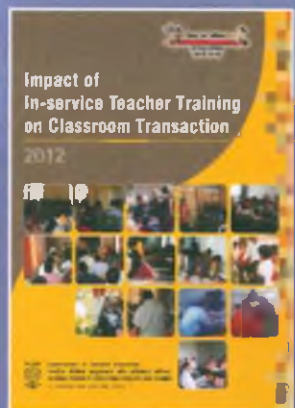


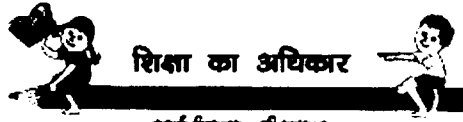
Impact of In-service Teacher Training on Classroom Transaction in Andhra Pradesh

2012

Andhra Pradesh



Department of Teacher Education
 राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्
 NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING
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शिक्षा का अधिकार

सर्व शिक्षा अभियान
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Impact of In-service Teacher Training on Classroom Transaction in **ANDHRA PRADESH**

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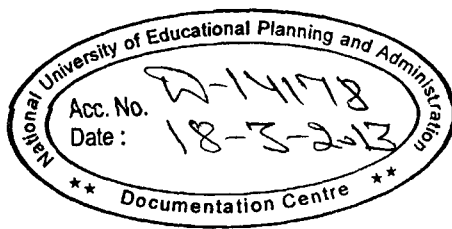
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Foreword

Lifelong in-service education and training keeps professionals alive. The adage assumes significance by the day. The Sarva Shiksha Abhiyan, National Curriculum Framework-2005 and the Right to Education Act-2009 encompassing the 'right to learn' recognize the need to make in-service education for teachers (INSET) an integral part of the futuristic strategy to improve the quality of elementary education. Ministry of Human Resource Development provided timely financial and strategic support to implement this vital quality initiative and sponsored an extensive study to assess the quality of INSET and its impact on classroom transaction in fifteen states. Andhra Pradesh is one of the participating states. The research report highlights the issues relating to the implementation of INSET in Andhra Pradesh.

Professor S. K. Yadav, Principal Investigator and Dr G. Viswanathappa, State Coordinator have done an admirable job of completing the study in Andhra Pradesh in time and with efficiency. They had the benefit of the periodic reviews and suggestions provided by the Advisory Group set up at the NCERT.

It is hoped that policy makers and administrators in Andhra Pradesh will find the study useful. Researchers from elsewhere will be inspired to undertake further researches and innovate ways of enhancing student learning and achievement through continuous review and fine-tuning the policy and INSET implementation strategy.

New Delhi
June 2012

Parvin Sinclair
Director, NCERT

Preface

In-service education is the elixir of life for teachers. It protects their professional health and often lends a golden touch to their activities. That is why INSET occupies centre-stage in all educational development plans. Investment through centrally sponsored schemes provides stimulus to its growth and development. Its centrality in the Sarva Shiksha Abhiyan (SSA) during the current decade is a testimony to official commitment. Every teacher is to be provided 20 day training, 10 day block training followed by 10 day follow on training in monthly meetings in Cluster Resource Centres (CRCs).

In order to assess the impact of INSET on teachers, classroom transaction and student learning achievement, MHRD sponsored a time bound study was conducted across 15 states across different geographical areas. Andhra Pradesh was one of the participating states. The onerous task of conducting the study in the state of Andhra Pradesh within the stipulated time frame has now been successfully completed with the documented report ready for dissemination.

The report has been divided into seven chapters. Chapter *one* outlines formulation of the study. Chapter *two* encapsulates design and methodology of the study. Chapter *three* is on the quality of INSET provided to primary and upper primary school teachers. Chapters *four and five* present an impact of training on teachers. Chapter *six* is on Impact of CRC Monthly Meetings on Teachers. Chapter *seven* highlights the impact of training on students. The *last* chapter provides findings and recommendations.

Professor Parvin Sinclair, Director NCERT, offered invaluable suggestions to sharpen the focus on certain core issues in the study. Our sincere thanks are due to Professor Sinclair for her contributions. Joint Director, Professor B. K. Tripathi and Principal, RIE, Mysore provided essential support for timely completion of the study. We are grateful to both. We are also thankful to Ed CIL for facilitating the project work.

Sincere thanks are due to Dr G. Viswanathappa, State Coordinator and other members of project team who completed the study in time.

We are deeply indebted to Professor N. K. Jangira, Former Head, DTEE & Dean (C) and Professor Saroj Bala Yadav, Head DESS, NCERT for extending continuous professional support to complete the study.

Cooperation of the State Project Director in facilitating access to documents and arranging interaction with other officials involved in INSET deserves deep appreciation.

My colleagues in the department, especially, Mr Ashok Kumar, Project Manager and Mr Sanjay Bardhan, APC provided official and administrative support. Last but not least, we appreciate the efforts of Mrs Vanila Malik, and Mrs Savitri Devi for the hard work in preparing the manuscript.

We sincerely hope that the study will be found useful by policy makers, INSET designers practitioners and researchers in the country.

New Delhi
June 2012

S. K. Yadav
Principal Investigator & Head,
DTE, NCERT

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I am deeply grateful to the Director, NCERT, New Delhi, for providing the context and academic freedom for shaping this study in collaboration with the Department of Teacher Education DTE, NCERT.

I am immensely grateful to Prof. S.K. Yadav, Principal Investigator, Head, DTE, NCERT, for his insightful initiative in involving the Regional Institute of Education (RIE), Mysore in the study for Andhra Pradesh and providing necessary academic guidance and financial support till the end.

I am grateful to the state level functionaries which include State Project Director, SSA and district level functionaries which include District Project Coordinators, District Pedagogy Coordinators, Block Resource Centre Coordinators and Cluster Resource Centre Coordinators in each of the above districts for extending their support and providing unlimited access to information.

I had interactions with the Head Teachers of the concerned schools, teachers and students of the sampled schools. They have helped in discerning the field reality and certainly, I am deeply thankful to them.

I am extremely indebted to the Principal, Regional Institute of Education (RIE), Mysore for imposing faith in us for this academic endeavour. I am also thankful to Project Team along with JPF's and Field Investigators who helped in completing the study.

(Dr G. Viswanathappa)
State Coordinator &
Associate Professor
RIE, Mysore

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Abbreviations

| | |
|--------|---|
| APEP | Andhra Pradesh Education Project |
| B. Ed. | Bachelor of Education |
| BEO | Block Education Officer |
| BRC: | Block Resource Centre |
| BRG | Block Resource Group |
| CARP | Committee of Approval for Research Projects |
| CBSE | Central Board of Secondary Education |
| CCE | Continuous and Comprehensive Evaluation |
| CRC | Cluster Resource Centre |
| CRCC | Cluster Resource Centre Coordinator |
| CRCF | Cluster Resource Centre Facilitators |
| CRG | Cluster Resource Group |
| CT: | Classroom Transaction |
| D. Ed | Diploma in Education |
| DEO | District Education Officer |
| DIET | District Institute of Education and Training |
| DPEP | District Primary Education Programme |
| DPO | District Project Officer |
| DRG | District Resource Group |
| DTE | Department of Teacher Education |
| Ed CIL | Educational Consultants India Limited |
| EVS | Environmental Science |
| FGD | Focus Group Discussion |
| FI | Field Investigator |
| ICT | Information and Communication Technology |
| IED | Integrated Education for Disabled |
| IGNOU | Indira Gandhi National Open University |
| INSET | Inservice Education for Teachers |
| LEHAR | Learning Enhancement Activities in Rajasthan |
| LIP | Language Improvement Programme |
| LJ | Lok Jumbish |
| M. Ed | Master of Education |
| MAAP | Mathematical Abilities Acquisition Programme |
| MDM | Mid Day Meal |
| MHRD | Ministry of Human Resource Development |
| MRC | Mandal Resource Centre |
| NCERT | National Council of Educational Research and Training |
| NCF | National Curriculum Framework |
| NCFTE | National Curriculum Framework for Teacher Education |

| | |
|--------|--|
| NCTE | National Council of Teacher Education |
| NPE | National Policy on Education |
| OBC | Other Backward Classes |
| OHP | Over Head Projector |
| PASS | Programme for Acquisition of Social Skills |
| Ph. D | Doctor of Philosophy |
| PMOST | Programme of Mass Orientation for School Teachers |
| RIE | Regional Institute of Education |
| RIESI | Regional Institute of English for South India |
| RP | Resource Person |
| RTE | Right to Education |
| SC | Scheduled Caste |
| SCERT | State Council of Education Research and Training |
| SIE | State Institute of Education |
| SKP | Shiksha Karmi Project |
| SOPT | Special Orientation for School Teachers |
| SPD | State Project Director |
| SPO | State Project Office |
| SRG | State Resource Group |
| SSA | Sarva Shiksha Abhiyan |
| ST | Scheduled Tribes |
| STEP | Science Through Experiments and Project |
| TC | Training Centre |
| TLE | Teaching Learning Equipment |
| TLM | Teaching Learning Material |
| TNA | Training Need Assessment |
| TT | Training Transaction |
| UEE | Universalisation of Elementary Education |
| UNICEF | United Nations International Children's Emergency Fund |
| UP | Upper Primary |

Executive Summary

In Andhra Pradesh separate in-service teacher training programmes for primary and upper primary School Teachers were organised under Sarva Shiksha Abhiyan. Primary teachers were undergoing 20 days training under the split model with 10 days of face to face training; 8 days through monthly CRC meetings, and 2 days through teleconference. The upper primary teachers were undergoing 14 days teacher training, instead of 20 days stipulated in split model, with 6 days of regular face to face training and 8 days through monthly meetings.

The present study was undertaken to determine the impact of INSET on teachers' classroom practices and students' perceptions of change in teachers' classroom practices. The main objective of the study was to examine the content of the existing in-service teacher training programmes organised under SSA, to assess its impact on the actual classroom teaching and to suggest changes in the training programmes for making them more effective.

Hence, the following objectives were formulated for the study:

- To assess the adequacy of training inputs including process of planning, preparation and content of modules & materials used in training programmes of 2008-09, 2009-10 and 2010-11 and to find out changes in training strategy and programmes over the three years;
- To study the transactional modalities of the training programmes of 2010-11.
- To study perceptions of the teachers about the efficacy and usefulness of in-service training and to examine how the perceptions differ with regard to gender, experience and qualifications;
- To assess the capability of resource persons in terms of their training and experience, their preparedness, their views on the impact of training on teachers.
- To determine the impact of training programme in terms of change in classroom practices of teachers;
- To find out whether students observe any change in teacher behaviour and method of teaching after training;
- To assess the opinion of other functionaries such as BRC/CRC co-ordinators on the impact of teacher training on classroom processes;

- To find out the constraints or problems, if any, in using training inputs in classroom transactions; and
- To suggest measures for improving training programmes and ensuring greater utilization of training outcomes by teachers in classroom teaching.

Research Design

The research design of the present study is *ex-post facto* design and the combination of qualitative and quantitative methods of research. The sample of the study was selected by using multi-stage random sampling. At the first stage, four districts were selected randomly. At the second stage one mandal from each educational division was selected. Third stage was the selection of teachers from those who had undergone 20 days training. Only one training centre of any one subject from educational division was selected for upper primary level. Thus the sample of the study was drawn from 4 districts of Andhra Pradesh- Adilabad, Chittoor, Nalgonda and Viskhapattanam by using multi stage random sampling. These districts were selected keeping in view the geographical and literacy rate variations.

One training centre from each educational division of each district for Primary level was selected. The training centre for upper primary teachers was Mandal Head Quarter. Thus 390 teachers who participated in 12 training centres of four districts were drawn as a sample. Teachers from the selected mandals were picked up randomly for classroom observation. Thus the number of primary Teacher Selected for classroom observation was 97 drawn from four districts. The sample of Upper Primary School Teachers was 246 drawn from four districts. In addition to this, 79 upper primary teachers drawn from Adilabad, Chittoor, Nalgonda and Visakhapattanam were selected for observations of their classroom practices. Besides this 36, MRPs (Mandal Resource Persons) and 12 MEOs (Mandal Education Officers) for Primary and 4 Dy.EOs (Deputy Educational Officers) and 12 RPs covering all the subjects for Upper Primary teachers' training were drawn as sample for the present study.

Fourteen Tools were used for collecting the requisite data. Thirteen tools were developed by the Department of Teacher Education and supplied to the state. One-tool achievement test was developed by the state.

Quantitative Analysis:

Descriptive and inferential statistics was applied to analyze data. The frequencies under each item with corresponding percentages were computed. For comparing the achievement scores of primary teacher who had undergone 20 days training (10 days face-to-face, 8 days monthly

CRC meetings at School Complex and 2 days of teleconferencing) with primary teachers who had not undergone the 20 day training in 2010-11, t-test was used. One way ANOVA was also used for comparison based on age, experience and qualifications based on the achievement scores of upper primary teachers who had undergone 14 days training (6 days face-to-face and 8 days monthly CRC meetings at School Complex) with the upper primary teachers who did not undergo the training in 2010-11.

Qualitative Analysis:

Content Analysis was adopted for (a) Assessment of the training package, (b) Descriptive responses for the open ended questions, and (c) Focus Group Discussion.

Major Findings

The major findings of the study are given below:

INSET Policy

- There was a deviation in terms of number of days for in-service training. RVM-SSA, Andhra Pradesh stated that it was not following the 20 days (10 days face-to-face, 8 days monthly CRC meetings at School Complex and 2 days of teleconferencing) training as per the SSA guidelines. Almost all the primary teachers received 12 day block training each year in two spells of 8 to 10 days and two to four days.
- In a similar way there was a slight deviation in terms of number of days for in-service training of upper primary teachers. These teachers were provided 14 days training (6 days face-to-face and 8 days monthly CRC meetings at School Complex). Only 65% of the upper primary teachers received six days block training.

Physical Facilities

There were 12 Mandal Resource centres (MRCs) that were used as training centres for teachers. Of the 12 training centres, 10 had only one room. The remaining 2 centres had two rooms. One room in the MRC building was used as MEO office room cum record room. All the 12 centres had drinking water facility. Of these, 4 training centres had inadequate drinking water facility. The toilet facilities were available in 10 centres only. The rest of the 2 centres did not have toilet facilities at all. Of these 10 centres, 4 did not have inadequate toilet facilities. It was shocking to learn that 4 centres did not have toilets facilities for

women trainees. Of the remaining 8 centres that had toilets facilities for women trainees, 6 training centres had inadequate facilities. None of the training centres had adequate space for training sessions and group work. Out of 12 centres, only 2 centres had library facilities and But those too were quite inadequate. The general cleanliness in the centres was also poor.

Learning Equipments and Aids

The blackboard was available in all the training centres and was frequently used. Modern electronic equipments like power point presentation, internet facility and DVDs and VCDs were not available in the training centres. The charts, globe, and dictionary were available and were used to the maximum extent in the training centres. Science kit and math kit, though available at maximum centres, were used sometimes or rarely. This indicates that the transaction of teacher training programmes was mostly done through blackboard and other teaching aids and equipments were sometimes utilised or rarely utilised.

Training Package

- The training programmes at primary level were based on the use of Snehabala Activity Card (SAC), Competency Based Assessment (CBA), NCF-2005, RTE-2009 Act and LEP competencies.
- The training programmes at upper primary level were based on the school subjects and use of learning improvement activities in Telugu, English and Hindi, mathematical abilities acquisition activities, learning science through activities and experiments, learning activities for acquisition of social skills, competency based assessment, NCF-2005, RTE-2009 Act and LEP competencies.
- Learning materials in the form of training packages to the participant teachers were provided on the first day of the training. The copies of these modules need be sent to them through the school complexes with an instruction to read them before the training to participate effectively in the discussion during the training sessions.
- Most of the resource persons reported that training package/modules were difficult to understand to a great extent. About 40 per cent of teachers from the rural areas reported that some of the modules were difficult to understand. This was because of the language used in these modules. Seventy two per cent of the teachers expressed that modules were too theoretical and some of the modules lacked illustrations with examples. Examples in the modules were of practical nature. Concepts were not clarified properly in some modules.

Training Transaction Practices

The lecture method was used frequently. Group discussion, practical work and demonstration approaches were not used frequently by the resource persons during transaction of the modules. It was noticed that some of the resource persons used self-study as an approach. The teachers felt that this was not a useful approach. The other ICT based methods were used on some occasion.

Resource Persons

Thirty six resource persons were engaged for providing in-service training to primary teachers in 12 CRC centres. 97.3 per cent of them were either graduates or post-graduates. 2.7% were having Ph.D. All of them were professionally qualified. 75% were B.Ed. and remaining 25% were M.Ed. About 95% were having teaching experience ranging from 11 to 30 years. Ten resource persons were selected for providing training to upper primary teachers for 14 days in 5 training centres. Of these, 40% were graduates and 60% post graduates. Further, 80% of them were B.Ed and the remaining 20% M.Ed. Regarding their teaching experience, 40% were having up to 10 years and 60% 11-20 years of teaching experience.

- It was observed that female representation in the resource persons category was very low. This might be due to personal reasons like inability of females to go frequently to the field to monitor the school activities and the remote location of MRCs.

Impact of the INSET on Teachers

The impact was assessed in terms of achievement during training, perception about training and observation of their classroom transaction. The impact was also assessed by observing the proceedings of CRC monthly meetings.

Training Achievement

Three hundred and ninety teachers who received 20 day training were covered in the study. The duration of training was 20 days. The achievement of these teachers was determined by administering them an achievement test based on training inputs. Their achievement was compared with 96 primary teachers who had not undergone 20 days of in-service training. It was found that there was a significant difference in the achievement of primary teachers with INSET and without INSET. The mean achievement was higher for teachers with INSET. This indicates the impact of INSET on the teachers. Two hundred forty six upper primary

teachers were provided training for 14 days under SSA. Their achievement was compared with the achievement of 12 teachers who had not undergone in-service training for 14 days. No significant difference was found between the achievement of teachers with INSET and teachers without INSET.

Perception of Teachers

The effectiveness of training programmes was assessed based on the perception of the teachers. About two-thirds of the teachers, both primary and upper primary, felt that the training improved their teaching proficiency to some extent. This indicates the impact of teachers training programmes. 10 per cent perceived no improvement at all in their teaching proficiency.

Experimental and Control Group

Regarding the impact of training on classroom processes of teachers and students' participation in the teaching-learning processes in the classroom, in 64% classes of trained teachers (Experimental Group) and 16.67% classes of untrained teachers (Control Group), students asked questions to seek clarification of certain ideas/concepts. In 10% of classes of trained and 66.7 of classes of untrained primary teachers, students never asked question to seek clarification of their doubts. In trained teaches classes, students were encouraged to participate in the teaching- learning processes and to seek more information from them. Almost the same difference was found in the classes of trained and untrained upper primary teachers regarding students asking questions to seek clarification of their doubts. It can be concluded that trained teachers' classes were significantly better than untrained teachers classes in terms of students' participation in the teaching-learning processes. In 60% classes of trained primary teachers, students often sought more information on the topic under discussion. In the classes of untrained upper primary teachers, this percentage was quite low. Only in 25.32% classes of trained upper primary teachers and 16.67% classes of untrained upper primary teachers, students often sought more information on the topic being transacted in the classroom. Regarding attentiveness of students in primary classes of trained and untrained teachers, it was found that about 85% classes of trained and 66% classes of untrained primary teachers, most of the students were attentive.

Impact of CRC Monthly Meetings

- Most CRCs were located in lead schools. The lead school was either an upper primary school or a high school which was located in the jurisdiction of the CRC. There was no separate room for CRC for conducting monthly meetings and no separate room for CRC co-ordinator. About 70% of CRCs were without electricity. Two-thirds of the CRCs did not have adequate number of books. Since all the CRCs were located in lead schools, the toilet and drinking water facilities of the school were used. One of the classrooms of the school was used for meeting purpose. All the CRC co-ordinators were males.
- Most of the CRCs for upper primary teachers were located in the rural area. There was no separate room in CRCs for conducting the monthly meetings. There was no separate room the CRC co-ordinator either. There was adequate provision of electricity in only 4 out of 14 centres. In six centres, there was no provision of electricity. Out of 14 CRCs, 2 did not have separate toilets for women teachers. Of the remaining 12 centres, 10 centres had have inadequate toilet facilities for women trainees. Only 2 centres were having adequate separate toilet facilities for women trainees. All the CRCs were located in the lead schools. The toilet and drinking water facilities of the school were used. One of the classrooms of the school was used for meeting purpose. All the co-ordinators of the CRCs were males. Further, seating arrangement in most of the CRCs was also equally poor. Either classroom bunches or floor mat were used for sitting. In some centres, chairs were hired from the market.
- The monthly meetings of school complexes (CRCs) were found to be helpful in providing academic support to teachers as stated in state policy document. These meetings helped the functionaries at various levels in the state to provide feedback to different initiatives of RVM-SSA. The attendance of the teachers in these monthly meetings was 70 to 80 per cent only even though the attendance of all the teachers is mandatory;

Impact on Students

- About 86% of the primary students stated that the teachers prepared more teaching-learning material (TLM) after coming back from the training. These materials were used for teaching different school subjects by using innovative methods and approaches of teaching. The TLM was used to display difficult words as spelling and children were required to read and pronounce them. Some teachers used the charts and waste materials like plastic and other unused materials. Some of the students expressed that the teachers were using TLM before training also but they were not as effective as training. The TLMs

were used for introducing the lesson/topic and also explaining the content. Most of the TLM were in the form of charts only. Few teachers have used TLM for providing some project work. The kits supplied by the government, viz., OB kit-science kit, Maths Kit and Mini tool kit, were not utilized.

- In teaching English, TLMs were used to teach matching words, word mapping and grammar. Students participated in transaction of the lesson with the help of experiments. The TLMs were exhibited to provide awareness about the link between science and society. All the teachers used black-boards and chalk pieces. Students collected some material and exhibited on the wall magazine. The “Nijayithi Pette” was marked as the place to give their observations during the process of learning. Drawing pictures was had been incorporated in the introductory part of the lesson. They used TLMs more after the training because they learnt as to how to use TLMs effectively during the training.
- The students noticed some behavioural changes in their teachers after training. They did not get angry when the students asked for clarification of their doubts. After training, teachers gave convincing answers to questions. The domino activities which were identified through the individual “Snehabala” SLIM cards played a major role in teaching the language creatively and effectively. Teachers allowed the students to ask questions freely and encouraged them to ask questions.
- About 76% of the upper primary students stated that the teachers prepared more teaching learning material (TLM) after coming back from training. These materials were used for teaching different school subjects by using innovative methods and approaches to teaching. The TLMs were used to teach topics of the school subject. The science teachers used working and non-working models. The TLM were not used for teaching topics related to mathematics. The TLM were used for explaining the difficult concepts and working models were used to explain the process of experimentation. Most of the TLMs were in the form of charts only. The studies teachers used TLM for providing some project work.

Recommendations

- Training centres lacked basic physical facilities like electricity and furniture for trainees. There is a need to undertake some steps to improve essential facilities like library facility and availability of modern technological gadgets. There is a need to adopt monitoring mechanism to use the facilities that are already available in the training centres. SPD

should take this into consideration at the time of formulating annual plans. Feedback from different sources should be collected by DPOs. These should be trainee based;

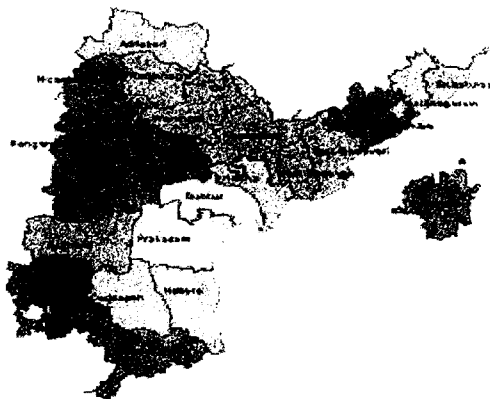
- Most of the centres lacked ICT facilities of internet, power point presentation, VCP/VCR/Projectors, VCDs and DVDs. The need of these facilities was felt by most of the participating teachers in the training centres. ICT facilities need to be strengthened by making provision in the AWP's;
- There is acute shortage of power in Andhra Pradesh. Due to this, power cut is imposed in the state. There is a need to use alternative sources of energy like solar pack, and generators to meet the shortage of power. There is need to provide uninterrupted power supply in the training programmes to render them the most effective.
- Learning materials in the form of training packages for the participant teachers need to be provided on the first day of the training programme. The copies of these modules can be sent to them through the school complexes before the training programme with the instructions that they should read them before coming to the programme. This would facilitate the discussion during the training sessions;
- The lecture method was frequently used during training and classroom transaction. The ICT was not used during transaction both in training and schools. There is a need to provide orientation and training manual to resource persons for organising better training. The transactional approaches used by the resource persons should include demonstration, practice and feedback. There is a need to provide scope for one demonstration lesson based on the constructivist approach which can be used as a model by teachers. This would enable the participant teachers to use this approach in organising the group work, and undertaking collaborative action research in their classroom teaching.
- Females were less represented as resource persons and course co-ordinators. MEOs and DPOs should take up certain measures to improve female representation in these teams.
- The attendance of the teachers in these monthly meetings was quite high. But it was not hundred per cent, even though the attendance of all the teachers was mandatory. The BRC co-ordinator should examine the issue and take steps to encourage teachers to participate in academic issues and problems.
- The school complex received funds on time. But these funds were not adequate to meet the expenses due to price escalation. The SPD should look into this issue for increasing the funds for INSET.

1

Introduction

Backdrop

Andhra Pradesh is located in the southern region of India. It became the first linguistic state on 1st November 1956. The state covers an area of 2, 75,000 sq.km with a population of 8,46,65,533 according to the Census of 2011. Out of this, 66.51% of the population is rural. The average density of population is 277 per sq.km. A large proportion of population speaks Telugu language. Besides the Telugu speaking people, many Urdu speaking people are also living in Andhra Pradesh. The state is flanked by Orissa in the north east, Chhattisgarh and Maharashtra in the north, in the west by Karnataka, in the south by Tamil Nadu and in the East by Bay of Bengal



Map of Andhra Pradesh

Andhra Pradesh has 23 districts spread over three geographical regions- Rayalaseema consists of Anantapur, Chittoor, Kadapa and Kurnool districts; Coastal Andhra consisting of Srikakulam, Vizianagaram, Visakhapattanam, East Godavari, West Godavari, Krishna, Guntur, Prakasam and Nellore districts; and Telangana consisting of Mahaboobnagar, Rangareddy, Hyderabad, Medak, Nizamabad, Adilabad, Karimnagar, Warangal, Khammam and Nalgonda district. Telangana region is considered to be both educationally and economically backward whereas coastal region is considered to be well developed both educationally and economically. Rayalaseema stands in between these two regions with an average level of education and economy. The capital of Andhra Pradesh is Hyderabad. The state population growth rate is 11.10% in 2011.

According to 2011 Census, it has 27,800 villages. The literacy rate of Andhra Pradesh is 67.66% as per 2011 Census. The male literacy is 75.56% and female literacy is 59.74%.

The Universal Elementary Education (UEE) is a Constitutional mandate to provide free and compulsory education to all children up to the age of fourteen in a period of ten years from the implementation of the amendment. The National Policy on Education (NPE) 1986 and Programme of Action (POA) 1992, state: "In our national perception, education is essential for all... Education has an acculturating role. It refines sensitivities and perception that contribute to national cohesion, a scientific temper and independence of mind and spirit - thus furthering the goals of socialism, secularism and democracy enshrined in our Constitution".

The Right of Children for Free and Compulsory Education (RTE) Act 2009 is an important initiative towards the implementation of Education for All. RTE has implications for SSA. The revised framework of SSA based on RTE-2009 is given below.

The SSA programme has been in operation since 2001. The implementation of RTE-2009, has brought some changes which are to be considered for effective implementation. These changes have been incorporated in various approaches, strategies and norms of SSA. The changes are not merely confined to norms for providing teachers or classrooms, but encompass the vision and approach to elementary education as evidenced in the shift in child enrolment and quality of elementary education in regular schools.

The Sarva Shiksha Abhiyan (SSA) programme is being implemented in Andhra Pradesh from the year 2001. Various activities for achieving the target of providing free and compulsory education to all the children in the age group of 6-14 have been initiated as per the provision of the SSA. The District Collector is the Chairman of the District Project of SSA in Andhra Pradesh. The actual work is executed by the District Project Officer in collaboration with the District Education Officer and the District Project Office. The SSA in Andhra Pradesh is called Rajiv Vidya Mission (RVM). In the state of Andhra Pradesh, the state level mission authority known as Rajiv Vidya Mission - Sarva Shiksha Abhiyan (RVM-SSA) is an autonomous authority created by the Government of Andhra Pradesh. This autonomous and independent body has been created by the state government for achieving the goal of universalization of elementary education in the state in accordance with the guidelines of Sarva Shiksha Abhiyan. All the Primary Schools managed by state government, mandal parishad (block level local body unit) and municipality and municipal corporation and Upper Primary Schools managed by state government, mandal parishad (block level local

body unit), zilla parishad (district level local body unit) and municipality and municipal corporation of the entire state (all 23 districts) are covered under the programme.

INSET Policy of the State

The SSA programme places great emphasis on the capacity building of teachers through regular training programmes. The Scheme provides for regular annual in-service training of all teachers for 20 days. The SSA framework amended in 2008 has given more emphasis on practical classroom related teacher training by providing for a maximum of 10 days of institutional training at the BRC level, and another 10 days specifically at cluster/school level in order to ensure follow-up and peer learning and experience practical classroom transaction.

Teacher training programme is one of the top priorities of RVM-SSA, Andhra Pradesh. Under the programme of RVM-SSA, in-service teachers are trained for promoting professional skills as envisaged in the NCF-2005. When the RVM-SSA was launched, one of its important activities was to provide continuous training to the primary and upper primary teachers for their capacity building. The first two training programmes were held at the state level. The State Resource Group (SRG) received training by the resource persons identified by state SPD office and the SCERT. The second state level training for the District Resource Group (DRG) was organised by the SRG in academic collaboration with the SCERT, Hyderabad. The training of Mandal Resource Persons (MRPs) is organised by DRG and SRG members. The primary school teachers' training is now organised by Mandal Resource Persons (MRPs) in the Mandal Resource Centre (MRC). The DIET and District Project Office of RVM-SSA coordinated and monitor the training programmes at the district and sub-district level.

At the state level, State Council of Education Research and Training (SCERT) and at the district level, District Institute of Education and Training (DIET), extend academic resource support for these teacher training programmes. The State Resource Group (SRG) comprising of State Academic Monitoring Officer (SAMO), SCERT staff and other members nominated by State Project Director (SPD) provide academic and resource support for training at the state level. The SRG plans for preparation of training material and modalities for implementation of the training programmes at different levels.

The District Resource Group (DRG) comprising of District Academic Monitoring Officer (AMO) working in District Project Office, DIET staff and other members nominated by the District Project Officer (DPO) provide academic and resource support at the district level. The DRG provides training to Mandal Resource Persons (MRPs) and Mandal Education

Officers (MEOs). The MEOs, in turn, plan for mandal level teacher training programmes at the field level. The DIET provides necessary academic support to teacher training programmes and also monitors their effective implementation. The DRG supports the Mandal Resource Centres (MRCs) and Cluster Resource Centres (CRCs) at the school complex level to carry out various training programmes.

The DRG guides MRCs and CRCs in all matters related to the quality improvement of primary education. The DRG acts as a link between teachers and state authorities like SRG and SCERT. The MRCs and CRCs have direct contact with the schools and practising teachers. The role of MRC and CRC becomes very crucial in capacity building of the teachers and providing them on-site support.

