# APPENDICES AND BIBLIOGRAPHY 

DPEP IN TAMIL NADU

## Volume II


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Appendix ai<br>Preliminary Visit I<br>Oct 8 to Oct 14, 2001

$8^{\text {ll }}$ October 2001.
A team of three members consisting of Aarti, Vandana and Bharti reached Chennai in the morning. The aim of this preliminary visit was to understand the pedagogic interventions made by DPEP in Tamil Nadu. The State Project Office had ensured that the team was escorted to the hotel. The accommodation that had been provided was excellent.
$>$ The State Project Office: Mr. Jaipaul of the Distant Education Programme (DEP). escorted the team-to the office of the State Projeci Direcior, Mr. Soundararajan, where Mr. Palaniandi \& Mr. Chandrasekhar the Joint Directors, joined in for a brief introductory discussion on DPEP, Tamil Nadu. It was brought to our attention that the traditional SCERT came under a different nomenclature, DTERT, in Tamil Nadu. The Team was also informed DTERT trained all the teachers, including those working in DPEP districts, and that DPEP intervention basically involved text book development, and the cascade structure oí DPOs, BRCs and CRCs in DPEP districts. The BRCs and their work has been so well received, that in 35 non-DPEP districts, similar structures have been introduced.

- Meeting with personnel from various districts: A meeting with some select personnel involved in DPEP from the districts, had been organized for our benefit. It was made clear to all the parties concerned that we were there to understand the process of DPEP intervention in Tamil Nadu and the aspects involved. After a mutually satisfying discourse, in the presence of the Director and Joint Directors, we took a temporary break for lunch, following which, it was suggested that perhaps the discussants would be more candid in the absence of the Director and the Joint Directors. The exchange of information proceeded smoothly and we gained further insight about the pedagogic interventions undertaken by the DPEP.


## $9^{\text {th }}$ October 2001

$>$ Meeting with the Director DTERT and DEE: a meeting was arranged for us to meet with the Director of the Directorate of the Elementary Education and the Director of the DTERT to have a discussion with us in the DPEP office. The mutual respect shared was apparent and the importance of DPEP, DEE and DTERT and the processes undertaken by each was made apparent clear. The willingness to share all information without any bias whatsoever was greatly appreciated. Some time was spent watching some of the films that have been made as a collaborative effort of various parts of the cascade that has been created since DPEP was introduced in four districts of Tamil Nadu in 1994. Reaching the Unreachable, based on IED activities, and CRC Independence day celebration and monthly meetings, films made on BRC, ABT, VLC. ECE and Gender: Depiction through drama, were some of the movies shown to us. The team was informed about all the activities undertaken including Tele-conferencing that-has been used for addressing various issues.
$10^{\text {1h }}$ October 2001
Our journey to the district of Thiruvannamalai began at 6:45 A.M. Mrs. Balapushpam, the gender co-ordinator from the SPO, accompanied us.

F DIET Kilpennathur: A meeting with the Principal of the DIET and various other personnel had been organized, where we were given information regarding the Action-Research programme that has been adopted and the working of DIET in DPEP districts. The team was readily provided with all the information we inquired about and were shown around the complex. After a brief lunch break during which we also planted trees in the beautiful residential campus, we came back to the DIET office for a brief, but extremely fruitful discussion with the faculty at DIET, some of whom were also SRG members, part of the text book renewal group. The discussion with the faculty increased our understanding of teacher training and the steps involved in both pre-service and in-service training programmes.
$>$ Visit to an IED School: A visit to a school, part of the IED school which also holds special coaching classes for SC/ST girl children was organized, where we
were introduced to some of the children who had benefited from the IED programme. We were also shown the meticulously maintained records regarding the performance of each student, and the separate records of the SC/ST girls.
$>$ Visit to an Alternative School: We were escorted to an alternative school near Satannur where classes are held late evening for children who cannot attend the regular schools. The brief interaction with the students and teachers left us extremely impressed with the motivation of the students and the teachers
\% BRC Thandarampettu: The visit to the block was sadly incomplete as we could not see the block office owing to a power failure. We were, however, fortunate enough to meet Teacher Katherine about whom we had read a lot through Dr. C. Subrahmaniam in his report on Classroom observation in Tamil Nadu. It was an enlightening experience as she shared with us her experiences and opinion since DPEP intervention.
$11^{112}$ October 2001
\% DPO Thiruvannamalai: All relevant documents pertaining to teacher training, VLC contributions, teacher tests for text book development, were made available to us, while we also got a chance to interact briefly with the Assistant Elementary Education Officers, and the Additional Assistant Elementary Education Officers of the district who are in involved in the monitoring process. However, the forthcoming state assembly elections made it difficult for us to spend much time in the DPO.
ir BRC Kilpennathur: The visit to the BRC proved more fruitful as not only did we collect several relevant documents, we also had the good fortune of interacting with some CRC coordinators who were extremely forthcoming with their responses.

School Visits: We visited a total of three schools, one of which was a contribution of the Village Level Community. We were duly impressed with the attractive building and the cost effective means of making the learning process fun. The other two schools also boasted of attractive TLMs displayed all around in what is known as disco pandal. We were also impressed with the level of the students, as they all seemed proficient in whatever they had been taught. However, due to the
fact that ours was just a preliminary visit, we could not spend much time in the schools.
$12^{\text {th }}$ October 2001
We returned to the State Project Office to complete our document collection.
y Meeting with Prof. Santhanam: We had the good fortune of interacting briefly with Prof. Santhanam, who heads the research group at DPEP Tamil Nadu. That DPEP has been a success and that the people involved are dedicated to the cause of primary education was evident for the pride in the revered professor's voice. He supplied us with some more documents regarding item banks and question banks for teachers. One of the team members spent time interacting with Mr. Jaipaul and collected relevant documents readily provided by him. He provided us with exceptionally enlightening books that dealt with innovative teaching. tẹchniquẹs adopted.in classfoom teaching.

With the guidance and help of Mrs. Balapushpam. we collected the rest of the documents from the various departments in the State Project Office.
$13^{\text {th }}$ October 2001
We returned to the State Project Office to convey our regards to the Director, Mr. Soundararajan and Joint Director Mr. Palaniandi, who gave us some more relevant documents that we had asked for, since they had been unavailable on the previous day. We left the same night for New Delhi.

# Appendix a ii 

Preliminary Visit II<br>R. K. Agnihotri

December 18 - December 21, 2001

December 18, 2001
I was received at the Airport by the Sumo Driver M. Arun; attempted conversation in Hindi-not possible; some conversation was effectively possible in English; a quick glimpse of Chennai-it was devious from the hoardings and the conversations at Ashoka Hotel that here the first language was Tamil and second English; 1 was told that even Hindi Cinema was at the margins: only a couple of theatres showed Hindi Films; Common people saw mainly Tamil Films and programmes; Hindi was if at all the language of some migrant groups from North India.

Around 8 p.m., Mr. G. Rajendran (whom I had recently met in Pune) of the curriculum (Textbook) Development wing came to see me with his daughter Aparna (Class IX); he carefully tried to understand the focus of our study. He has been with the DPEP only for 2 years. He briefly explained to me the process of textbook construction. The çurriculum in the shape of MLL was taken as a given. There was, as was confirmed in several later discussions. no detailed debate in Tamilnadu as to the nature and structure of the curriculum. The process started with classes $4-5$ and then moved an to classes. 1-2 and 3. There was no particular logic that informed this decision. It was just that in 1995-96, class IV textbooks were due for revision. The most striking feature of textbook development was the involvement of primary school teachers and the DIET SRG. Very little outside support was sought in this connection. (Aparna obviously hates school and Mathematics in particular. She enjoys painting and reading storybooks and wants to become a singer -not classical music so much but film songs. She feels there is so much pressure on her from her parents to perform well at school).

## December 19,2001

## Brief meeting with Mr. Soundarrajan, pervious SPD

From 10-2 p.m., there was a long meeting with SPD, Thiru Chandra Sekaran and his staff of 16 people (see Nos. 17-30). Several issues were discussed in this meeting. I primarily described the details of our study and sought their suggestions and consent. In general, there was considerable appreciation of and interest in our work. I tried to emphasize that the ultimate purpose was to understand the pedagogical processes that have informed the DPEP intervention in Tamil Nadu so that other states and future programmes can benefit from their experiences both in terms of their successes and failures. Mr. K. Natarajan (No. 23) very pointedly asked: what is the real objective? What do you really want to find out? I assured him that there was no hidden agenda; that all activities we undertake will be done with their collaboration; tools will be finalized in consultation with them; sample wit be selected, at random, in their presence; data will be collected jointly by our and their tcams under our collective guidance and supervision: and that at each stage of analysis, we should keep in touch. I explained that our primary purpose was to understand the processes involved in curriculum, textbooks, TLM. teacher training, classroom transaction, capacity building and support systems and learner achievement.

About the sample, we agreed to work in Tiruvannamalai and Cuddalore districts. I presented the following outline:
Study
D1

B1



B2

District

Random Blocks

Random
Schools

Total Number of Schools $=12$
Teacher Interviews $\quad=\quad 12 \times 2=24$
Classroom observations $=$ Classes $2 \& 4$
$12 \times 2 \times 3$ observations $=72$
Learner Achievement Tests only in Class IV ( $\mathrm{n}=30$ per class app)
$30 \times 12=360$ Children.

There was a general agreement with this plan of action but gradually sevieral important points emerged
e.g.

Rural / Urban / Tribal distinction
Govt / Aided school distinction
Multi / Monograde distinction

It seemed it was important to build these parameters into our sample design. About rural/urban, I was told, all urban blocks will automatically have large number of rural schools built into them; we do need to take a tribal block; Gov/Aided; and multi/mono distinction was also considered to be very important. The office promised to provide all this information and we thought we could restructure the sample as follows :


It was agreed that we will need about 15 teams each consisting of 3-4 members; DPEP office agreed to arrange for at least 15 Team Leaders whom we will train during Jan 3 - Jan-11. During this period, we will also pilot our questionnaires and conduct some important interviews; brain storming sessions at BRCs could be held during this period; a team of 3-4 persons could come from Delhi to collect data and train the team leaders.
a The actual study could be conducted during Jan 21- Jan-31, 2002.

