Teacher Action-Researchers and 10 collaborating DIET faculty members. Percentage of improvements in the student achievements after the Action Research Intervention are as follows :

Team Number	Target Class	Title of the Action Research	Percentage of Improvement
T <sub>1</sub>	I	Improving the handwriting skill of I Standard Students in Tamil	57.0
T <sub>2</sub>	III	Improving the Reading skill in Tamil of class III students	45.92
T <sub>3</sub>	IV	Improving the listening skills in Tamil for class IV students	26.76
T <sub>4</sub>	IV	Improving the transformation from colloquial to standard Tamil in class IV students	46.7
E <sub>1</sub>	IV	Improving the Reading skill in English for class IV students	28.48
E <sub>2</sub>	III	Improving the handwriting in English for class III students	41.4
E <sub>3</sub>	III	Improving the classroom Interaction of students of class III in English	55.68
E <sub>4</sub>	V	Improving the listening comprehension in English for the students of class V	21.97
S <sub>1</sub>	V	Improving the skill of drawing and labeling of General Science diagrams among class V students	42.0
S <sub>2</sub>	IV	Improving the learning outcomes in Science through Activity based teaching in large sized classes	25.35
S <sub>3</sub>	V	Improving the learning outcomes in Science through Activity based teaching among class V students	33.3
S <sub>4</sub>	IV	Improving the understanding of the concepts of Force, Work and Energy in students of class IV	46.0
SS <sub>1</sub>	III	Improving the understanding of the Public Institutions in Std III Students by using local resources through field trips	17.0

M <sub>1</sub>	III	Improving subtraction skills involving borrowing and zero of class III students	47.1
M <sub>2</sub>	II	Improving the basic skill of addition for the students of class II	35.6
M <sub>3</sub>	II	Improving the ability to arrange numbers in ascending and descending order among class II students	39.2
M <sub>4</sub>	IV	Improving the skill of conversion in metric measures among class IV students	42
M <sub>5</sub>	V	Improving the skill of division of 3 digit numbers by a single digit number among students of class V	27.1
G <sub>1</sub>	V	Improving the general knowledge of class V students	41.4
G <sub>2</sub>	I & II	Making the students of classes I and II more attentive throughout the day.	Non content area

## Evaluation of the Programme\*

		Percentage
1.	Objectives of the course were	
	◆ Idealistic	0
	◆ Realistic and practical	98.0
	◆ Realistic but not practical	0
	◆ No response	2.0
2.	Objectives of the course were	
	◆ Attained with difficulty	55.0
	◆ Attained with difficulty	42.0
	◆ Not at all attained	0
	◆ No response	3.0
3.	Duration of the course was	
	◆ about right	63.0
	◆ too short	37.0
	◆ too long	0
4.	Content coverage was	
	◆ Adequate	87.0
	◆ Too little	11.0
	◆ Too much	2.00
5.	Quality of the materials supplied was	
	◆ To the expected level	53.0
	◆ Below the expected level	8.0
	◆ Above the expected level	39.0
6.	Strategies followed by the resource persons during the Workshops were	
	◆ Very much effective	58.0
	◆ Effective	42.0
	◆ Not effective	0
7.	Arrangement for the working sessions were	
	◆ Adequate	63.0
	◆ Moderately adequate	24.0
	◆ Inadequate	13.0
8.	Use of visual Aids was	
	◆ Adequate	76.0
	◆ Too little	16.0
	◆ Too much	8.0

9.	Field experience was	
	◆ Very good	63.0
	◆ Good	18.0
	◆ Satisfactory	16.0
	◆ Poor	0
	◆ No response	3.0
10.	The course as a whole was	
	◆ Excellent	39.0
	◆ Very good	32.0
	◆ Good	21.0
	◆ Satisfactory	8.0
	◆ Poor	0

\*Evaluation of the programme is based on the responses of 38 Teacher-Action Researchers as two of the teachers were not able to attend the last day.

One way of evaluating a training programme is by conducting a Pretest and a Posttest and finding the improvements in achievements. But in view of a unique nature of this training programme, neither pretest nor posttest was conducted on the trainee Teacher-Action Researchers. Improvement in the achievement of their students has already shown a positive impact of the training. The 20 Action Research Reports reflects really the academic gain by the participants. However to get a feedback directly from the participants, a questionnaire developed specially for the purpose of evaluating the programme was administered to the participants at the end of the programme. The responses were analyzed. The analysis showed the following results.