Duration

There is a provision for providing in-service training to all teachers for 20 days for primary teachers and 14 days for upper primary teachers under Sarva Shiksha Abhiyan (SSA) in Andhra Pradesh. The Rajiv Vidya Mission-SSA has separate teacher training programmes for upper primary school teachers. Upper primary teachers are provided training for 14 days of which only 6 days of regular face-to-face training is given and 8 days of training is given in the form of monthly CRC meetings.

Content of Training for Primary Level

The (SPD) tool (ISTT-1) basically deals with subject specific pedagogy like constructivist pedagogy which is focussed in the National Curriculum Framework-2005 (NCF-2005). The MHRD guidelines also focus upon adopting this pedagogy in their training programmes. They also propose to use the 'critical pedagogy' to enable learners to undertake transformative action. The revised MHRD guidelines focus on promoting the learner-centred pedagogy and placing children in an active role. Innovative experiences like the work of the Rishi Valley Trust, the 'Nali Kali' programme of Karnataka, the Activity Based Learning programme of Tamil Nadu, the Hoshangabad Science Teaching Programme by Eklavya in Madhya Pradesh, or the Integrated Kalikayatna Approach in Karnataka also support the use of child-centred, active pedagogy, cooperative learning and the development of critical thinking and problem-solving skills. In-service teacher education is needed for keeping teachers active, to update their knowledge and to remove the inappropriate learning activities in the learning process. The in-service teacher education is needed for fine-tuning professional competence of teachers. The training inputs related to teaching of English,

Mathematics, Science, and Reading Ability as suggested in NCF 2005 and other inputs related to multi - grade and remedial teaching are used. The training inputs are related to teaching of Telugu, English, Mathematics, Science, and Social Studies at upper primary level based on pedagogical issues focused in NCF-2005. Various state level agencies like Regional Institute of English for South India (RIESI), Bangalore, SCERT, and SPO develop the packages. According to data obtained from SPD report, training package is revised from year to year. Feedback from teachers is obtained For revising the modules. Modules are modified to meet the felt needs of teachers on the basis of feedback analysis.

As per the information obtained from the State Project Director (SPD), last two years' training was basically related to subject specific pedagogical issues like constructivist pedagogy that are focussed in the National Curriculum Framework-2005 (NCF-2005). The MHRD guidelines also focus on adopting this critical pedagogy in their training programmes. The MHRD guidelines also propose to use the 'critical pedagogy' which foregrounds questions of inequality and justice and enable the learners to undertake transformative action. The revised MHRD guidelines focus upon promoting the learner-centred pedagogy and placing children in an active role. The RVM-SSA plans for training programmes to be based on the pedagogical issues as advocated in the NCF-2005 for use of child-centred, active pedagogy, cooperative learning and the development of critical thinking and problem-solving skills. The in-service teacher education is needed for keeping teachers active, update their knowledge and to remove the inappropriate learning activities in the learning process. The in-service teacher education is needed for improving the professional status of teachers. Various state level agencies like Regional Institute of English for South India (RIESI), Bangalore, SCERT, and SPO develop the training packages. According to data obtained from the SPD report training package is modified from year to year. For modification of modules feedback from teachers is obtained. Modules are modified to meet the felt needs of teachers on the basis of feedback analysis.

Coverage of Primary Teachers

As per the SPD, RVM-SSA, Hyderabad report, total number of primary teachers in the state was 176332 and out of them 176209 (99.93%) received in-service training during 2009-10, and 147432 (96.45%) out of 152858 received training during 2010-11. The reason for the gap is given by the SPD were that the teachers (1%) had proceeded on leave on personal grounds and due to their involvement in Census work (4%). Against the 10 days block training, 12 days (10 days face-to-face and 2 days through teleconferencing) of training was

provided to the primary teachers. It was followed by 8 monthly meetings at the school complex (CRC). The block level formal training at Mandal Resource Centre was conducted during the summer vacation in two spells. All training programmes were on the use of Snehabala Activity Cards, use of Balasahithyam (children's literature) and preparation of teaching learning material and competency based question papers.

Coverage of Upper Primary Teachers

As per the SPD, RVM-SSA, Hyderabad report, total number of upper primary teachers in state was 59521 and out of them only 35521 received in- service training during 2009-10; and 54226 (65.63%) out of 82627 received training during 2010-11. The reason for the gap, as given by the SPD, was that 40.32% of the upper primary teachers had undergone the training in 2009-10. The other reason for covering only 66% of the upper primary teachers was that they were involved in Census work. The teachers who did not undergo the training were covered by the training in January 2011 during the mid-term vacation in the second term. The RVM-SSA could not conduct these programmes due to strike and other disturbances in the state because of Telangana movement. Against the 10-days block training suggested in SSA guidelines, 6 days face-to-face training was provided to upper primary teachers. It was followed by 8 monthly meetings at the school complex (CRC). There were separate programmes for the upper primary teachers teaching in parallel English medium sections in existing upper primary schools following the CBSE syllabus. They were also provided the training with focus on content enrichment. The block level formal training at divisional level was conducted during the summer vacation in two spells. Use of Balasahithyam (children's literature) and preparation of teaching learning material and competency based question papers were focussed in the training programme.

Organizational Structure

The activities of in-service training are organised at different levels by several agencies outlined here. At the state level, there are two committees- the first committee is the Executive Committee chaired by the Chief Secretary, Government of Andhra Pradesh. The Principal Secretary, Primary Education, Government of Andhra Pradesh, is the Vice-chairperson. The SPD, RVM-SSA is the convener. The second committee is the General Council which the Chief Minister of the State chairs. The Minister for Primary Education, Government of Andhra Pradesh is the Vice-chairperson and the SPD, RVM-SSA is the

convenor. The planning and process of implementation of the INSET is decided by the Executive Committee at the state level.

A similar structure is there at the district level. There is a Monitoring Committee (DLMC). This committee is chaired by the District In-charge Minister. Zilla Parishad Chairman is the Co-chairperson, the District Collector is the Vice-chairman and the DPO is the convenor. All the district level government officials including DEO, are its members.

The State Policy for INSET is monitored by the DLMC. They look into the district level perspective plans which are approved as Annual Work Plan and Budget (AWPB).

The Sarva Shiksha Abhiyan (SSA) which is known as Rajiv Vidya Mission (RVM) in Andhra Pradesh emphasizes quality improvement in elementary education for which SCERT, SPD office, SRGs, DIET, DRG, MRC, CRC and School Complex Heads are responsible for implementing the state policy and carry out the process of planning; implementation and monitoring of all quality related interventions. Therefore, the role of all these people is very important for effective implementation of teacher training programmes.

Similar Structure is used for training upper primary school teachers.

Correspondence with SSA Framework

In-service teacher training programmes, in general, have been developed in every state with active involvement of SPD Office and SCERTs and implemented at district and/or block level with support of DIETs, DPOs, BRCs, and CRCs. The key features of SSA guidelines and its correspondence with state policy of in-service training are given below:

Table 1.1
Correspondence with SSA Framework for Primary and Upper Primary Level

| SSA Guidelines | Status of INSET in A.P. |
|---|--|
| Constructivist approach | Partly covered in all the subjects at primary level including English teaching and in school readiness activities and activities to promote the reading ability at the primary level. Exploration and problem solving behaviours are encouraged. |
| Provide opportunity to reflect | Packages provide some opportunities for reflection. But the training activities require strengthening. |
| Split-up model | SSA guidelines are not followed. The 10 days face-to-face block training is split in to 8 to 10 days and 2 to 4 days. |
| Training duration of 10 days | Only 12-days face-to-face training at primary level was provided in 2010-11. |
| Training in other areas such as art and heritage crafts; health and physical education, work education, peace education, environmental education, science and mathematics | All areas were covered except peace education. |
| Identification of training needs | No formal need assessment was done. |
| Contextually relevant training design | Activity based methodology with the help of illustrations based on local socio-cultural context was followed in the training package. |
| Suggested reading list and other educational audio-video programmes for teachers | Not given. |

Review of Related Studies

Dorasami et.al (1989) conducted an evaluation study of the Programme of Mass Orientation for School Teachers (PMOST) to determine its impact in Karnataka. The findings of the study related to the attainment of the objectives of PMOST revealed that it did not reach the teachers as expected.

Manjula Rao and Lakshminarayana (1998) conducted a study on the impact of SOPT training programme on classroom practices in Andhra Pradesh. The academic awareness of the teachers and their classroom practices were observed before and after the training. Some of the major findings of the study were: (i) The SOPT training programme seemed to have an impact over the academic awareness of teachers. (ii) The SOPT training had impact on the classroom performance of teachers (iii) Almost all teachers were satisfied with the training

material supplied, whereas they were not satisfied with transactional approaches used for imparting the training.

Another similar study on the impact of SOPT training programme in Karnataka was carried out by Manjula Rao and Viswanathappa (1998). The study was conducted in Chickmagalore and Mangalore districts. It concluded that SOPT training had an impact over the academic awareness of teachers. There was considerable effect of SOPT training on the classroom performance of teachers.

The SCERT, Andhra Pradesh (1991) undertook an evaluative study on APPEP. The findings revealed that the in-service training and three-days follow-up courses were found not very useful by majority of the teachers. Only about one-third of APPEP trained teachers seemed to be carrying out group work and display of children's work during classroom instruction. The participation and involvement of teachers in teacher centre meetings was encouraging. The implementation of APPEP contributed to increased pupil participation in the teaching-learning process, increased enrolment rate, minimised drop out rate and reduced absenteeism in primary schools.

The study conducted by K.N. Rao (1994) in Andhra Pradesh on APPEP project noticed transmission loss in in-service programmes which influenced the classroom practices adversely. The study suggested periodic follow-up after the training.

The Uttar Pradesh Basic Education Project (UPBEP) undertook the programme of institutional capacity building with the objective of imparting training to teachers to adopt classroom practices that involved students in individual, small group and large group learning activities. The evaluation team observed that the large scale implementation of the in-service programme had an adverse effect on quality control, which requires continuous monitoring and evaluation.

The UNICEF-sponsored Teacher Empowerment Project (1992) in Madhya Pradesh, Rajasthan, Maharashtra and Uttar Pradesh found that the programme improved the school environment and boosted teachers' morale and self-esteem, and improved their teaching which in turn boosted students enrolment and attendance.

Recently, Regional Institute of Education, Bhubaneswar organised a National Seminar on Quality Elementary Education and Constructivism (17-19 March, 2010). Eighty two papers were contributed by educationists and pedagogists on the theme of the seminar. Three studies presented in this seminar evaluated the constructivist approach. The study by Viswanathappa (2010) entitled, "Impact and Implementation of Learning Enhancement Programme for Quality Improvement of Primary Education" delimits the perception of the

teachers and resource persons on the impact and implementation of the programme. The study yielded suggestions for implementation and important aspects of learning which are affected through the Learning Enhancement Programme (LEP).

Another study by Arora (2010) entitled, "Effectiveness of Teacher Training in Quality Improvement of Elementary Education" indicated that there was no significant effect of training on the classroom deliberations of primary school teachers. The DIETs, SCERTs and NCERT should give serious thought to the percolation of the benefits of teacher training to the classroom for the improvement of the quality of primary education.

A study by Nayak (2010) entitled, "Effect of Constructivist Approach on Students - Learning Achievement in Mathematics at Primary level" revealed that constructivist learning approach can significantly improve student achievement in Mathematics as compared to using traditional expository teaching method. It also indicated that most of the students were satisfied and showed positive perception towards constructivist approach.

The research on impact of in-service programme Special Orientation for Primary Teachers (SOPT) and in-service programmes under DPEP and SSA also indicated the need for continuous capacity building programmes for teachers. The researches in cognitive development, learning and the impact of information and communication technology has necessitated re-orientation of in-service teachers. The findings of the research studies and knowledge explosion further have implications for curricular material and its transaction in the classroom. To meet these challenges of knowledge explosion in content and pedagogy, the continuous training programmes are essential.

Yadav (2000) studied the impact of in-service training of primary teachers in a block in Hissar district in Haryana using pre and post-test design on achievement of teachers and the observed classroom practices. The teachers showed higher achievement after the training. The transfer of training gains to classroom practice was only marginal. Yadav (2002) conducted another study on the impact of SMART-PT in Maharashtra. The training indicated impact on the teachers during classroom transaction. Yadav (2003, 2010) highlights issues on teacher education in general and in-service education in particular.

Justification of the Study

The rationale for studying the impact of INSET emanates from the following research questions:

- How is the training helping the development of teacher's skill in transacting the curriculum?
- Has the INSET Programme motivated students in learning?
- Has it led to improvement in the quality of education?
- Does the quality of the training package meet the required benchmark standards as laid down in the objectives of the INSET?
- What would be the necessary steps with respect to administrative, academic and financial aspects and physical infrastructure and facilities and above all to improve the coordination between administration and other agencies involved in the INSET which need to be addressed for further necessary improvement in the strategy and Action Plan for INSET?

Like other states in the country, in Andhra Pradesh too, the office of the State Project Director, RVM-SSA conducted teacher training programmes in the year 2010-11. After ten years of implementation of teacher training programmes under SSA, there is a need to assess the effectiveness of these training programmes on teachers' classroom practices. The need is further reinforced by the fact that sizeable funds have been used to deliver the INSET since the inception of SSA. Evaluation of the impact is to determine the usefulness of this investment. The Government of India has enacted the Right of Children to Free and Compulsory Education Act 2009. This Act has further been compounded on the implementation of SSA in general and teacher training programmes in particular. Therefore, the present study is needed to study the impact of teacher training programme under SSA on teachers' classroom practices. The study would provide the guidelines to the planners and implementers for better planning and implementation. This study is also needed to get a broader perspective of the extent the objectives of the SSA programme have been achieved through the teacher training programmes and to make appropriate suggestions to put the programme on the right track.

Objectives of the Study

The main objective of the study was to examine the content of the existing 20 days in-service teacher training programmes organised under SSA to assess its impact on teachers' classroom teaching and to suggest changes in the training programmes for making them more effective.

Hence, the following objectives were formulated for the study:

- To assess the adequacy of training inputs including process of planning, preparation and content of modules & materials used in training programmes of 2008-09, 2009-10 and 2010-11 and to find out necessary changes in training strategy and programmes over the three years.
- To study the transactional modalities of the training programmes of 2010-11.
- To study perceptions of the teachers about the efficacy and usefulness of in-service training and to examine how the perception differs with regard to gender, experience and qualifications.
- To assess the capability of resource persons in terms of their training and experience, their preparedness, their views on the impact of training on teachers.
- To determine the impact of training programme in terms of change in classroom practices of teachers.
- To find out whether students observe any change in teacher behaviour and method of teaching after training.
- To assess the opinion of other functionaries such as BRC/CRC co-ordinators and VEC/SMC members on the impact of teacher training on classroom processes.
- To find out the constraints or problems, if any, in using training inputs in classroom transaction.,
- To suggest measures for improving training programmes and ensuring greater utilization of training outcomes by teachers in classroom teaching.

Delimitations

At the national level, 13 tools were developed to study the impact of in-service training programme. The in-service training schedule of 20 days has been suggested under SSA framework for all the elementary teachers every year. The RVM-SSA, Andhra Pradesh organises separate teacher training programmes for primary and upper primary school teachers. Primary teachers undergo 20 days of training by using the split model with 10 days of face to face training, 8 days through monthly CRC meetings, and 2 days through Teleconferencing. The Upper Primary teachers undergo 14 days teacher training instead of 20 days as envisaged in split model with 6 days of regular face-to-face training and 8 days through monthly meetings.

The present study made an attempt for a fairly comprehensive assessment of the impact of teacher training programmes under SSA on the classroom practices of primary and upper primary school teachers. Learning activities are based on the suggestions of NCF-2005 for teaching various school subjects, viz. language (Telugu), Mathematics and Science, Social Studies and English in Andhra Pradesh. The study highlights well-defined objectives with a view to making a detailed study of teacher training programmes organized under SSA and to study the effectiveness of the teacher training programmes on teachers' classroom practices. The study is confined to the training programmes meant for all teachers excluding other special focus training programmes. The study is further limited to only post-test design.

2 Design and Methodology

This chapter deals with design of the study, sample of the study, tools used for assessing the impact of INSET in the state and analysis plan of the study.

Design of the Study

The research design is ex-post facto design, a combination of qualitative and quantitative methods of research. The training programmes in Andhra Pradesh were conducted in June and July 2010 for primary and upper primary teachers. Therefore, ex-post facto design was adopted to study the impact of teacher training programmes under SSA on classroom practices of primary and upper primary teachers. The tools- Achievement Test, Classroom Observation and Interview Schedule for teachers, resource persons, course directors and CRC co-ordinators, Focus Group Discussion with students and Case study were used for collecting the qualitative and quantitative data. The objectives of in-service teacher training programmes as articulated in training packages for the year 2010-11 prepared by SPD office, RVM-SSA, Andhra Pradesh were taken as basis for assessing the teacher training programmes. Relevant documents were collected from the SPD office and analysed, with the help from the expert group. Information relevant to the study was collected from various functionaries and institutions concerned with training programmes, such as, State Project Office, SCERT, District Project Offices, DIETs, SRG, DRG, and BRC and also from participant teachers who had undergone teacher training. The process adopted for development of the training material and organization of training programmes were also studied in terms of change in teacher behaviour and perceptions of students about the change. A control group of teachers who had not undergone teacher training in the year 2010-11 was also selected to find out whether their classroom processes differed from those of teachers who received training. These teachers were selected from similar schools of the same mandal/division. Necessary tools relevant in the context of Andhra Pradesh were used.

Sample of the Study

The sample of the study was selected by using multi-stage sampling. At the first stage, four districts were selected representing different regions of the state. At the second stage, one

mandal from each educational division was selected using systematic sampling. Third stage was the selection of the primary teachers who had undergone 20 days of in-service training. At the upper primary level, only one training centre with subject specific training from an educational division was selected. Thus, the sample of the study was drawn from the following districts - Adilabad, Chittoor, Nalgonda and Visakhapattanam by using multi stage purposive and systematic sampling techniques. These districts were selected keeping in view the geographical and literacy rate variations.

Table 2.1
Sample of the Study

| District | Mandal/Division | | Primary Level | | Upper Primary Level | |
|-----------------|----------------------|--------------|----------------------|-----------------------|----------------------|-----------------------|
| | Educational Division | Mandal | Teachers' Perception | Classroom Observation | Teachers' Perception | Classroom Observation |
| Adilabad | Utnoor | Utnoor | 32 | 8 | 62 | 20 |
| | Manchiryal | Laksitpet | 32 | 8 | | |
| | Nirmal | Bhinsa | 33 | 8 | | |
| Chittoor | Chittoor | Puthalapattu | 30 | 8 | 63 | 22 |
| | Madanapalli | Nimmanapally | 32 | 8 | | |
| | Tirupathi | Rompicherla | 33 | 8 | | |
| Nalgonda | Bhuvanagiri | Bhuvanagiri | 35 | 9 | 57 | 17 |
| | Suryapet | Athmakur(s) | 32 | 8 | | |
| | Miryalaguda | Damaracherla | 33 | 8 | | |
| Visakhapattanam | Vishaka | Bheemli | 30 | 8 | 64 | 20 |
| | Yalamanchali | Rambilli | 35 | 8 | | |
| | Paderu | Paderu | 31 | 8 | | |
| Total | | | 390 | 97 | 246 | 79 |

One training centre from each district for primary level was selected. The training centre for primary teachers was Mandal Headquarters. Thus 385 teachers who participated in 12 training centres of four districts formed the sample. Eight teachers from the selected mandal were randomly picked up for classroom observation. Thus, the ninety seven Primary teachers were selected for classroom observation using systematic sampling technique.

The teacher training programmes for upper primary teachers were based on their subject of teaching. The sample of upper primary school teachers was 246 drawn from the four districts. In addition to this, 79 upper primary teachers were selected for observation of their classroom transaction. Besides, 36 MRPs (Mandal Resource Persons) and 12 MEOs

(Mandal Education Officers) for primary and 4 Dy.EOs (Deputy Educational Officers) and 12 RPs covering all the subjects for upper primary teachers' training formed the sample for the present study.

Tools Used

In order to realize the objectives of the study, the following tools were developed by the National Study Team.

Schedule and Guidelines for Assessment of Training Packages (ISTT-1)

This tool provides guidelines to analyse and evaluate the training packages developed and used in different states during the years 2008-09, 2009-10 and 2010-11. The training package refers to a complete set of training material. The tool consists of two parts. The first part deals with information about the training package and the second provides guidelines for the evaluation of the training package in the light of NCF-2005. The tool facilitates the task of analysis of the training packages. The guidelines also suggest different aspects of the packages which need to be evaluated in respect of objectives of the training, areas covered, transaction methodologies, time required and evaluation procedure given in the package.

The tool also provides guidelines to examine changes, if any, in the package(s) used in 2010-11 in comparison to the package used during 2008-09, 2009-10. In order to study the opinion of the experts about the training packages for the years 2008-09, 2009-10 and 2010-11, fourteen statements are included in the tool. The expert opinion is sought on a 3-point scale, 'to a large extent', 'to some extent' and 'not at all'. The scoring values assigned for these options are 3 for 'to a large extent', 2 for 'to some extent', 1 for 'not at all'.

Schedule for State Project Director (SPD) of SSA/Director SCERT (ISST-2)

This tool is meant for seeking information from SPD/Director SCERT/State Training Coordinator on the planning and implementation of in-service training of teachers under SSA for primary and upper primary school teachers in sampled states. The tool consists of 31 items related to general information, number of teachers covered, location of training centres both for block and monthly meetings, role of different institutions in organizing training, design of training package, selection of resource persons and evaluation of training and mode of receiving funds and problems in meeting the target.

Facilities in the Training Centres (ISTT-3)

This tool is meant for collecting information regarding the availability of physical facilities, equipments and training material(s) at the training centres established in schools/CRCs/BRCs/DIETS in sampled states. There are 17 items in this schedule which are divided into three sections. Section A deals with basic information about location of teachers, resource persons and training coordinators. Section B deals with the infrastructural facilities available at the centres and Section C deals with the training material available/used at the centre.

Training Observation Schedule (ISTT-4)

This schedule is meant for observing a training session conducted by the Resource Person during the training programme. It consists of 25 items. First ten items are related to general information and the other 15 are related to skills and behaviour of the Resource Person during training transaction. These are related to introduction of lesson, presentation of new concepts, asking questions and answering them, treating the trainees on equal footing, use of resource material, attentiveness of trainees and concluding the lesson.

Teachers' Perception about In-service Training (ISTT-5)

This questionnaire aims at eliciting teachers' perception about the training programme. The questionnaire is filled in by the teachers on the last day of the training programme. There are 31 items in the tool. The items seek to elicit their perception regarding the physical facilities available at the centre, the distribution of the training material and stationery, the quality of training material, the transactional mode, assessment of resource persons, self-assessment, relevance and benefit of training and the strengths and weaknesses of the training.

Resource Persons' Perception about in-service Training (ISTT-6)

This questionnaire aims at studying the resource persons' perception about in-service training of teachers. It seeks to elicit their perception about various aspects of in-service training organized for primary/upper primary school teachers. There are 35 items in the tool. Items 1-6 deal with the general information and items 7-18 deal with the personal bio-data of the resource persons. Items 19-35 deal with the training programme in which they acted as resource person. These items seek to elicit their perception regarding the physical facilities available at the centre, the distribution of the training materials and stationery, the quality of

training material, the transactional mode, quality of the training module used, strengths and weaknesses of the training and suggestions for improvement.

Questionnaire for Training Coordinator (ISTT-7)

This questionnaire aims at studying perceptions of the training coordinators about the training programme. There are 26 items in the tool. Item 1-14 deal with the personal information about the training coordinators. Item 14-26 deal with the various issues related to physical facilities, procedure of inviting the trainees, preparation of training schedules, attendance of the trainees, procurement and distribution of training materials, mechanism to evaluate the performance of the Resource Person, funds, strengths and weaknesses of the programme and suggestions for further improvement.

Guidelines for Conducting Focus Group Discussion with Students (ISTT-8)

This tool is meant to conduct the Focus Group Discussion (FGD) with the students in order to study the impact of training on the teachers in their classrooms teaching in schools. The Field Investigators conducted group discussions with students of classes IV/V & VII/VIII in small groups (5-6 students) to find out changes in teaching practices of teachers who had undergone training. The Investigators/State Coordinators were required to conduct the discussion around the questions listed under guidelines for discussion.. These questions were suggestive. Further questions were to be asked for deeper probing. All responses of the students were recorded. The guidelines focused on the changes in teachers and their teaching after the training related to the preparation and use of TLM, changes noticed in the behaviour, activities organized in the classroom and participation of the students in activities, type of new activities organized and students' involvement in activities.

Case Study of a Training Centre (ISTT-9)

This tool provides guidelines to conduct case studies of two training centres, i.e., one for upper primary and the other for primary level. The guidelines suggest various techniques to be adopted for collection of data like conducting interviews with teachers, resource persons, training coordinators and non-academic staff about availability and functioning of physical facilities, equipments, training material etc.

Schedule for CRC Coordinator (ISTT-10)

This schedule aims at studying the perception of CRC coordinator about the monthly meetings. There are 31 items in the tool. Items 1-5 deal with the personal information about

the CRC coordinator. The remaining questions deal with the monthly meetings held during 2009-10 and 2010-11, the physical facilities available at the centre, the availability of teaching aids/equipments, details of the resource persons invited, reasons of absence of teachers in monthly meetings, use of different modes of transport for attending meetings, criteria for identifying the issues discussed at monthly meetings, mechanism to evaluate the performance of the teachers in the meetings, attendance and performance of the teachers in the monthly meetings, reasons for dissatisfaction, funds received and suggestions for improvement of monthly meetings.

Schedule for Monthly Meetings for Teachers (ISTT-11)

This schedule aims at studying the perception of the teachers related to the organization and impact of monthly meetings. The schedule to be filled by the teachers, details the activities conducted in the monthly meetings. There are forty items in the tool, which deal with different aspects of the monthly meetings. Items 1-7 deal with the personal information related to the teachers who attended the monthly meetings. Items 8-10 are related to the dates and venue of the meetings. Items 11-12 are related to the objectives of conducting the meetings and issue of invitation for monthly meetings. Item 16 is related to the mode of transport used by teachers for attending the meetings. Item 18 deals with the number of meetings held during 2009-10 and 2010-11. Seating arrangement is dealt within the items 21 and 22. Items 23 -24 deal with the physical facilities and the aids and equipments available at the centres. Items 25-29 deal with the issues discussed in the meetings, clarification of doubts of the teachers, etc. The approaches/methods learnt in the meetings, the activities conducted in the meetings, usefulness of these activities in the classroom, etc. are dealt within the items 30-32. Mechanism of evaluation of performance of the teachers, feedback of teachers utilized in the meetings, payment of TA/DA, providing lunch/breakfast, etc. are dealt within items 33-38. Items 39 and 40 deal with the reaction of the teachers regarding the meeting and general comments on the meetings.

Observation Schedule for Monthly Meetings of CRC (ISTT-12)

This schedule is meant for facilitating observation of different activities in monthly meetings of the CRC. There are 19 items in this tool. Items 1-7 deal with the general information regarding the meetings. Items 8-11 are related to the agenda, introduction, and issues of the meeting and the levels of participation of teachers. Activities conducted during the meetings, issues raised by teachers related to the curriculum and the innovations attempted by teachers

are dealt within the items 12-14. Items 15-17 are related to usefulness, liking of agenda and weakness(es) of the meetings. Items 18 and 19 are related to the issues to be discussed in the next meeting and suggestions for organizing meetings in an effective manner.

Classroom Observation Schedule (ISTT-13)

This schedule is meant for the observation of the lesson of the teacher in the classroom. Separate schedules are to be filled in for each lesson taught by the teacher. This schedule has 30 items for classroom transaction. The items are related to introduction of the lesson, presentation, concepts explained, dealing with questions, students' participation, resource materials used, activities organized, use of text-books, evaluation of students, praiseworthy and undesirable features, etc. These are to be rated on a three/four point scale provided in the classroom observation schedule.

Achievement Test (ISTT-14)

1. Achievement Test for Primary Teachers was based on training inputs provided to them in teacher training programmes. This was common for all primary teachers. It contained 60 multiple choice test items. Each item carried one mark yielding maximum score of 60.
2. Achievement Test for Upper Primary Teachers consists of two parts. Part-I contains 20 Multiple Choice Test Items based on General Inputs of the training programme. Part-II contains 40 multiple choice test items based on the training inputs of various school subjects at upper primary level, viz., Telugu, English, Mathematics, Science and Social Studies. Al-together there were 60 multiple choice items in the upper primary teachers' test. Each item carried one mark yielding maximum score of 60.

Field Notes

During field visits by members of the national and state study teams, extensive field notes were taken about the unique incidents to supplement the field data.

Procedure for Collection of Data

All the tools, except achievement test, developed by the NCERT were used for collecting the requisite data. The achievement test was developed by the state research team. The tools used for different personnel are shown in Table 2.2.

Table 2.2 Tools Used for Different Personnel

| Sl. No. | Institutions | Tool Schedule used | Target Group on whom the tool was used | Number of Persons to whom the tool was administered |
|---------|---|---|--|---|
| 1. | RIE, Mysore | ISTT 1 | Expert group workshop for assessing training package of primary and upper primary teachers | 8 |
| 2. | SPD Office, RVM-SSA, Hyderabad | Schedule for SPD (ISTT-) of RVM-SSA, Hyderabad | State project director | 1 |
| 3. | Director, SCERT, Hyderabad | Schedule for SPD (ISTT-2) of RVM-SSA, Hyderabad | Director, SCERT | 1 |
| 4. | Mandal Resource Centre (Training Venue) | Facilities at Training Centre (ISTT-3) | MEO and/or Course Co-ordinator | 12 (3 from each district) |
| 5. | Mandal Resource Centre for Primary and Divisional Level for Upper Primary | Teachers Perception (ISTT-5) | Participating teachers of primary and upper primary school | 385 Primary teachers and 246 upper primary teachers |
| 6. | Mandal Resource Centre for Primary and Divisional Level for Upper Primary | Resource Persons (ISTT-6) | Mandal resource persons and resource persons for different subjects at upper primary level | 36 |
| 7. | Mandal Resource Centre for Primary and Divisional Level for Upper Primary | Course Directors (ISTT-7) | MEO/HM/Dy. Educational Officer | 12 |
| 8. | School in which Focused Group Discussion were held | Focus Group Discussion with Students (ISTT-8) | Students of class 4 for primary and students of class 7/8 for upper primary | |
| 9. | MRC, Puttar HAD School, Uttoor | Case Study of Training Centre (ISTT-9) | Training Co-ordinations Resource Persons, Teachers and Others | 2 |
| 10. | School Complex for Primary and MRC for Upper Primary | CRC Co-ordinators (ISTT -10) | CRC co-ordinators and Heads of school complexes | 1 |
| 11. | School Complex for Primary and MRC for Upper Primary | Schedule for monthly meetings for | CRC co-ordinators and Heads of school teachers | |

| | | | | |
|-----|--|--|--------------------------------|---|
| | | teachers (ISTT-11) | | |
| 12. | School Complex for Primary and MRC for Upper Primary | Observation on CRC meetings (ISST-12) | Used by field investigator/JPF | |
| 13. | Primary Schools and Upper Primary Schools | Classroom Observation Schedule (ISTT-13) | Used by field investigator/JPF | 97 primary teachers and 79 upper primary Teachers |

Schedules bearing No.ISTT-4, 5, 6, 7 and 9 could not be used as training programmes had been completed in June and July, 2010.

Apart from these, 96 primary teachers and 12 upper primary teachers who had not undergone 20 days' training were also selected.