- We may actually start Jan 5 \& 6 .
- Several interesting features of the programme emerged during our discussions:
i. The organizational structure was strikingly different from other states.

Tamil Nadu had decided to weave in the new structures into the existing ones. It did not invite IAS officers or other administra:ors to become the SPDs and create structures parallel to SCERT, DIET. Textbook corporations etc. Instead, they have a system of a academic directors reporting directly to the secretary, education, Tamil Nadu SPD, DPEP is also the Director, primary education; similarly Director, Elementary Education is also the SPD for elementary education. There were nine directors in all:

## Directors:-

Primary Education
Elementary Education
Research \& Training (DIETs etc)
Examinations
Non-formal Education
Public Libraries
Recruitmeni 1
Recruitment 2
People evaded the question whether this system was better than the common IAS one, with parallel structures.
2. Most people were very excited with the textbook renewal process. They felt that they had established that teachers could actively participate in the
textbook development process. The team was very carefully prepared through a process of continuous screening and orientation workshops. It started with a process of scouting for talented textbook writers. Teachers were given a variety of texts and were then asked to prepare a:lesson corresponding to a given competency. The books were then field-trailed.
3. In the afternoon ( 3 p.m. 6.30 p.m.). I had a long meeting with 11 SRG members ( $31-39$, not 32 but including 3.5 and 30 ). They brought out clearly how they went through a series of trainings in textbook writing making them largely activity based and child-friendly. In terms of the help received from outside Tamil Nadu resources they mentioned Subir Shukla and were highly appreciative of his contribution to the whole process. He could demonstrate how to make the classroom really lively and meaningful for the child. They went through the following workshops with him:

- Vision of a School
- Attitudinal Change
- Conceiving a Textbook
- Actual writing of the textbook.

Each workshop lasted 8-10 days. They also mentioned the help they received from Gomatinayakam (ELT), P K Srinivasan (Maths) and Saraswati of CRY, Amukta Mahapatra among others.

Activity was generally perceived as something involving dance, drama, roleplay and self-learning. Deeper probing on the issue brought out certain examples e.g. trying to weave in Mathematics in stories (teaching say $6+4$ by asking children to do so with stones or flowers and stories woven around them; science through songs e.g. a song about photosynthesis - plants and roots song in Tamil Nadu, 'My Information' section at the end of each lesson as 'Project work' e.g. observing and writing about the functioning of a postoffice or types of rail; EVS could involve a visit to a fruit and vegetable vendor; yet it was often difficult for the SRG to show how a given competency would match a given activity.


#### Abstract

As we turned to the issue of language, the complexity of the teaching-learning situation surfaced even more strikingly. It seemed everybody was clear that spoken Tamil could not be written even though the best story writers would use spoken Tamil in their stories, for every lexical item, it seemed there was a spoken form and a written form. The children were to be encouraged to learn the standard, written form. The 'multilingual' and 'multidialectal' variation including tribal languages was not considered to be a serious issue.


(Late evening. Aparna brought her shy eider sister Archana (Class X) along with Rajendaran and we talked about their interests. Archana again hated maths. She could not understand stocks and shares and brokerages. Yet she had done it 100 times and had mastered it. She was interested in Biology but had not heard about molecular biology. Nor had her father. Why should a giri interested in biology study stocks and shares!! Had dinner witb Shireesh at his place.)

December 20, 2001
What a long day! $6.30 \mathrm{a} . \mathrm{m} .-11.30 \mathrm{p} . \mathrm{m}$. Indeed one of the most exciting drives along the east coast road (ECR) from Channai to Cuddalore. During the day, I could manage to do the following :-

- Visit the Panchayat Union Primary School, Sangolikuppam, Cuddolore.
- Visit the TLM preparation 4-day workshop (Class I) at BRC, Parangipetti Block, Sammandam, and Cuddalore district.

Some further in sight into the IAS Vs. Ed. Type organisationed structures. Some felt that the IAS people are eventually cost-effective task-masters; they know how to get the work done and work in clearly defined outcome oriented frames; on the other hand, people working under pressure may not produce the required quality or may not report genuine findings. There should perhaps be something in between. It was also clear that government teachers etc. working on deputation in DPEP do not get any extra allowances.

A combined meeting with the DPO and BRC Cuddalore was held. Mr. P. Babu (DPO, 04142-321093(r), 322912 (W)) and Mr. R. Guruchandran (BRC Supervisor) and the whole staff (No.1. 1-10) were extremely cooperative. I shared the plan of the study with them and they offered to provide the team of F1s we need during Jan 3-11 and Jan 21-31.

It was clear that teacher training was a continuous and sustained activity at the BRC. In fact. it was difficult to keep track of the number of trainings given to teachers. Every time a new book was introduced. training was organized for the teachers; there were ordinary trainings and booster training: SOPT, trainings for the gender and disabled, for TLM preparation etc. As we have already noticed teachers benefited a great deal from these trainings. They detinitely succeeded in making them sensitive to children: they also appeared to move towards classroom strategies that encouraged greater laarner participation. But it was also clear that no significant break through had been achieved in terms of conceptual clarity, and intellectual growth. The master trainers at the BRC had received several trainings themselves and were now continuously training teachers all the time. But they could not recollect a single exciting moment when they really felt that they had learnt something new. They were all for joyful learning, song, dance and activity-based selflearning. But the instances they could site of really innovative activitics were rather limited and naïve. They felt it was a great activity to show pictures of vegetables and fruits to children. When we told them that children already know the names of these vegetables and may have actually seen them growing and being cooked, they looked a bit helpless. When we probed a little more, they came up with slightly more interesting ideas e.g. role-play and the use of masks in story telling etc. In the case of Language, our discussions with teachers and teacher-educators made it clear that their understanding of language learning was based on the behaviorist principal of imitation. practice and reinforcement; they also believed that all the problems of language learning would be resolved if one could identify the 'hard-spots' and apply the behaviorist principals for their resolution. They could not appreciate the result of recent research in language acquisition, which has emphatically shown that languages are best acquired in anxiety free situations when the input is
pleasant, holistic and comprehensible and the focus is on the message rather than the form. The formal features of language, even such features as the formal relationship between sounds and letters or such 'hard-spots' such as three ' $R$ ' of Tamil, are best learnt when children are doing something that makes sense to them in a context that they find interesting. The Math resource person explained how she dealt with the concepts of place value. For example say the place value of 9 in 98 . Nine Bundles of 10 each and eight single sticks were used. They were not sure whether this really helped the child to understand that the nine of 98 was different from the 9 of 89 . They also told us how cutting a piece of paper into 4 equal parts put across the idea of $1 / 4$.

In addition to conducting training with the help of DIET faculty, BRC tries to keep the CRC active and alert. The Cuddalore BRC has 17 CRCs, each one of which consists of 6-10 schools; at any given CRC. there will approximately be . 40 teachers. CRC meets orfe' a inonth. There are 6 persons of the BRC. At least one BRC member is present at the CRC meeting: -

6 CRCs meet in week 1
6 CRCs meet in week 2
\& Last 5 CRCs meet in week $3 / 4$
Total No. of Schools in the Block $=129$

One of the headmasters acts as the CRC coordinator. There may sometimes be also an additional coordinator. The focus of the CRC meeting is 'hard spots'. Keeping the 'hard spot' in mind. TLM is prepared and a model lesson is tried out at the CRC. Teachers get Rs. 10/- per head to attend the meeting: Rs. 3/per head is also spent on tea and snacks. The CRC meeting is never held on a working day; it has to be a Sunday or some other holiday. There are also attempts to involve VECs at the CRC level. In some villages, I was told VEC \& CRCs have collaborated on various issues e.g. repairing the school building etc. Sometimes really important issues are raised at the CRC level. One BRC person cited the example of a teacher who at a CRC meeting raised the problem from the class $V$ language, book in which Narmada and Tapti had
been shown as South Indian Rivers. He would not tell us how the issue was resolved etc.

It would appear that CRC is the very foundation of the DPEP renewal process. And yet it is here that the performance seems to be away from satisfactory. It is very rare that a meeting is attended by more like a social rather than an academic get together. Even at the highest level they could not elicit a clear vision of the structure, role and functions of CRCs. It seemed obvious to us that CRCs should have a small room, a small library containing reference books and maps etc., if possible a computer but nobody seemed to even take these suggestions seriously. Most of all, why should 'hard spots' be the focus?

The fact that not much constructive activity takes place at the CRC (or even the BRC) level became obvious when I visited an extremely outstanding school-Panchayat Union Primary School, Sangolikuppam. It was a so it of surprise visit. Everything seemed perfect. Quiet, beautiful surroundings. All students in the class; almost every class had a room and there was a teacher in every class. One could immedrately notice the facilities of decent blackboards, toilet and drinking water. Since there were only 4 rooms for 5 classes. DPEP had constructed a beautiful, well-lit building with toilets-yet to be handed over to the school. The arrangements for the mid-day meal looked in order and children generally looked happy and cheerful. Headmistress Parvati seemed to be a highly motivated committed and bright teacher. We apologized for disturbing her class, requested her to continue and quietly sat on the. floor at the back of the class. It was class $V$.

Since exams were near, she was doing social science revision. Here's the rub. In a very pleasant, soft voice, she would ask a question e.g. Which is the smallest planet? And point towards a girl. The girl would get up, fold her arms into her empties and give the correct answer - a single lexical item, A sense of satisfaction would ensue in the teacher and among the children. It continued: Which is the biggest planet? Planet farthest from the Sun? Snowy Planet? Which Planet has life? Who invented computer? Who discovered gravity?

It was class V. We thought we could do some simple Mathematics. We started with

49
$+58$
$\qquad$
$\qquad$

Most children could solve it -
Some with some help and in considerable time. We moved to the next:

$$
68-49=
$$

This floored most. I think it was the writing system. Perhaps they are not used to it. And to the question which of $1 / 3 \& 1 / 5$ is bigger. the unanimous answer was $1 / 5$. In class IV, a child took quiet a while to locate the biggest mumber in: 1099. 3896, 1101, 3985, 2999, 4561, 4448.