- 98% of the participants felt that the objectives of the course were realistic and practical. There was no response from one participant.
- 97% of the participants felt that the objectives of the course were attained; 45% feeling that attainment was without difficulty and 52% feeling that attainment was with difficulty. Again there was no response from two participants.
- 63% of the participants opined that the duration of the course was about right while the remaining 37% opined that it was too short.
- As for the content coverage during the course was concerned, 87% of the participants felt that the coverage was adequate while 11% of the participants felt that the coverage was too little. 2% of the participants felt that the coverage was too much.
- Regarding the quality of the materials supplied during the programme, whereas 53% of the participants felt that the quality was to the expected level, 39% of the participants felt that it was above the expected level. Only 5% of the participants opined that the quality was below the expected level. There was no response from one participant.
- Whereas 58% of the participants felt that the strategies followed by the resource persons during the workshops were very much effective, the remaining 42% felt that the strategies were effective. In nobody's opinion, the strategies were ineffective.
- According to 63% of the participants, the arrangements for the workshops were adequate, while according to 24% of them, the arrangements were moderately adequate. Only 13% of the participants opined that the arrangements were inadequate.
- Use of visual aids during the workshops was adequate according to 76% of the participants. While 16% of them felt that it was too little, 8% felt that it was too much.
- 63% of the participants agreed that the field experience component of the project was very good, 18% opined that it was good, 16% rated it as satisfactory. There was no response from one participant.
- 39% of the participants rated the course as a whole as excellent, 32% rated it as very good, 21% rated it as good, while 8% rated it as satisfactory. No participant rated it as poor.

The above analysis reveals that the training programme was effective and that the objectives of the programme were accomplished. As the DIET faculty members were associated as collaborators in these Action Researchers, we are sure that they have developed a clear understanding of the concept and process of Action Research. They are in a position now to train further batches of teachers in conducting Action Research, under monitoring if necessary by the RIE resource faculty.

## Annexures

**PROFORMA FOR THE ABRIDGED VERSION OF THE REPORT**

**TITLE**

A.

Action Researchers : 1.  
2.

Area:

Schools: 1. Strength of Target Groups: 1.  
2. 2.

B.  
LOOK

Concern:

Action hypothesis:

PLAN

Collaborators:

Evolution of the Plan:

ACT & OBSERVE

Implemented Strategy

Tools and Techniques for data collection

ANALYSIS

Evidence for change

REFLECTION

Findings

SUGGESTIONS FOR FURTHER IMPROVEMENT



## ACTIVITY DIARY

Name of the Teacher:  
Class:  
School:

Target Group:  
Boys :  
Girls:  
Total:

Title of the Action Research :

Day	Date	Action Taken	Observation Mode
1.	22.2.99		
2.	23.2.99		
3.	24.2.99		
4.	25.2.99		
5.	26.2.99		
6.	27.2.99	Discussion and review with the DIET faculty	

<b>Day</b>	<b>Date</b>	<b>Action Taken</b>	<b>Observation Mode</b>
7.	1.3.99		
8.	2.3.99		
9.	3.3.99		
10.	4.3.99		
11.	5.3.99		
12.	6.3.99	Discussion and review with the DIET faculty	

Day	Date	Action Taken	Observation Mode
13.	8.3.99		
14.	9.3.99		
15.	10.3.99		
16.	11.3.99		
17.	12.3.99		
18.	13.3.99	Discussion and review with the DIET faculty	

<b>Day</b>	<b>Date</b>	<b>Action Taken</b>	<b>Observation Mode</b>
19.	15.3.99		
20.	16.3.99		
21.	17.3.99		
22.	18.3.99		
23.	19.3.99		
24.	20.3.99	Discussion and review with the DIET faculty	

Day	Date	Action Taken	Observation Mode
25.	22.3.99		
26.	23.3.99		
27.	24.3.99		
28.	25.3.99		
29.	26.3.99		
30.	27.3.99	Discussion and review with the DIET faculty	

**Comments/Views :**

**Signature of the Teacher :**

**PROFORMA FOR ACTION RESEARCH PROPOSAL**

1. Group Code :
2. Name of the Teachers :
  - 1.
  - 2.
3. Name of the collaborating DIET faculty :
4. Title of the Action Research :
5. Area :
- LOOK
6. Concern :

PLAN

7. Collaborators, if any :
  - 1.
  - 2.
8. Evolution of Plan :
9. Possible changes in action/ strategy :
10. Action Hypotheses :