Analysis of the data

Both quantitative and qualitative analysis of the data was carried out.

Quantitative Analysis: Descriptive and inferential statistics was applied to analyse quantitative data. The frequencies under each item with corresponding percentages were computed. t-test was used for comparing the achievement scores of primary teachers who had undergone 20 days training (10 days face-to-face, 8 days monthly CRC meetings at school complex and 2 days of teleconferencing) with the primary teachers who had not undergone the 20 days training in 2010-11. Oneway ANOVA was also used for comparison based on age, experience and qualification in respect of achievement scores of upper primary teachers who had undergone 14 days training (6 days face-to-face and 8 days monthly CRC meetings at school complex) with the upper primary teachers who had not undergone the training in 2010-11.

Qualitative Analysis: Content Analysis was used for assessment of the training package, Descriptive responses for the open ended questions and (c) Focus Group Discussion for classroom transaction.

3

Quality of INSET

Andhra Pradesh has its own structure for implementation of in-service training programmes for primary teachers. There are 1137 MRCs and 6,935 CRCs which are known as school complexes in the state. The Mandal Education Officer (MEO) co-ordinates the in-service training programmes. In the absence of MEO, the Headmaster of a High School acts as a course co-ordinator. The succeeding paragraphs indicate physical and organizational facilities available in 12 MRCs drawn from four sampled districts. The list of MRCs selected for the study is given in chapter 2 under sample of the study.

Physical Facilities

Primary

Tables to provides information about physical facilities.

Table 3.1
Availability of Rooms at Training Centres

| | Number of rooms | | | Total |
|-----|-----------------|---|-----|-------|
| | 1 | 2 | > 2 | |
| No. | 10 | 2 | 0 | 12 |

Table 3.2
Physical Facilities at Training Centres

| Facilities | Available and adequate | Available but inadequate | Not available | Total |
|------------------------------------|------------------------|--------------------------|---------------|-------|
| Boarding and Lodging Arrangements | 0 | 0 | 12 | 12 |
| Safe drinking water | 8 | 4 | 0 | 12 |
| Toilet | 10 | 2 | 0 | 12 |
| Separate toilet for women trainees | 2 | 6 | 4 | 12 |
| Library/Reading room | 0 | 2 | 10 | 12 |
| Space for training sessions | 2 | 8 | 2 | 12 |
| Space for group work | 0 | 8 | 4 | 12 |
| Provision of electricity | 2 | 8 | 2 | 12 |
| General cleanliness | 0 | 10 | 2 | 12 |

Table 3.3
Arrangements for Serving Meals at different Training Centres

| | Number of centres where | | | |
|--------|-----------------------------|------------------------------|-------------------------------------|-------|
| | A caterer supplies the food | Food is cooked at the centre | Trainees arrange meals of their own | Total |
| Number | 12 | 0 | 0 | 12 |
| % | 100 | 0 | 0 | 100 |

Tables 3.1 and 3.2 reflect the physical facilities available at MRCs. Ten training centres had only one room, while two centres had two rooms. One room in MRC building was used for MEO office room cum record room. There were no facilities for boarding and lodging at any of the MRC buildings. The training programmes under RVM-SSA were non-residential. Therefore lack of facilities for boarding and lodging at the MRC building did not influence the training programme.

Eight training centres had adequate safe drinking water whereas four had inadequate drinking water. The toilet facility was available in 10 out of 12 training centres. Toilets facilities were inadequate in two of the training centres. Separate toilet facility for women trainees was not available in four training centres. This facility was inadequate in six training centres. About 10 training centres did not have library facility. Only two centres had library facility which was inadequate. No training centre had adequate space for training sessions and group work. The electricity facility was partially available in eight centres. The general cleanliness was inadequate. The basic facilities like of toilet and drinking water should be provided at the training centres. The cleanliness of the surrounding areas is essentially required for smooth functioning of training programmes. The SPD should therefore take necessary steps for appointment of a scavenger to maintain the MRCs.

Table 3.4
Teachers' Perceptions regarding Physical Facilities and Equipments at the Training Centres

| | Satisfied with physical facilities | | | Satisfied with equipments | | |
|--------|------------------------------------|----|-------|---------------------------|------|-------|
| | Yes | No | Total | Yes | No | Total |
| Number | 312 | 78 | 390 | 387 | 3 | 390 |
| % | 80 | 20 | 100 | 99.23 | 0.77 | 100 |

Table 3.5
Course Director's Perceptions regarding availability of Physical Facilities and Equipments

| | Availability of Physical Facilities and Equipments | | |
|--------|--|----|-------|
| | Yes | No | Total |
| Number | 12 | 0 | 12 |
| % | 100 | 0 | 100 |

Though the electricity facility was inadequate in 8 training centres, 80% of the participating teachers were satisfied with physical facilities in the training centres. 99.23% of the teachers were satisfied with equipment available at the training centres. The physical facilities like furniture and equipment, library, separate rooms for discussion and lodging facilities need to be improved. The library facility is essential as it helps trainees to refer the books. If the lodging facility and library facility are available at the training centres, the training can be converted into residential as it will provide more scope for discussions and participation. The SPD needs to explore the possibilities providing these essential facilities to make the programmes residential from 2012-13 onwards.

Upper Primary

Table 3.6
Availability of Rooms at Training Centres

| | Number of Rooms | | | Total |
|-----|-----------------|---|-----|-------|
| | 1 | 2 | > 2 | |
| No. | 4 | 0 | 0 | 4 |

Table 3.7
Physical Facilities at Training Centres

| Facilities | Available and adequate | Available but inadequate | Not available | Total |
|------------------------------------|------------------------|--------------------------|---------------|-------|
| Boarding and lodging arrangements | 0 | 4 | 1 | 5 |
| Safe drinking water | 2 | 3 | 0 | 5 |
| Toilet | 1 | 4 | 0 | 5 |
| Separate toilet for women trainees | 2 | 3 | 0 | 5 |
| Library/Reading room | 0 | 5 | 0 | 5 |
| Space for training sessions | 0 | 4 | 1 | 5 |
| Space for group work | 0 | 2 | 3 | 5 |
| Provision of Electricity | 1 | 3 | 1 | 5 |
| General Cleanliness | 0 | 3 | 2 | 5 |

Table 3.8
Arrangement for Serving Meals at different Training Centres

| | Number of centres where | | | Total |
|--------|-----------------------------|------------------------------|-------------------------------------|-------|
| | A caterer supplies the food | Food is cooked at the centre | Trainees arrange meals of their own | |
| Number | 4 | 0 | 0 | 4 |
| % | 100 | 0 | 0 | 100 |

Tables 3.6 and 3.7 indicate physical facilities available at training centres. The electricity facility was available at only one of the training centres. Facilities for boarding and lodging were not adequate at any of the training centres. Those teacher trainees who were from a distant place, were asked to stay in a hotel. Mostly the training programmes under RVM-SSA were non-residential. Therefore, the lack of facilities for boarding and lodging at the training centre did not have any influence on the training programme.

Three training centres had inadequate safe drinking water, whereas 2 training centres had adequate drinking water. The toilet facility was adequately available in 1 out of 5 training centres. The toilet facilities were inadequate in four training centres. The toilet facility for women trainees was not adequately available in 3 training centres. It was adequately available in only 2 training centres. All the training centres did not have adequate library facility. No training centre had adequate space for training sessions and group work. Electricity facility was inadequately available in 3 centres. One training centre did not have electricity at all. The general cleanliness was inadequate. The basic facilities in the training centre like toilet and safe drinking water are essential. The cleanliness of the surrounding areas is essentially required for smooth functioning of training programmes. The SPD therefore, needs to take necessary steps like appointment of a scavenger to maintain the MRC.

Table 3.9
Teachers' Perceptions Regarding the Physical Facilities and Equipments at the Training Centres

| | Satisfied with physical facilities | | | Satisfied with equipments | | |
|--------|------------------------------------|----|-------|---------------------------|----|-------|
| | Yes | No | Total | Yes | No | Total |
| Number | 202 | 44 | 246 | 185 | 61 | 246 |
| % | 82 | 18 | 100 | 75 | 25 | 100 |

Table 3.10
Course Director's Perceptions regarding availability of Physical Facilities and Equipments

| | Availability of Physical Facilities and Equipments | | |
|--------|--|----|-------|
| | Yes | No | Total |
| Number | 4 | 0 | 4 |
| % | 100 | 0 | 100 |

Even though the electricity facility was inadequate in 4 training centres, 82% of the participant teachers were satisfied with physical facilities in the training centres. 75% of the teachers were satisfied with equipment available at the training centres. All the course directors were satisfied with the availability of physical facilities. The physical facilities like furniture and equipment, library, separate rooms for discussion and lodging facilities need to

be improved. The library facility is essential as it helps trainees refer to the books. The lodging facility was not available in any of the training centres. If the lodging facility and library facility are available at the training centres, the training can be converted into residential to provide more scope for discussion and participation. The SPD may explore the possibilities of providing these facilities to make the programmes residential from 2011-12 onwards. The non availability and inadequacy of several physical facilities need to be addressed from SSA funds to improve the quality of INSET.

Learning Materials/Equipments

Primary

Table 3.11 provides the extent to which different teaching aids/equipments were available and used in the training programme as perceived by teachers.

Table 3.11
Availability, Need and Use of Teaching Aids/Equipments during Training

| Item | Availability | | Needed for training | | Use | | |
|-----------------------------|--------------|-----|---------------------|-----|------------|-----------|--------|
| | Yes | No | Yes | No | Frequently | Sometimes | Rarely |
| 1. Blackboard | 390 | -- | 390 | 0 | 360 | 30 | -- |
| 2. Power point presentation | -- | 390 | - | - | - | - | - |
| 3. Internet Facility | -- | 390 | - | - | - | - | - |
| 4. Television | 300 | 90 | 260 | 130 | -- | 45 | 255 |
| 5. VCP/VCR/Projector | - | 390 | 295 | 95 | 0 | 0 | 0 |
| 6. Video CDs | - | 390 | - | - | - | - | - |
| 7. DVD Player | - | 390 | 250 | 140 | - | - | - |
| 8. Dictionary | 324 | 66 | 297 | 93 | 180 | 52 | 92 |
| 9. Science Kit | 390 | 0 | 289 | 101 | 100 | 102 | 188 |
| 10. Math Kit | 390 | -- | 200 | 190 | 116 | 110 | 164 |
| 11. Globe | 390 | 0 | 300 | 90 | 88 | 102 | 200 |
| 12. Maps/Charts | 390 | 0 | 288 | 102 | 38 | 155 | 197 |

Table 3.11 reveals that blackboards were available in all the training centres and were frequently used. Modern electronic equipments like power point presentation, internet facility and DVDs and VCDs were not available in the training centres. The maths and science kit had been supplied under Operation Blackboard scheme in the early 90's, hence were available. The charts, globe, and dictionary were available at the training centres. Dictionary, science kit, maths kit, globe, and maps/charts, though available in most of the centres, were

used sometimes or rarely. This indicates that in all the teacher training programmes, teaching learning process was mostly accomplished through blackboard. There was no provision for using the modern ICT facilities like internet and power point presentation. The other technological facilities like VCDs and DVDs were not available at all. These facilities are essential and help the MEO and MRPs in the discussions and provide more scope for using the documented innovative approaches as an illustration in the discussions while transacting the modules. The SPD needs to take steps to provide the ICT facilities to all the centres. The SPD may also explore the possibilities for providing these facilities in the MRCs under the Central Government Scheme known as National Mission of Education. ICT facilities (NMEICT) will serve as permanent resources for future training programmes.

Upper Primary

Table 3.12
Availability, Need and Use of Teaching Aids/Equipments during Training

| Items | Availability | | Needed for training | | Use | | |
|-----------------------------|--------------|-----|---------------------|-----|------------|-----------|--------|
| | Yes | No | Yes | No | Frequently | Sometimes | Rarely |
| 1. Blackboard | 246 | 0 | 246 | 0 | 196 | 38 | 12 |
| 2. Power point presentation | 0 | 44 | 146 | 100 | 0 | 0 | 0 |
| 3. Internet Facility | 0 | 246 | 140 | 106 | 0 | 0 | 0 |
| 4. Television | 148 | 98 | 176 | 70 | 28 | 20 | 100 |
| 5. VCP/VCR/Projector | 200 | 46 | 120 | 126 | 0 | 20 | 180 |
| 6. Video CDs | 0 | 246 | 128 | 118 | 0 | 0 | 0 |
| 7. DVD Player | 0 | 246 | 20 | 226 | 0 | 0 | 0 |
| 8. Dictionary | 200 | 46 | 240 | 6 | 146 | 36 | 18 |
| 9. Science kit | 0 | 246 | 206 | 40 | 0 | 0 | 0 |
| 10. Math kit | 0 | 246 | 196 | 50 | 0 | 0 | 0 |
| 11. Globe | 204 | 42 | 200 | 46 | 32 | 164 | 8 |
| 12. Maps/Charts | 200 | 46 | 198 | 48 | 36 | 160 | 4 |

Table 3.12 reveals that blackboard was available in all the training centres and was frequently used. Modern electronic equipments like power point presentation, internet facility and DVDs and VCDs were not available in all the training centres. The Maths and Science kits were also not available. Charts, globe, and dictionary were available and were sometimes used at the training centres. Blackboards were most frequently used. This indicates that the

transaction of teacher training programmes was mostly done through blackboards and other teaching aids and equipments were sometimes or rarely utilized.

The teachers perceived that the blackboard facility was available and used excessively during the training. There was no provision for using the modern ICT facilities like internet and power point presentation in the training centres. These facilities are essential and help the MEO and MRPs to use in the discussion and provide more scope for using the documented innovative approaches as an illustration in the discussions while transacting the modules. The SPD may take steps in this regard to provide the ICT facilities to all the centres. The SPD can also explore the possibilities for providing these facilities in the MRCs under the Central Government scheme known as National Mission of Education. ICT facilities (NMEICT) will serve as permanent resources of learning in future training programmes.

Training Curriculum and Content

Resource Persons' Perception Regarding the Training Package (Primary)

Resource persons' perceptions were assessed with the help of ISTT-6 meant for resource persons. For the present study data were collected from 36 resource persons who were engaged in the training of primary teachers. There were two resource persons for each training centre. The SRG and DRG members and DIET faculty who monitor the training were also involved in the transaction of training modules. The ISTT-6 was given only to the regular resource persons attached to that training centre.

Table 3.13
Training Package prepared for Teachers received by Resource Persons

| Training package received | | | |
|---------------------------------|--|---------------------|-------|
| Before commencement of training | On the day of commencement of training | During the training | Total |
| 0 | 12 | 0 | 12 |

From the Table 3.13, it is evident that the training packages were provided to the resource persons on the first day of the training programme

Tables 3.14, 3.15 and 3.16 provide data regarding difficulty faced by teachers in understanding the training package, the relevance of training package and deficiencies in it.

Table 3.14
Perceptions of Resource Persons about Difficulty Faced by
Teachers in Understanding the Language of the Training Package

| | Extent of difficulty | | | |
|--------|----------------------|----------------|----------|-------|
| | To a large extent | To some extent | Not much | Total |
| Number | 9 | 2 | 1 | 12 |
| % | 75 | 16.67 | 8.33 | 100 |

Table 3.15
Perceptions of Resource Persons about Relevance of
Training Package to the Needs of Trainees

| Extent of relevance of training package | | | |
|---|----------------|----------|-------|
| To a large extent | To some extent | Not much | Total |
| 10 | 1 | 1 | 12 |
| 83.34% | 8.33% | 8.33% | 100% |

Table 3.16
Trainees found Deficiencies in the Training Material

| Type of difficulty | Rural | | | | Urban | | | |
|--|------------------------|-----------------|-----------------|-------|------------------------|-----------------|-----------------|-------|
| | In none of the modules | In some modules | In most modules | Total | In none of the modules | In some modules | In most modules | Total |
| Difficult language | 136 | 90 | 0 | 226 | 41 | 25 | 2 | 68 |
| Content too theoretical | 56 | 165 | 5 | 226 | 23 | 45 | 0 | 68 |
| Lack of examples | 72 | 149 | 5 | 226 | 14 | 52 | 2 | 68 |
| No illustrations | 66 | 151 | 9 | 226 | 17 | 50 | 1 | 68 |
| No practical exercises | 202 | 21 | 3 | 226 | 55 | 12 | 1 | 68 |
| No proper sequential presentation of content | 64 | 153 | 9 | 226 | 22 | 39 | 7 | 68 |
| Concepts not properly clarified | 131 | 84 | 11 | 226 | 43 | 25 | 0 | 68 |

Most of the resource persons (75%) reported that modules were difficult to understand to a very great extent. This is also in correspondence with the figures for rural school teachers where 40% found some of the modules different with regard to language used in them. 72% of the teachers expressed that some of the modules were too theoretical and lacked illustrations with examples.

It is evident from the table that more than 80% of the resource persons expressed that the training package was relevant to the needs of the trainees. From the table it can be seen that some modules were not illustrated with examples. This was perceived by 149 rural teachers and 52 urban teachers. In some modules, the concepts were not clarified properly.

The training modules are self learning material and they should be free from difficulties like difficult language, theoretical nature of the modules, lack of examples, illustrations and practical exercises. The sequence of content presentation and explanation for various concepts are very important for modules. The SRG should ensure that these lacunae are adequately addressed to improve the quality of future training programmes.

Upper Primary

Table 3.17
Training Package/ Set of Modules given to Trainees

| | Before the commencement of training | On the first day of the training | During the training | Distributed in instalments as and when requirement | On the last day of the training | Not Distributed | Total |
|-----|-------------------------------------|----------------------------------|---------------------|--|---------------------------------|-----------------|-------|
| No. | 0 | 4 | 0 | 0 | 0 | 0 | 4 |
| % | - | 100 | - | - | - | - | 100 |

It is evident from the Course Co-ordinators' responses reflected in table 3.17 that in all the training centres the training packages/set of modules were given on the first day of the training.

Resource Persons' Perception Regarding the Training Package

Resource persons' perception was assessed with the help of ISTT-6 meant for resource persons. For the present study, data were collected from 10 resource persons who were engaged in the training of upper primary teachers. There were two resource persons for each training centre. The SRG and DRG members and DIET faculty who monitor the training were also involved in the transaction of training modules. The ISTT-6 was given only to the regular resource persons attached to that training centre.

Table 3.18
Training Package prepared for Teachers received by Resource Persons

| Training package received | | | |
|---------------------------------|--|---------------------|-------|
| Before commencement of training | On the day of commencement of training | During the training | Total |
| 10 | 0 | 0 | 10 |

From the tables 3.17 and table 3.18, it is evident that the training packages were provided to the participant teachers on the first day of the training and to the resource persons before training.

Table 3.19
Perception of Resource Persons about Difficulty Faced by
Teachers in Understanding the Language of the Training Package

| Extent of difficulty | | | |
|----------------------|----------------|----------|-------|
| To a large extent | To some extent | Not much | Total |
| 0 | 2 | 8 | 10 |
| - | 20 | 80 | 100 |

Table 3.20
Perception of Resource Persons about Relevance of
Training Package to the Needs of Trainees

| Extent of relevance of training package | | | |
|---|----------------|----------|-------|
| To a large extent | To some extent | Not much | Total |
| 10 | 0 | 0 | 10 |
| 100 | - | - | 100% |

Table 3.21
Trainees found Deficiencies in the Training Material

| Type of difficulty | Rural | | | | Urban | | | |
|--|------------------------|-----------------|-----------------|-------|------------------------|-----------------|-----------------|-------|
| | In none of the modules | In some modules | In most modules | Total | In none of the modules | In some modules | In most modules | Total |
| Difficult language | 12 | 44 | 130 | 186 | 35 | 15 | 10 | 60 |
| Content too theoretical | 124 | 40 | 22 | 186 | 42 | 9 | 9 | 60 |
| Lack of examples | 15 | 25 | 146 | 186 | 36 | 12 | 12 | 60 |
| No illustrations | 100 | 40 | 46 | 186 | 38 | 12 | 10 | 60 |
| No practical exercises | 124 | 48 | 14 | 186 | 52 | 8 | 0 | 60 |
| No proper sequential presentation of content | 46 | 42 | 98 | 186 | 20 | 35 | 5 | 60 |
| Concepts not properly clarified | 34 | 42 | 110 | 186 | 48 | 10 | 12 | 60 |

20% of the resource persons reported that modules were difficult to understand to some extent. Majority of the rural school teachers too found most of the modules difficult with regard

to the language used in them. The teachers expressed that none of the modules was too theoretical. However, most of the teachers expressed that most of the modules lacked examples.

It is evident from the table 3.20, that all the resource persons expressed that the training package was relevant to a large extent to the needs of the trainees. From the table 3.21, it is clear that about 70% of rural teachers and about 16% of urban teachers were of the opinion that the language in most of the modules was difficult. About 12% of rural teachers and about 15% of urban teachers felt that the content of most of the training packages was too theoretical in nature. In some modules, examples were lacking. This was perceived by 91% of rural teachers and 40% of urban teachers. The concepts were not clarified properly in some modules.

The training modules are self learning material and they should be free from difficulties like different language, theoretical nature of the modules, lack of examples, illustrations and practical exercises. The sequence of content presentation and explanations for various concepts are very important in modules. The SRG members and other writers involved in modules' preparation need to reduce these difficulties while revising the modules. The details are given in appendix II and III.

Transaction Methodology

Primary

Transactional approaches used in the training programme were not given separately in any of the modules. There were some instructions for teachers on the use of some of the modules. The perceptions of teacher trainees on the transaction methodologies adopted in the training have been given in (Table 3.16). It was noticed from the opinion of the teachers that the discussion approach was predominantly used for transaction of training modules. The frequent use of blackboard, dictionary, science kit, maths kit, globe, and maps/charts helps to highlight that the discussion was used as an approach for transaction of training modules.

Table 3.22
 Trainees' Perceptions and Ratings Regarding the Transaction Methods used by the Resource Persons in Rural and (Primary)

| Transactional Method | Rural | | | | | | Urban | | | | | |
|----------------------|----------------------|------------|------------|--------------|-----------------------|-------------|----------------------|------------|------------|--------------|-----------------------|-------------|
| | Teachers' Perception | | | Ratings | | | Teachers' Perception | | | Ratings | | |
| | Rarely | Some-times | Frequently | Least useful | Useful to some extent | Most useful | Rarely | Some-times | Frequently | Least useful | Useful to some extent | Most useful |
| Lecture/ Discussion | 81 | 131 | 84 | 135 | 65 | 96 | 26 | 43 | 25 | 20 | 33 | 41 |
| Demonstration | 66 | 152 | 78 | 50 | 96 | 150 | 20 | 41 | 33 | 26 | 28 | 40 |
| Practical Work | 73 | 98 | 125 | 30 | 101 | 165 | 29 | 38 | 27 | 20 | 26 | 48 |
| Group Discussion | 44 | 116 | 136 | 29 | 96 | 171 | 19 | 27 | 48 | 18 | 22 | 54 |
| Peer Learning | 55 | 130 | 111 | 90 | 106 | 100 | 15 | 41 | 38 | 15 | 25 | 54 |
| Panel Discussion | 80 | 126 | 90 | 66 | 120 | 110 | 23 | 48 | 23 | 72 | 10 | 12 |
| Self Study | 64 | 127 | 105 | 121 | 145 | 30 | 15 | 38 | 41 | 70 | 14 | 10 |
| Guided Study | 79 | 133 | 84 | 26 | 124 | 146 | 28 | 40 | 26 | 30 | 30 | 34 |
| Project Work | 92 | 114 | 90 | 90 | 116 | 90 | 23 | 48 | 23 | 60 | 12 | 22 |

Table 3.23
Additional Material Prepared for Trainees by Resource Persons

| Additional material prepared | | |
|------------------------------|-----|-------|
| Yes | No | Total |
| 10 | 2 | 12 |
| 83% | 17% | 100% |

Table 3.23 shows that 83% resource persons reported that they prepared additional material for the training. Table indicates the use of transaction approaches and their usefulness as perceived by the teachers. Most of the teacher trainees reported that the lecture and discussion method was used sometimes as an approach for teaching during the training. This was supported by 131 rural teachers and 43 urban teachers. Only 135 rural teachers and 20 urban teachers rated the lecture as least useful method to transact the training modules. 171 (57.77%) rural teachers and 54 (57.45%) urban teachers rated group discussion as the most useful. 165 rural teachers and 48 urban teachers expressed that the practical work was the most useful activity in transacting the training modules.

The group discussion, practical work and demonstration were the priority approaches used by the resource persons during the transaction of the modules. It was noticed that some of the resource persons used self study as an approach. The teachers felt that this was not a useful approach. Effective transaction approaches based on research and experience should receive more attention. The SPD needs to advise the training package developers to use NCF 2005 and recommend reflective and constructivist approaches.

Upper Primary

Transactional approaches to be used in the training programme were not given separately in any of the modules. There were some instructions for teachers on the use of module which were given in some modules. The perceptions of teacher trainees on the transaction methodologies adopted in the training were obtained. It was noticed from the opinions of the teachers that the lecture and discussion approach was predominantly used for transaction of training modules. The data obtained on the availability and use of teaching equipments in table 3.12 helps to establish that the discussion was used predominantly in the transaction of the modules.

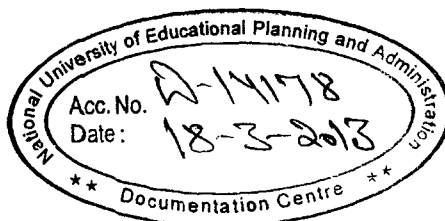


Table 3.24
 Trainees' Perceptions and Ratings Regarding the Transaction Method used by the Resource Persons(Upper Primary)

| Transactional Method | Rural | | | | | | Urban | | | | | |
|----------------------|----------------------|-----------|------------|--------------|-----------------------|-------------|----------------------|-----------|------------|--------------|-----------------------|-------------|
| | Teachers' Perception | | | Ratings | | | Teachers' Perception | | | Ratings | | |
| | Rarely | Sometimes | Frequently | Least Useful | Useful to some extent | Most Useful | Rarely | Sometimes | Frequently | Least Useful | Useful to some extent | Most Useful |
| Lecture/ Discussion | 40 | 131 | 15 | 26 | 130 | 30 | 14 | 38 | 8 | 38 | 12 | 10 |
| Demonstration | 42 | 132 | 12 | 32 | 130 | 24 | 40 | 8 | 12 | 12 | 10 | 38 |
| Practical Work | 30 | 70 | 86 | 32 | 24 | 130 | 38 | 12 | 10 | 12 | 8 | 40 |
| Group Discussion | 24 | 42 | 120 | 130 | 28 | 28 | 38 | 12 | 10 | 42 | 10 | 8 |
| Peer Learning | 26 | 130 | 30 | 20 | 30 | 136 | 10 | 40 | 10 | 38 | 14 | 8 |
| Panel Discussion | 26 | 85 | 75 | 28 | 128 | 30 | 38 | 12 | 10 | 40 | 10 | 10 |
| Self Study | 24 | 76 | 86 | 36 | 122 | 28 | 10 | 8 | 42 | 40 | 8 | 12 |
| Guided Study | 36 | 70 | 80 | 26 | 130 | 30 | 38 | 12 | 10 | 20 | 10 | 30 |
| Project Work | 52 | 52 | 82 | 56 | 110 | 20 | 40 | 8 | 12 | 10 | 22 | 28 |

All 10 resource persons reported that they prepared additional material for the training. The table 3.24 indicates the use of transactional approaches and their usefulness as perceived by the teachers. Most of the teacher trainees reported that group discussion method was used as an approach for teaching during the training. This was supported by 120 (64.52%) rural teachers and 10 (16.67%) urban teachers. Most of the rural and urban teachers rated peer learning as the most useful approach. 136 (73.12%) rural teachers and only 8 (13%) urban teachers supported the most usefulness of this approach. The practical work as a transactional approach was given priority by 130 (70%) rural teachers who rated it the most useful. This was supported by 40 (67%) urban upper primary teachers. The lecture and demonstrations were also used by the resource persons during the training. Only 26 (14%) rural teachers and 38 (63%) urban teachers rated the lecture method as least useful in transacting the training modules.

The group discussion, practical work and demonstration were the priority approaches used by the resource persons during the transaction of the modules. It was noticed that some of the resource persons were using self study as an approach. The teachers felt that this is not a useful approach. The SPD should strengthen the monitoring system by SRGs and DIET faculty with the attachment of one observer to each centre to support the resource persons.

Resource Persons

Primary

In Andhra Pradesh, generally teachers teaching at upper primary level or high school level are selected as MRPs based on written test and interview by RVM-SSA office of the concerned district. The qualifications for appearing for the MRP recruitment test are that a person should possess a degree with B.Ed. and should have completed 3 years of teaching experience. The DPO, RVM-SSA conducts the test for the selection of resource persons. The maximum marks of the test are 85. The remaining 15 marks are earmarked for the interview. The selection committee comprises of DPO, RVM-SSA, District Educational Officer (DEO), Principal of local DIET and one Senior Lecturer of DIET nominated by the DIET Principal. The marks allotted for the interview include weightage to additional qualification, experience in module preparation and experience of working as a resource person earlier. The MRP who is to look after inclusive schools should have training in the area of Special Needs Education. The MEO is the Block Level Education Officer who is also a co-ordinator for various SSA programmes in the Mandal. There are 3 MRPs for each Mandal. They assist the MEO in

coordinating the various activities in the Mandal. The MRPs should be good in content knowledge, communication and pedagogical skills. They should have a positive attitude towards work as MRPs have to act as master trainers at DIET. 36 resource persons were engaged for the in-service training at 12 MRCs.

Tables from 3.25 to 3.27 depict gender, age, academic and professional qualifications and experience of selected resource persons.

Table 3.25
Gender and Age of the Resource Persons

| | Gender | | | Age in years | | | | Total |
|--------|--------|--------|-------|--------------|-------|-------|-----|-------|
| | Male | Female | Total | Up to 30 | 31-45 | 46-60 | >60 | |
| Number | 34 | 2 | 36 | 2 | 30 | 4 | 0 | 36 |
| % | 94 | 6 | 100 | 6 | 83 | 11 | 0 | 100 |

Table 3.26
Academic and Professional Qualifications of Resource Persons

| Area | Academic Qualification | | | | Professional Qualification | | | |
|------|------------------------|-----------------|--------|-------|----------------------------|--------|-----------|-------|
| | Graduation | Post-graduation | Ph. D. | Total | B. Ed. | M. Ed. | Any other | Total |
| No.1 | 15 | 20 | 1 | 36 | 27 | 9 | 0 | 36 |
| % | 41.7 | 55.6 | 2.7 | 100 | 75 | 25 | - | 100 |

Table 3.27
Resource Persons' Teaching Experience and Number of Training programmes Conducted during the Last 3 years

| | Teaching experience (in years) | | | | | Training programmes conducted | | | | | |
|-----|--------------------------------|--------|--------|--------|-------|-------------------------------|--------|--------|--------|-----|-------|
| | Up to 10 | 11-20 | 21-30 | > 30 | Total | Zero | 1-5 | 6-10 | 11-15 | >15 | Total |
| No. | 2 | 20 | 10 | 4 | 36 | - | 25 | 5 | 6 | 0 | 36 |
| % | 5.55% | 55.55% | 27.78% | 11.12% | 100% | - | 69.44% | 13.89% | 16.67% | - | 100% |

Tables from 3.25 to 3.27 reveal that in all 36 resource persons at the rate of 3 resource persons per MRC were engaged in the training programmes in the selected MRCs from three sampled districts. There were 34 (94%) male and 2 (6%) female resource persons. There is gross under representation of women in resource persons that needs to be improved. The maximum number of resource persons (83%) were in the age group from 31 to 45 years. Only 11% of the resource persons were in the age group of 46 to 60 years. Only 6% of the resource persons were of 30 years and below.