Another child thought 1101 was the smallest.
In Class V, Mr. Rajendran explained


Our last of the day was another $B R C-B R C$ of the Parangipettai Block at Sammandam. A 4-day TLM (Class I) workshop was in progress there. It was the $3^{\text {rd }}$ day. It was a joy to watch teachers sitting in groups of $8-10$ and making TLMs for their schools. For each subject there was a separate group-long, Mathematics, EVS etc. But it also looked very mechanical and often the teachers could not explain why they were doing what they were doing. Some Mathematics activities though mechanical looked interesting.

December 21, 2001

- Met the DTERT Director
- Mr. R. Kannan who agreed to give us all help and passed me on to Mrs. S. Lakshmi, Joint Director, DTERT
- Ms. S. Lakshmi was clear that the only thing that really mattered was attitudinal change. Nothing else is really required. She herself underwent that change in Amukta Mahapatra`s training. If you believe. these are your children, you have to make their future, then everything else will follow. She also explained (everybody actually did. how the whole programme was hard-spots and MLL-based. "We believe in the MLL" is the slogan" only Pure Tamil is to be used" is the slogan. Handle the Hard-Spots' is the slogan.
- Briefly met Mr. Soundarrajan again and he highlighted some of the major achievements of DPEP:
- Books are written by teachers
- Every child has a book
- Teaching is activity - based
- MLL’s are followed.
- Cohort study imp.
- Achievement tests show definite improvement.
- Met P. Saraswati who was earlier associated with Allatipu. She hard worked extensively on the textbooks, particularly classes. $2 \mathcal{\&} 3$. She described to me in some detail the activities she had designed and how they favorably related to Khushi-Khushi, Digantar and Lok Jumbish books.

Appendix a iii<br>Pilot study<br>$6^{\text {th }}$ of January - $9^{\text {th }}$ of January 2002

Sunday, January 6, 2002
The team consisting of Mr. Mohanasundaram and Ms. Vandana Puri reached Chennai in the afternoon by Tamil Nadu Express. The day was utilhzed in preparing for the pilot study, translation and sharpening the Tamil tools that had to be tested. The main focus was on translating the revised and re-revised tools into Tamil.

Monday, January 7, 2002
Escorted by two DPEP Personnel, the tcam visited a Pacnchayat Union school, at Maduravoyal, Chennai. This school is situated about 50 K.M. from Chennai, and consists of abput. 1400 childran and 22 teachers. Our objective was to test the tools in a rural school and also be able to finish the pilot in the given time. The team was also able to elicit data from 5 Tcachers, the Head Mistress and also tested the tool for the School profile. The tools that were tested -

1) Learner achievement - The leamer achievement took were tested on 5 sections of class IV. The tools were tested on 200 children were under the supervision of the teachers and the Delhi team. The tools that were tested on students were:-
a) Student's profile- is a basic Performa about the student's background.
b) Mathematics test- was designed to test the performance and conceptual clarity of the student about various concepts such as horizontal and vertical addition, subtraction, multiplication and division, fractions, shapes, decimals and basic. mathematical properties.
c) Language tests- the basic test used for testing language skills was the cloze test. To be able to understand the form that would be most suitable for the students we gave them two different kinds of cloze tests.
i) Cloze 1-was a typical cloze test with the exception thar we introduced a picture before the test so that the students could get a visual clue about the story line.
ii) Cloze 2-here we introduced two closely related options with each blank
iii) Picture sinuation test- in this test we gave a picture to the child and asked her to write a story based on the picture. This was imroduced not only to test the writing skills of the clild but also see how innovatively can the child use bis language.
d) EVS- At first this test seemed to be the trickiest test to compose because EVS includes many inter-related concepts. Hence we felt that the best thing to do was to introduce question based on the child's immediate environment. To maintain a balance we picked at some basic concepts from the curriculum and textbooks and neatly wove them with the test.
and neatly wove them with the test
2) Teacher Interviews: The teaco was able to record five teacher interviews. To maintain a balance in the data, out of the 22 teachers in the school we gave the dan sheet to one teacher from each slandered. It so tumed ont that there were many questions that the teachers were facing problems with in the questionatire. Heace mey needed constant assistance to understand the aim of the questions.
3) Head Mastes/CRC coordinator Interview-we interviews the head mistress.
4) School Profile- is a general questiomaire about the factual information of the sehool
5) Classroom observations-

This Pîot study tumed our to be extremeity beneficiai in heiping tue team sharpen their tools and get a clearer picture about the structure of tie study. Later in the evening the team had an extensive meeting with Prof R. K. Agnibotri about me analysis of this pifot and the structure of ine overail study. A closer look at the Pilot anaiysis showed that finere was a need to sitarpen ine Math and the Language toois. Moreover we also felt that some chillaren had copied from each other, which would affect our analysis. Hence more tools were prepared and we decided to take a retest for Mathematics and Language with the same set of children who took the last test.

Tuesday, Jancary 8, 2002
An extensive meeting was amtanged at the State Project office of DPEP Tamil Nadu with many DIET members and Field Investigators from Tiravamamalai and Cuddalore districts respectively. These two districts had been randoraly chosen for the study from the four Phase I districts in Tamil Wadu. The Team was joined by Ms. Kavitha in the moming so as to help in conducting the Master trainer interviews in Tamil. The first half of the meeting was spent in explaining the structure of our study to all the members present in the meeting so that we rould get their perspective about our plans which would in turn help in creatiag a collaborative understanding about the structure of DPEP.

In the later part of the meeting all the members were divided into two groups. Each group consisted of some DIET members, SPO Personnel, Field Investigators and two members of the Delhi team. The objective was to critically analyze and sharpen all the sample tools prepared by the Delhi team for this study. Later all the DIET members were asked to fill the master trainer interview sheets and based on the sheets they were given a time slot for the next day so that we could talk to each one of them individually at length. The following suggestions evolved out of this discussion :

1. Story writing based on the picture given
(Demon and a man)
a. There should be 2 or 3 different pictures. The pictures should be the ones that the children are familiar with.
b. The picture given for preliminary study has too many animals (the child is under pressure to write about each one of them. This will make them lose track of the main theme, which the child proposed to write). The number of animals can be reduced.
c. The size of the picture may be enlarged. It should be a large, attractive and a colourful picture.

## 2.Cloze Test

a. The sentence should be shor and easy to comprehend.
b. Expected word (to be filled in the blanks) should consist of turee or four words. If possible the word can be a noun or a verb, instead of conjumetions.
c. In a sentence Yeduhai and Monai could be avoided ( for eg: andha marathil oru arakan irundhu vandhan)
d. Instead of words like irundhu vandhan, one could use irundhan.
e. Long and confusing can be avoided (avan palani paduthu kurataivittu thungikondirunthan)
3. Cloze II
a. Avoid long and complicated instructions
b. lnstead of instructions given for the preliminary test, we can simply write人oditta idathai thahunda sol kondu nirapu
c. The words given in the brackets could be four instead of two.
d. Avoid words like 'thinpatharku', instead words like 'unpatharku' could be used.

In the evening the team had a comprehensive discussion with Ms. Saraswathi who was one of the state team members in the textbook renewal process. This discussion was recorded on tape and all the team members got a chance to ask various questions about textbook renewal. Ms. Saraswathi was kind enough to explain the various processes of renewal and the prospective of the state in general about the curriculum and how they as a team they incorporated the MLL. innovatively in their textbooks.

Wednesday $9^{\text {th }}$ of January 2002
This day was marked with numerous activities that were going on at the same time due to paucity of time.

- Extensive interviews were conducted at the SPO Tamil Nadu with each DIET member present there so as to get an in-depth understanding about the Teacher training processes. Each intervicw was recorded on tape and onpaper. The DIET members from both these districts patiently explained the teacher training processes and their experiences as Master trainers in DPEP districts. The Tamil speakers in the Delhi team conducted some interviews purely in Tamil.
- We also got a chance to talk to one of the Resource team members who talked about the textbook renewal process. The team also talked to Ms. Balapushpam about the textbook renewal process and her experiences with DPEP.
- The team had an nighly beneficial discussion with Dr. Santhanam, associate professor DPEP Tamin Nadu
- While these interviews were being conducted at the SPO, one of the team members went back to the same school and this time introduced the revised math and language tools to ouly 80 children. This time care was taken so that the children would not get a chance to cheat. Each question was explained to the chiddren
- We also had a lengthy discussion with the field investigators and recorded their viexis about the iools and the structure of the study.

The tearn left for Dellin the same night. On reaching Defhi all the riputs were carefully incorporated inte the study, the pilot study was analyzed and innal tools were prepared.

# Appendix a iv 

Final Study

$24^{\text {th }}$ February - 3rd March 2002

$24^{\text {th }}$ February, Sunday

The team consisting of Mr. Mohanasundaram. Mr. Jeyaselvin, Mr. Sivasankar and Ms. Vandana Puri reached Chennai in the morning from New Delhi. Before leaving for Chennai the team had made Xerox copies of all the tools. Later in the morning Ms Kavitha, Ms Smitha and Ms Sasirekha joined the rest of the team from Coimbatore. The team then made 27 sets of all the tools. Each bag consisted of 1 VLC/ PTA/ Community leader and Head Teacher/ CRC coordinator questionnaire. 1 School Profile. 3 Classroom Observation questionnaires. 2 teacher's questionnaires, 50 questionnaires of all the learner achievement tools. one pen, extra sheets of paper and a notebook for the field investigator. These bags were then divided into two separate boxes for Cuddalore and Thiruvannamalai. In the evening Prof. Agnihotri joined the team in Chennai. The team then got together and discussed the plan for conducting the study and each team member was assigned certain responsibilities. It was decided that Mr. Mohanasundaram. Ms Kavitha. Ms Sasirekha and Ms Sasirekha would go to Thiruvannamalai. This team would be led by Prof. Agnihotri. Ms. Vandana, Ms. Shashi and Mr. Jeyaselvin would conduct the study in Cuddalore. The agenda of this meeting was also to discuss the instructions for the field investigitors and to discuss each question of the tools. One field investigator would take care of one school and would be collecting the data over of period of three days. One the team members would supervise 3-4 schools during this time. The team members were also asked to interview and train the field investigators in the districts, interview the 2 teachers in each school, meet the head master of the schools, conduct the Mathematics and Cloze tests, interview master trainers and resource group
members, attend one CRC meeting and conduct a group discussion with the teachers there and also visit the BRCs and district offices.
$25^{\text {ll }}$ February, Monday

The day began with a brief meeting with the State Project Director, Mr. Chandrasekaran, Dr. D. Ranjini Devi, Ms. A. Balapushpam, Mrs. Sugumari and Mr. Pichandi. The team had prepared lots of all the urban and rural BRCs in Cuddalore and Thiruvannamalai. During this meeting the BRCs for both the districts were randomly selected. The aim was to make this study a collaborative effort and also to maintain a-transparency. In Thiruvannamalai there were 18 BRCs. in all qut of which only 3 BRCs were arban and orfly orie ivas a tribal block. Hence the BRCs selected in Thiruvannamalai were Chengam (rural), Cheyyar (urban) and Jawadhu Hills (tribal). In Cuddalore there were 14 BR.Cs out of which 11 were urban blocks. The BRCs selected in Cuddalore were Panruti (urban) and Annagramam (rural). It was also decided that Mr. Pichandi would accompany the Cuddalore team and Ms. Sugumari would go with the Thiruvannamalai team, to introduce the team to the District officials.