ACT AND OBSERVE

11. Target Group :
12. Procedure/detailed action plan:
13. Technique or Tools :
14. Time Schedule :

**DISTRICT INSTITUTE OF EDUCATION AND TRAINING  
PONDICHERRY**

**ACTION RESEARCH PROJECT**

**WORKSHOP – I (27.1.99 TO 31.1.99)**

**INAUGURAL FUNCTION**

<b>INVOCATION</b>	<b>Tmt P Oucharani</b>
<b>WELCOME ADDRESS</b>	<b>Thiru A Ramadas</b> Principal DIET, Pondicherry
<b>INAUGURAL ADDRESS</b>	<b>Thiru G Panneerselvam</b> Director of Education Pondicherry
<b>KEY NOTE ADDRESS</b>	<b>Dr B S Upadhyaya</b> Project Coordinator
<b>SPECIAL ADDRESS</b>	<b>Thiru E Venu</b> Deputy Director of Education Pondicherry
<b>VOTE OF THANKS</b>	<b>Thiru R Gopal</b> DIET, Pondicherry

**Special invitees:**

**P Muthu, Joint Director of Education**  
**E Venu, DDE (W)**  
**T Muthaiyan, CEO, Pondicherry**  
**Shenbagavalli Panneerselvam, DIS – I**  
**S Jothinathan, DIS – II**  
**R Kalaiselvan, DIS – III**  
**S Mariappan , DIS- IV**  
**V Balakrishnan, DIS – V**

## Workshop I 27.1.99 to 31.1.99

### Time Schedule

	I SESSION	II SESSION	III SESSION	IV SESSION
27.1.99	Inauguration	Action Research – A concept	Concerns and Research questions	Group work on Identification, listing and prioritization of concerns
28.1.99	Planning for Action Research Implementation, Reflecting and Replanning	Illustrative Examples of Action Research	Group Work on Preparation of Action Research – Proposal 1	
29.1.99	Presentation and discussion of Proposal 1		Group work on Preparation of Action Research – Proposal 2	
30.1.99	Presentation and discussion of Proposal 2		Tools and techniques	Illustrative examples
31.1.99	Group work on development of tools for proposal 1		Presentation and discussion	Planning for workshop 2



## CHECKLIST FOR THE PARTICIPATING TEACHERS

In the period during February 1 and February 14, 1999 following tasks should be completed by the teachers.

1. Finalization of the proposals based on the feedback
2. Development and finalization of the tools
3. Preparation of the daywise schedule for the implementation of the changed strategy
4. Indicate the meeting dates and time of the group with the collaborating, DIET faculty to review the progress.
5. \*Preparing/collecting the teaching learning materials required for the implementation of the changed strategy.

## CHECKLIST FOR DIET FACULTY

Collaborating DIET faculty should take the full responsibility for the following tasks to be completed during February 1 and February 14, 1999

1. Finalization of the proposals in view of the feedback
2. Development and finalization of the tools
3. Preparation of the daywise schedule for the implementation of the changed strategy
4. Indicate the meeting dates and time of the group with the collaborating, DIET faculty to review the progress.
5. \*Preparing/collecting the teaching learning materials required for the implementation of the changed strategy.
6. Xeroxing of the finalized proposals and tool items (atleast 30 copies each) to facilitate the discussion during the workshop II.

(\*Principal, DIET may meet the expenditure required for this purpose).

## WORKSHOP II

FEBRUARY 15 – 17, 1999

### TIME SCHEDULE

<b>Date</b>	<b>I Session</b>	<b>II Session</b>	<b>III Session</b>	<b>IV Session</b>
Monday 15.2.99	Preparation of the finalized proposal			
Tuesday 16.2.99	Presentation of the finalized tools			Presentation of the daywise time schedule
Wednesday 17.2.99	Data Analysis and Interpretation		Planning for Workshop III	

## CHECKLIST

### DIET STAFF

#### During the field work period

1. Visit the schools atleast once in a week, observe the proposed strategies in action and record your significant observations.
2. At the end of each week discuss and review the activities with the teachers.
3. Provide assistance in recording data collected and guide them in their analysis.
4. Guide them in the preparation of the draft report.

### TEACHERS

When you come for Workshop – III please bring the following materials:

1. Diary – duly filled.
2. Tools and learning aids prepared for action research purpose
3. Answer papers of the students in each of the written tests, duly filled questionnaires, observation schedules, checklists, etc.
4. Data spreadsheets – with analysis done.
5. Preparation of report – first draft.

### WORKSHOP III

16.4.99 to 20.4.99

#### TIME SCHEDULE

<b>Date</b>	<b>I Session</b>	<b>II Session</b>	<b>III Session</b>	<b>IV Session</b>
16.4.99	Field experiences of Action Researchers	Finalization of the first draft of the report		Presentation of the draft report
17.4.99	Presentation of the Draft Reports and Feedback			
18.4.99	Finalization of the reports based on the Feedback			
19.4.99	Format for the Abridged versions of the report	Preparation of the Abridged versions		
20.4.99	Presentation of the abridged versions		Evaluation of the programme	Valedictory