In terms of academic qualifications, a large number of resource persons (55.6) were post graduates. Only 2.7% had a Ph.D. degree. The required qualification for appointment as resource person is a degree with B.Ed. The required essential professional qualification for the resource person is B.Ed. degree. Therefore, 75% of the resource persons had the required B.Ed. degree. The rest 25% of the resource persons had a higher qualification, viz. M.Ed.

55.5% resource persons had 11-20 years of teaching experience and 27.78% teachers had teaching experience of 21 to 30 years. Only two resource persons (5.55%) had a teaching experience of up to 10 years. 69.44% of the resource persons had conducted 1-5 training programmes during the last three years. About 14% of the resource persons had acted as resource persons in 6-10 training programmes during the last three years.

It is evident that maximum resource persons were postgraduate - with a B.Ed. degree and had teaching experience of above 10 years.

It was observed that the female representation in the resource persons was very low. This may be due to personal reasons like inability of females to go frequently in the field and the remote location of MRCs to monitor the school activities. The female representation in resource persons' team needs to be encouraged by the organisers.

Table 3.28
MEOs' (BRC Co-ordinators') Role in the Selection of Resource Persons

| | MEO's role in the selection of resource persons | | |
|-----|---|----|-------|
| | Yes | No | Total |
| No. | 2 | 10 | 12 |
| % | 17 | 83 | 100 |

Table 3.29
Centres having Mechanism to Evaluate the Performance of Resource Persons

| | Mechanism available to evaluate the performance | | |
|-----|---|----|-------|
| | Yes | No | Total |
| No. | 12 | 0 | 12 |
| % | 100 | - | 100 |

As mentioned in the preceding paragraphs, the selection of resource persons is done by administering a test. Although 2 MEOs expressed that they had a role in the selection of MRPs, it is not true as per the state policy. All the MEOs expressed that they had a mechanism for the performance evaluation of resource persons based on the feedback form designed and supplied by the SPD office, RVM-SSA. But there was no formal mechanism to use the feedback obtained from the participants in the selection of resource persons.

Upper Primary

The procedure for selecting resource persons for training of upper primary teachers is the same as that of primary teachers. Ten resource persons were engaged for imparting in-service training to teachers at 5 training centres. Their gender, age, academic and professional qualification and teaching experience are highlighted in the tables given below:

Table 3.30
Gender and Age of the Resource Persons

| | Gender | | | Age in years | | | | |
|--------|--------|--------|-------|--------------|-------|-------|-----|-------|
| | Male | Female | Total | Up to 30 | 31-45 | 46-60 | >60 | Total |
| Number | 10 | 0 | 10 | 2 | 6 | 2 | 0 | 10 |
| % | 100 | - | 100 | 20 | 60 | 20 | 0 | 100 |

Table 3.31
Academic and Professional Qualifications of Resource Persons

| Area | Academic qualification | | | | Professional qualification | | | |
|------|------------------------|-----------------|--------|-------|----------------------------|--------|-----------|-------|
| | Graduation | Post Graduation | Ph. D. | Total | B. Ed. | M. Ed. | Any other | Total |
| No. | 4 | 6 | 0 | 10 | 8 | 2 | 0 | 10 |
| % | 40 | 60 | - | 100 | 80 | 20 | - | 100 |

Table 3.32
Resource Persons' Teaching Experience and Number of Training programme Conducted during Last 3 years

| | Teaching experience (in years) | | | | | Training programmes conducted | | | | | |
|-----|--------------------------------|-------|-------|------|-------|-------------------------------|-----|------|-------|-----|-------|
| | Up to 10 | 11-20 | 21-30 | > 30 | Total | Zero | 1-5 | 6-10 | 11-15 | >15 | Total |
| No. | 4 | 6 | 0 | 0 | 10 | - | 8 | 2 | 0 | 0 | 10 |
| % | 40 | 60 | - | - | 100 | - | 80 | 20 | - | - | 100 |

Tables no. 3.30 to 3.32 reveal that 10 resource persons were engaged for the training programme in the selected training centres from three sampled districts. All the resource persons were male only. The maximum numbers of resource persons were in the age group 31 to 45. There were 60% resource persons in this age group. There were no resource persons above 60 years. There were 2 resource persons up to 30 years of age.

In terms of academic qualifications, the largest number of resource persons were post-graduates. All the resource persons were either graduate or post-graduate. The required qualification for appointment as a resource person is a degree with B.Ed. The required essential professional qualification is a B.Ed. degree. Therefore, 80% of the teachers had the required B.Ed. degree. 20% of the teachers had a higher qualification viz. M.Ed. 60% resource persons had 11-20 years of teaching experience. 40% teachers had a teaching experience of up to 10 years. 80% of the resource persons had conducted 1 to 5 training programmes during the last three years.

It was observed that the female representation in the resource persons was very low. This may be due to the reasons like inability of females to go frequently in the field and the remote

locations of MRC to monitor the school activities. The female representation in resource persons team needs to be encouraged.

Table 3.33
DyEOs' (Head of the Educational Division) Role in the Selection of Resource Persons

| | DyEO's role in the selection of Resource Persons | | |
|-----|--|-----|-------|
| | Yes | No | Total |
| No. | 0 | 4 | 4 |
| % | - | 100 | 100 |

Table 3.34
Centres having Mechanism to Evaluate the Performance of Resource Persons

| | Mechanism available to evaluate the performance | | |
|-----|---|----|-------|
| | Yes | No | Total |
| No. | 4 | 0 | 4 |
| % | 100 | - | 100 |

As mentioned in the preceding paragraphs, the selection of resource persons is done by conducting a test. All the DyEOs expressed that they had no role in the selection of subject specific RPs. All the DyEOs expressed that they had a mechanism for the performance evaluation of resource persons based on the feedback form designed and supplied by the SPD office, RVM-SSA. But there was no formal mechanism to use the feedback obtained from the participants in the selection of resource persons.

Organisation and Management of the Training Programme

Primary

Mandal Education Officer (MEO) is responsible for organizing in-service training programmes at mandal level. Training calendar for the entire state is prepared by State Project Office, RVM-SSA, Hyderabad. As per the training calendar, MEO organizes the training programmes on the dates stipulated by DPO, RVM-SSA of the concerned district. The training programmes are conducted in three spells in each and every district as per the directions of the State Project Office, RVM-SSA, Hyderabad. In the first spell, one third of Mandals, in the second spell, another one-third and in the third spell the remaining one-third of the training programmes are organised. The dates of training programmes for different spells are decided by the State Project Office, RVM-SSA, Hyderabad.

Table 3.35
Number of Training Programmes Coordinated by MEOs in the previous year

| Acted as course co-ordinator earlier | | | Number of Training Programmes coordinated | | | |
|--------------------------------------|----|-------|---|-------|-------------|-------|
| Yes | No | Total | Up to 2 | 3 – 4 | More than 4 | Total |
| 8 | 4 | 12 | 4 | 4 | 0 | 8 |

It is evident from Table 3.35, that 4 MEOs had not acted as training co-ordinators earlier. The MEO posts were vacant in most of the places due to court case against the common seniority of Panchayath Raj managed school teachers and Government managed school teachers. The Head-Teacher of local high school was given the responsibility of coordinating the mandal level Training programmes for primary teachers.

Table 3.36
Number of Training programmes underwent by MEOs and Duration of the Training for Primary level

| | Received training | | | Duration of training programmes (in days) | | | |
|-----|-------------------|----|-------|---|-----|-------------|-------|
| | Yes | No | Total | 1 | 2 | more than 2 | Total |
| No. | 9 | 3 | 12 | 0 | 9 | 0 | 9 |
| % | 75 | 25 | 100 | - | 100 | - | 100 |

Table 3.36 shows that 25% of the training co-ordinators (MEOs) did not receive training to act as training co-ordinator whereas all the MEOs attended two days training organised by DPO, RVM-SSA of the district. All the MEOs received two days training on the organizational aspect, evaluation of training programmes, assessment of training needs, selection of resource persons (RPs), use of feed-back to improve programmes, and on-site support to teachers to use training in their classroom practice.

Table 3.37
Suitability of Training Dates to Primary Teachers

| | Suitability of training dates | | |
|-------|-------------------------------|-------|-------|
| | Yes | No | Total |
| Rural | 207 | 89 | 296 |
| Urban | 78 | 16 | 94 |
| Total | 285 | 105 | 390 |
| % | 73.08 | 26.92 | |

Training dates are decided by the SPD, RVM-SSA, Hyderabad for the entire state. As per the state policy, the training schedule for the entire state is divided into three phases and has to be completed before the first week of June every year. The same scheduled dates were followed in the entire state for training the primary teachers during the year 2010-11. The

perception of the teachers regarding the suitability of the dates of training was obtained. 73.08% teachers stated that the training dates were suitable to them and 26.92% were of the opinion that these dates were not suitable to them. They considered loss of summer vacation and wanted compensatory leave for the period of training.

Table 3.38
Perceptions of Resource Persons about Adequacy of Time given for Transaction of Modules

| | Adequate time for transaction of modules | | |
|-----|--|--------|-------|
| | Yes | No | Total |
| No. | 29 | 7 | 36 |
| % | 80.56% | 19.44% | 100% |

It is evident from table 3.38 that 19.44% resource persons were of the opinion that training time was inadequate. About 81% of the resource persons opined that the time was adequate for transaction of the modules. This needs consideration by training package developers.

Upper Primary

Deputy Education Officer (DyEO) is responsible for organizing in service-training programmes at divisional level. Training calendar for the entire state is prepared by State Project Office, RVM-SSA, Hyderabad. As per the training calendar, DyEO organizes the training programmes on the dates stipulated by the DPO, RVM-SSA of the concerned district. The training programmes were conducted in three spells in each and every district as per the directions of the State Project Office, RVM-SSA, Hyderabad. In the first spell, one-third of the teachers in the division, another one-third in the second spell the remaining one-third of the teachers in the third spell, received training. The dates of training programmes for different spells are decided by the State Project Office, RVM-SSA, Hyderabad.

Table 3.39
Number of Training Programmes Coordinated by MEO in the Previous Year

| Acted as course co-ordinator earlier | | | Number of training programmes coordinated | | | |
|--------------------------------------|----|-------|---|-------|-----|-------|
| Yes | No | Total | Up to 2 | 3 - 4 | > 4 | Total |
| 4 | 0 | 4 | 0 | 0 | 4 | 4 |

It is evident from Table 3.39, that all four DyEOs had acted as training co-ordinators earlier. The Headmaster of the local high school or MEO is given the responsibility of coordinating the divisional level training programmes for the upper primary teachers if the DyEO post is vacant.

Table 3.40
Number of Training Programmes Underwent by DyEOs and Duration of the Training

| | Training programmes received | | | Duration of Training Programmes (in days) | | | |
|-----|------------------------------|----|-------|---|-----|-----|-------|
| | Yes | No | Total | 1 | 2 | > 2 | Total |
| No. | 4 | 0 | 4 | 0 | 4 | 0 | 4 |
| % | 100 | - | 100 | - | 100 | - | 100 |

Table 3.40 depicts that all the DyEOs (training co-ordinators at upper primary level) had received two-days training to act as a training co-ordinator. The DyEOs training programmes are organised by SPD, RVM-SSA of the district along with DPOs. All the DyEOs received two days of training on organizational aspects, evaluation of training programmes, assessment of training needs, selection of resource persons (RPs), use of feedback to improve programmes, and on-site support to teachers to use the training in classroom practice.

Table 3.41
Suitability of Training Dates to Upper Primary Teachers

| | Suitability of training dates | | |
|-------|-------------------------------|------|-------|
| | Yes | No | Total |
| Rural | 126 | 60 | 186 |
| Urban | 45 | 15 | 60 |
| Total | 171 | 75 | 246 |
| % | 69.5 | 30.5 | 100 |

Training dates are decided by the SPD, RVM-SSA, Hyderabad for the entire state. The training schedule for the entire state is completed in three phases before the first week of July every year. The same scheduled dates were followed in the entire state for training upper primary teachers during the year 2010-11. The perception of the teachers regarding the suitability of the dates of training was obtained. 69.5% teachers perceived that the training dates were suitable to them and 30.5% were of the opinion that these dates were not suitable to them.

Table 3.42
Perception of Resource Persons about Adequacy of Time given for Transaction of Modules

| | Adequate Time for transaction of modules | | |
|-----|--|-----|-------|
| | Yes | No | Total |
| No. | 4 | 6 | 10 |
| % | 40% | 60% | 100% |

It is evident from table 3.42 that 40% resource persons were of the opinion that the time was adequate for transacting the modules. 60% of the resource persons opined that the time was not adequate for transaction of the modules.

Issues and Problems

Primary

During the data collection process, course directors (training co-ordinators), teacher trainees and resource persons were asked to identify and list the problems faced by them in the organization of in-service training and also to give suggestions to improve the quality of in-service training programme. All the responses to these open ended items were analyzed. The content analysis of the responses of participant primary teacher trainees, MEOs and MRPs was done based on the triangulation of data. As a result the following issues were identified..

- Teacher absenteeism;
- Effective resource persons for providing quality training which helps to achieve the training objectives;
- Lack of interest among the participant teachers; and
- Lack of physical facilities like furniture for the trainees, electricity, audio visual aids and of facilities for using the computer and OHP.

These issues need to be addressed in future programmes of in-service training of teachers.

Upper Primary

During the data collection process, course directors, training co-ordinators, teacher trainees and resource persons were asked to identify and list the problems in the organization of in-service training and also to give suggestions to improve the quality of in-service training programmes. All the responses to these open ended items were analyzed. The content analysis of the responses of participant upper primary teacher trainees, Dy.EOs and subject RPs was made based on the triangulation of data. As a result the following issues were identified in the organization of the training programmes.

- Lack of concentration of the teachers due to cell phones;
- Late coming to the training programme;
- Non-availability of effective resource persons;
- Inconvenient places to sit for long duration; and
- Lack of physical facilities like furniture for trainees, electricity, audio visual aids and facilities for using the computer and OHP.

These issues need to be addressed in future programmes of in-service training of teachers.

Financial Parameters

As per the information obtained from the SPD, RVM-SSA, Andhra Pradesh, the annual in-service teachers training budget for 2010-11 was Rs 3532.38 lakhs. These funds were released to the district on the basis of the approved norms of AWP&B of the Districts concerned. The first instalment was released immediately after the approval of AWP&B of District concerned and second instalment was released during the period of training programmes in the state. The DPO, RVM-SSA of the concerned district released funds directly to the accounts of MEO and Head of school complex for organizing in-service teachers training programmes and for follow-up programmes like CRC monthly meetings. The norms for allocation of funds vary from programme to programme. The MEOs and MRPs were given fixed travelling allowance of

Rs 550/- per month and the Head-teacher of the school complex was given Rs 300 per month for monitoring the implementation of training inputs in schools. The T.A. and D.A. was paid to the participant teachers as per the state norms. The budget for each MRC was Rs 90,000 per year. This amount was released in two instalments. The first instalment was released in June and the second in December. The expenditure for face-to-face teacher training programmes was given as an advance to MEO or any other course co-ordinator. The school complex grant was Rs 12,000 for CRC meeting, TA grant; Rs. 10,000 for procuring the books and equipment, and Rs 3,000 for TLM grant. The opinion of the course co-ordinators was obtained regarding the availability of funds for organising the training programmes. The details are given in table 3.43.

Table 3.43
Availability and Adequacy of Funds for Organizing the Training Programme

| | Availability of training funds on time | | | Adequacy of funds | | |
|-----|--|----|-------|-------------------|----|-------|
| | Yes | No | Total | Yes | No | Total |
| No. | 12 | 0 | 12 | 12 | 0 | 12 |
| % | 100 | - | 100 | 100 | - | 100 |

Table 3.43 shows that all the course co-ordinators received the funds on time. The co-ordinators also expressed that the funds made available were adequate.

The same holds true for upper primary centres.

Based on the above data it was concluded that

- Training centres lacked basic physical facilities like electricity and furniture for trainees. There is a need to undertake some steps to improve essential facilities like library facility and availability of modern technological gadgets. There is a need to

adopt monitoring mechanism to use the facilities that are already available in the training centres. SPD should take this into consideration at the time of formulating annual plans. Feedback from different sources should be collected by DPOs. These should be trainee based;

- Learning materials in the form of training packages for the participant teachers need to be provided on the first day of the training programme. The copies of these modules can be sent to them through the school complexes before the training programme with the instructions that they should read them before coming to the programme. This would facilitate the discussion during the training sessions;
- Most of the centres lacked ICT facilities of internet, power point presentation, VCP/VCR/Projectors, VCDs and DVDs. The need of these facilities was felt by most of the participating teachers in the training centres. ICT facilities need to be strengthened by making provision in the AWP;
- There is acute shortage of power in Andhra Pradesh. Due to this, power cut is imposed in the state. There is a need to use alternative sources of energy like solar pack, and generators to meet the shortage of power. There is need to provide uninterrupted power supply in the training programmes to render them the most effective.
- The learning material and equipments such as Maths kit and Science kit, charts, globe, and dictionary were available in large number of training centres. The Maths kit and Science kit supplied under OB scheme were being used in the training programmes. Their use should be ensured by course co-ordinators and monitored by DPOs;
- The transaction approaches suggested in the training programme were not followed fully by different resource persons. There is a need to provide training manual to resource persons to minimise dilution in delivery by different resource persons in the use of the suggested transaction approaches. The transactional approaches used by the resource persons should include demonstration, practice and feedback. There is a need to provide scope for one demonstration lesson based on the constructivist approach which can be used as a model by teachers. This would enable the participant teachers to use this approach in organising the group work, and undertaking collaborative action research to meet the requirement of constructivist approach advocated in the NCF-2005;

- Females were less represented in resource persons and course co-ordinators category. MEOs and DPOs should take up certain measures to improve female representation in these teams; and
- Education and training of resource persons (RPs) in curriculum transaction and skills development should receive closer attention to improve the quality of in-service training programmes from 2012-13 and onwards.
- It is evident that there was slight deviation in terms of number of days for in-service training at upper primary. RVM-SSA, Andhra Pradesh was not following the 20 days (10 days face-to-face, 8 days monthly CRC meetings at school complex and 2 days of teleconferencing) training schedule as per the SSA guidelines.
- Almost all the teachers were getting twelve days block training each year with a split of 8 to 10 days and 2 to 4 days.

4 Impact of Training on Primary Teachers

The in-service teacher training was initiated to enhance teacher effectiveness and bring about qualitative improvement in teaching learning process. The study of impact of INSET focuses on finding how far teachers' training has affected teachers' classroom practices and their perception of training.

Impact on Teachers

The impact of INSET is felt when the teachers incorporate new ideas and perspectives in their daily classroom transaction resulting in the improvement in their pedagogic practices and enhancement of the learning outcomes of children. The improvement in the classroom management and environment, in social accessibility and acceptability of children in the classroom and the learning levels of the children act as indicators of the impact of INSET. For the present study the following parameters of impact were selected:

- Teachers' perceptions regarding training
- Impact on achievement of teachers
- Impact on teachers' classroom practices. The impact was assessed by observing the class directly and perceptions of students through focussed group discussion.

Perceptions of Teachers

In Andhra Pradesh, the organizational structure of in-service teachers' training for primary and upper primary teachers is different. The training of primary teachers is focussed on adopting child-centred learning activities in teaching all the subjects. The training for upper primary teachers is focussed on pedagogical content knowledge for different school subjects with a focus on issues related to teaching of different school subjects at upper primary as focussed in NCF-2005. Therefore, training programmes for primary and upper primary were organized separately. Hence the perceptions of teachers about the in-service programme was analyzed separately.

The rural and urban teachers classified according to the age groups and social groups were selected. They were with different academic and professional qualifications. To assess the impact of in-service training program, a total of 390 primary (296 rural and 94 urban) trainee teachers' perceptions towards training were determined with the help of schedule ISTT 5. The detailed description of sampled teachers is given in table 4.1 It highlights the number of teachers in the designated four age-groups in rural and urban schools.

Table 4.1
Number of Teacher Trainees according to their Age

| Area | Age (in years) | | | | Total |
|-------|----------------|---------|---------|--------------|-------|
| | Up to 30 | 31 – 40 | 41 – 50 | More than 50 | |
| Rural | 34 | 142 | 104 | 16 | 296 |
| Urban | 5 | 31 | 51 | 7 | 94 |
| Total | 39 | 173 | 155 | 23 | 390 |
| % | 10 | 44.36 | 39.74 | 5.90 | 100 |

Table 4.1 reveals that the younger teachers (34%) were more from rural areas. Further urban areas had more teachers in the age group of 41 to 50. It may be that some senior teachers managed location in the urban areas.

The table 4.2 provides the number of male and female teachers in rural and urban schools.

Table 4.2
Gender of Teacher Trainees

| Area | Male | Female | Total |
|-------|-------|--------|-------|
| Rural | 161 | 135 | 296 |
| Urban | 40 | 54 | 94 |
| Total | 201 | 189 | 390 |
| % | 51.54 | 48.46 | 100 |

The table 4.2 indicates that 135(46%) of female teachers were from rural schools and 54 (about 57%) from the urban schools.

Social Category of teachers:

The table 4.3 provides the number of teachers belonging to various social community groups in rural and urban schools.

Table 4.3
Social Category of Teacher Trainees

| Area | SC | ST | OBC | Others | Total |
|-------|-------|-------|-------|--------|-------|
| Rural | 47 | 51 | 107 | 91 | 296 |
| Urban | 7 | 1 | 46 | 40 | 94 |
| Total | 54 | 52 | 153 | 131 | 390 |
| % | 13.85 | 13.33 | 39.23 | 33.59 | 100 |

From table 4.3 it is observed that the OBCs constituted the largest group (39.23%) of teachers. There is only one ST teacher working in urban area. Only 47 (16%) SC teachers were working in rural area and about 7% in urban area. The teachers belonging to OBC group in rural schools were 36% and in urban schools 49%. The reason could be that fewer persons are opting for teaching profession. They get opportunity and opt for other sources of employment which are more prestigious and more remunerative.

Academic Qualification of Teachers

Table 4.4 indicates the distribution of primary teachers based on their academic qualifications.

Table 4.4
Academic Qualification of Teachers

| Area | Academic Qualification | | | | | Total |
|-------|------------------------|--------------------------|----------|---------------|-----------|-------|
| | Secondary | Senior/ Higher Secondary | Graduate | Post-graduate | Any other | |
| Rural | 0 | 30 | 176 | 90 | 0 | 296 |
| Urban | 0 | 8 | 49 | 37 | 0 | 94 |
| Total | 0 | 38 | 225 | 127 | 0 | 390 |
| % | - | 9.74 | 57.7 | 32.56 | - | 100 |

From the table 4.4, it can be observed that around 90% teachers were either graduate or post-graduate and only 9.74% teachers had higher secondary qualification. The same trend was observed in rural and urban areas. There were about 10% of rural teachers with higher secondary qualification; 60% were graduates and 30% were post-graduates. Among the urban teachers 9% were with higher secondary qualification; 52% were graduation and 39% were post graduates. The percentage of post-graduate teachers was more in urban area than in rural area.

Professional Qualification of Teachers: The table 4.5 indicates the distribution of primary teachers based on their professional qualification.

Table 4.5
Professional Qualification of Teacher Trainees

| Area | Professional Qualification | | | | | Total |
|-------|----------------------------|--------------|-------------------------------|------------------|--------|-------|
| | No pre-service training | Dip. in Edu. | B. Ed. (Elementary education) | B. Ed. (General) | M. Ed. | |
| Rural | 0 | 92 | 0 | 198 | 6 | 296 |
| Urban | 0 | 33 | 0 | 52 | 9 | 94 |
| Total | 0 | 125 | 0 | 250 | 15 | 390 |
| % | - | 32.05 | - | 64.1 | 3.85 | 100 |

Table 4.5 depicts that maximum primary teachers had B.Ed. (General) (64.1%) as their qualification. All the teachers had undergone pre-service training. 68% of the teachers had higher qualification than required. The primary teachers' required professional qualification is Diploma in Education (D.Ed.).

Teachers' Perception about Training

Trained teachers' perception regarding the improvement of teaching proficiency through the 20 days training was obtained and is presented the same in table 4.6.

Table 4.6
Teacher Trainees' Perception Regarding Improvement in Teaching Proficiency

| Area | Improvement of teaching proficiency | | | |
|-------|-------------------------------------|----------------|------------|-------|
| | To a great extent | To some extent | Not at all | Total |
| Rural | 200 | 66 | 30 | 296 |
| Urban | 64 | 20 | 10 | 94 |
| Total | 264 | 86 | 40 | 390 |
| % | 67.70 | 22.05 | 10.25 | 100 |

It is evident from table 4.6 that two-third of the teacher trainees in rural as well as urban areas felt that their teaching proficiency had increased to a great extent. However, less than one-third of the teachers felt some improvement in their teaching proficiency. It implies that there is a need for improving the quality of training. The SPD may take specific steps for improving the quality of training while planning the training programmes for 2012-13 and onwards.

Library facilities

Trained teachers' perceptions regarding the library facilities at the training centre (MRC) were obtained and are presented in table 4.7.

Table 4.7
Availability and Use of Library Facility by the Trainees

| Area | Availability of library facility | | | Extent of use of library | | | |
|-------|----------------------------------|-------|-------|--------------------------|-----------|------------|-------|
| | Yes | No | Total | Quite often | Sometimes | Not at all | Total |
| Rural | 204 | 92 | 296 | 92 | 204 | 0 | 296 |
| Urban | 65 | 29 | 94 | 14 | 55 | 25 | 94 |
| Total | 269 | 121 | 390 | 106 | 259 | 25 | 390 |
| % | 68.97 | 31.03 | 100 | 27.18 | 66.41 | 6.41 | 100 |

Table 4.7 indicate that two-third of the primary teachers mentioned that their training centre had the library facility and one-third expressed that it did not have the facility. Percentage of teachers who used the library facility quite often is not encouraging. Only 27.18% primary teachers the library quite often while 6.41% of the teachers never used the library. Two-third of them used the library sometimes. Non-availability of library facilities is regrettable. Immediate action needs to be initiated by SPD and DPO to ensure all the training centres have a well- equipped library with sufficient reference books for trainees and a few sets of prescribed school textbooks for primary stage. Secondly, the resource persons must encourage all trainees to use the library facilities. It will be possible only if the assignments that require the use of references from the material other than the modules are given to the trainees. The trainees can also be required to review books on their own.

Table 4.8

Teacher Trainees who Received and Read the Training Material before the Training

| Area | Received the material before training | | | Read the material | | | |
|-------|---------------------------------------|-------|-------|--------------------------|---------------------|---------------------------|-------|
| | Yes | No | Total | Before start of training | During the training | Did not find time to read | Total |
| Rural | 6 | 290 | 296 | 6 | 290 | 0 | 296 |
| Urban | 0 | 94 | 94 | 0 | 94 | 0 | 94 |
| Total | 6 | 384 | 390 | 6 | 384 | 0 | 390 |
| % | 1.54 | 98.46 | 100 | 1.54 | 98.46 | 0 | 100 |

Table 4.9

Percentage of Modules Read by the Trainees

| Area | Percentage of Modules Read by the Trainees | | | | | |
|-------|--|-------|--------|--------|-------|-------|
| | Zero | 1-25% | 26-50% | 51-75% | >75% | Total |
| Rural | 0 | 12 | 28 | 248 | 8 | 296 |
| Urban | 0 | 5 | 10 | 60 | 19 | 94 |
| Total | 0 | 17 | 38 | 308 | 27 | 390 |
| % | 0% | 4.36% | 9.74% | 78.97% | 6.93% | 100 |

Table 4.8 shows that only 1.54% of primary teachers received the training modules before the commencement of the training. Six teachers who received training package before the training, who read the modules before the training programme. There was a separate session for module reading and discussion on module. Therefore, most of the teachers read the modules during the training. 78.97% of the teachers were able to read between 51 to 75% of the modules. The percentage of the teachers who read more than 75% of the modules was very low. This number was only 6.93% of the teachers. It was noticed in the discussion with resource persons and course co-ordinators that there was a provision for module reading

in one session of the training programme. The resource persons were required give a challenging assignment to groups or to individual trainees that required thorough reading of modules and references from the material.

Table 4.10 manifest the reasons given by the trainees for not reading the training modules.

Table 4.10
Reasons for Not Reading Primary Teachers Training Modules

| Area | Reasons for not reading the training modules | | | | |
|-------|--|-----------------------------|-------------------------|-----------|-------|
| | Did not find time to read | Package was not interesting | Difficult to understand | Any other | Total |
| Rural | 32 | 23 | 32 | 5 | 92 |
| Urban | 17 | 15 | 4 | 2 | 38 |
| Total | 49 | 38 | 36 | 7 | 130 |
| % | (37.69) | (29.24) | (27.69) | (5.38) | |

This item was responded by only 130 teachers out of 390. The teachers informed that there was a session on module reading and the modules were not supplied in advance. About 38% primary teachers did not find time to read and less than one-third mentioned that package was not interesting. A quarter of teachers expressed that it was difficult for them to understand. Only 7 teachers gave other reasons, like they were not able to read the modules due to Census work or ill health. The reasons revealed that the modules require a lot of improvement.

Training Transaction Practices

What were the modalities of transacting training? How were teacher trainees were taught? These are very important questions. If we expect trainees to adopt new teaching methods in their classrooms, then they must be taught in the same way. All the teachers were asked questions regarding the transaction method used during training and also up to what extent it was useful.

Training Achievement

The achievement of primary teachers was determined by administering an achievement test based on the content covered in the training. The test contained 60 multiple choice test items.

Achievement of Primary Teachers

The achievement of 390 primary teachers drawn from the four districts was analysed by using descriptive analysis by using statistical measures like mean, median, standard deviation, skewness, kurtosis and quartiles. The inferential statistics were also used to test the following null hypotheses:

- HO₁ There is no significant difference in the mean achievement score of teachers of different districts.
- HO₂ There is no significant difference between male teachers and female teachers in their academic achievement.
- HO₃ There is no significant difference in the mean achievement score among the teachers of different age groups.
- HO₄ There is no significant difference in the mean achievement score among the teachers of different experience groups.
- HO₅ There is no significant difference between rural teachers and urban teachers in their academic achievement.
- HO₆ There is no significant difference among the teachers of various communities in the mean achievement score.
- HO₇ There is no significant difference in the mean achievement score among the teachers with various academic qualifications.
- HO₈ There is no significant difference in the mean achievement score among the teachers with various professional qualifications
- HO₉ There is no significant difference between primary teachers who were underwent these 20 days training and primary teachers who had not undergone 20 days training in their academic achievement.

The descriptive analysis for the achievement of 390 primary teachers is given in the following tables

Table 4.11
Descriptive Statistics for the Achievement Primary Teachers

| Statistical Measure | Value |
|----------------------------|--------|
| Number of Primary Teachers | 390 |
| Mean | 37.91 |
| Median | 39.00 |
| Standard Deviation | 6.487 |
| Skewness | -1.119 |
| Kurtosis | 2.430 |
| First Quartile | 35.00 |
| Second Quartile | 39.00 |
| Third Quartile | 42.00 |

From the above table, we see that the mean score is 37.91 and median is 39. The mean achievement score of 37.91 is less than the median score of 39. It indicates that majority of teachers had higher achievement than the average. Therefore, the distribution of achievement scores is not normal. It leads to negatively skewed distribution with the coefficient of skewness -1.119. The standard deviation of the achievement is 6.487. It is slightly platykurtic curve with the value of coefficient of kurtosis being 2.43. It means that the heterogeneity was more in the distribution of achievement scores. This indicates the variations of the teachers. The value of the first quartile is 35, which indicates that only 25% of the teachers were able to attain 58% of the achievement. The value of second quartile is 39, which indicates that 50% of the teachers were able to achieve only 65% of the achievement. The value of third quartile is 42, which indicates that 75% of the teachers were able to attain only 70% of the achievement. The value of the quartile deviation is 3.5. The difference between first and second quartile is 4 and the difference between second and third quartile is 3. The difference in the value of two successive quartiles is not equal. Therefore, it is not a normal distribution. The same can be noticed from the Figure 4.1. The histogram and frequency curve indicate that the concentration of the scores is more between 35 and 45.