The later part of the day was utilized in making arrangements for travel, boarding and lodging and in preparing other documents for the field trip. Unfortunately due to Prof. Agnihotri's ill health he had to leave for Delhi that evening.
$26^{\text {th }}$ February 2002
The Thiruvannamalai team accompanied by Ms. Sugumari left for district in a car early in the morning and the Cuddalore team left for the district around 8 in the morning in a bus.

The team reached the DPO, Thiruvannamalai by noon. After a brief introduction with the DPO personnel and the field investigators, the team prepared chits of all the CRCs and schools under the 3 BRCs that were selected, keeping in mind the mono and multigrade distinction. Since we wanted to maintain a fair representation of the rural sectors we had decided to pick 2 CRCs and 9 schools from these 2 CRCs in the rural block (Chengam) in Thiruvannamalai. However only 1 CRC ( 3 schools each) were to be selected from the urban and the tribal BRCs. The team then randomly picked the CRCs and schools in the presence of the DPO personnel. Hence in the urban BRC (Cheyyar). Giridhranpet CRC was selected. Here we selected one monograde school and two multigrade schools. In the rural block (Chengam), we selected Pinjur and C. Sorpanandal CRCs where 9 schools were picked out in all, three monograde and six multigrade. Alanjanur CRC was selected in the tribal BRC (Jawadhu Hills) where one monograde and tivo multigrade schools were picked out randomly. Once the CRCs and the schools were selected 15 field investigators were interviewed and selected. Then each of them were given one bag, trained with all the tools and were given explicit instructions for the data collection (see appendix 1 of this report for the field investigator instructions).

According to the original plan the core team was supposed to divide in such a way that 2 people get to take care of the rural block and one each take care of the urban and the rural block, so that the whole study is conducted simultaneously within a span of 3 days. However when we reached the district and the schools were picked out we realized that the schools in the Jawadhu Hills were situated at vast distances and that it would be impossible for one person to supervise all the three schools within the given span of time. Keeping all the field problems in mind it was decided that all the members would leave for the tribal BRC that day. At the same time the Cheyyar field investigators were asked to begin their work on the $27^{\text {th }}$ morning and Chengam field investigators were asked to wait for the
k. The team then left for the tribal block and reached there late at


#### Abstract

Un $\therefore$ :anced the team to the DPO personnel. After a brief discussion with  URER and schools in rural and urban BRCs. The aim was to select 1 , ...ocls in each BRC. Out of these 6 schools two would be monograde rever when the CRCs were randomly picked. it was noticed that .n the urban block did not have any monograde schools. Hence it . athe team would select 2 CRCs in the urban block. The CREs that $\because \cdot$. (Annagramam). Once the CRCs and schools , meam met some master trainers and also spoke to the DPO and also got a chance to attend a teacher training camp on svisken satmeng question papers.


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H. What hits whe one of the team members conducted interviews with BRC nobinar and the officials there others were given specific school duties for the frat data coliection. On the way the team bought many pencils and erasers for the Lefon Als Sasirekha reports:
' 'swi to a Mono Grade school in Jamuna Maruthur. There were about 73 studuts in class 4 (we conducted the test for only 50 students). The school mas 4 texhers who come to teach the $4^{\text {th }}$ standard students. The school
with 5 classes has only 4 teachers. The first and the second standard are mostly clubbed together. If one teacher happens to be absent then the school needs to be run by the remaining three, which becomes difficult. The high student teacher ratio puts pressure on both the student and the teacher. Though the drop out rate is about 5 to 10 percent, the rate of absentees is high. The students enmass absent from school. when there is a festive of any sort of function in the village. The students are usually above age for the particular class. Majority of the students are first generation learners. The teachers opined that the enthusiasm created among the students and parents in sending the students to school is mainly because of the mid day meals programme and only little enthusiasm is created by DPEP. This is quite evident from the fact that after the meal. the children absent themselves from the school.

They have hand made teaching learning material. which are either made by them or by the children. The materials are kept under lock and key. When asked about they opened the cupboard and showed. The $4^{\text {th }}$ standard teacher proceeded to teach English using the 'aid' and after the class, teacher asked questions based on the lesson taught. The children could not answer any questions and after prompting the students repeated the words teacher used for prompting. They also formed words using mono or bi syllables. For eg. bat, rat, cat etc. When asked to form words on their own. they looked blank for sometime and after the hints a child just said 'shirt'.

When asked the teacher about changes in teaching process, student teacher relationship, and impact of the new syllabus on students. the teacher said that the intervention through DPEP has been useful to them. Bu they failed to state the ways it has been useful. They said that the maintenance of official records and the number of meetings to be attended has distanced the student teacher relationships.

In the morning, paper VII (maths) was distributed among the students and in the evening paper VIII (story writing) was given to the $4^{\text {th }}$ students. After finishing this, we returned to T.V. Malai and discussed the day's happening and the procedure for the next day.'

According to Ms. Kavitha:
'In Javadi Hills I proceed to a multi grade school, which is about 5 Kms from the town. The school has strength of about 50 students with 13 students in class 4. It has two teachers; one for class 1,2,3 and the other for classes 4 and 5 . When we went for the study, the teacher for classes 4 and 5 was on leave. The teacher present was under immense pressure to look after and teach all the students studying in different grades. The time I was there, I could see the hardship underwent by the teacher and sometimes had to use harsh measures to keep the students under control. While he was attending one class. the rest of the students were either playing or doing something on their own.

The students were all from the tribal community and they were first generation learners. The teacher said that the students do their learning only in school. As soon as they go back home they need to take care of household work that they have little time to go back to their books. Some of them walk about 5 Kms from their village to attend classes and by the time they go back home they become very tired. All these are reflected in the students. The students do not come to school regularly. Many of them absent themselves for months because their parents are seasonal employees in the nearby states. Though the school has a dropout rate of about $15 \%$, the absent rate far exceeds this.

Though a majority is above age for the classes they find it difficult to cope with the syllabus. The words used in the lessons are different from the colloquial words used. For eg. While explaining a question on festival
regarding 'pongal' in the test paper - 'about myself' - the class 4 students found it difficult to comprehend the name of the festival. It is important to note here that the festival is famous and selebrated throughout the state using the name pongal. Using the field investigator the festival was explained using the words somewhat similar to what they use.

There are quite a few teaching learning material. The material on display is changed according to the syllabus to be taught that week. The rest of the materials are kept inside the cupboard. The teaching learning materials are hung at a distance not reachable to the children. They are kept for the benefit of the visiting officials and only rarely to the benefit of students. The teacher expressed difficulty to cope with the officials if the material is either missing or being torn or misplaced.

I conducted the test VII and VIII. The students sat blank for about 15 minutes, after which the questions were repeated and explained again. The investigator and I went individually to the students and explained the questions. Some wrote the question and some came to me asking me to explain. A student told me that if I could help him by explaining then he would be in a position to complete the paper. He could understand clearly when things are repeatedly explained to him.'

The rest of the team visited other schools in the area and collected data.

## Cuddalore

The day began with a school visit. This school was within the premises of the District office. The team spoke with the teachers, head masters and also visited all the classrooms. Class 2 and 3 were being conducted in the same hall. The team members sat behind the class and saw how the teachers were explaining the
concept of addition to children. They also saw the notebooks of some children who were eagerly willing to show what they have learned.

Then the team interviewed and selected 12 field investigators for the study. Each field investigator was given one bag and was assigned a school. After this the field investigators were trained with the all the tools and instructions. They were also told that which member from the Delhi team would visit their school on what date and time so that the Mathematics and Cloze test could be conducted in their presence. Once the training was over the team members met some master trainers and resource group members.
$28^{\prime \prime}$ : February 2002

## Thiruvannamalai

Three members of the team reached the Chengam BRC and from there they left to the schools that were alloted to them for the supervision of data collection. Unfortunately this was the 'pay-day' and many head teachers were not in the schools. Even the supervisor of the Chengam BRC had left for Thiruvannamalai. Hence some teacher educators helped the team in providing basic information about the schools they had to visit on this day. Mr. Mohan reports:
'I reached the Panchayat Union Middle School, Pinjur by $11: 30$ in the morning. The field investigator had already completed one classroom observation by that time. Due to shortage of rooms the class IV was being conducted in the 'noon-meal programme' building. The room was very small and had a concrete roof. In the classroom there was a blackboard on the wall, a table and chair for the teacher but there were no cupboards. racks and benches. In all there were 26 students present.

Pinjur is a small village located about 10 km from Chengam. It appeared that most of these students in class IV belong to poor-economic backgrounds. After a quick chat with them I found out that most of them belong to agricultural farm worker families. They were all in school uniforms but were extremely shabbily dressed. I distributed the mathematics test to all of them. Then I illustrated each question on the blackboard so that they understand the questions that were being addressed to them. For the last question on geometric shapes 1 drew various shapes on the blackboard and asked some children to come to the blackboard and tick mark all the circle. One student stood up and said that there were 10 circles where as I had made only 2 circles, one small and one large. To this the entire class shouted and said 'Sir, she doesn't know anything'. When 1 questioned the child as to how she came to this conclusion she said the smaller circle is one and the larger one is nine and when you add both they become ten'. It was an indeed strange association of shapes and numbers. Due to inadequate space within the classroom some children were asked to sit outside in the veranda to write the test. After this test we gave some rest to children. When they came back we again had a brief chatting session with them and made the environment light. Then the children were given the cloze test. Once that was collected I had a discussion with a few teachers about various issues that they had highlighted in their questionnaires.'

## Ms. Sasirekha Reports:

'I first went to a monograde school in Chengam. There are very few students in the classes. The school was about to be shut down permanently but due to the effort of the headmistress the school is revived and got some more students admitted. The problem is that the students belong to the muslim community and they needed a urdu teacher to teach them. The
headmistress said that the DPEP programme gave them a urdu teacher to teach the teachers. The tamil taught to them does not reach them as quickly as they learn urdu. Now the school has got another teacher on a contract basis through parents teachers association in that area. Earlier the school had only one teacher cum headmistress but now there are about three teacvers. The teachers find it difficult to teach in the mono grade school. They feel that the students do not get enough attention and it puts lot of pressure on the teachers. The school building is also in a dilapidated condition. There is only few teaching learning material. The students made few of them. When the test papers were given the students were restless and tried to copy from each other.

In the next school that I visited there were three teachers. The $4^{1 / 2}$ and $5^{1 / 1}$ -standard teacher "cum headmistress, and another teacher to iook after 1.2 and $3^{\text {rd }}$ standard students and the other teacher is a 12 pass student who is nominated by the parent-teacher association. The second teacher is suffering from hearing problem, so she does not understand what the students are asking. The school is run by the Panchayat union and is in a dilapidated condition. Though they have been given a new building they are yet to shift in that. The students are usually left to themselves and seems to be lacking interest and enthusiasm. When the test was given to the children there was not enough space in order for the children to sit spaciously. They sat in a cramped manner and difficult to monitor them against copying. None of them had pencils or crasers. The teacher showed me the teaching learning materials. She said that 'aids' are kept inside the rooms only to be shown to be the visitor. She also said that the materials had to be kept under lock and key because of the rats.

My next destination was another monograde school in Chengam. This school has a reputation of being a good school. The enrolment rate is usually high in this school.The teachers show a lot of enthusiasm in the
process of teaching. They said that the results from the school are usually high. The teaching learning material is hung up in the school. It did not seem that the teachers and students use the 'aid'. When the test was given to the children they were so enthusiastic in doing it. The asked me for more tests. The other section students came and complained to me saying that they have been neglected by not giving the test to them. The students usually change after their primary schooling from this school as this school does not have till $12^{\text {th }}$ standard.

Similarly the rest of the team visited other schools in the BRC.

## Cuddalore

Early morning the team left for the schools. Each member was responsible for supervising 4 schools over a period of two days. The field investigators had already begun their work. Ms Vandana reports:
'Mr. Babu was kind enough to accompany our team till the schools. Once we reached the schools, few teacher educators were asked to take over in helping us. While Ms Smitha and I were in the urban block, Mr. Selvin had to visit the rural block today. The first school that I visited was A V Middle School in the urban BRC of Cuddalore. This was a missionary school. It was an extremely clean and quite school. The primary sections were seated in big halls that were bifurcated with the help of temporary partitions. These halls had tin roofs but none of them had any electric supply. All the classroom were well equipped with all kinds of TLMs. The children seemed to be exceptionally well dressed, well behaved and quite. All of them had arranged their slippers outside their classrooms in neat rows. This school was till class 10 . the middle school had a multistory building. They also had a kindergarten for small kids. The school was exceptionally large and had a very large play ground also. After each
period one found the children walking silently in straight lines and also found some of them cleaning their classrooms.

When I entered the classroom all the children got up to wish me and then quietly settled in their places on the floor. Since I am not a Tamil speaker one of the teacher educators translated whatever I said for the children. After a brief discussion with the head mistress and the teachers 1 then distributed the mathematics papers to the children. The field investigator and the teacher educator Mr. Satyamurthi helped in explaining the instructions to the children. We also explained all the questions to the children. Once the mathematics tests were over we collected the sheets and gave a break to the children. Once they re-collected we then distributed the cloze test to them. I asked Mr. Satyamurthi to write a few. sentences from the textbook on the board and with the help of that we explained the instructions for the cloze test to the children. I then got an opportunity to talk to one teacher, since the others were not familiar with English. He explained to me how he makes the use to various readily available items like wall clocks, stones, marbles etc. to make the students understand various concepts in mathematics. The teacher seemed to feel that it was the low motivation levels in the parents that led to a low performing child. He also felt that the teacher trainings conducted by DPEP were extremely beneficial but they were too many in number. This he felt interfered with his teaching-time.

I then visited another urban school in Panruti. This school was very near the first school that I visited. On reaching the school I felt that this school was on the other end of the contrast with the first school that I visited. The whole school was located under one tin roof shed. It was a big hall again partitioned with small brick walls. But these partitions made the classrooms extremely small. There was no space for the children to sit. They seemed to be extremely uncomfortable. The teachers reported that
due to scarcity of space they could hardly conducted any group activity. There was no playground, water facility, electric supply or toilets. In fact the amount of TLM that one would find in other DPEP schools was also bare minimum. After conducting the learner achievement tests I found that the head master was extremely unhappy at the performance of his students. His unhappiness was showing in the fact that he almost hit a child but stopped when we saw me looking towards him. Unfortunately 1 could not communicate with the teachers since they were not families with English.'

## According to Mr. Selvin:

`A multigrade school in Thirasu belonged to Annagramam BRC was the first school that I visited. The school has three teachers (one male and two lady). The school has a well-maintained garden and the environment around the school was very clean. The school occupies central position in the village and it is very near to the street inhabited by the individuals from land-owning community. Location of the school is not far away from the main road. Moreover, the CRC is situated within 3 KM radius. Since it was my first school I visited the school along with the Field Investigator concerned. This made me familiar with the situation and gave an opportunity to discuss the kind of information our team was looking for in the fieldwork at Cuddalore.

While we were near the school, we saw the Head Master of the school conducting prayers in front of the flag podium. The students maintained complete silence. Once the prayer was over the students went back to their respective classrooms in a very orderly fashion. In all division, the number students were almost same ranging from number 20 to 25 . There was a notice board in the school wall bearing the title daily news. Every day student leader of the school paints the national headlines. The main news covered during the day we visited the school was on Union budget, India's victory in cricket against Zimbabwe and defeat in Hockey etc. The school have a small
playground, a recently built water tank, separate kitchen and two halls with proper veranda for conducting classes for five divisions. Since, big halls were converted into classrooms, there was no proper screen or division between the classes.

The Head master of the school took lot of care to maintain good environment in the school. Clean playground and a small garden all were good indication for his interest in maintaining a good environment in the school. He is from a nearest village called Kanissapakkam taking care of the fourth standard. Fifih and third, first and second were conducted by other two teachers respectively'. School VLC is not very active. They come only for the meetings the HM said. Every time teachers has to go and pursue the community leaders for the meetings. The community leaders are not consistent enough to commit themselves in the development of the school. Even then $H M$ is from the nearest Village, he explained a lot about the problems he faced during his stay as HM in this school. He made a lengthy narration of how a nearest landowner off-planted a well-grown tree planted inside the school ground simply because it over-covered a portion of his field.

Comparing to often division enrolment in the fourth standard is low. Generally during the festival and cropping seasons the enrolment reduce upto 20 percent he said. The HM of the school expressed his thanks and witnessed a distinct change in the attitude of the teachers. He also praised DPEP because after its implementation he witnessed a drastic decrease of school dropouts. While discussing all these things with us he always had an eye on his students. They sit in their respective groups (lour groups) and discussing a TLM material on how to construct a meaningful sentence by using cards. He understood activity-based learning as a practice that stimulates a student by involving him with his own environment. He made a few comments on DPEP also. Particularly, the training programs are very useful and he also praises for the teaching techniques he learnt after the implementation of DPEP. Before the implementation of DPEP, the teachers covered only the syllabus, but
without proper tools and techniques. At the same time, DPEP training is almost like an interpolation, in a short duration the teachers were suppose to learn many things.

In the afternoon, I went to another school at Kandarkottai, which was a monograde school. Weekly CRC meetings are being conducted in this school because of its immediate access to local transport facility. During the time of my visit there was no HM. Later I came to know that he went to get the salary of his fellow teachers. There was huge noise around the school. Since. there is no proper compound wall around this school the youths from the nearest Dalit colony congregated inside the school ground for making fun.

The school strength in each classroom ranges from 40 to 50 . In the fifth standard there were two division each covering 20 to 25 students. The male and female student ratio was almost equal on comparing other schools that 1 have visited. As student's strength in the fourth standard was in large number. I was not able to spend much time with the teachers. The teachers understood activity based learning as an experience by making the participation of students in the whole process of making study tools. For teaching mathematics concepts they prefer basic tool counting frames. Teachers expressed their success in getting the support of the parents after the implementation of DPEP. Students were not attentive. While answering the sheet, students tried to work it out the answers in group. Since, the class room was very small all of us failed to maintain the examination order while they were filling up the answer sheets.'
$1^{\text {st }}$ of March 2002

## Thiruvannamalai

This day was allocated for data collecting in Chengam. Ms. Kavitha reports:
'Mono Grade School in Konankuttai- Panchayat School: The school has two teachers-one for classes 1,2 and 3 and the other for classes 4 and 5. The school has just one building with a partition. The classes for the lesser grades are usually held outside under the tree. The teacher finds it difficult to monitor all the classes at the same time. The maintenance of records and files by the headmistress and the number of meeting to be attended leaves the entire school under the control of one teacher. On those days the children are not taught anything because the teacher had to look after the students. When the test was given the students sat outside in a line and tried their best to attempt the questions without any prompting. Though the headmistress was anxious about the test and tried to help them at times, the invigilators aborted the attemp. There are quite a few students in classes 2 and 3 , who are from a community of brick makers. After-a tor of persuasion they are sending their children to school. The teaching learning materials are kept inside the cupboard. I was shown the materials after sending all the children outside. When I talked to the teachers they told me that it is difficult to show the children all the 'aid' materials as it tends to wear and tear. They are shown only the stern ones- wooden stand containing letters, which are used to form words. While I was waiting for my team members, the headmistress insisted that I should see the way the children make words. The child made words that are of two syllables e.g. rat, mat, bat, bus, boat etc. She said that the number of children have not increased or decreased over the years. The school has been there for about 20 years and has about 80 students since then. The DPEP has not increase the enrolment or decrease the drop out rate but has increased the enthusiasm among the students in the learning process.'