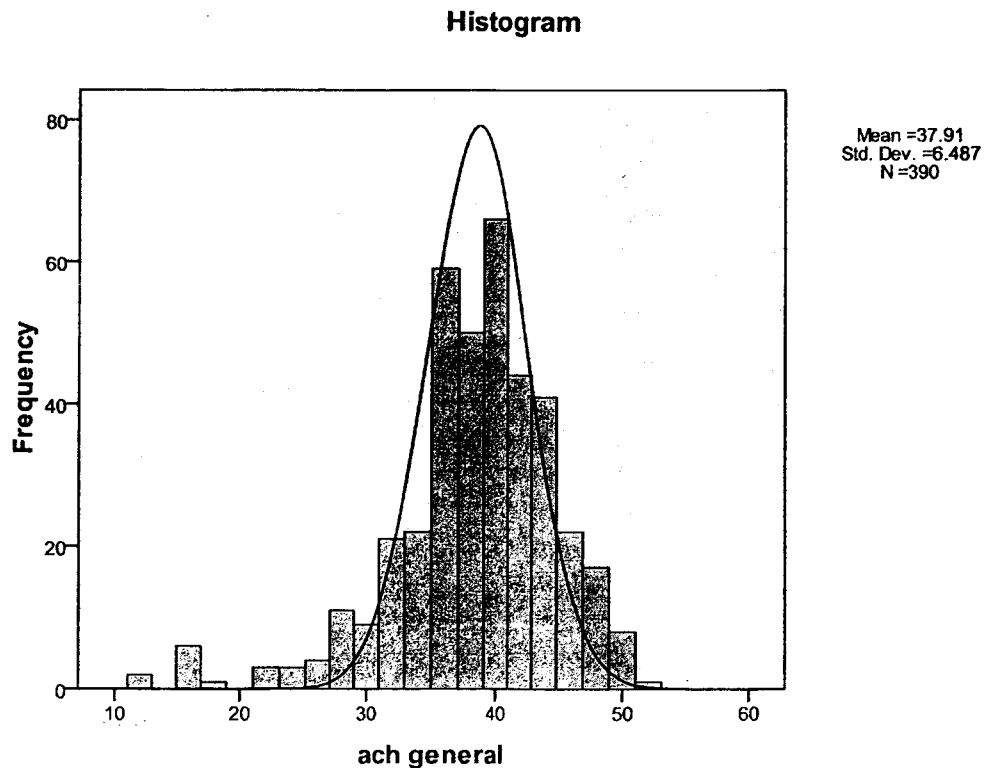


Figure 4.1

District-wise comparison of teachers' achievement test scores:

The achievement test scores of the teachers were compared based on their domicile. Adilabad and Nalgonda districts are in Telangana region of Andhra Pradesh, Visakhapattanam in Coastal region and Chittoor in Rayalaseema region. The coastal region is considered as educationally advanced region while Telangana region is considered to be an educationally backward region. These differences were tested by testing the following null hypothesis.

Hypothesis1 (H_{01}):

There is no significant difference in the mean achievement score of teachers of different districts

The above hypothesis was tested by using oneway ANOVA. The result is shown in table 4.12 and 4.13

Table 4.12
Descriptive Statistics for the Achievement Test Scores of Primary Teachers

| District | N | Mean | SD |
|-----------------|-----|-------|-------|
| Adilabad | 97 | 32.92 | 6.950 |
| Chittoor | 97 | 43.29 | 4.785 |
| Nalgonda | 100 | 38.29 | 4.536 |
| Visakhapattanam | 96 | 37.10 | 4.811 |
| Total | 390 | 37.91 | 6.487 |

The table 4.12 indicates low achievement of teachers of Adilabad and high achievement of teachers of Chittoor district. The district wise comparison was made for testing the above hypothesis.

Table 4.13
ANOVA for District-wise Comparison of Achievement of Primary Teachers

| Source of Variation | Sum of Squares | Df | Mean Square | F | Sig. |
|---------------------|----------------|-----|-------------|--------|------|
| Between Groups | 5300.684 | 3 | 1766.895 | 61.605 | .000 |
| Within Groups | 11070.806 | 386 | 28.681 | | |
| Total | 16371.490 | 389 | | | |

From the above ANOVA table, it is clear that the F-value of 61.605 is not significant at 0.05 level. The null hypothesis is sustained. Therefore, the null hypothesis that there is no significant difference in the mean achievement score of teachers of different districts is accepted.

Comparison Based on Gender:

The following null hypothesis was formulated for comparison of academic achievement of primary teachers based on gender.

Hypothesis (H₀₂):

There is no significant difference between male and female teachers in their academic achievement. The above hypothesis was tested by using t-test for independent samples. Summary of the test result is shown in table 4.14

Table 4.14
Gender wise Comparison of Achievement

| Gender of Teacher | Number | Mean | Std. Deviation | t-Value |
|-------------------|--------|-------|----------------|---------|
| Male | 201 | 36.60 | 6.832 | 4.18* |
| Female | 189 | 39.29 | 5.804 | |

*Significant at 0.05 level

The table 4.14 reveals that the t-value of 4.18 is significant at 0.05 level. It means that the formulated null hypothesis that there is no significant difference between male teachers and female teachers in their academic achievement is rejected. Therefore, there is a significant difference between male teachers and female teachers in their academic achievement. The female teachers scored significantly higher than the male teachers in their academic achievement.

Comparison of Academic Achievement Based on their Age:

The achievement test scores of the teachers were compared based on their age. The teachers were categorized based on their age. The teachers were categorized into four age groups:

- 30 years
- 31 to 40 years
- 41 to 50 years and
- Above 50 years.

The age wise comparison of achievement of teachers is given in table no. 4.15. The following null hypothesis was formulated.

Hypothesis (H₀₃):

There is no significant difference in the mean achievement score among the teachers of different age groups. The result are given in table 4.15

Table 4.15
Descriptive Statistics for Different Age Groups of Primary Teachers

| Age in years | Number of teachers | Mean | Std. Deviation |
|----------------|--------------------|-------|----------------|
| Up to 30 years | 39 | 36.97 | 7.198 |
| 31 to 40 years | 173 | 37.86 | 6.237 |
| 41 to 50 years | 155 | 37.89 | 6.748 |
| Above 50 years | 23 | 39.91 | 5.098 |
| Total | 390 | 37.91 | 6.487 |

Table 4.15 indicates low achievement of teachers below the age of 30 years and high achievement among the teachers of age above 50 years. Comparison was made by using oneway ANOVA. Summary of the test result is given in the following table:

Table 4.16
ANOVA table for Age-wise Comparison of Achievement of Primary Teachers

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|-----|-------------|-------|------|
| Between Groups | 126.883 | 3 | 42.294 | 1.005 | .391 |
| Within Groups | 16244.606 | 386 | 42.084 | | |
| Total | 16371.490 | 389 | | | |

Significant at 0.05 level

Table 4.16 reveals that the F-value of 1.005 is significant at 0.05 level. It implies that the formulated hypothesis is rejected. Therefore, there is a significant difference in the mean achievement score of teachers of different age groups.

Comparison of Academic Achievement based on their Experience:

The achievement test scores of the teachers were compared based on their experience. The teachers were categorized based on their experience. The teachers were categorized as those having an experience of up to 10 years; from 11 to 15 years, and teachers with above 15 years of experience. The experience wise comparison was done for testing the following null hypothesis.

Hypothesis (H₀):

There is no significant difference in the mean achievement score among the teachers of different experience groups.

The differences of the teachers belonging to different experience groups in their academic achievement are highlighted in table 4.17

Table 4.17
Descriptive Statistics for Different Experience Groups

| Experience in years | Number of teachers | Mean | Std. Deviation |
|---------------------|--------------------|-------|----------------|
| Up to 10 years | 143 | 37.65 | 6.504 |
| 11 to 15 years | 147 | 38.93 | 5.964 |
| Above 15 years | 100 | 36.76 | 7.018 |
| Total | 390 | 37.91 | 6.487 |

From the above table it is clear that there is low achievement of teachers having above 15 years of experience and high achievement among the teachers with experience from 11 to 15 years.

The above hypothesis was tested by using oneway ANOVA and the summary of the test results is presented in table 4.18

Table 4.18
ANOVA table for Experience-wise Comparison of Achievement of Primary Teachers

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|-----|-------------|-------|------|
| Between Groups | 295.413 | 2 | 147.706 | 3.556 | .029 |
| Within Groups | 16076.077 | 387 | 41.540 | | |
| Total | 16371.490 | 389 | | | |

From the above ANOVA table, it is evident that the F-value of 3.556 is not significant at 0.05 level. It means that the null hypothesis is accepted.

Comparison based on Locality of the Teachers:

The academic achievement of primary teachers was compared based on their locality (rural and urban). The following null hypothesis was formulated.

Hypothesis (H_{0s}):

There is no significant difference between rural and urban teachers in their academic achievement.

The above hypothesis was tested by using t-test for independent samples. Summary of the test result is shown in table. 4.19

Table 4.19
Comparison of the Achievement of Rural and Urban Primary Teachers

| Location of School | Number | Mean | Std. Deviation | t-Value |
|--------------------|--------|-------|----------------|---------------------|
| Rural | 296 | 37.88 | 7.009 | 0.126 ^{ns} |
| Urban | 94 | 37.98 | 4.496 | |

N.S. =Not significant at 0.05 level

From the above table it can be noticed that the t-value of 0.126 is not significant at 0.05 level. It implies that the null hypothesis of no significant difference between rural teachers and urban teachers in their academic achievement is accepted. Therefore, there is no significant difference between rural teachers and urban teachers in their academic achievement, even though the urban teachers were slightly higher than the rural teachers in their academic achievement.

Comparison of Academic Achievement Based on their Social Groups of Teachers:

The achievement test scores of the teachers were compared based on the social groups. The teachers were categorized as teachers belonging to SC/ST/ OBC, and teachers belonging to the general category. The achievement of the teachers was compared based on their social group by testing the following null hypothesis.

Hypothesis (H₀):

There is no significant difference among teachers of various social groups in the mean achievement score.

The difference among the teachers belonging to different social/community groups in their academic achievement is presented in table 4.20

Table 4.20
Descriptive Statistics for Community Groups

| Community group | Number of teachers | Mean | Std. Deviation |
|------------------|--------------------|-------|----------------|
| SC | 54 | 37.39 | 6.275 |
| ST | 52 | 32.67 | 7.980 |
| OBC | 153 | 38.48 | 5.275 |
| Others (General) | 131 | 39.52 | 6.187 |
| Total | 390 | 37.91 | 6.487 |

The table 4.20 indicates lowest achievement (32.67) among ST teachers and highest (39.52) among the general community teachers. Other social groups teachers fall within this

range. The null hypothesis was tested by using coneway ANOVA. The summary of the test result is given in the table 4.21

Table 4.21
ANOVA table for Community-wise Comparisson of Achievement of Primary Teachers

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|-----|-------------|--------|------|
| Between Groups | 1830.303 | 3 | 610.101 | 16.195 | .000 |
| Within Groups | 14541.187 | 386 | 37.671 | | |
| Total | 16371.490 | 389 | | | |

The 4.21 table indicates that the F-value off 16.195 is not significant at 0.05 level. It means that the null hypothesis is accepted. Hence, there is no significant difference in the mean achievement score of teachers belonging to different community groups.

Comparison of Academic Achievement Based oon their Academic Qualifications:

The achievement test scores of the teachers were compared according to their academic qualifications. The teachers were categorized as tthose with Intermediate (+2 level); teachers with Graduation, and with Post-graduation qualification. The hypothesis of no significant difference in the achievement of teachers with different qualification was tested.

Hypothesis (H_0):

There is no significant difference in the mean aachievement score among the teachers with various academic qualifications.

The differences among the teachers with different academic qualifications in their academic achievement are given in table 4.22.

Table 4.22
Descriptive Statistics for Academic Qualification Groups

| Academic qualification | Number of teacherss | Mean | Std. Deviation |
|------------------------|---------------------|-------|----------------|
| Intermediate(+2 level) | 38 | 33.95 | 8.463 |
| Graduation | 225 | 38.30 | 6.352 |
| PG Degree | 127 | 38.39 | 5.651 |
| Total | 390 | 37.91 | 6.487 |

The above table indicates low achievement of teachers with Intermediate qualification and high achievement among the teachers with Post-graduate degree.

The above null hypothesis was tested by using oneway ANOVA and summary of the test result is given in the table 4.23.

Table 4.23
Academic Qualification-wise Comparison of Achievement of Primary Teachers

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|-----|-------------|-------|------|
| Between Groups | 660.052 | 2 | 330.026 | 8.129 | .000 |
| Within Groups | 15711.438 | 387 | 40.598 | | |
| Total | 16371.490 | 389 | | | |

From the above ANOVA table, it is evident that the F-value of 8.129 is not significant at 0.05 level. It means that the null hypothesis is accepted. Therefore, there is no significant difference in the mean achievement scores among the teachers with different general qualifications.

Comparison of Academic Achievement Based on their Professional Qualifications:

The achievement test scores of the teachers were compared in respect of their professional qualification. The teachers were categorized as with D.Ed./TTC; with B.Ed. and with M.Ed. qualification.

Hypothesis (H_{08}):

There is no significant difference in the mean achievement score among the teachers with different professional qualifications.

The differences among the teachers with different professional qualification in their academic achievement are given in table 4.24.

Table 4.24
Descriptive Statistics for Professional Qualification Groups

| Professional Qualification | Number of teachers | Mean | Std. Deviation |
|----------------------------|--------------------|-------|----------------|
| D.Ed./TTC | 125 | 36.50 | 7.414 |
| B.Ed. | 250 | 38.53 | 6.005 |
| M.Ed. | 15 | 39.20 | 3.840 |
| Total | 390 | 37.91 | 6.487 |

The above hypothesis was tested by using oneway ANOVA and summary of the test result is given in the table 4.25

Table 4.25
ANOVA table for Professional Qualification-wise Comparison of Achievement of Primary Teachers

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|-----|-------------|-------|------|
| Between Groups | 371.598 | 2 | 185.799 | 4.494 | .012 |
| Within Groups | 15999.892 | 387 | 41.343 | | |
| Total | 16371.490 | 389 | | | |

Hence, there is no significant difference in the mean achievement scores among the teachers with different professional qualifications.

Comparison of Primary Teachers With and Without INSET:

The academic achievement of primary teachers who had undergone 20 days training was compared with those who did not receive training. The two groups were named as 'with' and 'without' INSET. The following null hypothesis was formulated for comparison of academic achievement of primary teachers who had undergone 20 days training with the teachers who had not undergone these 20 days training.

Hypothesis (H₀):

There is no significant difference between primary teachers who had undergone 20 days training and primary teachers who had not undergone 20 days training in their academic achievement.

The above hypothesis was tested by using t-test for independent samples. Summary of the test result is presented in table 4.26.

Table 4.26
t-test for Primary Teachers who had Undergone these 20 days Training

| Primary Experience | N | Mean | Std. Deviation | t-Value |
|------------------------|-----|-------|----------------|---------|
| Teachers with INSET | 390 | 37.97 | 6.326 | 8.262* |
| Teachers without INSET | 96 | 31.53 | 6.652 | |

**Significant at 0.05 level*

The above table reveals that the t-value 8.262 is significant at 0.05 level. It implies that null hypothesis of no significant difference between primary teachers with and primary teachers without INSET is rejected. Therefore, there is a significant difference between primary teachers with INSET and without INSET. The mean achievement score was higher for teachers with INSET on training achievement. By implication, it indicates positive impact

of INSET on the learning achievement of teachers. There is a possibility of increasing the impact further by improving the quality of INSET.

Conclusions :

- It is evident from the data that two-thirds of the teacher trainees in rural as well as urban areas felt that their teaching proficiency increased to a great extent as a result of their training under SSA. However, one-third of the teachers perceived no improvement in their teaching proficiency. It implies that there is scope for improving the quality of training. The SPD needs to design specific steps for improving the quality of training while planning the training programmes for 2012-13 and onwards.
- Two-thirds of the trainees used library sometimes. Non-availability of library facilities is regrettable. Immediate action needs to be initiated by SPD and DPO to ensure that all the training centres have a well-equipped library with sufficient reference books for trainees and a few sets of prescribed school textbooks for primary stage. Secondly, the resource persons must encourage all trainees to use the library facilities. The trainees can also be required to review and introduce books that were read by them in the class.
- It was noticed in the discussion with resource persons and course co-ordinators that there was a provision for reading of the modules in one session of the training programme. The resource persons should give a challenging assignment to groups or to individual trainees that requires thorough reading of modules and references from the material.
- The group discussion, practical work and demonstration were the predominant approaches used by the resource persons during the transaction of the modules. The resource persons also used self-study as an approach. This was not considered a suitable approach by the teachers.
- The SPD, RVM-SSA needs to initiate steps to strengthen the monitoring system by SRGs and DIET faculty with the attachment of one observer to each centre to support the resource persons.
- The value of third quartile for achievement of teachers scores was 42. This means that 75% of the teachers were able to attain only 70% of the achievement.
- There was no significant difference in the mean achievement score of teachers of different districts.
- There was significant difference between male teachers and female teachers in their academic achievement. Female teachers scored higher than the male teachers.

- There was significant difference in the mean achievement score among the teachers of different age groups.
- There was no significant difference in the mean achievement score among the teachers of different experience groups.
- There was no difference between rural teachers and urban teachers in their academic achievement.
- There was no significant difference in the achievement of teachers of different social groups. The general teachers scored significantly higher than the teachers belonging to other communities teacher like SC, ST and OBC.
- There was significant difference in the mean achievement score among the teachers with various academic qualifications.
- There was no significant difference in the mean achievement score among the teachers with various professional qualifications.
- There was significant difference between primary teachers who underwent these 20 days training and primary teachers who did not undergo these 20 days training in their academic achievement. The mean achievement score was higher for teachers with INSET on training achievement. By implication, it reflects the impact of INSET on the learning achievement of teachers. There is a possibility of increasing the impact further by improving the quality of INSET.

5 Impact of Training on Upper Primary Teachers

Policy for Follow-up of INSET

There is a provision for providing in-service training to all teachers for 14 days instead of 20 days under Sarva Shiksha Abhiyan (SSA). As per SSA guidelines split-up model of in-service teachers' training is to be followed. In the split-up model, 6 days of face-to-face training is to be organized at the training centres (division level) and remaining 8 days should be completed at cluster level in 8 monthly meetings. The purpose of in-service training is to provide opportunities for professional development of upper primary teachers. There are no divisional level resource centres like Mandal Resource Centre (MRC). But the School Complex at cluster level and School Complex meetings at upper primary level in Andhra Pradesh provide a platform for subject teachers to share and reflect on their pedagogical practices, and academic problems, if any, and to find out solutions. The size of the block (Mandal) is very small. Hence, the school complex (CRC) is considered as the centre for conducting the one day monthly meetings.

The in-service teacher training was initiated to bring about qualitative improvement in teaching learning process. The study of impact of INSET focussed on finding how far teachers' training affected teachers' classroom practices and their perception of training.

Impact on Trainees

The impact of INSET was observed by using classroom observation schedule. The improvement in the classroom management and environment, in social accessibility and acceptability of children in the classroom and the learning levels of the children acted as indicators of the impact of INSET. Impact was studied at two levels. At the first level, it was viewed at the teacher training level. His or her learning during the training depends upon the quality of delivery which inter alia ita. depends on the facilities available at the centre. At the second level, impact of training on the teacher trainees was studied through learners' achievement. For the present study, the following parameters of impact were selected:

- Trainees' perceptions regarding training;
- Impact on achievement of trainee teachers; and

- Impact on teachers' classroom pedagogic practices; impact was assessed by observing the class directly and by obtaining the perceptions of students through focussed group discussion.

Perceptions of the Trainees

In Andhra Pradesh the organizational structure for in-service teachers' training for primary and upper primary teachers is different. The training of upper primary teachers focusses on adopting child-centred learning activities in teaching different school subjects, viz., Telugu, English, Hindi, Mathematics, Science and Social Studies. The Andhra Pradesh state has a policy to appoint subject-wise teachers to teach upper primary classes. Therefore, the training for upper primary teachers focusses on pedagogical content knowledge of the school subject with a focus on issues related to teaching of different school subjects at upper primary level as focussed in the NCF-2005. Training programmes for primary and upper primary were therefore, organized separately.

To assess the impact of in-service training programme, 246 upper primary (186 rural and 60 urban) trainee teachers' perceptions towards training were determined with the help of schedule ISTT 5. The detailed description of sampled teachers is given below:

Age Distribution of Teachers

Table 5.1 provides the number of teachers in the designated four groups in rural and urban schools.

Table 5.1
Number of Teacher Trainees according to their Age

| Area | Age (in years) | | | | Total |
|-------|----------------|---------|---------|------|-------|
| | Up to 30 | 31 – 40 | 41 – 50 | > 50 | |
| Rural | 14 | 84 | 79 | 9 | 186 |
| Urban | 4 | 20 | 29 | 7 | 60 |
| Total | 18 | 104 | 108 | 16 | 246 |
| % | 7.32 | 42.28 | 44 | 6.5 | 100 |

From table 5.1, it can be observed that 186 teachers were from rural areas, while 60 were from urban areas. Rural areas had more teachers in the age group 31-40 years. The same trend was there in the age group 41 to 50 years. Experienced teachers who are in the higher age group manage to shift to urban area schools. Higher number of young teachers was in rural area schools.

Gender Distribution of Teachers

Table 5.2 provides the number of male and female teachers in rural and urban schools.

Table 5.2
Gender of Teacher Trainees

| Area | Male | Female | Total |
|-------|------|--------|-------|
| Rural | 138 | 48 | 186 |
| Urban | 30 | 30 | 60 |
| Total | 168 | 78 | 246 |
| % | 68 | 32 | 100 |

Table 5.2 indicates that 48 female teachers were in rural schools and 30 in urban schools. The female teachers were only 32% and the male teachers 68%. This difference needs to be reduced by giving preference to female teachers. Female teachers are under represented. While deputing teachers for training, more females need to be nominated to balance the representation.

Social Community of the Teachers

Table 5.3 provides the number of teachers belonging to various social community groups in rural and urban schools

Table 5.3
Social Category of Teachers

| Area | SC | ST | OBC | Others | Total |
|-------|------|-------|-------|--------|-------|
| Rural | 16 | 24 | 87 | 59 | 186 |
| Urban | 5 | 3 | 30 | 22 | 60 |
| Total | 21 | 27 | 117 | 81 | 246 |
| % | 8.53 | 10.98 | 47.56 | 32.9 | 100 |

From table 5.3 it can be observed that the OBC teachers constituted the largest group of teachers being 47.56%. In the OBC group 74% teachers were working in rural schools and 26% in urban schools. There were only 3 ST teachers working in urban areas. This is an indication that the ST teachers might be preferring to work in rural areas than in urban areas. There were only 5 SC teachers working in urban areas whereas 16 were working in rural areas. Teachers of SC social category also follow the same trend as teachers of other categories.

Academic Qualification wise distribution of Teachers

Table 5.4 indicates the distribution of primary teachers based on their academic qualifications.

Table 5.4
Academic Qualification of Teacher Trainees

| Area | Academic Qualification | | | | | Total |
|-------|------------------------|--------------------------|----------|---------------|-----------|-------|
| | Secondary | Senior/ Higher Secondary | Graduate | Post-graduate | Any other | |
| Rural | 0 | 7 | 78 | 101 | 0 | 186 |
| Urban | 0 | 0 | 21 | 39 | 0 | 60 |
| Total | 0 | 7 | 99 | 140 | 0 | 246 |
| % | - | 2.85 | 40.24 | 56.91 | - | 100 |

From the table 5.4, it is evident that about 97% teachers were either graduate or post-graduate and only 3% teachers had higher secondary under graduation. Almost similar trend was visible in rural and urban areas. There were only 7 teachers in rural schools with higher secondary as their qualification. 78 rural teachers were graduates and 101 were postgraduates. Among the urban teachers, about one-third were graduates and about two-thirds were post graduates. The percentage of teachers with post-graduation as their qualification was more in urban areas than in the rural areas.

Professional Qualification-wise Distribution of Teachers

Table 5.5 indicates the distribution of upper primary teachers based on their professional qualifications.

Table 5.5
Professional Qualification of Teacher Trainees

| Area | Professional Qualification | | | | | Total |
|-------|----------------------------|--------------|-------------------------------|------------------|--------|-------|
| | No pre-service training | Dip. in Edu. | B. Ed. (Elementary education) | B. Ed. (General) | M. Ed. | |
| Rural | 0 | 18 | 0 | 156 | 12 | 186 |
| Urban | 0 | 2 | 0 | 47 | 11 | 60 |
| Total | 0 | 20 | 0 | 203 | 23 | 246 |
| % | - | 8 | - | 82.5 | 9.5 | 100 |

The above table shows that 82.5% of the upper primary teachers possessed a B.Ed. degree. All the teachers had undergone pre service training. About 9.5% of the teachers had a higher qualification of M.Ed. The primary teachers' required professional qualification is Diploma in Education (D.Ed.) whereas the above table reveals that the maximum number of

teachers were with B.Ed. and M.Ed. degree. Better qualified teachers is an indication of average to improve.

Teachers' Perception on Training

Trained teachers' perception regarding improvement in their teaching proficiency through the 14 days training was obtained and is presented in table 5.6.

Table 5.6
Teacher Trainees' Perception Regarding Improvement of Teaching Proficiency

| Area | Improvement of teaching proficiency | | | |
|-------|-------------------------------------|----------------|------------|-------|
| | To a great extent | To some extent | Not at all | Total |
| Rural | 100 | 70 | 16 | 186 |
| Urban | 48 | 10 | 2 | 60 |
| Total | 148 | 80 | 18 | 246 |
| % | 60.16 | 32.52 | 7.32 | 100 |

It is evident from table 5.6 that about two-third of the teacher trainees in rural as well as urban areas felt that their teaching proficiency had improved to a great extent. However, 32.52 per cent teachers felt that their teaching had improved to some extent. It implies that there is scope for further improvement in the quality of training. The SPD needs to take steps for improving the quality of training while planning the training programmes for 2012-13 and onwards.

Teachers' Perception on Library Facilities

Trained teachers' perception regarding the library facilities at the training centre (MRC) for organising the 14 days training was obtained and is presented in table 5.7

Table 5.7
Availability and Use of Library facility by the Trainees

| Area | Availability of library facility | | | Extent of use of library | | | |
|-------|----------------------------------|------|-------|--------------------------|-----------|------------|-------|
| | Yes | No | Total | Quite often | Sometimes | Not at all | Total |
| Rural | 158 | 28 | 186 | 76 | 98 | 12 | 186 |
| Urban | 50 | 10 | 60 | 8 | 51 | 1 | 60 |
| Total | 208 | 38 | 246 | 84 | 149 | 13 | 246 |
| % | 84.6 | 15.4 | 100 | 34.14 | 60.6 | 5.28 | 100 |

Table 5.7 indicates that 84.6% upper primary teachers mentioned that their training centre had the library facility while 15.4% expressed that it did not have the facility. Percentage of teachers who used the library facility quite often is not encouraging. Only 34.14% upper primary teachers used the library quite often while 5.28% of the teachers never used the

library. About two-thirds of them used library sometimes. Non-availability of library facilities is discouraging. Immediate action needs to be initiated by the SPD and DPO to ensure that all the training centres have well-equipped library with sufficient reference books for trainees and a few sets of prescribed school textbooks for reference and planning practicals. Secondly, the resource persons must encourage all teachers to use the library facilities. It will be possible only if the assignments that require the use of references from the material other than the modules are given to teachers. The teachers can also be required to review and introduce books that were read by them to the peers during training transaction.

Table 5.8
Teacher Trainees who Received and Read the Training Material Before the Training

| Area | Receiving the material before training | | | Reading the material | | | |
|-------|--|-------|-------|--------------------------|---------------------|---------------------------|-------|
| | Yes | No | Total | Before start of training | During the training | Did not find time to read | Total |
| Rural | 6 | 180 | 186 | 50 | 125 | 11 | 186 |
| Urban | 2 | 58 | 60 | 2 | 56 | 2 | 60 |
| Total | 8 | 238 | 246 | 52 | 181 | 13 | 246 |
| % | 3.25 | 96.75 | 100 | 21.13 | 73.6 | 5.28 | 100 |

Table 5.9
Percentage of Modules Read by the Trainees

| Area | Percentage of modules read by the trainees | | | | | |
|-------|--|-------|--------|--------|------|-------|
| | Zero | 1-25% | 26-50% | 51-75% | >75% | Total |
| Rural | 0 | 9 | 19 | 144 | 14 | 186 |
| Urban | 0 | 2 | 6 | 50 | 2 | 60 |
| Total | 0 | 11 | 25 | 194 | 16 | 246 |
| % | 0% | 4.5% | 10% | 79% | 6.5% | 100 |

Table 5.8 shows that only 3.25% of upper primary teachers received the training modules before the commencement of the training. There was a separate session for module reading and discussion. Therefore, most of the teachers (73.60%) read the modules during the training. 79% of the teachers read 51% to 75% of the modules. The percentage of the teachers who read more than 75% of the modules was only 6.5.

The resource persons need to give challenging assignment(s) to groups of trainees or individual trainees that require thorough reading of modules and references from the material. The training package should create interest of trainees to read and should also sustain their interest in reading.

Table 5.10 reflects reasons given by the trainees for not reading the training modules

Table 5.10
Reasons for not reading the Modules

| Area | Reasons for not reading the training module | | | | |
|-------|---|-----------------------------|-------------------------|-----------|-------|
| | Did not find time to read | Package was not interesting | Difficult to understand | Any other | Total |
| Rural | 10 | 28 | 15 | 7 | 60 |
| Urban | 9 | 2 | 7 | 2 | 20 |
| Total | 19 | 30 | 22 | 9 | 80 |
| | 23.75 | 37.5 | 27.5 | 11.25 | 100 |

This item was responded by only 80 teachers out of 246. The teachers informed that they had a session on module reading and the modules were not supplied in advance. 23.75% upper primary teachers did not find time to read and more than one-third mentioned that the training package was not interesting. A quarter of teachers expressed that it was difficult for them to understand the modules. Only few teachers gave other reasons like they were not able to read due to Census work or ill health. The reasons revealed that the modules need a lot of improvement.

Training Achievement

The achievement of upper primary teachers was determined by administering an achievement test based on training inputs provided to them. This test contained 60 multiple choice test items in two parts. The first part of the Achievement Test for Upper Primary Teachers was based on general inputs of the training programme. This was common for all the upper primary teachers. It contained 20 multiple choice test items. Second part of the Achievement Test for Upper Primary Teachers was based on inputs in the concerned subjects, viz., Telugu, English, Mathematics, Science and Social Studies. This part was meant for the concerned subject teachers. It contained 40 multiple choice test items.