According to Ms. Sasirekha:
'Melpennathur: The teachers in the school are newly appointed. They have been recruited by DPEP a year ago. When I started talking to them, they did respond positively, but were always skeptical about me. They answered in
monosyllable and half way through expressed their unwillingness to part with any sort of information, as they are quite afraid. Then I conducted the tests.'

Similarly the other team members collected data from the schools that were allocated to them.

## Cuddalore

Since Mr. Selvin and Ms. Smitha were to visit the rural schools, the? left with the teacher educators for Annagramam and Ms. Vandana went to the urban block. Mr. Selvin reports:

> In the next day, I visited Periyapalli Pattu Panchayat Union school situated 3 KM away from Kandarkottai school, which is also. a multigrade. Even though, there were about three teachers in the school, the Head Master was not in a situation to respond to our visit. I had an informal discussion with the other two teachers, who share all schoolrelated responsibilities. The fourth school Pizhavanoor is also a multigrade school. Four teachers are working in the school. Because of the time constraint, I was not able to spend much time with the teachers there. A separate teachers interview was taken by the Field Investigator concerned.

I feel that the teachers are overburden with works other than teaching. A few of the teachers 1 met, felt that some time they had to do the accountant's job also. They are not in a position to enhance their academic sensitivity by using libraries and other modes of academic activities. Another important issue raised by many teachers I have met was that of the environment in which DPEP has been implemented. The program is introduced in the context where primary school system had already been in deterioration because of the insufficient work force. So in order to facilitate the teaching
process more effectively, all multi-grade schools should be made into monograde schools. Sufficient number of teachers in the school will enhance the overall concentration of the student. It will also facilitate teacher-student interaction more effectively. The teacher student ratio must be at I:20.'

## According to Ms. Smitha:


#### Abstract

'On the Ist of March i visited two other schools that were situated in the Kandarkottai CRC. First i went to a multigrade Panchayat Union School and then to a monograde Panchayat Union School. After conducting the mathematics and cloze tests in both these schools $i$ also interviewed some teachers. Both these schools seemed to have the basic infrastructure and the teacliers seemed to be extremely motivated.


Ms. Vandana reports:

I had to supervise two schools in the urban block. The first school seemed to be an extremely old and well-reputed school. The children were in proper uniforms and were well behaved. They had concrete buildings and had ample TLM. While conducting the learner achievement tests i noticed that the girls were much more weaker than the boys. It just so happened that there were 25 girts and 25 boys. However the girls didn't seem to know answers for more than one sum in the mathematics test. In spite of explaining the sum on the blackboard by replacing the original numbers in the questionnaire by other numbers none of them were able to answer. On the other hand the boys seemed to be extra bright. With the help of a teacher educator $i$ was able to speak with one of the boys. He told me that his house was 7 k.m. away from the school. On the days that he could not get a bus he walks it to school. This boy attracted my attention because while writing the picture story
he asked for 2 extra sheets and even filling those pages he didn't feel satisfied and wanted to write more. When $i$ asked the teacher educator to translate the story for me into English it seemed to be an extremely creative piece of writing.

After such an astonishing encounter when $i$ went to the next school it was a major let down. This school had a building but there were only 7 children in class IV. None of these children wrote a single word in any of the learner achievement tests. I got all blank sheets back. The teacher seemed to be an extremely hard working and motivated teacher and the room was well organized with a steel cupboard, racks, beautiful and really creative TLM. When i asked the teacher as to why were the children not writing anything in spite of explaining each question to them so carefully she said that it was the fault of their parents. She fell that even after puting so much effort none of these children actually wanted to study. What astonishes me is the fact that when these children don't even know how to write a single word how were they promoted to class IV at all. These kind of experiences again put a question mark on the whole system of evaluation in primary education.'

Once all the team members and the field investigators had finished the data collection process they were asked to collect at the DPO Cuddalore in the evening. At the DPO the team members collected the bags from the field investigators and they were also given their remuneration for the effor that they had put in. The team also promised to send their certificates for being a part of this study. After this the team met some teacher educators.

## Thiruvannamalai

The team was supposed to attend a CRC meeting. However when they reached the CRC they were told that the meeting had been postponed. By the time the team reached another CRC the meeting was already over. Then the team left for the District office at Thiruvannamalai. After reaching the DPO the team members got a chance to meet Mr. Balraman the District coordinator. After a detailed discussion Mr. Balraman gave us some important documents about the district profiles. After which the team left for Chennai.

## -Cndaloré

Half the team attended a CRC meeting while others met BRC coordinators,

- teacher educators, resource persons and textbook writers. The team attended and took part in the discussion held at a CRC meeting in Periyakankulam Kuppam. The basic idea of this visit was to know about the functioning of CRC meetings. We had an informal audio recording of our discussions with the teachers assembled there. The questions we raised in the forum were:

1) how to do they think one should teach EVS to children- with TLM or with the situation prevailing in the school surroundings.
2) the teachers opinion about the student field trip?
3) how they explain abstract concepts like truthfulness, sincerity etc to the students, and how do they make TLM materials for explaining these concepts?
(4) What are the general problems of the teachers in preparing the TLM and implementing it?
4) Whether teachers include students to make TLM? if such exercises are given what will be the outcome and what is their opinions?

We came into the venue during the middle of the meeting. One of the participants was presenting an overview on the recent union budget and presented a brief idea of how this budget is going to act upon Primary School Education scenario.

Then, teacher educators introduced new TLM materials to the teachers attending the meeting. A model of preparing TLM related to language teaching was presented. The presented TLM raised a point about making the students to identify the words and its difference to the other words. The difference between the consonant $k u$ and $k u u$ are taught through pronouncing them again and again. Such differences are also taught by drawing word boxes in the ground and making the students to play into it. Here, the students are made to identify the alphabets. Like if the teacher says $k a$ then the student should step into the box in which $k a$ is written. In the initial stage the teacher him/herself pronounce the consonant and step into the box. In the same way the words are taught. Like if the teacher says kadal (sea) first the student should step into the box in which $k a$ is written. then to $d a$, and then $l$.

In order to make a meaningful sentence, first many different words will be written on a small sheet of paper. The teacher will give the sheet to the students and then he/she made the student to join much combination of words. First some meaning patterns are taught and the students are made to repeat them. Then they are given exercises.

For example

| Silanthi | Pullai | Paranthathu |
| :--- | :--- | :--- |
| Pasu | Valai | Thintathu |
| Paravai | Vekammai | Pinnum |

Here the students are made to pick out the words in the boxes and arrange them in a sequence, which is meaningful. Other means is inserting cards. One cards carries picture of the object and the other one respective name. Students are made
to joint the suitable inserting cards. Poems are taught by making them into conceivable rhymes units.

After the meeting and the interviews the team left for Chennai. Both the teams reached Chennai by night. Half the team left that very day and others left for Delli the day after.

## Instructions for the Field Investigators

1. There are 27 schools in all. 15 in Tiruvannamalai and 12 in Cuddalore. Each Fl will take over one school. In each block we have one urban CRC and one rural CRC and in each CRC we have to cover one monograde school and two multigrade schools. The aim if this study is to understand the consequence of DPEP's intervention in Primary school education scenario in Tamilnadu.
2. A monograde school is where one teacher takes care of just one class in one classroom. Whereas a multigrade school is where one teacher takes care of more than one class in the same classroom.
3. There are ten tools in all that you have to get lilled up:-

|  |  | Total Number of tools to be filled by one FI <br> in one school |
| :---: | :--- | :---: |
| 1 | VLC/PTA | 1 |
| 2 | Head teacher/ CRC <br> coordinator | 1 |
| 3 | School profile | 1 |
| 4 | Classroom <br> observations | 3 |
| 5 | About myself <br> students of class 4 | 50 |
| 6 | My world -EVS | 50 |
| 7 | Mathematics | 50 |
| 8 | Reading <br> comprehension | 50 |
| 9 | Writing skills | 50 |
| 10 | Teachers | 2 |

4 When you enter the village/ vicinity of the school, please ask for the VLC/PTA head or the person who is the senior most member of the village Panchayat and has seen the evolution of this school from the its beginning. First of all interview him/her and make your position in the area comfortable and amiable. Please fill in this interview sheet number 1 yourself by asking the questions verbally The aim of this interview is to understand the view of the community about the school, education system as a whole, their views about the role of DPEP intervention in primary school education in their community, the communities contribution to the school, the community's view about educating children and the history and development of this school.

5 Then visit the school and build a rapport with the school head teacher/ head master/ teachers. Get the head teacher interview sheet (tool-2) filled by the Head . . . Master/.Mistress/-Head Tcacher.' Please fill in this interview sheet yourself by asking the questions verbally. If the head master of this school is also the CRC coordinator then mention that in your comments in the interview sheet. Do not hesitate in giving any kind of relevant information at the backside of the interview sheet. Please inform the headmaster that this is not an evaluation of their school in particular and this study will not result in any monitory benefits for the school.

6 After this please fill up the School profile (tool -3) with the help of the Head Master in your own handivriting. Please visit the whole school and get an overview of the school and give your comments if any, about the school at the backside of the school profile.