Achievement of Upper Primary Teachers:

The achievement of 246 primary teachers drawn from 4 districts was determined by using descriptive analysis/statistical measures like mean, median, standard deviation, skewness, kurtosis and quartiles. The inferential statistics were also used to test the following null hypotheses:

- HO₁ There is no significant difference in the mean achievement score of upper primary teachers of different districts.
- HO₂ There is no significant difference between upper primary male teachers and female teachers in their academic achievement.

- HO₃ There is no significant difference in the mean achievement score among the upper primary teachers of different age groups.
- HO₄ There is no significant difference in the mean achievement score among the upper primary teachers of different experience groups.
- HO₅ There is no significant difference between rural upper primary teachers and urban upper primary teachers in their academic achievement.
- HO₆ There is no significant difference among the upper primary teachers of different social groups in their mean achievement score.
- HO₇ There is no significant difference in the mean achievement score among the upper primary teachers with different academic qualifications.
- HO₈ There is no significant difference in the mean achievement score among the upper primary teachers with different professional qualifications.
- HO₉ There is no significant difference in the mean achievement score among the upper primary teachers in their subject background.
- HO₁₀ There is no significant difference between upper primary teachers who underwent 14 days training and teachers who did not undergo 14 days training in their academic achievement.

The descriptive analysis for the achievement of 246 upper primary teachers is given in the following table no: ___

Table 5.11
Descriptive Statistics for the achievement primary teachers

| | |
|----------------------------------|-------|
| Number of Upper Primary Teachers | 246 |
| Mean | 37.06 |
| Median | 36.00 |
| Standard Deviation | 8.882 |
| Skewness | .795 |
| Kurtosis | 1.565 |
| First Quartile | 31.00 |
| Second Quartile | 36.00 |
| Third Quartile | 43.00 |

The mean achievement score of 37.06 is greater than the median score of 36. It indicates that majority of teachers had lower achievement than the average. Therefore, the distribution of achievement scores is not normal. It leads to slightly positively skewed distribution with the coefficient of skewness 0.795. The standard deviation of the achievement is 8.882. It is slightly platykurtic curve with the value of coefficient of kurtosis being 1.565. It means that the heterogeneity was not more in the distribution of achievement scores. The value of the

first quartile is 31, which indicates that only 25% of the teachers were able to attain 52% of the achievement. The value of second quartile is 36, which indicates that 50% of the teachers were able to achieve only 60% of the achievement. The value of third quartile is 43, which indicates that 75% of the teachers were able to attain only 72% of the achievement. The difference between first and second quartile is 5 and the difference between second and third quartile is 7. The difference in the value of the two successive quartiles is not equal. Therefore, it is not a normal distribution. The same can be noticed from the Figure 3.1. The histogram and frequency curve indicates that the concentration of the scores is more between 30 and 40.

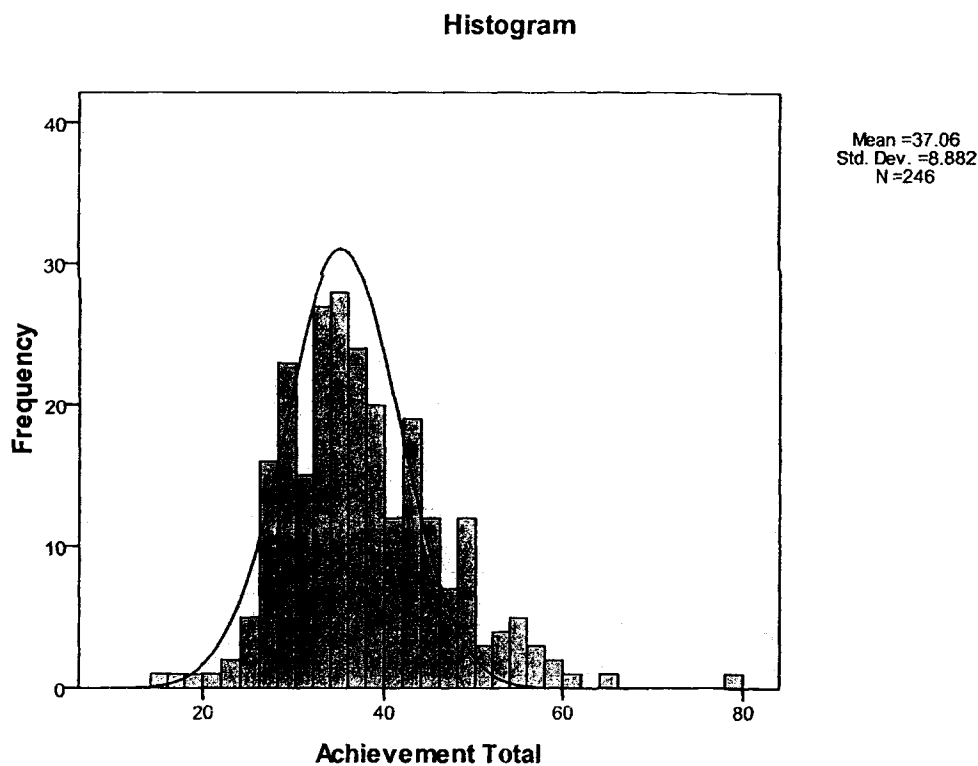


Figure 3.2

District wise comparison of upper primary teachers' achievement test scores:

The achievement test scores of the upper primary teachers were compared based on their domicile. Adilabad and Nalgonda districts are in Telangana region of Andhra Pradesh, Visakhapatnam in Coastal region and Chittoor from Rayalaseema region. The coastal region is considered an educationally advanced region while Telangana region is considered to be an educationally backward region. These differences were tested by testing the following null hypothesis.

Hypothesis (H₁):

There is no significant difference in the mean achievement score of upper primary teachers of different districts.

The above hypothesis was tested by using oneway ANOVA. The result is shown in the tables 5.12 and 5.13.

Table. 5.12

Descriptive Statistics for the Achievement Test Scores of Upper Primary Teachers

| District | N | Mean | S D |
|-----------------|-----|-------|-------|
| Adilabad | 62 | 31.74 | 6.699 |
| Chittoor | 63 | 41.78 | 9.530 |
| Nalgonda | 57 | 39.54 | 8.575 |
| Visakhapattanam | 64 | 35.36 | 7.070 |
| Total | 246 | 37.06 | 8.882 |

The table 5.12 indicates low achievement of teachers of Adilabad and high achievement of the teachers of Chittoor district. The district-wise comparison was made for testing the above hypothesis.

Table 5.13

ANOVA for District-wise Comparison of Achievement of Upper Primary Teachers

| Source of Variation | Sum of Squares | df | Mean Square | F | Sig. |
|---------------------|----------------|-----|-------------|--------|------|
| Between Groups | 3692.451 | 3 | 1230.817 | 19.050 | .000 |
| Within Groups | 15635.635 | 242 | 64.610 | | |
| Total | 19328.085 | 245 | | | |

From the above ANOVA table, it is clear that the F-value of 19.050 is not significant at 0.05 level. The null hypothesis is accepted. Therefore, the null hypothesis that there is no difference in the mean achievement score of upper primary teachers of different districts is sustained.

Comparison Based on Gender:

The following null hypothesis was formulated for comparison of academic achievement of upper primary teachers based on the gender.

Hypothesis (H₂)

There is no significant difference between male and female upper primary teachers in their academic achievement.

The above hypothesis was tested by using t-test for independent samples. Summary of the test result is shown in table 5.14.

Table 5.14
Gender-wise Comparison of Achievement

| Gender of Teacher | Number | Mean | Std. Deviation | t-Value |
|-------------------|--------|-------|----------------|---------|
| Male | 168 | 36.21 | 8.854 | 2.21* |
| Female | 78 | 38.88 | 8.722 | |

*Significant at 0.05 level

The table 5.14 reveals that the t-value of 2.21 is significant at 0.05 level. It means that the formulated null hypothesis that there is no significant difference between male teachers and female teachers in their academic achievement is rejected. Therefore, there is a significant difference between male teachers and female teachers in their academic achievement.

Comparison of Academic Achievement Based on their Age:

The achievement test scores of the teachers were compared based on their age. The teachers were categorized into the following age groups:

- up to 30 years;
- 31 to 40 years;
- 41 to 50 years;
- above 50 years;

The age-wise comparison of achievement of teachers is given in table 5.15 and the following null hypothesis was formulated for comparison.

Hypothesis (H₃):

There is no significant difference in the mean achievement score among the upper primary teachers of different age groups.

The test results are given in table 5.15.

Table 5.15
Descriptive Statistics for Age Groups of Upper Primary Teachers

| Age in years | Number of teachers | Mean | Std. Deviation |
|----------------|--------------------|-------|----------------|
| Up to 30 years | 18 | 39.33 | 7.404 |
| 31 to 40 years | 104 | 36.13 | 7.948 |
| 41 to 50 years | 108 | 38.55 | 9.808 |
| Above 50 years | 16 | 30.56 | 5.762 |
| Total | 246 | 37.06 | 8.882 |

Table 5.15 indicates high achievement of teachers below the age of 30 years and low among the teachers of age above 50 years. The comparison was made by using oneway ANOVA. Summary of the test result is given in the following table:

Table 5.16
ANOVA table for Age-wise Comparison of Achievement of Upper Primary Teachers

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|-----|-------------|-------|------|
| Between Groups | 1098.004 | 3 | 366.001 | 4.859 | .003 |
| Within Groups | 18230.081 | 242 | 75.331 | | |
| Total | 19328.085 | 245 | | | |

The above ANOVA table reveals that the F-value of 4.859 is not significant. It implies that the formulated hypothesis is accepted. Therefore, there is no difference in the mean achievement score of upper primary teachers of different age groups.

Comparison of Academic Achievement based on their Experience:

The achievement test scores of the teachers were compared based on their experience. The teachers were categorized based on their experience. The teachers were categorized as those an having experience of up to 10 years; teachers with experience from 11 to 15 years, and teachers with above 15 years of experience. The experience-wise comparison was made for testing the following null hypothesis.

Hypothesis (H₀):

There is no significant difference in the mean achievement score among the upper primary teachers of different experience groups.

The differences in the academic achievement of the teachers belonging to different experience groups were noticed. These are highlighted in Table 5.17

Table 5.17
Descriptive Statistics for Experience Groups

| Experience in years | Number of teachers | Mean | Std. Deviation |
|---------------------|--------------------|-------|----------------|
| Up to 10 years | 97 | 36.48 | 7.616 |
| 11 to 15 years | 59 | 38.20 | 10.563 |
| Above 15 years | 90 | 36.93 | 8.980 |
| Total | 246 | 37.06 | 8.882 |

The table indicates low achievement of teachers having up to 10 years of experience and high among the teachers with experience from 11 to 15 years.

The above hypothesis was tested by using oneway ANOVA and the summary of the test results is shown in the table 5.18.

Table 5.18

ANOVA table for Experience wise Comparison of Achievement of Upper Primary Teachers

| | Sum of Squares | Df | Mean Square | F | Sig. |
|----------------|----------------|-----|-------------|------|-------|
| Between Groups | 110.699 | 2 | 55.350 | .700 | .498* |
| Within Groups | 19217.386 | 243 | 79.084 | | |
| Total | 19328.085 | 245 | | | |

*Significant at 0.05 level

From the above ANOVA table, it is evident that the F-value of 0.700 is significant at 0.05 level. It means that the null hypothesis is rejected. Hence there is a significant difference in the mean achievement score of teachers belonging to different experience groups.

Comparison Based on Locality of the Teachers

The academic achievement of primary teachers was compared based on their locality (rural and urban). The following null hypothesis was formulated.

Hypothesis (H₀):

There is no significant difference between rural upper primary teachers and urban upper primary teachers in their academic achievement.

The above hypothesis was tested by using t-test for independent samples. Summary of the test results is shown in table given below:

Table 5.19

T-test for Comparing the Achievement of Rural and Urban Upper Primary Teachers

| Location of School | Number | Mean | Std. Deviation | t-Value |
|--------------------|--------|-------|----------------|--------------------|
| Rural | 186 | 36.73 | 8.981 | 1.03 ^{ns} |
| Urban | 60 | 38.08 | 8.561 | |

ns. Not significant at 0.05 level

From the above table it can be noticed that the t-value of 1.03 is not significant at 0.05 level. It implies that the null hypothesis of no significant difference between rural teachers and urban teachers in their academic achievement is accepted. Therefore, there is no significant difference between rural teachers and urban teachers in their academic

achievement, even though the urban teachers were slightly better than the rural teachers in their academic achievement.

Comparison of Academic Achievement Based on their Social Group of Teachers

The achievement test scores of the teachers were compared based on the social groups. The teachers were categorized as teachers belonging to SC; teachers belonging to ST; teachers belonging to OBC, and teachers belonging to the general category. The following null hypothesis was formulated in this regard.

Hypothesis (H₀):

There is no significant difference among the upper primary teachers of various social groups in their mean achievement score.

The differences in their academic achievement of the teachers belonging to different community groups are mentioned in table 5.20.

Table 5.20
Descriptive Statistics for Different Community Groups

| Community group | Number of teachers | Mean | Std. Deviation |
|------------------|--------------------|-------|----------------|
| SC | 21 | 39.67 | 9.248 |
| ST | 27 | 32.48 | 6.135 |
| OBC | 117 | 37.94 | 9.329 |
| Others (General) | 81 | 36.64 | 8.462 |
| Total | 246 | 37.06 | 8.882 |

The above table indicates lowest achievement (32.48) among ST teachers and highest (39.67) among the upper primary teachers of SC community. Other social groups teachers fall within this range. The null hypothesis was tested by using oneway ANOVA and the summary of the test results is given in the table 5.21.

Table 5.21
ANOVA table for Community-wise Comparison of Achievement of Upper Primary Teachers

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|-----|-------------|-------|------|
| Between Groups | 813.479 | 3 | 271.160 | 3.544 | .015 |
| Within Groups | 18514.606 | 242 | 76.507 | | |
| Total | 19328.085 | 245 | | | |

The above ANOVA table indicates that the F-value of 3.544 is not significant at 0.05 level. It means that the null hypothesis is accepted. Hence, there is no significant difference in the mean achievement score of teachers belonging to different community groups. The SC social group teachers scored higher than the teachers belonging to other social groups.

Comparison of Academic Achievement Based on their Academic Qualifications:

The achievement test scores of the teachers were compared according to their academic qualifications. The teachers were categorized as those with Intermediate (+2 level); teachers with Graduation, and with Postgraduation qualification. The hypothesis of no significant difference in the achievement of teachers with different qualifications was tested.

Hypothesis (H₇):

There is no significant difference in the mean achievement score among the upper primary teachers with various academic qualifications

The differences in the academic achievement of the teachers with different academic qualifications are given in table 5.22.

Table 5.22
Descriptive Statistics for Academic Qualification Groups

| Academic Qualification | Number of teachers | Mean | Std. Deviation |
|------------------------|--------------------|-------|----------------|
| Intermediate(+2 Level) | 7 | 31.43 | 9.641 |
| Graduation | 99 | 37.04 | 8.313 |
| PG Degree | 140 | 37.36 | 9.200 |
| Total | 246 | 37.06 | 8.882 |

The above table indicates low achievement of teachers with Intermediate qualification and high among the teachers with Postgraduate degree.

The above hypothesis was tested by using oneway ANOVA and summary of the test result is given in the table 5.23.

Table 5.23
ANOVA table for Academic Qualification-wise Comparison of Upper Primary Teachers

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|-----|-------------|-------|-------|
| Between Groups | 234.390 | 2 | 117.195 | 1.492 | 0.227 |
| Within Groups | 19093.696 | 243 | 78.575 | | |
| Total | 19328.085 | 245 | | | |

From the above ANOVA table, it is evident that the F-value of 1.492 is not significant at 0.05 level. It means that the null hypothesis is accepted. Hence, there is no significant difference in the mean achievement scores among the upper primary teachers with different academic qualifications.

Comparison of Academic Achievement Based on their Professional Qualifications:

The achievement test scores of the teachers were compared in respect of their professional qualification. The teachers were categorized as having D.Ed. / TTC; B.Ed. and M.Ed. qualifications.

Hypothesis (H_0):

There is no significant difference in the mean achievement score among the upper primary teachers with different professional qualifications.

The differences in the academic achievement of the teachers with different professional qualification are given in table 5.24.

Table 5.24
Descriptive Statistics for Professional Qualification Groups

| Professional Qualification | Number of teachers | Mean | Std. Deviation |
|----------------------------|--------------------|-------|----------------|
| D.Ed./TTC | 20 | 34.60 | 8.994 |
| B.Ed. | 203 | 37.03 | 8.839 |
| M.Ed. | 23 | 39.43 | 8.943 |
| Total | 246 | 37.06 | 8.882 |

The above hypothesis was tested by using oneway ANOVA and summary of the test results is given in the table 5.25.

Table 5.25
ANOVA table for Professional Qualification-wise Comparison of Achievement of Upper Primary Teachers

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|-----|-------------|-------|-------|
| Between Groups | 250.875 | 2 | 125.437 | 1.598 | 0.204 |
| Within Groups | 19077.211 | 243 | 78.507 | | |
| Total | 19328.085 | 245 | | | |

Hence, there is no significant difference in the mean achievement scores among the teachers with different professional qualifications. Teachers with M.Ed. degree had higher

academic achievement score than the teachers with B.Ed. and D.Ed, degrees but that difference was not considerable.

Comparison of Upper Primary Teachers' Achievement Based on their Subject of Teaching:

The achievement test scores of the teachers were compared based on their subject of teaching. The achievement of the teachers based on their subject of teaching was compared by testing the following null hypothesis.

Hypothesis (H₀):

There is no significant difference among the upper primary teachers teaching different subjects at upper primary level in their mean achievement score.

The differences in the academic achievement of the upper primary teachers teaching different subjects are presented in the table 5.26.

Table 5.26
Descriptive Statistics for Upper Primary Teachers Teaching Different Subjects

| Subject of teaching | Number of teachers | Mean | Std. Deviation |
|---------------------|--------------------|-------|----------------|
| English | 46 | 38.33 | 9.383 |
| Mathematics | 49 | 34.94 | 4.754 |
| Science | 56 | 46.70 | 7.720 |
| Social | 49 | 28.86 | 5.188 |
| Telugu | 46 | 35.07 | 4.046 |
| Total | 246 | 37.06 | 8.882 |

The above table indicates lowest achievement among teachers teaching social studies (28.86) and highest (46.70). in teachers teaching science. Teachers teaching other subjects fall in between these groups. The null hypothesis was tested by using oneway ANOVA and the summary of the test results is given in the table 5.27.

Table 5.27
ANOVA table for Upper Primary Teachers Teaching Different Subjects

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|-----|-------------|--------|------|
| Between Groups | 8974.517 | 4 | 2243.629 | 52.225 | .000 |
| Within Groups | 10353.569 | 241 | 42.961 | | |
| Total | 19328.085 | 245 | | | |

The above ANOVA table indicates that the F-value of 52.225 is not significant at 0.05 level. It means that the null hypothesis is accepted. Hence, there is no significant difference in the mean achievement score of upper primary teachers teaching different subjects.

Comparison of Upper Primary Teachers With and Without INSET:

The academic achievement of upper primary teachers who had undergone 14 days training was compared with those who did not receive training. The two groups were named as ‘with’ and ‘without’ INSET. The following null hypothesis was formulated for comparison of academic achievement of upper primary teachers who had undergone 14 days training with the teachers who did not undergo this 14 days training.

Hypothesis (H₁₀):

There is no significant difference between upper primary teachers who had undergone 14 days training and upper primary teachers who did not undergo 14 days training in their academic achievement.

The above hypothesis was tested by using t-test for independent samples. Summary of the test results is shown in table 5.28.

Table 5.28
T-test for upper Primary Teachers who had Undergone 14 days Training and Those who did not receive Training

| Primary Experience | N | Mean | Std. Deviation | t-Value |
|------------------------|-----|-------|----------------|---------|
| Teachers with INSET | 246 | 36.92 | 9.029 | 6.978* |
| Teachers without INSET | 12 | 18.50 | 6.360 | |

**Significant at 0.05 level*

The above table reveals that the t-value 6.978 is significant at 0.05 level. It implies that null hypothesis of no significant difference between upper primary teachers with and upper primary teachers without INSET is rejected. Therefore, there is a significant difference between upper primary teachers with INSET and without INSET. By implication, it indicates positive impact of INSET on the learning achievement of teachers. There is a possibility of increasing the impact further by improving the quality of INSET.

Conclusions

- It is evident from the data that two-thirds of the teacher trainees in rural as well as urban areas felt that their teaching proficiency improved to a great extent. However, one-third of the teachers felt improvement to some extent in their teaching proficiency. It implies that there is scope for improving the quality of training. The SPD may take suitable steps for improving the quality of training while planning the future training programmes for 2012-13 and onwards.
- Two-thirds of teacher trainees used library sometimes. Non-availability of library facilities is regrettable. Immediate action needs to be initiated by SPD and DPO to ensure that all the training centres have a well-equipped library with sufficient reference books for trainees and a few sets of prescribed school textbooks for upper primary stage. Secondly, the resource persons must encourage all trainees to use the library facilities. It will be possible only if the assignments are given to the trainees that require the use of references from the material other than the modules. The trainees can also be required to review and introduce books that were read by them in the class.
- It was noticed in the discussion with resource persons and course co-ordinators that there was a provision for module reading in one sessions of the training programme. The resource persons need to give a challenging assignment(s) to groups or to individual trainees that requires thorough reading of modules and references from the material.
- The group discussion, practical work and demonstration were the priority approaches used by the resource persons during the transaction of the modules. The resource persons also used self-study as an approach. This was not perceived a suitable approach by the teachers.
- The SPD, RVM-SSA needs to initiate steps to strengthen the monitoring system by SRGs and DIET faculty with the attachment of one observer to each centre to support the resource persons.
- The value of the first quartile for achievement of teachers scores was 31, which indicates that only 25% of the teachers were able to attain 52% the achievement. The value of second quartile was 36, which indicates that 50% of the teachers were able to achieve only 60%. The value of third quartile was 43, which indicates that 75% of the teachers were able to attain only 72% of the achievement.
- There was no difference in the mean achievement score of teachers of different districts.

- There was a significant difference between male teachers and female teachers in their academic achievement.
- There was no significant difference in the mean achievement score among the teachers of different age groups.
- There was a significant difference in the mean achievement score among the teachers of different experience groups.
- There was no significant difference between rural teachers and urban teachers in their academic achievement.
- There was no significant difference in the achievement of teachers of different social groups.
- There was no difference in the mean achievement score among the teachers with various academic qualifications even though the teachers with Postgraduate degree were higher achievers than the other groups.
- There was no significant difference in the mean achievement score among the teachers with various professional qualifications even though mean achievement score of teachers with M.Ed. degree was higher than the teachers with B.Ed. and D.Ed. degrees
- There was no significant difference in the mean achievement score of upper primary teachers teaching different subjects. .
- There was a significant difference between upper primary teachers who had undergone 14 days training and upper primary teachers who had not undergone 14 days training in their academic achievement. The mean achievement score was higher for teachers with INSET. By implication, it indicates positive impact of INSET on the learning achievement of teachers. There is a possibility of increasing the impact further by improving the quality of INSET.

6 Impact of CRC Monthly Meetings on Teachers

Primary Stage

Infrastructure and Facilities at CRCs (School Complex)

Table 6.1
Number of CRCs in Urban and Rural Areas

| Sl. No. | District | Number of CRCs covered | | |
|---------|-----------------|------------------------|-------|-------|
| | | Rural | Urban | Total |
| 1 | Adilabad | 6 | 2 | 8 |
| 2 | Chittoor | 8 | 2 | 10 |
| 3 | Nalgonda | 10 | 2 | 12 |
| 4 | Visakhapattanam | 8 | 4 | 12 |
| | Total | 32 | 10 | 42 |

Table 6.2 provides synoptic view of the physical facilities available in CRCs.

Table 6.2
Facilities Available at CRC

| Facilities | Adequate | Inadequate | Not available | Total |
|------------------------------------|----------|------------|---------------|-------|
| Separate room for Co-ordinator | 0 | 0 | 42 | 42 |
| Separate room for monthly meeting | 0 | 0 | 42 | 42 |
| Separate toilet for women trainees | 2 | 24 | 16 | 42 |
| Provision of electricity | 4 | 16 | 22 | 42 |
| Library books | 0 | 12 | 30 | 42 |

Most of the CRCs are located in lead school of the school complex. The lead school is either an Upper Primary School or a High School which is located in the jurisdiction of the CRC. There was no separate room for conducting monthly meetings and no separate room for CRC co-ordinator. About 70% of CRCs were without electricity. Two-thirds of the CRCs did not have an adequate number of books. The toilet and drinking water facility of the school in which the CRC was located were used. One of the classrooms of the school was used for meeting purpose. All the CRC co-ordinators were male only. Representation of females in the CRCs category needs to be encouraged. Norms for financial provision for books in CRC, and actual availability of books for teachers need serious consideration. Availability and use of library books needs to be closely monitored.

Seating arrangement in most of the CRCs was very poor. Only either classroom benches or floor mats were available for sitting. In some centres, the chairs were hired from the local suppliers. Facility for writing was missing.

Agenda of Monthly Meetings at CRCs

The state project office prepares the agenda items for monthly meetings and communicates the same to each CRC through DPO, RVM-SSA.. The agenda include the review of activities based on training interventions provided by RVM-SSA in face-to-face training. There is a scope in the agenda to discuss the difficulties faced by the teachers in implementing the training interventions. The monitoring officers like DyEO, Lecturer of DIET, MRP and MEO attend the meeting to help the teachers resolve academic issues and problems.

Table 6.3
School Complex Annual Plan Agenda 2010-11

| Month | I Session 9:00am to 10:30 am Review on: | II Session 10:30am to 12 noon Discussion on: | | III Session 12:15pm to 1:30 pm Analysis on: | | IV Session 2:00 pm to 3:15 pm Demonstration on: | | V Session 3:30 pm to 5:00 pm Guest lecture on: |
|-----------|--|---|---------------------------------|---|--------------------------|---|------------------------|--|
| July | a) Enrolment b) Teacher and student attendance c) Syllabus coverage d) Action plan for the year | a) Student grading (ABCD) b) Lesson plans for teachers c) Competency-based teaching & learning process | Tea tea Break 12:00 to 12:15 | Prepare guidelines for school and teacher performance analysis | Lunch Break 1:30 to 2:00 | Teaching Learning Material (TLM) preparation | Tea Break 3:15 to 3:30 | Importance of remedial teaching |
| August | a) Retention b) Teacher and student attendance c) Syllabus coverage d) ECE centre activities e) SMC meetings | a) Preparation of competency based question papers (all subjects) b) School library development c) Book reviews | | a) Baseline test results b) Learning gaps identification c) Plan of action to bridge learning gaps and its review | | Presentation of model lessons on different subjects | | Value-based education |
| September | a) Retention b) Teacher and student attendance c) Syllabus | a) Effective use of 'SLIM cards' b) Laboratory resources | | a) First unit test results b) Learning gaps identification | | Presentation of model lessons on different subjects | | Multi-grade teaching |

| | | | | | | | | | |
|----------|--|--|--------------------------|---|--------------------------|---|--|------------------------|---|
| | coverage d) ECE centre activities e) SMC meetings | | | c) Plan of action to bridge learning gaps and its review | | | | | |
| October | | Visit to the best performing school complex | | | | and interaction | | | |
| November | a) Retention b) Teacher and student attendance c) Syllabus coverage d) ECE centre activities e) SMC meetings | a) Strategies to improve child performance from B to A, C to B, and D to C b) Child-friendly classroom management | Tea Break 12:00 to 12:15 | a) Quarterly exam results b) Learning gaps identification c) Plan of action to bridge learning gaps and its review | Lunch Break 1:30 to 2:00 | Presentation of model lessons on different subjects | | Tea Break 3:15 to 3:30 | Knowledge-based teaching and communication skills |
| December | a) Retention b) Teacher and student attendance c) Syllabus coverage d) ECE centre activities e) SMC meetings | Success stories of community mobilization. | | a) Third unit test results b) Learning gaps identification c) Plan of action to bridge learning gaps and its review | | Presentation of model lessons on different subjects | | | Strategies to improve child performance and retention |
| January | a) Retention b) Teacher and student attendance c) Syllabus coverage | a) Melas at School Complex level. b) Publication of magazine. | | a) Half Yearly exam results b) Learning gaps identification c) Plan of action | | Innovative activities, Wall magazine & Student committees | | | Overcoming problems during teaching-learning process |

| | | | | | | | |
|----------|---|---|--|---|--|--|----------------------------------|
| | d)ECE centre activities e) SMC meetings | | | to bridge learning gaps and its review | | | |
| February | a) Retention b) Teacher and student attendance c) Syllabus coverage d)ECE centre activities e) SMC meetings | a) School Complex level competitions b) Women's day celebrations | | a) Fourth Unit test results b) Learning gaps identification c)Plan of action to bridge learning gaps and its review | | Important experiments in Environmental studies | Computer aided learning/teaching |
| March | a) Retention b) Teacher and student attendance c) Syllabus coverage d)ECE centre activities e) SMC meetings | Measures to improve school-level learning outcome gaps. | | a)Annual School Performance b) Annual Teacher Performance | | Planning for next academic year | Community mobilization |

Organization of Monthly Meetings

The monthly meetings of the primary level are conducted at school complex. The lead school of the school complex is the location of CRC. The lead school may be either an Upper Primary or a High School. The Headmaster of the lead school is the head of the school complex. The head of the school complex is the CRC co-ordinator. There are 7 to 8 schools under each school complex (CRC) jurisdiction. The meetings are fixed for the entire block (Mandal) by the DPO, RVM-SSA depending upon the size of Mandal. The first or second or third Saturday of every month is the day for CRC meeting. This varies from Mandal to Mandal. Each CRC conducts 8 monthly meetings. In each meeting, the programme starts at 9.00 a.m. and goes up to 5.00 p.m. Yoga and meditation are included. The actual programme starts with a review of the progress of the children in participant schools during the month. The head of the school complex presents the report of the visit to the schools in his/her jurisdiction. The special review on SSA activities is based on the experiences of the teachers in practising and implementing new pedagogical activities suggested during the training. The model demonstration by a senior teacher or by a DIET faculty is based on the pedagogical approaches suggested under SSA. The RVM-SSA suggests reference books for the teachers. In each meeting two or three teachers present review of the one of the reference books. The programme is concluded with focus on the agenda for the next meeting.

Availability of Funds

Tables 6.4 and 6.5 manifest availability of funds and its adequacy for organising monthly meetings at the CRCs.

Table 6.4
Provision of TA/DA and Refreshment for Attending Meetings

| | Provision of TA/DA | | | Provision of breakfast, lunch and evening tea | | |
|-------|--------------------|----|-------|---|----|-------|
| | Yes | No | Total | Yes | No | Total |
| Total | 42 | 0 | 42 | 0 | 42 | 42 |

Table 6.5
Adequacy of Funds for Monthly Meeting

| | Receipt of funds in time | | | Adequacy of funds | | |
|-------|--------------------------|----|-------|-------------------|----|-------|
| | Yes | No | Total | Yes | No | Total |
| Total | 42 | 0 | 42 | 36 | 6 | 42 |

It is evident from table 6.4 that all the teachers expressed that they were given TA and DA for attending the meeting. During the discussion with CRC co-ordinator, it was learnt that

the teachers received TA and DA for attending these monthly meetings from the school grant given by RVM-SSA for each school. During the discussion, it was noticed that some of the teachers talked about delay in the payment of TA and DA. But table 6.5 shows that the school complex received funds on time. Only a few expressed that the funds were not adequate to meet the expenses due to price escalation. The SPD may look into this issue and take up review and necessary action for upgrading the norms, if necessary.

Impact of CRC monthly meetings on teachers

The RVM-SSA, Andhra Pradesh provided an opportunity to all teachers to undergo in-service training for 20 days. SSA guidelines for split model of in-service teachers' training with 10 days face-to-face training programme, 2 days of follow up training through teleconferencing and 8 monthly meetings at CRC, were followed. The 10 days face-to-face training was organized at MRCs. Two days of teleconferencing was held at DIET. The remaining 8 days were completed at School Complex (CRC) in the form of monthly meetings. The purpose of in-service training is to provide opportunities to teachers for their academic growth. The purpose of setting up of School Complexes (CRCs) is to provide constant academic support to teachers. The School Complex (CRC) is used as a platform by teachers to share and reflect on their pedagogical practices, problems if any and find out solutions.

The agenda for these monthly meetings at School Complex (CRC) was fixed by the SPD for the entire state. A wide scope for discussion on academic issues, teacher guides, TLM, hard spots of syllabus and other pedagogical issues was provided. To study whether the School Complexes (CRCs) provided academic support to the teachers or not and level of participation of teachers in these monthly meetings at School Complex (CRC) level, observations were made.

It was observed by field investigators that in some of the meetings discussionsplace according to the agenda supplied by the SPD. The local specific issues were discussed at the end. Discussions during the meetings were about annual school performance and teacher performance and the measures adopted to overcome the learning gaps. The field investigators observed in March 2011 that the agenda was fixed for all the 12 School Complexes (CRCs) by the S.P.D.

According to the observation of field investigators, in all the School Complexes (CRCs), there was a discussion on community mobilization. This topic for discussion was also in the prescribed agenda supplied by the SPD.

Table 6.6
Issues Discussed in CRC Meetings Observed by Field Investigators

| | Yes | No | Total |
|--|-----|----|-------|
| Issues related to curriculum activities | 12 | 0 | 12 |
| Presentations of innovations attempted by teachers | 0 | 12 | 12 |
| Discussions held for deciding the agenda of the next meeting | 12 | 0 | 12 |

All CRC co-ordinators and teachers were aware about the purpose of CRC meetings. It was revealed during interaction with teachers and co-ordinators that CRC meetings were organized to follow up the issues.

MRPs and Head-teacher of the School Complex (CRC) were asked about the objectives of organizing the monthly meetings at the School Complex (CRC). The heads of School Complex (CRC) and MRPs were aware of the objectives of School Complex (CRC) meetings. It was evident from the analysis of the discussion with the heads of School Complex (CRC) that there was very little scope for discussion on local specific pedagogical issues.

Conclusions

- The monthly meetings of school complexes (CRCs) were found to be helpful in providing academic support to teachers as stated in state policy document. These meetings at CRCs helped the functionaries at various levels in the state to provide feedback to different initiatives of RVM-SSA.
- The attendance of the teachers in these monthly meetings was quite high. But it was not hundred per cent, even though the attendance of all the teachers was mandatory. The BRC co-ordinator should examine the issue and take steps to encourage teachers participation.
- Representation of females as co-ordinators needs to be encouraged. Norms for financial provision for books and availability of books for teachers need serious consideration. Availability and use of library books needs to be closely monitored. The SPD may make provision for addition of books.
- The school complex received funds on time. But these funds were not adequate to meet the expenses due to price escalation. The SPD should look into this issue and take up upgrading of norms.

Upper Primary Stage

Infrastructure and Facilities at CRCs (School Complexes)

Table 6.7
Location of CRCs at Upper Primary Level

| Sl. No. | District | Number of CRCs covered | | |
|---------|-----------------|------------------------|-------|-------|
| | | Rural | Urban | Total |
| 1 | Adilabad | 3 | 1 | 4 |
| 2 | Chittoor | 2 | 1 | 3 |
| 3 | Nalgonda | 2 | 1 | 3 |
| 4 | Visakhapattanam | 3 | 1 | 4 |
| | Total | 10 | 4 | 14 |

Table 6.8
Facilities Available at CRCs

| Facility | Adequate | Inadequate | Not available | Total |
|------------------------------------|----------|------------|---------------|-------|
| Separate room for co-ordinator | 0 | 0 | 14 | 14 |
| Separate room for monthly meeting | 0 | 2 | 12 | 14 |
| Separate toilet for women trainees | 2 | 10 | 2 | 14 |
| Provision of electricity | 4 | 4 | 6 | 14 |
| Library books | 0 | 12 | 2 | 14 |

It is evident from tables 6.7 and 6.8 that most CRCs were located in rural areas. There was no separate room in CRC for conducting monthly meetings and no separate room for CRC co-ordinator. About 43% of CRCs were without electricity. None of the CRCs had an adequate number of books. All the CRCs were located in the lead school, the toilet and drinking water facility of the school were being used. One of the classrooms of the school was used for meeting purpose. All the CRC co-ordinators were male only. Representation of females co-ordinators needs to be encouraged. Norms for financial provision for books in CRCs and availability of books for teachers need serious consideration. Availability and use of library books need to be closely monitored.

Seating arrangement in most of the CRCs was very poor. They had either classroom benches or floor mats for sitting. In some centres, chairs were hired from the local supplier.

Agenda of Monthly Meetings at CRCs.

The agenda items for CRC meetings are fixed by the state project office, RVM-SSA for different monthly meetings. The state project office prepares the agenda items for monthly meetings and supplies to each CRC through DPO, RVM-SSA. The agenda includes the review of activities based on training interventions provided by RVM-SSA in face-to-face

training. There is a scope in the agenda to discuss the difficulties faced by the teachers in implementing the training interventions. The monitoring officers like DyEO, Lecturer of DIET, SRG member of that district, RP of the subject and MEO attend the meeting to help the teachers to resolve academic issues and problems.

Table 6.9 below is an illustration to support that the monthly meeting programme timetable.

Table 6.9
Timetable for School Complex Meeting for Upper Primary Teachers for English

| Time | Item |
|--------------------------|--|
| 9.00 a.m. to 9.20 a.m. | Yoga and Meditation |
| 9.20 a.m. to 10.00 a.m. | What children's can do in English and what were the expected competencies- Discussion on Children Performance |
| 10.00 a.m. to 10.50 a.m. | Syllabus for next month- Preparation of Competency Specific Activities, Programmes, Presentation and discussion |
| 10.50 a.m. to 11.00 a.m. | Break |
| 11.00 a.m. to 12.00 noon | Narratives, Model Lesson Preparation and Presentation |
| 12.00 noon to 1.00 p.m. | One demonstration lesson |
| 1.00p.m. to 2.00 p.m. | Lunch Break |
| 2.00 p.m. to 3.00 p.m. | <ul style="list-style-type: none"> • Important Interventions and Programmes in English Language Communication Presentation by the selected school teachers and Discussion. • English Teaching Methods, Innovation, etc. • English Through Discourse and Narration Examples • Projects in English |
| 3.00 p.m. to 4.00 p.m. | Competency based test items / test papers – Presentation and Discussion |
| 4.00 p.m. to 4.45 p.m. | Read and Reflect (Book Review) |
| 4.45 p.m. to 5.00 p.m. | Programmes / Items to be assigned, schools and teachers for the next school complex meetings – Review of today's school complex meeting proceedings |

Organization of Monthly Meetings

The monthly meetings at upper primary level are conducted at school complex. The lead school of the school complex is the location of CRC. The lead school may be either an Upper Primary or a High School. The Headmaster of the lead school is the head of the school complex. The head of the school complex is the CRC co-ordinator. There were 30 to 35 subject teachers under each school complex (CRC) jurisdiction. The meetings were fixed for the entire division/block by the DPO, RVM-SSA depending upon the size of school complex. The first or second or third Saturday of every month was the day for CRC meeting. This varied from school complex to school complex. Each CRC conducted 8 monthly meetings. In each meeting, the programme started at 9.00 am and goes up to 5.00 pm. The programme

starts with a prayer which included singing Vandematharam, State anthem (Maa Thelugu Talliki), pledge and reading of news like in a school morning assembly. The next activity was yoga and meditation.

The third activity was subject specific activities based on the training interventions and programmes in that particular subject. This included presentation by the selected school teachers followed by discussion. Model lesson presentation (demonstration of the teaching based on training interventions) in Telugu medium and English medium was another activity in the meeting. The demonstration lesson was followed by discussion. The teacher or a school presented their problems, innovations and experiments after the discussion on the demonstration lesson. The special review /reflections on SSA activities specified for that subject took place after that. The model demonstration by a senior teacher or by a DIET faculty was based on pedagogical approaches suggested under SSA. The RVM-SSA suggests reference books for the teachers. In each meeting, two or three teachers presented one book review. The programme concluded with the focus on the agenda for the next meeting.

Table 6.10
Provision of TA/DA and Refreshment for Attending Meetings

| | Provision of TA/DA | | | Provision of breakfast, lunch and evening tea | | |
|-------|--------------------|----|-------|---|----|-------|
| | Yes | No | Total | Yes | No | Total |
| Total | 14 | 0 | 14 | 10 | 4 | 14 |

Table 6.11
Adequacy of Funds for Monthly Meeting

| | Receipt of funds on time | | | Adequacy of funds | | |
|-------|--------------------------|----|-------|-------------------|----|-------|
| | Yes | No | Total | Yes | No | Total |
| Total | 14 | 0 | 14 | 8 | 6 | 14 |

It is evident from table 6.10 that almost all teachers reported that they were provided TA and DA for attending the meeting. During the discussion with CRC co-ordinator and the participant teachers, it was learnt that the teachers were drawing TA and DA for attending these monthly meetings from the school grant given by RVM-SSA to each school. During the discussion, it was observed that some of the teachers talked about the inadequacy of funds. Table 4.6 depicts that the school complex received funds on time. Only a few expressed that the funds were not adequate to meet the expenses due to price escalation. The SPD should look into this issue and take up review and upgrading the norms.

Correspondence with SSA Framework

At policy level, role and functions of school complexes (CRCs) were as per SSA framework. The RVM-SSA documents indicate that the DIET Lecturers, Dy.E.Os, MEOs and MRPs are to monitor the monthly meetings of school complexes (CRCs). The school complexes (CRCs) are the School Academic Monitoring Committees and professional organisation in Andhra Pradesh state.

Impact of CRC Monthly Meetings on Teachers:

The RVM-SSA, Andhra Pradesh provided an opportunity to upper primary teachers to undergo in-service training for 14 days. SSA guidelines for split model of in-service teachers' training with 6 days face-to-face training programme and 8 monthly meetings at CRC, were followed. The 6 days face-to-face training was organized at a training centre identified at division level. The remaining 8 days were completed at School Complex (CRC) in the form of monthly meetings. The purpose of in-service training is to provide opportunities for academic growth to teachers. The purpose of setting up of School Complexes (CRCs) is to provide constant academic support to teachers. The School Complex (CRC) is used as a platform by teachers to share and reflect on their pedagogical practices, problems, if any, and find out solutions.

The agenda for these monthly meetings at School Complex (CRC) was fixed by the SPD for entire state. There was a wide scope to discuss academic issues, teacher guides, TLM, hard spots of syllabus and other pedagogical issues. To study whether the School Complexes (CRCs) provided academic support to the teachers or not and to know the level of participation of teachers in these monthly meetings at School Complex (CRC) level, observations were made.

It was observed by field investigators that in some of the meetings discussions took place according to the agenda supplied by the SPD. The local specific issues were discussed at the end. Discussions during the meetings were about annual school performance and annual teacher performance and the measures adopted to overcome the learning gaps in their subject of teaching. The model demonstration lesson was also part of the agenda. The field investigators visited CRCs in March 2011. They found that the agenda was fixed for all the 12 School Complexes (CRCs) by the SPD.

According to the observation of field investigator in all the School Complexes (CRCs), the DIET faculty member gave a demonstration on teaching science. The topic for model

demonstration was decided by the local teachers in the previous meeting. They also discussed other issues like RTE-2009.

Table 6.12
Issues Discussed in CRC Meetings Observed by Field Investigators

| | Yes | No | Total |
|--|-----|----|-------|
| Issues raised related to curriculum activities | 12 | 0 | 12 |
| Presentation of innovations attempted by teachers | 0 | 12 | 12 |
| Discussions held for deciding the agenda of the next meeting | 12 | 0 | 12 |

All CRC co-ordinators and teachers were aware about the purpose of CRC meetings. It was revealed during interaction with teachers and co-ordinators that CRC meetings were organized to know about the followup on the issues.

Subject RPs and Headmaster of a School Complex (CRC) were asked about the objectives of organizing the monthly meetings at the School Complex (CRC). The heads of School Complex (CRC) and MRPs were aware of the objectives of School Complex (CRC) meetings. It is evident from the analysis of the discussion with the head-teachers of School Complex (CRC) that they were given little scope for discussion on local specific pedagogical issues.

Conclusions

- The attendance of teachers in these monthly meetings was 80 to 90 per cent only, even though the attendance of all the teachers was mandatory.
- Representation of females co-ordinators needs to be encouraged. Norms for financial provision for books in CRC and availability of books for teachers need serious consideration. Availability and use of library books need to be closely monitored.
- The school complex received funds in time. But these funds were not adequate to meet the expenses due to price escalation. The SPD may look into this issue and take up review and upgrading of the norms.
- The monthly meetings of school complexes (CRCs) were found to be helpful in providing academic support to upper primary teachers to teach their school subject as stated in state policy document. These meetings helped the functionaries at various levels in the state to provide feedback to different initiatives of RVM-SSA.

7

Impact of Training on Students

Classroom Practices

Primary

Classroom transaction has a direct impact on students' behaviour and participation in the class activities. Classroom observation schedule has some items which assess students' participation and attentiveness during the classes of teachers with INSET and teachers without INSET.

Table 7.1
Extent of Students' Participation in Class Discussion in Primary Schools

| Students' Participation | Teachers with INSET | | | Teachers without INSET | | |
|--|---------------------|--------------|---------------|------------------------|--------------|--------------|
| | Never | Sometime | Often | Never | Sometime | Often |
| Asking questions to seek clarification | 10 (10) | 25 (26) | 62 (64) | 8 (66.67) | 2 (16.67) | 2 (16.67) |
| Seeking more information on the topic under discussion | 12 (12) | 27 (28) | 58 (60) | 7 (58.33) | 3 (25) | 2 (16.67) |
| Making comments on the basis of their experience | 10 (10) | 27 (28) | 60 (62) | 8 (66.67) | 2 (16.67) | 2 (16.67) |
| Raising issues related to the topic under discussion | 17 (17.52) | 19 (19.6) | 61 (62.88) | 10 (83.33) | 2 (16.67) | 0 |

Table 7.1 reflects the extent of participation of students in class discussion and it is clear that in 66.67% classes of teachers without INSET, the students never asked questions and 90% classes of teachers' with INSET students asked questions to seek clarification either often or sometimes. This is due to the training of teachers. This fact was also supported by the focus group discussion with the students that there was a considerable change in teachers' behaviour after the training. The students also opined that after the training the teachers were encouraging them to ask questions. The students of trained teachers' classes were encouraged to participate in the discussion to seek more information from them. The students sought more information on the topic under discussion often in 60% in INSET teachers' classes and 17% of classes of teachers without INSET. There was a remarkable difference between teachers with INSET untrained teachers at primary level regarding students raising issues

related to the topic. On the basis of table 7.1, it can be concluded that trained teachers' classes were much better than classes their untrained counterparts in terms of students' participation.

Table 7.2
Students' Attentiveness in Primary Class

| Extent of Attentiveness of Students | Trained Teachers | Untrained Teachers |
|-------------------------------------|------------------|--------------------|
| A few | 6 (6.19 %) | 0 |
| Some of them | 12 (12.37 %) | 0 |
| Most of them | 57 (58.76 %) | 8 (66.67 %) |
| All of them | 20 (20.62 %) | 4 (33.33 %) |
| Lesson was disrupted by students | 2 (2.06 %) | 0 |
| Total | 97 (100%) | 12 (100%) |

Table 7.2 reveals that in 58.76% classes of trained teachers, most of the students were attentive. Similar situation was also observed in classes of untrained teachers. In very few classes of trained teachers, lesson was disrupted by students. Trained and untrained teachers did not differ in terms of students' attentiveness.

Upper Primary

Classroom transaction has a direct impact on students' behaviour and participation in the class activities. Classroom observation schedule had some items which assessed the students' participation and attentiveness during the classes of teachers with INSET and teachers without INSET.

Table 7.3
Extent of Students' Participation in Class Discussion in Upper Primary Schools

| Students' Participation | Teachers with INSET | | | Teachers without INSET | | |
|--|---------------------|----------------|----------------|------------------------|---------------|---------------|
| | Never | Sometimes | Often | Never | Sometimes | Often |
| Asking questions to seek clarification | 9 (11.39%) | 21 (26.58%) | 49 (62.03%) | 7 (58.33%) | 3 (25%) | 2 (16.67%) |
| Seeking more information on the topic under discussion | 12 (15.19%) | 47 (59.47%) | 20 (25.32%) | 5 (41.67%) | 5 (41.67%) | 2 (16.67%) |
| Making comments on the basis of their experience | 52 (65.82%) | 21 (26.58%) | 6 (7.59%) | 8 (66.67%) | 2 (16.67%) | 2 (16.67%) |
| Raising issues related to the topic under discussion | 12 (15.19%) | 51 (64.56%) | 16 (20.25%) | 9 (75%) | 2 (16.67%) | 1 (8.33%) |

Table 7.3 shows the extent of participation of students in class discussion. It is clear that in 58.33% classes of untrained teachers, the students never asked questions to seek clarification and in 88% classes of trained teachers the students asked questions to seek clarification either often or sometimes. This may be due to the training of teachers. This fact was also supported by the focus group discussion with the students that there was a considerable change in teachers in their behaviour after the training. The students also opined that after the training the teachers were encouraging them to ask questions. The students in trained teachers' classes were encouraged to participate in the discussion to seek more information from them. This is supported by the data that the students sought more information on the topic under discussion sometimes or often in 85% of trained teachers' classes. There was a remarkable difference between trained and untrained teachers at upper primary level regarding raising issues also. It can be concluded that trained teachers' classes were slightly better than classes of their untrained counterparts in terms of students' participation. This is an indication of the impact of INSET on classroom practices of teachers.

Table 7.4
Students' Attentiveness in Upper Primary Classes

| Extent of Attentiveness of Students | Trained Teachers | Untrained Teachers |
|-------------------------------------|------------------|--------------------|
| A few | 0 | 0 |
| Some of them | 12 (15.19 %) | 8 (66.67 %) |
| Most of them | 67 (84.81 %) | 4 (33.33 %) |
| All of them | 0 | 0 |
| Lesson was disrupted by students | 0 | 0 |
| Total | 79 (100%) | 12 (100%) |

Table 7.4 reveals that in 85% classes of trained teachers, most of the students were attentive. It reflects impact of training of teachers on students' attention in the classroom. No lesson was disrupted by students in both the groups.

Focus Group Discussion

Primary

A focus group discussion with the students was conducted with the intention to know their perceptions about the change in practices of teachers with INSET as observed by students. The focus group discussion was conducted in two primary schools where teachers who had received INSET during 2010-11 were there. The details of the Focus Group Discussion (FGD) conducted are given in the Table 7.5.

Table 7.5
Details of Focus Group Discussion (Dates and Venues)

| Level of School | Place | Mandal (Block) | District | Date of FGD | Facilitator |
|-----------------|-----------------------------|----------------|---------------|-------------|----------------------|
| Primary | MP UP School, Pendalawada | Jainad | Adilabad | 4-4-2011 | Dr. T. Lingaiah |
| | MP UP School, Keshalapur | Indravelli | | 7-4-2011 | Mr. Nagesh |
| | MP UP School, Ganugachintha | Rompicherla | Chittoor | 4-4-2011 | Prof. V. Rangacharlu |
| | MP UP School, Tavalam | Nimmanapalli | | 8-4-2011 | Ms. G. Thulasi |
| | MP UP School, Duggepalli | Tripuraram | Nalgonda | 4-4-2011 | Sri K. Manohar |
| | MP UP School, Tidedu | Chintapalli | | 5-4-2011 | Ms. Indira Ramani |
| | MP UP School, Pulaparthu | Yelamanchili | Visakhapatnam | 4-4-2011 | Ms. Ch. Leela |
| | MP UP School, Majjivarasa | Bheemunipatnam | | 6-4-2011 | Dr. Lakshmana Rao |

The focus group discussions were conducted on the dates specified in the above table. The focus group discussions were held with school children who were studying in class IV.

Result of the FGD for Primary School Children

About 86% of the students stated that the teachers prepared more teaching learning material (TLM) after coming back from the training. These materials were used for teaching different school subjects by using innovative methods and approaches of teaching. The TLMs were used to display difficult words as spelling and children were required to read and pronounce them. Some teachers used charts prepared from waste materials. Some of the students expressed that the teachers were using TLM before training also but they were not as effective earlier than when they used it after a year of training. The TLMs were used for introducing the lesson/topic and also explaining the content. Most of the TLMs were in the form of charts only. Few teachers used TLMs for providing some project work. The government Science and Maths kit and Mini tool kits were not being utilised.

In teaching English, TLMs were used to teach matching words, word mapping and grammar. All the teachers used the blackboard. Students collected some material and exhibited them on the wall magazine. The “*Nijayithi Pette*” was the place to give their observation during the process of learning. The teachers used TLM to promote learning more after training because they learnt how to use TLM effectively during the training.

The students noticed some behavioural changes too, in their teachers after training. They did not get angry when the students asked for clarification of doubts. After training, teachers gave convincing answers to questions. “Snehabala” SLIM cards played a major role in teaching the language creatively and effectively. Teachers encouraged the students to ask questions.

Almost all the students expressed that there was a considerable increase in the use of TLM after the holidays i.e. after the period of training of teachers.

- In-service training helped the teachers to bring some change in their attitude towards the children.
- After training the teachers taught the lessons by adopting innovative methods and it was clearly visible in their actions. Most of the students expressed that these changes and variations were recent after the summer vacations. It reflects that there was an impact of the training programme on the regular activities of the teachers.
- There were changes in teachers in the use of TLMs and mostly they prepared their own TLM and used them in the class. Some teachers asked the students to prepare posters and charts which were used in teaching.
- There were some changes in teachers in handling the apparatus and equipment. The teachers demonstrated while explaining the use of different “Snehabala” SLIM cards.

Upper Primary

A focus group discussion with the students was held with the intention to know their perceptions about the change in practices of teachers with INSET as observed by students. The focus group discussions were held in upper primary schools where teachers who had received INSET during 2010-11 were located. The details of the Focus Group Discussions (FGD) conducted are given in Table 7.8.

Table 7.8
Dates and Venues of Focus Group Discussion

| Level of School | Place | Mandal (Block) | District | Date of FGD | Facilitator |
|-----------------|---------------------------|-----------------|-----------------|-------------|------------------|
| Upper Primary | MP UP School, Venkatapur | Nirmal | Adilabad | 11-4-2011 | Dr T. Lingaiah |
| | MP UP School, Gate Puttur | Puttur | Chittoor | 13-4-2011 | Mr Rajesh Babu |
| | MP UP School, Potlapahad | Penphad | Nalgonda | 8-4-2011 | Mr Md. Ibrahim |
| | MP UP School, Duddupalem | Rampachodavaram | Visakhapattanam | 12-4-2011 | Dr Lakshmana Rao |

The focus group discussions were held on the dates specified in the above table. There were about 10 upper primary school children who were studying in class VIII.

Result of the FGD for School Children

About 76% of the students stated that the teachers prepared more teaching-learning material (TLM) after coming back from the training. These materials were used for teaching different school subjects by using innovative methods and approaches of teaching. The TLMs were used to teach topics of the school subject. Some teachers used charts prepared from waste materials. The science teachers were using working models and non-working models. The mathematics teachers did not use TLM to teach their topics. Some of the students expressed that the teachers were using TLMs before training also but these were less effective earlier than when they used it after a year of training. The TLMs were used for explaining the difficult concepts and working models were used to explain the process of experimentation and effects. Most of the TLMs were in the form of charts only. The social studies teachers used TLM for providing some project work.

In teaching English, TLMs were used to teach grammar and structures. All the teachers used blackboard and chalk pieces. Students collected some material and exhibited them on the wall magazine. The portfolio assessment was used by all the teachers. The science teachers encouraged students to participate in INSPIRE programme. A few teachers were showing the drawings and pictures as a part of the beginning of a lesson. They used TLM to facilitate better learning on the part of students after training because they learnt how to use TLM effectively during the training.

The students noticed some behavioural changes too, in their teachers after training. They did not get angry when the students asked for clarification of doubts. After training teachers gave convincing answers to their questions. Teachers allowed the students to ask questions freely and encouraged students to ask questions.

Regarding the increased use of TLM after teachers received the training, almost all the students said that there was a considerable increase in the use of TLM after the holidays. It means that the students felt that training to teachers was imparted during vacations.

After training the teachers taught the lessons in a better way and it was clearly visible in their actions. Most of the students noticed these changes and that these variations were recent after the summer vacation. It indicates that there was an impact of the training programme on the regular activities of the teachers.

There were changes in teachers in the use of TLM and mostly they prepared their own TLM and used them in the class. Some teachers encouraged their students to prepare working models and non-working models which would be exhibited in a science fair. There were some changes in teachers in handling the science apparatus and equipment. The teachers demonstrated the experiments in science.

8

Findings and Recommendations

The SSA framework places great emphasis on the capacity building of teachers through regular training programmes. The Scheme provides for regular in-service training of teachers for 20 days every year. The SSA framework revised in 2008 gives more emphasis to practical classroom related teacher training by providing for a maximum of 10 days institutional training at BRC level, and another 10 days specifically at cluster/school level in order to ensure follow-up, peer learning and practical classroom transaction.

Andhra Pradesh has separate teacher training programmes for primary and upper primary School Teachers. Primary teachers were undergoing 20 days training under the split model with 10 days of face to face training; 8 days through monthly CRC meetings, and 2 days through teleconference. The upper primary teachers were undergoing 14 days teacher training, instead of 20 days stipulated in split model, with 6 days of regular face to face training and 8 days through monthly meetings.

The present study was undertaken to determine the impact of INSET on teachers' classroom practices and students' perceptions of change in teachers' classroom practices. The main objective of the study was to examine the content of the existing in-service teacher training programmes organised under SSA, to assess its impact on the actual classroom teaching and to suggest changes in the training programmes for making them more effective.

Hence, the following objectives were formulated for the study:

- To assess the adequacy of training inputs including process of planning, preparation and content of modules & materials used in training programmes of 2008-09, 2009-10 and 2010-11 and to find out changes in training strategy and programmes over the three years;
- To study the transactional modalities of the training programmes of 2010-11.
- To study perceptions of the teachers about the efficacy and usefulness of in-service training and to examine how the perceptions differ with regard to gender, experience and qualifications;
- To assess the capability of resource persons in terms of their training and experience, their preparedness, their views on the impact of training on teachers.

- To determine the impact of training programme in terms of change in classroom practices of teachers;
- To find out whether students observe any change in teacher behaviour and method of teaching after training;
- To assess the opinion of other functionaries such as BRC/CRC co-ordinators on the impact of teacher training on classroom processes;
- To find out the constraints or problems, if any, in using training inputs in classroom transactions; and
- To suggest measures for improving training programmes and ensuring greater utilization of training outcomes by teachers in classroom teaching.

Research Design

The research design of the present study is ex-post facto design and the combination of qualitative and quantitative methods of research. The sample of the study was selected by using multi-stage random sampling. At the first stage, four districts were selected randomly. At the second stage one mandal from each educational division was selected. Third stage was the selection of teachers from those who had undergone 20 days training. Only one training centre of any one subject from educational division was selected for upper primary level. Thus the sample of the study was drawn from 4 districts of Andhra Pradesh- Adilabad, Chittoor, Nalgonda and Viskhapattanam by using multi stage random sampling. These districts were selected keeping in view the geographical and literacy rate variations.

One training centre from each educational division of each district for Primary level was selected. The training centre for upper primary teachers was Mandal Head Quarter. Thus 390 teachers who participated in 12 training centres of four districts were drawn as a sample. Teachers from the selected mandals were picked up randomly for classroom observation. Thus the number of primary Teacher Selected for classroom observation was 97 drawn from four districts. The sample of Upper Primary School Teachers was 246 drawn from four districts. In addition to this, 79 upper primary teachers drawn from Adilabad, Chittoor, Nalgonda and Visakhapattanam were selected for observations of their classroom practices. Besides this 36, MRPs (Mandal Resource Persons) and 12 MEOs (Mandal Education Officers) for Primary and 4 Dy.EOs (Deputy Educational Officers) and 12 RPs covering all the subjects for Upper Primary teachers' training were drawn as sample for the present study.

Fourteen Tools were used for collecting the requisite data. Thirteen tools were developed by the Department of Teacher Education and supplied to the state. One-tool achievement test was developed by the state.

Quantitative Analysis:

Descriptive and inferential statistics was applied to analyze data. The frequencies under each item with corresponding percentages were computed. For comparing the achievement scores of primary teacher who had undergone 20 days training (10 days face-to-face, 8 days monthly CRC meetings at School Complex and 2 days of teleconferencing) with primary teachers who had not undergone the 20 day training in 2010-11, t-test was used. One way ANOVA was also used for comparison based on age, experience and qualifications based on the achievement scores of upper primary teachers who had undergone 14 days training (6 days face-to-face and 8 days monthly CRC meetings at School Complex) with the upper primary teachers who did not undergo the training in 2010-11.

Qualitative Analysis:

Content Analysis was adopted for (a) Assessment of the training package, (b) Descriptive responses for the open ended questions, and (c) Focus Group Discussion.

Major Findings

The major findings of the study are given below:

INSET Policy

- There was a deviation in terms of number of days for in-service training. RVM-SSA, Andhra Pradesh stated that it was not following the 20 days (10 days face-to-face, 8 days monthly CRC meetings at School Complex and 2 days of teleconferencing) training as per the SSA guidelines. Almost all the primary teachers received 12 day block training each year in two spells of 8 to 10 days and two to four days.
- In a similar way there was a slight deviation in terms of number of days for in-service training of upper primary teachers. These teachers were provided 14 days training (6 days face-to-face and 8 days monthly CRC meetings at School Complex). Only 65% of the upper primary teachers received six days block training.

Physical Facilities

There were 12 Mandal Resource centres (MRCs) that were used as training centres for teachers. Of the 12 training centres, 10 had only one room. The remaining 2 centres had two rooms. One room in the MRC building was used as MEO office room cum record room. All the 12 centres had drinking water facility. Of these, 4 training centres had inadequate drinking water facility. The toilet facilities were available in 10 centres only. The rest of the 2 centres did not have toilet facilities at all. Of these 10 centres, 4 did not have inadequate toilet facilities. It was shocking to learn that 4 centres did not have toilets facilities for women trainees. Of the remaining 8 centres that had toilets facilities for women trainees, 6 training centres had inadequate facilities. None of the training centres had adequate space for training sessions and group work. Out of 12 centres, only 2 centres had library facilities and But those too were quite inadequate. The general cleanliness in the centres was also poor.

Learning Equipments and Aids

The blackboard was available in all the training centres and was frequently used. Modern electronic equipments like power point presentation, internet facility and DVDs and VCDs were not available in the training centres. The charts, globe, and dictionary were available and were used to the maximum extent in the training centres. Science kit and math kit, though available at maximum centres, were used sometimes or rarely. This indicates that the transaction of teacher training programmes was mostly done through blackboard and other teaching aids and equipments were sometimes utilised or rarely utilised.