7 Then Please visit class 4 and fill in the classroom observation data sheet in this class for just one period ( $30-45$ mins). The data sheet has to be filled up in your own hand. Please sit at the backside of the class keeping in mind that you do not influence or disturb the proceedings of the classroom and fill up all the questions in the data sheet. Then note all the relevant information about the classroom transactions such as the method used by the teacher to explain the concept. the
way Teaching learning material is used by the teacher to explain the concept, the response of the children to the classroom transactions, if the children were encouraged to ask questions in the class, if the teacher used some unique technique to explain a concept etc. Please note all your comment at the end of the data sheet and do not hesitate in using more paper in need be.

## Leáner achievement

- All the learner achievement tools (tool number 5, 6.7.8.9) have to be filled up by the students themselves by the students of class 4 .

All these Learner achievement tests have to be given to the same children. If the school has more than one section in class 4 DO NOT give one test to one class and the other test to the other class. The same children have to be tested with all the tools.

Do not let the teacher prompt any answers to the children. While conducting the tests please ask the teacher to leave the classroom.

- Be very careful that the children do not cheat from one another. Make the children sit at a distance from each other so that they do not get a chance to cheat.
sheet. All the rough work should be done on the answer sheet that we have provided.
- If the child does not know a particular information ask him/ her to leave it blank. Do not give any suggestions or any kind of help during this time

Once the children have been able to complete it please count the sheets and put them back into the packet and seal the packet immediately'.

If the children do not understand the question please explain it to them on the blackboard but be careful not to lead the children to the answer.

Each data sheet consists of basic information like the name of the child, name of the school etc. all this has to be filled by the children themselves in each data sheet they have been given.

8 After this please select one section in class 4 and distribute the "about myself" tool (tool number-5). Please ask the children to fill this information in their own hand and supervise the class. During the time the children are filling this profile make yourself familiar with the children with the help of the teacher. This should take about 15 mins.

9 Now please ask the teacher to leave the class and distribute the tool number 6 . which is called "my world". Ask the children to fill this test in their own handwriting. This test should take about $30-45$ mins. Do not rush the children to finish the test, let them take their time. Once the lest is finished please put it back into the packet and seal the packet immediately.

10 Then Please give the mathematics test-tool number 7 to the students. This test - will-be administéred only in the presence of a Delhi Team member. This should take about $30-45$ mins. DO NOT let the children do any rough work outside the data sheet. The children might face some problem with the sums that have been given horizontally. Ask them to do the sum the way they wish to do it in the given space.
11. Start the day with the reading comprehension test-tool number 8. This test will be administered only in the presence of a Delhi Team member. Ask the children to first read the whole passage once. After that ask them to read it again and then start filling up the blanks. The children have to fill in only one word in each blank. Incase they do not understand what word to fill in ask them to leave it blank and move on to the next blank. Take the data sheets after $30-45$ mins and seal it in the packet.

12 After this give the children the tool number 9 called the writing skills. Here there is a picture and the children have to write a story based on the picture. There is no word limit. The children can write as much as they wish to in 30 mins. Once
this has been done please make sure that the children have used the correct number in each test they have taken and seal the data sheets in the packets.
13. some time between the learner achievement tests your have to conduct two more classroom observations in class 4 . This means that you do one classroom observation in one period and the next one in the next period. Once you are done with this please seal these 3 classroom observations with the school profile.
14. After this you should talk to two teachers in the school. Please ask the teachers to fill in the teacher interview sheet tool number 10 in their own handwriting. Please inform the teachers that we are not looking for exact numbers of trainings or net/gross incomes. They can write approximate amounts.
15. If there are any comments that you wish to give do not hesitate in putting them down on a paper and sealing it with the other tools.

Once everything is over please seal all the tools and return them to the Delhi team on the $27^{\text {th }}$ evening.

## Appendix b

## I. Village !evel Committee / Parent Teacher Association / Community Leader

## Date :

1. Name:
2. Address
3. Age :
4. Sex :
5. Education:
6. Occupatiọn:
7. Income (per month approx):
8. Name of the Village

District:
9. Leader of:
10. Position:
11. How may DPEP Schools are there under your village?
12. Number of children who benefit from these schools?
13. Explain how your VLC / PTA has contributed to this school?
14. In your personal view have the standards of Primary school education improved with the DPEP interventions? Comments.
15. How important is it for a child to go to school in your view?
16. While helping the school, what were the kind of problems faced by you and your organization from the community and from the authorities?
17. How has this school benefited the ST / SC girls, children who work during the day and also physically and mentally challenged children in your village?
18. What are the other kinds of facilities / help you would like to provide to this school?
19. Your suggestions for the improvement of this school'?
20. Your suggestions about the improvement of the state of Primary Education in your district as a whole?
21. Narrate the story of the development of this school from its beginning till now.
I. கிராமக் கல்விக் குழு / பெற்றோர் ஆசிிிபர் கழகம் /

சமுதாயத் தலைவர்

1. பெயார்
2. முகவரி
3. வயது

4 பால்
5. கல்லித் தகுதி
6. தொழில்
7. மாதவருமானம் (தோராயமாக)
8. கிராமத்தின் पெயர்

மாவட்டம்
9. தலையiம வகிக்கும் அமைப்பு
10. யकが


'12. F .
13. 2. பாி்்் எவ்வாறு வளம் சோ்த்துள்ளது என்பதனை விளக்கமாகக் கூறுங்கள்
14. மாவட்டத் தொடக்கக் கல்வித் திட்டத்தின் வாயிலாக தொடக்கப் பள்ளிக் கல்வி தர முன்ஞேற்றம் அடைந்துள்ளதா என்பது குறித்துத் தர்களின் தன்ப்பட்ட கருத்து என்ன?
15. பள்ளிக்குச் செல்லுதல்வேண்டும் என்பது ஒரு குழந்தைக்கு எவ்வளவு முக்கியத்துவம் வாய்ந்தது என்று கருதுகிறீர்கள்?
16. பள்ளிக்கு உதவிகரமாக செயல்படும்பொழுது, சமுதாயம் மற்றும் அதிகாரிஆள் மட்டத்தில் இருந்து எவ்வகையான பிரச்சிளைைளை நீங்களும், உங்களூடைய அமைப்பும் சந்திக்க நேரிட்டது?
17. உங்கள் கிராமத்திலிருக்கும் SC/ST பெண் குழந்தைகள், பகலில் வேலைக்குச் செல்லும் குழந்தைகள் மற்றும் இயலாக் குழுந்றைகஞூக்கு இந்தப் பள்ளி எவ்வகையில் பயனுள்ளதாக இருந்து வருகிறது?
18. இந்தப் பள்ளிக்கு வேறு எவ்வகிகயான வசதிகளோ/セதவிகளோ நீங்க்க் உவந்னு செய்ய உள்ளீர்கள்?
19. இந்தப் பள்ளியின் முன்ஞேற்றத்திற்காக நீங்கள் \&ூறும் ஆலோசனைகள் uாவை?
20. உங்கள் மாவட்டத்தில் உள்ள தொடக்கக் கல்வியின் ஓட்டுமொத்த நிலை உயர்வுக்குநீங்கள் கூறவிரும்பும் ஆலோசளைகள் யாவை?
21. இந்தப் பள்ளி தெடங்கிய நாளிலிருந்து இந்நாள் வணை. கண்டட வளฺர்ச்சி பற்றி ஓரு . . கळூதயா.கச் செெல்லூங்கள்.

## II. Head Teacher/ CRC Coordinators

## Date:

1. Name of the School:
2. Name of the Head Teacher:
3. Address:
4. Age:
5. Sex:
6. Educational qualifications:
7. Number of years you have been teaching:
8. You have been the Head Master of this school since:
9. Number of teacher training camps attended by you:
10. Income (per month approx):
11. Number of teachers who work in this school:
and number of students in your school:
12. Do you teach any class? If yes which subject?
13. What is the selection process of a head master?
14. What according to you, is the ultimate aim of education?
15. Are you happy with the MLL system?
16. How important is role learning in primary education?
17. On a four-point scale given below, please indicate to what extent the DPEP teacher training programmes have been useful for the teaching community in general.


4
exceptionally useful very useful
3
2 slightly useful not useful at all
18. What is the role of a head teacher in a school?
19. What are the kinds of problems faced by you as a head teacher?
20. Are you satisfied with the text books prescribed to your students?
21. How do you manage unruly children?
22. What are the kinds of innovative activities in the teaching-learning process that have been introduced by you in your school?
23. Do you receive sufficient support from the $B R C / C R C$ ?
24. Are you satisfied with the teacher training packages introduced by DPEP?
25. What is your futura plan for the improvement of your school?
26. Have you been able to support any under privileged children in your school? How?
27. Have the DPEP training camps made a potent change in the attitude and caliber of the teachers? How?
28. How often are the CRC meetings heid and what are the kinds of activities that are conducted here?
29. Have you got any help from the community to develop your school?
30. What are your comments-about the DPEP system as a whole? What are your suggestions for its further development?

## 11. தமைமை ஆசிரியர் / CRC ஒருங்கிணைப்பாளர்

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                                    (09, 8
1. பள்ตியின் 円ெப:
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3. முகவரி
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4. வயது
5. பால்
6. கல்லித்தகுதி
7. ஆசிரிபராகப் பணியாற்றியப ஆண்டுகளின் எண்ணிக்கை
8. இந்தப் பள்ளியில் தலைமை ஆசிரியரராப் பணியாற்றத் தொடங்சிய ஆண்டு
9. நீங்கள் கலந்துகொண்ட ஆசிிியப் பயபி்தி முகாம்களின் எக்ாணிக்கை
10. மாதவருமாணம் (தோராயиレாக)
11. இந்த்் பள்ளியில் பஜிபுரியும் ஆசிிியயர்களின் எண்்ணிக்கை மற்றும் மாணவ/மாணலியர்களின் फொத்த எண்ணிக்கை
12. நீங்கள் ஏதாவது வகுப்பில் கற்பிக்கிறீர்களாா? ஆம் எळிவ் என்ணை பாடம்?
13. தமலமை ஆஆிிாியர் எவ்வாறு தேர்வு செய்யப்படுசிறார்?
14. கல்வியி்் இிறுதியான நோக்கம் எண்று நீங்கள் இசைந்து மூறுவது எதைை?
15. குறறந்த பட்சக் கற்றல் இலக்கு (MLL) அமைப்பு குறித்து நீங்கள் மகிழ்ச்கி தெரிலிக்கிறீர்களா?