Training Package

- The training programmes at primary level were based on the use of Snehabala Activity Card (SAC), Competency Based Assessment (CBA), NCF-2005, RTE-2009 Act and LEP competencies.
- The training programmes at upper primary level were based on the school subjects and use of learning improvement activities in Telugu, English and Hindi, mathematical abilities acquisition activities, learning science through activities and experiments, learning activities for acquisition of social skills, competency based assessment, NCF-2005, RTE-2009 Act and LEP competencies.
- Learning materials in the form of training packages to the participant teachers were provided on the first day of the training. The copies of these modules need be sent to

them through the school complexes with an instruction to read them before the training to participate effectively in the discussion during the training sessions.

- Most of the resource persons reported that training package/modules were difficult to understand to a great extent. About 40 per cent of teachers from the rural areas reported that some of the modules were difficult to understand. This was because of the language used in these modules. Seventy two per cent of the teachers expressed that modules were too theoretical and some of the modules lacked illustrations with examples. Examples in the modules were of practical nature. Concepts were not clarified properly in some modules.

Training Transaction Practices

The lecture method was used frequently. Group discussion, practical work and demonstration approaches were not used frequently by the resource persons during transaction of the modules. It was noticed that some of the resource persons used self-study as an approach. The teachers felt that this was not a useful approach. The other ICT based methods were used on some occasion.

Resource Persons

Thirty six resource persons were engaged for providing in-service training to primary teachers in 12 CRC centres. 97.3 per cent of them were either graduates or post-graduates. 2.7% were having Ph.D. All of them were professionally qualified. 75% were B.Ed. and remaining 25% were M.Ed. About 95% were having teaching experience ranging from 11 to 30 years. Ten resource persons were selected for providing training to upper primary teachers for 14 days in 5 training centres. Of these, 40% were graduates and 60% post graduates. Further, 80% of them were B.Ed and the remaining 20% M.Ed. Regarding their teaching experience, 40% were having up to 10 years and 60% 11-20 years of teaching experience.

- It was observed that female representation in the resource persons category was very low. This might be due to personal reasons like inability of females to go frequently to the field to monitor the school activities and the remote location of MRCs.

Impact of the INSET on Teachers

The impact was assessed in terms of achievement during training, perception about training and observation of their classroom transaction. The impact was also assessed by observing the proceedings of CRC monthly meetings.

Training Achievement

Three hundred and ninety teachers who received 20 day training were covered in the study. The duration of training was 20 days. The achievement of these teachers was determined by administering them an achievement test based on training inputs. Their achievement was compared with 96 primary teachers who had not undergone 20 days of in-service training. It was found that there was a significant difference in the achievement of primary teachers with INSET and without INSET. The mean achievement was higher for teachers with INSET. This indicates the impact of INSET on the teachers. Two hundred forty six upper primary teachers were provided training for 14 days under SSA. Their achievement was compared with the achievement of 12 teachers who had not undergone in-service training for 14 days. No significant difference was found between the achievement of teachers with INSET and teachers without INSET.

Perception of Teachers

The effectiveness of training programmes was assessed based on the perception of the teachers. About two-thirds of the teachers, both primary and upper primary, felt that the training improved their teaching proficiency to some extent. This indicates the impact of teachers training programmes. 10 per cent perceived no improvement at all in their teaching proficiency.

Experimental and Control Group

Regarding the impact of training on classroom processes of teachers and students' participation in the teaching-learning processes in the classroom, in 64% classes of trained teachers (Experimental Group) and 16.67% classes of untrained teachers (Control Group), students asked questions to seek clarification of certain ideas/concepts. In 10% of classes of trained and 66.7 of classes of untrained primary teachers, students never asked question to seek clarification of their doubts. In trained teaches classes, students were encouraged to participate in the teaching- learning processes and to seek more information from them. Almost the same difference was found in the classes of trained and untrained upper primary teachers regarding students asking questions to seek clarification of their doubts. It can be concluded that trained teachers' classes were significantly better than untrained teachers classes in terms of students' participation in the teaching-learning processes. In 60% classes of trained primary teachers, students often sought more information on the topic under discussion. In the classes of untrained upper primary teachers, this percentage was quite low.

Only in 25.32% classes of trained upper primary teachers and 16.67% classes of untrained upper primary teachers, students often sought more information on the topic being transacted in the classroom. Regarding attentiveness of students in primary classes of trained and untrained teachers, it was found that about 85% classes of trained and 66% classes of untrained primary teachers, most of the students were attentive.

Impact of CRC Monthly Meetings

- Most CRCs were located in lead schools. The lead school was either an upper primary school or a high school which was located in the jurisdiction of the CRC. There was no separate room for CRC for conducting monthly meetings and no separate room for CRC co-ordinator. About 70% of CRCs were without electricity. Two-thirds of the CRCs did not have adequate number of books. Since all the CRCs were located in lead schools, the toilet and drinking water facilities of the school were used. One of the classrooms of the school was used for meeting purpose. All the CRC co-ordinators were males.
- Most of the CRCs for upper primary teachers were located in the rural area. There was no separate room in CRCs for conducting the monthly meetings. There was no separate room the CRC co-ordinator either. There was adequate provision of electricity in only 4 out of 14 centres. In six centres, there was no provision of electricity. Out of 14 CRCs, 2 did not have separate toilets for women teachers. Of the remaining 12 centres, 10 centres had have inadequate toilet facilities for women trainees. Only 2 centres were having adequate separate toilet facilities for women trainees. All the CRCs were located in the lead schools. The toilet and drinking water facilities of the school were used. One of the classrooms of the school was used for meeting purpose. All the co-ordinators of the CRCs were males. Further, seating arrangement in most of the CRCs was also equally poor. Either classroom banches or floor mat were used for sitting. In some centres, chairs were hired from the market.
- The monthly meetings of school complexes (CRCs) were found to be helpful in providing academic support to teachers as stated in state policy document. These meetings helped the functionaries at various levels in the state to provide feedback to different initiatives of RVM-SSA. The attendance of the teachers in these monthly meetings was 70 to 80 per cent only even though the attendance of all the teachers is mandatory;

Impact on Students

- About 86% of the primary students stated that the teachers prepared more teaching-learning material (TLM) after coming back from the training. These materials were used for teaching different school subjects by using innovative methods and approaches of teaching. The TLM was used to display difficult words as spelling and children were required to read and pronounce them. Some teachers used the charts and waste materials like plastic and other unused materials. Some of the students expressed that the teachers were using TLM before training also but they were not as effective as training. The TLMs were used for introducing the lesson/topic and also explaining the content. Most of the TLM were in the form of charts only. Few teachers have used TLM for providing some project work. The kits supplied by the government, viz., OB kit-science kit, Maths Kit and Mini tool kit, were not utilized.
- In teaching English, TLMs were used to teach matching words, word mapping and grammar. Students participated in transaction of the lesson with the help of experiments. The TLMs were exhibited to provide awareness about the link between science and society. All the teachers used black-boards and chalk pieces. Students collected some material and exhibited on the wall magazine. The “Nijayithi Pette” was marked as the place to give their observations during the process of learning. Drawing pictures was had been incorporated in the introductory part of the lesson. They used TLMs more after the training because they learnt as to how to use TLMs effectively during the training.
- The students noticed some behavioural changes in their teachers after training. They did not get angry when the students asked for clarification of their doubts. After training, teachers gave convincing answers to questions. The domino activities which were identified through the individual “Snehabala” SLIM cards played a major role in teaching the language creatively and effectively. Teachers allowed the students to ask questions freely and encouraged them to ask questions.
- About 76% of the upper primary students stated that the teachers prepared more teaching learning material (TLM) after coming back from training. These materials were used for teaching different school subjects by using innovative methods and approaches to teaching. The TLMs were used to teach topics of the school subject. The science teachers used working and non-working models. The TLM were not used for teaching topics related to mathematics. The TLM were used for explaining the difficult concepts and working models were used to explain the process of experimentation. Most of the TLMs

were in the form of charts only. The studies teachers used TLM for providing some project work.

Recommendations

- Training centres lacked basic physical facilities like electricity and furniture for trainees. There is a need to undertake some steps to improve essential facilities like library facility and availability of modern technological gadgets. There is a need to adopt monitoring mechanism to use the facilities that are already available in the training centres. SPD should take this into consideration at the time of formulating annual plans. Feedback from different sources should be collected by DPOs. These should be trainee based;
- Most of the centres lacked ICT facilities of internet, power point presentation, VCP/VCR/Projectors, VCDs and DVDs. The need of these facilities was felt by most of the participating teachers in the training centres. ICT facilities need to be strengthened by making provision in the AWP;
- There is acute shortage of power in Andhra Pradesh. Due to this, power cut is imposed in the state. There is a need to use alternative sources of energy like solar pack, and generators to meet the shortage of power. There is need to provide uninterrupted power supply in the training programmes to render them the most effective.
- Learning materials in the form of training packages for the participant teachers need to be provided on the first day of the training programme. The copies of these modules can be sent to them through the school complexes before the training programme with the instructions that they should read them before coming to the programme. This would facilitate the discussion during the training sessions;
- The lecture method was frequently used during training and classroom transaction. The ICT was not used during transaction both in training and schools. There is a need to provide orientation and training manual to resource persons for organising better training. The transactional approaches used by the resource persons should include demonstration, practice and feedback. There is a need to provide scope for one demonstration lesson based on the constructivist approach which can be used as a model by teachers. This would enable the participant teachers to use this approach in organising the group work, and undertaking collaborative action research in their classroom teaching.
- Females were less represented as resource persons and course co-ordinators. MEOs and DPOs should take up certain measures to improve female representation in these teams.

- The attendance of the teachers in these monthly meetings was quite high. But it was not hundred per cent, even though the attendance of all the teachers was mandatory. The BRC co-ordinator should examine the issue and take steps to encourage teachers to participate in academic issues and problems.
- The school complex received funds on time. But these funds were not adequate to meet the expenses due to price escalation. The SPD should look into this issue for increasing the funds for INSET.

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Assessment of Training Package

The training programmes organized from 2008-09 to 2010-11 under *Sarva Shiksha Abhiyan (SSA)*, known as *Rajiv Vidya Mission (RVM)* had different thrusts. The training programmes organized for primary teachers during 2008-09 and 2009-10 were titled as Comprehensive Language Improvement Programme (CLIP) and in 2010-11 as Learning Enhancement Programme (LEP). The training programmes for upper primary teachers were titled as Comprehensive Learning Acceleration Programme for Sustainability (CLAPS) and as Learning Improvement Programme (LIP) in 2010-11.

The LEP at primary stage covers all the subjects based on constructivist pedagogy, whereas LIP at upper primary stage is focused on subject-wise training separately for SUCCESS schools and general schools.

The development of training materials began during 2008-09 and continued up to 2010-11. For primary teachers 4 modules were developed and used in training programmes organized during 2008-09, while 10 modules during 2009-10 and 19 modules during 2010-11. For upper primary teachers 6 modules were developed and used in training programmes held during 2008-09, and 6 modules during 2009-10. In the year 2010-11, training modules were developed separately for SUCCESS schools and general schools. Six such modules were used for SUCCESS schools and 6 modules for general schools. Besides these modules, Snehbala (SLIM cards) for Telugu, Mathematics and Environmental Studies and materials for Multi-Lingual Education (only for Tribal Districts) were also developed.

Content Areas of the Training Package

The content areas of the training comprise general themes like child-centred approaches, content enrichment and pedagogical practices and innovative activities such as post box and wall magazine, along with innovative approaches in assessment. The training material is prepared by SRG based on the need assessment done by UNICEF and ITDA. The changes that occurred in the training package for primary school teachers during the last three years are summarized in Table 3.1.

Table 3.1
Training packages for primary school teachers used during 2008-09, 2009-10 and 2010-11

| Areas | 2008-09 | 2009-10 | 2010-11 | Changes |
|--------------------------------------|---|---|--|---|
| Title of the Training Package | Comprehensive Language Improvement Programme (CLIP) | Comprehensive Learning Acceleration Programme for Sustainability (CLAPS) | Learning Enhancement Programme (LEP) | The focus of the training changed from Language acquisition for learning improvement |
| Objectives | <ul style="list-style-type: none"> • Attainment of mastery over language skills like reading, writing and numerical skills of mathematics for Classes I to V. • Promoting the learning competences in Language and Mathematics. | <ul style="list-style-type: none"> • To acquainted teachers with ongoing activities initiated by SSA like constructivist approach, Evaluation Process, School Performance Process and other innovative activities such as Post Box, Wall Magazine etc., • To empower the teachers on classroom process & Evaluation. • To impart necessary skills to the teacher in creating child friendly environment in classes I & II. • To promote the ability in using school readiness activities. | <ul style="list-style-type: none"> • To create interest among pupils on learning of language, Telugu and English • To enable pupils to think logically and to reflect. • To enable the children to learn four skills of Mathematics. • Children should engage in learning science as a composite discipline. • Social Science content needs to focus on conceptual understanding rather than living up facts to be memorized. | Objectives are changed from the attainment of mastery over the language skills to creating interest in learning by using constructivist approach in the learning of various subjects at primary level. The focus on pedagogical and knowledge content of different subjects received attention. |
| Subject covered | <ul style="list-style-type: none"> • Language Skills- Reading, Speaking, Listening and Writing • Numerical skills | <ul style="list-style-type: none"> • Child-centered approaches • Content enrichment and pedagogical practices and • Innovative activities such as post box, wall magazine Innovative approaches in assessment | Telugu English Mathematics EVS (Training packages used during 2008-09, 2009-10 and 2010-11) | The change of the focus from basic literacy and numeracy to subject specific innovative approaches for learning different subjects at the primary level. Focus on new approaches of assessment. |
| Modules in Training | <ul style="list-style-type: none"> • Comprehensive Language | <ul style="list-style-type: none"> • Learning Enhancement | <ul style="list-style-type: none"> • General Issues with Special Reference to | Language learning approaches to |

| | | | | |
|-----------------------------------|---|--|---|--|
| Package | <p>Improvement Programme (CLIP)- Reading</p> <ul style="list-style-type: none"> • Comprehensive Language Improvement Programme (CLIP) for Classes 1 & 2 • Comprehensive Language Improvement Programme (CLIP) for Classes 3, 4 & 5 • Read, Enjoy and Development | <p>Programme – Class 1 & 2</p> <ul style="list-style-type: none"> • Learning Enhancement Programme – Class 3,4 & 5 • 40 days Package for School Readiness Programme • Training Package on Reading Skills • LEP – Assessment Procedures • LEP – Assessment Procedures in English • LEP – Assessment Procedures in Telugu • LEP – Assessment Procedures in Mathematics • LEP – Assessment Procedures in Environmental Studies • Multi-Lingual Education for Classes 1 & 2 (Tribal Districts only) | <p>Multiple Classroom Teaching</p> <ul style="list-style-type: none"> • Reading Readiness Activities • Numeracy Readiness Activities • Health & Physical Education & Right to Education 2009 • National Curriculum Framework 2005 • Snehabala Hand Book • New Assessment Procedures • Learning Enhancement Programme – Grading Procedures • Training on Teaching English by using Discourse Pedagogy • Assessment Procedures in Telugu • Assessment Procedures in Mathematics • Assessment Procedures in Environmental Studies • Assessment Procedures in English • <i>Snehabala</i>-Telugu Class-1 • <i>Snehabala</i>-Mathematics Class-1 • <i>Snehabala</i>-Telugu Class-2 • <i>Snehabala</i>-Mathematics Class-2 • <i>Snehabala</i>-Environmental Studies (SLIM Cards) • Multi-Lingual Education (Only Tribal Districts) | <p>learning enhancement approaches in all subjects including new assessment techniques as focused in NCF-2005. The subject specific issues as well as important concerns like advocacy for RTE-2009. Activity based approach in action with real classroom activities and also specific linguistic issues for disadvantaged groups received attention.</p> |
| Transaction methodologies | More stress on language learning | <ul style="list-style-type: none"> • More stress on learning material for gifted children • More stress is needed on use of diagnosis and remediation. | <ul style="list-style-type: none"> • 1.Face-to-face training • 2.Review meetings • 3.Teleconferencing | Face-to-face one time trainings without any follow-up to face-to-face programmes cum follow-up of the through monthly meetings and through onsite support. |
| Evaluation procedure given in the | Content should be translated in to competencies for | Evaluation procedures based on the examples of | An evaluation procedure on multiple response items and consolidation | Competency based assessment to learning assessment |

| | | | | |
|---------|------------------------------|---|---|----------------------------|
| package | competency based assessment. | content specific and context specific is missing in the training package. | of multiple responses which is focused in NCF-2005 is missing. The content specific and context specific example with assessment procedures is missing in the training package. | with qualitative feedback. |
|---------|------------------------------|---|---|----------------------------|

Transactional approaches Used

The modules are transacted on the transactional methodologies. There is provision for module reading session which is followed by participatory demonstration of activities. All the above listed modules are covered in 10 days based on the following distribution:

Available time

Table 3.2 provides information about the available time for different components of the training package in Andhra Pradesh.

Table 3.2
Training Packages used and its duration for transaction (Primary Stage)

| Title of the Module | Transactional Approaches | Duration | Evaluation Procedures |
|---|--|----------|---|
| General Modules | Module Reading | 1 day | Feedback formats which are used as pre and post tests |
| Snehabala Telugu; Maths; EVS, and Readiness | Demonstration of Model lesson Live & Video | 4 days | |
| Multiple Class Teaching | Demonstration of Model lesson Live & Video | 1 day | |
| Early Maths; Reading | Demonstration of Model lesson Live & Video | 1 day | |
| English | Demonstration of Model lesson Live & Video | 1 day | |
| Physical Education | Demonstration of different activities | 1 day | |
| Evaluation | Discussion on new evaluation procedures | 1 day | |

The above listed seven modules are to be covered in 10 day face-to-face training. There is no provision to provide reflection on each of the above modules. The allocated time is insufficient to cover the modules. The modules did not take into consideration the available time for transaction. The developed modules seem to be ambitious.

Alignment with SSA guidelines

Table 3.3 summarizes the alignment of the training package on the SSA guidelines 2008 updated in 2011 on the parameters specified in the table itself.

Table 3.3
Reflection of SSA guidelines in Training Packages

| SSA Guidelines | Status of implementation in training packages |
|--|---|
| Constructivist Approach | Partly covered in all the subjects at primary level including English teaching and in the activities to promote the reading ability at the primary level including school readiness program. |
| Reflective Teacher | Activities in the training package provide opportunity for reflection to the teacher. Apprehension of the experts is that constraint available time for transaction is likely to preclude to avail the opportunity. |
| Split-Up model | SSA guidelines not followed. The 10 days face to face block training is split into 8 to 10 days and 2 to 4 days. |
| Training duration of 10 days | Only 12-day face to face training at primary was provided in 2010-11. |
| Training in other areas such as Art and Heritage Crafts Health and physical education, work education, peace education, environmental education, science and mathematics | All areas except Peace Education have been included. |
| Identification of training needs | No formal need assessment was undertaken developing the training package. |
| Contextually relevant training design | Activity based methodology with the help of illustrations based on local socio-cultural context indicates contextuality of the training package. |
| Suggested reading list and other educational audio-video program for teachers | Not given |

The content of the training package is in correspondence with objectives; the content is free from the caste and gender bias ; the content of the package emphasizes values enshrined in the Constitution of India; the contents of the modules are according to the needs of the trainees; the contents are sequential and as per treatment of ideas; contents are dealt with the concepts adequately; contents are described with the help of appropriate illustrations; the description of the content is described in simple language and easy to understand; the training material facilitates activity based train, and the self learning activities used in the package are potential to arouse and sustain interest among the trainees.

The training package has suggested appropriate transaction methodology with cope for remedial activities for children with learning difficulties. The modules do not provide list of suggested readings and follow up activities.

The *Snehabala* SLIM Cards are interesting and thought provoking that are bound to attract learners' interest.

Training Package for Upper Primary level

The changes occurred in the training package for upper primary school teachers relating to the 3-year period covered in the study are summarized in Table 3.4.

Table 3.4
Changes in the Upper Primary Teacher Training Packages

| Area | 2009-10 | 2010-11 | Changes |
|----------------------------------|---|---|---|
| Title of the Training Programmed | Comprehensive Learning Acceleration Programme for Sustainability (CLAPS) | Learning Enhancement Programme (LEP) | The focus of the theme has changed from learning acceleration to learning enhancement. |
| Objectives | Competency based learning | Process based learning with examples | The objectives were changed from competency based learning to process based learning. |
| Subjects covered | Telugu, English, Mathematics & EVS | Telugu, English, Mathematics, Social Studies & New Assessment Procedures | The subject specific approaches for developing the abilities in the concerned subjects |
| Modules | <ul style="list-style-type: none"> • Learning Enhancement Programmed-Class 1 & 2 • Learning Enhancement Programme- Class 3,4&5 • 40 days Package for School Readiness Programme • Training Package on Reading Skills • LEP – Assessment Procedures • LEP – Assessment Procedures in English • LEP – Assessment Procedures in Telugu • LEP – Assessment Procedures in Mathematics • LEP – Assessment Procedures in Environmental Studies • Multi-Lingual Education for Classes 1 & 2 (Tribal Districts only) | <ul style="list-style-type: none"> • General Issues with Special Reference to Multiple Classroom Teaching • Reading Readiness Activities • Numeracy Readiness Activities • Health & Physical Education & Right to Education 2009 • National Curriculum Framework 2005 • Snehabala Hand Book • New Assessment Procedures • Learning Enhancement Programme – Grading Procedures • Training on Teaching English by using Discourse Pedagogy • Assessment Procedures in Telugu • Assessment Procedures in Mathematics • Assessment Procedures in Environmental Studies • Assessment Procedures in English • Snehabala-Telugu Class-1 • Snehabala-Mathematics Class-1 • Snehabala-Telugu Class-2 • Snehabala-Mathematics Class-2 • Snehabala-Environmental Studies (SLIM Cards) • Multi-Lingual | Focused on mathematical abilities, science process skills and other abilities required for subject of learning. |

| | | | |
|--|-----------------------------|--|--|
| | | Education (Only Tribal Districts) | |
| Transaction methodologies | Participatory & Interactive | Self learning and discussions based on illustrations | Participatory learning., group work and self learning |
| Time required /recommended for transaction | 10 days | Spread over the entire academic year | 6 days of face-to-face followed by 8 days of monthly meetings at CRCs spread over the entire year. |
| Evaluation procedure given in the package | | Evaluation after transaction of each module is missing | Feedback form for to get the feedback. |

Available time for the training package

Table 3.5 specifies the available time for transacting each module of the training package for primary school teachers.

Table 3.5
Training Packages used and its duration for transaction

| Title of the Module | Transaction Approaches | Duration | Evaluation Procedures |
|-------------------------|--|----------|--|
| General Modules | Module Reading | 1 day | Feedback formats were used as pre and post tests |
| Physical Education | Demonstration of different activities | 1 day | |
| Evaluation | Discussion on new evaluation procedures | 1 day | |
| Subject specific module | Demonstration of Model lesson-Live & Video | 3 days | |

The seven modules listed in the above table require 6 day face-to-face training. The experts group felt that the available time was not sufficient to cover the package with teacher reflection and in interactive mode.

The alignment of the training package for primary school teachers to the SSA guidelines is similar to that of the primary school teachers.

Case Study

Utnoor Training Centre

The Rajiv Vidya Mission-Sarva Sikha Abhiyan (RVM-SSA) is conducting separate training programmes for primary and upper primary teachers. The upper primary teachers' training is conducted either in local Mandal Resource Centre (MRC) or any other school with the required facilities. The DyEOs are coordinating the training programmes at the identified place with the help of Resource Persons in that subject and State Resource Group (SRG) member of that district. The training programmes for upper primary teachers is done by the Deputy Educational Officer (DyEO) at the division level for different school subjects viz., Telugu, English, Mathematics, Science and Social Studies at any one centre at the division level. The case study of one training programme conducted for upper primary teachers at Integrated Tribal Development Authority (ITDA) school building in Utnoor in Adilabad district of Andhra Pradesh has been done as per the guidelines given in ISTT-9, and a report has been prepared.

Context

The training centre (ITDA) was established by the Government of Andhra Pradesh for educational and social development of Tribal people under the union government scheme. The ITDA project has undertaken many activities for the development of tribes. Under ITDA project-Utnoor, there are primary schools, upper primary schools, high schools, a junior college and a tribal teacher training institute. The Government of Andhra Pradesh created a post of District Education Officer for ITDA project Utnoor. To achieve the goals of universalisation of elementary education, ITDA project is collaborating with RVM-SSA, Adilabad for the capacity building of their teachers. The upper primary teachers' training for mathematics is arranged in ITDA school building. There is no permanent training centre at the division level. This training centre will help to provide continuous in-service training to all primary and upper primary teachers and to orient the School Education Committee (SEC) members of the division. The ITDA is also providing support to School Complexes (CRCs) in the division, especially to monitor the one day monthly meeting at School Complexes (CRCs). The purpose of setting up of School Complexes (CRCs) was to provide an academic platform to support the teachers to face the academic problems in that locality. The DyEO was entrusted the responsibility to undertake the follow up training programmes to face the

challenges in actual classroom practices. The MRCs and School Complexes (CRCs) were providing links between the field level to the district and state levels.

Sarva Shiksha Abhiyan (SSA) was initiated by the Government of India to sustain the activities initiated under the DPEP for the entire elementary education. The educational administrative structure created under the DPEP was retained for implementation of SSA interventions also. The Rajiv Vidya Mission- Sarva Shiksha Abhiyan (RVM-SSA) with the State Project Director at the State level and The District Project Officer, RVM-SSA is the chief administrative officer at the district level. There is one Academic Monitoring Officer (AMO) in the district to look after the pedagogical issues like capacity building of teachers and planning and preparation of district perspective plans. The DyEO at the divisional level and three subjects RPs in the division will concentrate on supporting the educational activities at the Mandal.

Upper Primary Teachers' Training Centre, Utnoor

The case study of the training centre at ITDA School, Utnoor in Adilabad district of Andhra Pradesh should be viewed against its proper background. The sources of information for the study include observation, collected documents and interactions with the Academic Monitoring Officer (AMO), Teachers, RPs, MEO, School Academic Monitoring Committee members, Headmaster of School Complex, SRG members, DRG members, DIET lecturers and participant primary teachers. The training centre was visited by Ms. Indira Ramani Janapati, Junior Project Fellow on 4th April 2011.

Infrastructure at the Training Centre

The Training centre is located in the campus of ITDA High School, Utnoor. It is a big hall with the dimensions 35X20 sq feet for seating of 40-50 persons comfortably in a batch. There is sufficient place for organizing group activities. The hall is used for training purposes. The centre has separate two seated toilets for women and men. The toilets were in a pathetic condition and almost non-functional. In the premises of school the bore well is used as drinking water facility for school. The school building has electricity but during power cuts it does not have any back up arrangement. The DyEO said that earlier they would hire the generator but due to shortage of funds the practice of hiring the generator had stopped. There is only one blackboard, and a few charts and maps were available in the hall. Refreshment and food for the teachers is being supplied by the caterer.

Furniture: The school has benches in the hall. The same benches were used during the training. Furniture is uncomfortable and inadequate as there are very few benches and tables. The DyEO is hiring some plastic chairs in addition to the benches during training. There is no practice of providing tables to keep the teachers' notebooks. They keep the notebook in their lap and write, which is very inconvenient. Adequate furniture is needed to add to the quality and efficiency of training.

Audio-Visual Aids and Equipment: There was no aid or equipment available except the blackboard, a few charts, and maps. The school does not have a computer.

Staffing: The training centre has only one room for training purposes. The DyEO who is the head of the divisional office of the education department is the coordinator of teacher training programmes. Three RPs are drawn from the local district schools based on selection test cum interview, and are attached to the division. They have no separate place to sit in the school building. The office staffs of school were helping to provide administrative support whenever it is needed. There is one attendant working on temporary basis. The DyEO has a provision to appoint one attender on daily wages/monthly contract basis. The salary is paid to the attender out of the attender allowance of DyEO.

Resource Persons for Mathematics (RPs): The field level teachers teaching at upper primary level in the division are coordinated by DyEO with the help of RPs. In the Andhra Pradesh state generally teachers teaching at upper primary level or high school level are selected as MRPs based on written test and interview by RVM-SSA office of the concerned district. The qualification for appearing at the MRP recruitment test is degree with B.Ed. and he/she should have 3 years experience. The DPO, RVM-SSA will conduct the test to know the content competence and pedagogical knowledge for the appointment of Resource Person for 85 marks. The remaining 15 marks will be for interview. The selection committee consists of DPO, RVM-SSA, District Educational Officer (DEO), Principal of local DIET and One Senior Lecturer of DIET nominated by the DIET Principal. The marks allotted for the interview will be given some weightage in addition to marks for experience in module preparation and experience of working as resource person earlier. This procedure is used to select three teachers having good content knowledge as well as communication skills as MRPs. These MRPs have undergone master trainers' training at DIET, Karvetinagaram. All three resource persons are male. There is no mechanism to evaluate the performance of resource persons except occasional observations by DRG/SRG/DIET faculty or any other state observers. In the interaction with teachers during the data collection, the MRPs revealed that no feedback is obtained from them during the training. However SPD, RVM-SSA says

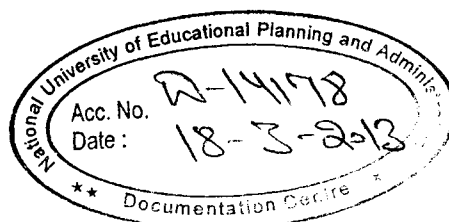
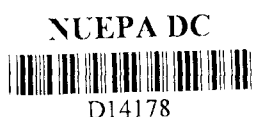
that they were obtaining feedback regarding the effectiveness of resource persons. Regarding the suggestions to improve the quality of training, MEO and MRPs said that resource persons should be of high quality for training given at DIET.

Financial Support: The exact budget details of Utnoor division are not known. The allotted amount is released in two installments. The division gets financial support for upper primary teachers released by the District Project Office (SPO), RVM-SSA in two installments. The first installment is in June and the second installment in December. The expenditure for face to face teacher training is given as an advance to DyEO during the training programmes.

Training: The ITDA High School building is the training centre for upper primary teachers. Utnoor is the headquarters for educational division in Adilabad district. It has the responsibility of providing in- service training to upper primary teachers of Utnoor educational division. Training is organized in batches of 35 to 40 teachers. All the training programmes are non residential. Training calendar is prepared by State Project Office, RVM-SSA, Hyderabad, which is to be followed in the training centre. The training on the acquisition of mathematical abilities is conducted for the upper primary teachers teaching mathematics for classes VI to VIII. Adilabad is a predominantly tribal district with Gondus. These tribal children speak their own language at home. The Utnoor division has a good number of schools managed by ITDA. The RVM-SSA has separate programmes in addition to the 20 days training known as Multi-Lingual Education Programme. The trainings programmes under the Learning Enhancement Programme (LEP) are conducted for 2010-11.

Vision of the Training Centre

The vision of the training centre could not be envisaged by the DyEO and RPs. The DyEO is of the opinion that his work is to implement the decisions taken at upper level and that there is no scope to plan and think for considering specific issues. The DIET, Adilabad and Government Teacher Training Institute, Utnoor are in close proximity; they help to undertake the training based on local specific issues. It seems that some training which was to be conducted at Government Teacher Training Institute, Utnoor was also conducted in this school building. The DyEO and RPs have a major role in implementing these trainings as per schedule.



INSET: Research Reports (SSA)

INSET Training Packages in States : An Assessment

INSET Training Centre : A Microview

INSET Tool Kit

INSET Impact on
Classroom Transaction
in States



विद्यया ऽ मृतमश्नुते



एन सी ई आर टी
NCERT

राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्
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