16. ஒரு தலைமை ஆசிிியரராக நீங்கள் எவ்வகையான பிரச்சினைகளைச் சந்திக்க நேநர்ந்துள்ளது?
17. 2. ங்கள் மாணவா்களுக்குப் பாந்துரை செய்யப்பட்குக்எா பாடப்புத்தகங்கள் குறித்துத் தாங்கள் மロநியறவு அடை்்துள்ளீiகளா?
1. கட்டுக்கு அடங்காத குழந்யூகம்ள எப்படிச் சமாளிக்கிறீர்கள்?
2. இப்பள்ளியில் கற்றல்-கற்புத்தல் நிகழ்கில் தங்களாவ் அறிமுகப் படுத்தப்பட்டுள்ள புதுயையாா செயல்பாடுகள் யாவை?
3. ஒб்றியப் பயபி்சி மையம் / பள்ளித் தொகுப்புக் கருத்சாய்வு மையங்களிடமிருந்து (BRC / /CRC) தங்களுக்குப் டோதுமா601 ஆதரவு சிடடக்திறதூா?



4. உங்கள் பள்ளியில் சமுதாய அடிநிலைவகுப்பைச் சார்ந்த குழந்தைகள் எவரே পைய இிருப்பி்் அவா்களுக்கு உங்களால் ஆூதரவு து இயலுகிறதா? எவ்வாறு?
5. மாவட்டத் தொடக்கக் கல்வித் திட்டத்தின் பயிற்கி முகாம்கள் ஆசிாியர்களி்் மளப்பான்மை மற்றும் திறைையில் ஆற்றல் மிக்கதொருமாற்றத்றத ஏற்படுத்தியுள்ளதா? எவ்வாறு?
6. தொகுப்புக் கருத்தாய்வு மமயக் கூiட ட்கब் எவ்வளவு முறை நமைபெறுகின்றா? இக்கூட்டங்களில் எவ்வゥகயான वெயல்பாடுகबा் நடத்தப்படுகிக்றன?
7. உங்கள் பள்ளியிக் வளர்ச்சிக்கு ஏதேனும் உதவிகள் சமுதாயத்திஃரிடம் இருந்து பெற்றிருக்கிறீர்களா?
8. ஒட்டுமொத்தமாக மாவட்டத் தொடக்கக் கல்லித் திட்டஅமைப்பு குறித்து உங்கள் கருத்துக்கள் எங்ஐ? இத்திட்டம் மேலும் வளர்ச்சிபெற நீங்கள் சூற விரும்பும் ஆலோசனைகள் யாளை?

## III. School Profile

1. Date of Visit:
2. Name of the field investigator:
3. Name of the School:
4. School Code:
5. District:
6. BRC:
7. Village:
8. Rural/ Urban/ Tribal:
9. School was established in the year:
10. Type of school:
a) Boys:
b) girls:
c).co-eḍ:

11 Classification of the school according to the last achievement test High achievement school: Low achicvement school:

12 Name of the Head Master:
13 Distance of the school from
a) DIET:
.km
b) BRC:..............km
c) CRC..............km

14 Total number of students in the school
a) In class 1
b) In class II
c) In class III
d) In class IV
e) In class $V$

15 Does the school have a building?
16 Number of Classrooms in the school?
17 Number of other rooms in the school?
18 Does the school have a play ground?

## 19 Number of toilets?

20. Is multigrade teaching practiced in this school? If so in which classes?
21. Number of teachers in the school? Does each class have at least one teacher?

Comments?
22. Does the school have electricity?
23. Does each classroom have a
a) Fan:
b) Cupboard:
c) Racks:
d) Mats, durries, desks:
e) Water:
f) Library:
24. Does the school have a boundary wall?

25 Approximately how many surprise visits have you had from the DPEP personnel in the last year?

26 How many physically and mentally challenged children are there in this school and what are the facilities made available for them?

27 There are how many ST/SC children in this school? What is the ratio of ST/ SC bnys vs. girls?

28 What has been the role of VLC/ PTA in this school's development?

## III. பள்ளிச் சூழல்

1. பார்வையிட்ட தேதி
2. கள ஆய்வாளாின் பெயர்
3. பள்ளியின் பெயர்
4. பள்ளியின் குறியீட்டு எண்
5. மாவட்டம்
6. ஒன்றியப் பயிற்சி மையம்் (BRC)
7. கிராமம்
8. ஊூரகம் / நகரம் / Tribal
9. பள்ளி தொடா்கப்பட்ட ஆண்லு


அ) 2யா் அஜடவுிியலப் பள்ளி \&) தாழ்வ அளைடவுிிலலப் பள்ளி

10. பศ்ளியிலிருந்து தொகலவு:
\&) DIET.....................4.மீ. \&) BRC.....................6.மீ. இ) CRC......................

9) வகுப்பு I

ஆ) வகுப் II
இ) வகுப்பு III
ஈ) வகுப்பு IV
2) வகுப்ப V
15. பள்ளிக்குச் சொந்தக் கட்டுடம் உள்ளதா?
16. பள்ளியில் 2ள்கா வகுப்பு அறைகளின் எண்ஜைிக்கை:
17. பள்ளியில் உள்ா மற்ற அறைகளின் எண்ாணேிக்கை:
18. பள்ளிக்கு விகாயாட்டு மைதானம் உள்ளதா?
19. பள்ளியில் 2-ள்ள கழிவறைகள் எத்தஞை?
20. இந்தப் பள்ளியில் பல்வகுப்பு கற்பித்தல் (multigrade teaching) நஜைபெறுகிறதா? ஆம் எனில் எந்தெந்த வகுப்புகள்?
21. பள்ளியில் எத்தஞை ஆூிிியர்கள் பணிிபுரிகிறார்கள்? ஓவ்வொரு வகுப்புக்கும் குறைந்தபட்சமாக ஓரு ஆூசியியராவது உள்ளாரா? கருத்துக் கூறவும்.
22. பள்ளியில் மின்சாரவததி உள்ளதா?
23. ஒவ்வொரு வகுப்பறையிலும் கீழ்கக்டவற்றில் எவை 2ள்ளே:
() மிब்விசிறி

क) சுவा் அலமாाி
இ) தட்டு அலமாாி
ஈ) பாய், தளவிறிப்புகள், மேஜைகள்
2) தண்ா ணணீர் வசதி

ஊ) நூலகம்
24. பள்ளிळயச் சுற்றி மதிவ்ச்கவர் உள்ளாதா?
25. இப்பள்கிக்கு மாவட்டத் தொடக்க்் கல்லித் திட்ட அலுவலர்களிங் முங்बறிலிப்பில்லா பள்ளிப் பார்வையிடவ் கடந்த ஆக்ாட்் எத்தேைமுறற நடைபெற்றது?
 பயிதுகிங்றனா்? அவர்களளுக்காக இங்கு செய்து தரப்பட்டுள்ளா ிிறப்பு வசதிகள்யாவை?
 எத்தळை பேர்? இவர்களிம் ஆண், பெஷ் விகிதாச்சாரம் எவ்வளவு?
28. இந்தப் பள்ளியின் மேம்பாட்டுக்கு கிராமக் கல்லிக் குழு / பெற்றோர் ஆசிிியர் கழகத்தின் பங்கு எவ்வாறாக இருந்து வருகின்றது?

## IV. Classroom Observation

Name of the School:
Date : Address:

Monograde: Yes/No

1. Class and section:
2. Children

Present
Enrolled

Boys
Girls

- Total ${ }^{\circ}$

3. Blackboard (Number, condition, placement, duster, chalk etc.) :
4. Sitting arrangements (Rows, boys and girls separate, crowded. mats, durries, floor etc.) :
5. Learning corners and TLM :
6. Other facilities (Electricity, fans, books, paper, colours, racks, etc.)
7. Physically and /or mentally challenged (Number, care, facilities etc.) :
8. A brief description of what transpired in the class keeping the following questions in mind. (What was the subject, topic, concept etc ? How was it being taught? How was the textbook or TLM used? How was the blackboard used? In what ways did the children participate? How many? What kind of questions did the teacher ask? etc.)
9. About the teacher:

Name:
Male/ female: Age :
Educational Qualifications:
No of trainings received:
10. On the five-point scale given after each statement, circle the appropriate place.
$5=$ to a great scale
4= to a considerable scale
3= to some extent
2= very little
$1=$ not at all

- You should substantiate your mark with notes later.
i) To what extent were the children attentive in the class?

ii.) Does the teacher encourage students to ask questions?

iii). Does the teacher use the blackboard skillfully?

iv). To what extent does the teacher use materials other than the textbooks?

v). To what extent are the students involved in the classroom activities?

vi). To what extent is the use of TLM effective?

vii). Does the teacher encourage group activities in the classroom?

viii). To what extent is the teacher kind and affectionate to the children?

ix) To what extent does the teacher make a special effort to help children who seem to be lagging behind?

$x$ ). To what extent is there a meaningful relationship between the activity/method used by the teacher and what she wishes to teach?



# IV. வகுப்பறை உற்றுநோக்கல் (CLASSROOM OBSERVATION) 


முதவாி

ஓர்வகுப்புக் கற்பித்தல்: ஆம் / இல்லை

1. வகுப்பு . பிரிவு
2. மாணாவர்கள் பருகை பதிவு ஆண்கள் பெண்கள்
மொத்தம்
3. கரும்பலகை ( எண்ணிக்கை. தரம்: அமைவிடம். டஸ்டர். சாக் போக்றவைதள் )
 கூi்டநெரிசலாக., தூரைலிரிப்பு. பாய் டற்றும் தளைத்தளம் டோன்றலைகள்)

 (பான்றறறவைகள் ):


4. வகுப்பறைற் கூழூலில் ஆசிாியர்்-மாணவர்களிடையேயாஜ கற்றல் நிகழ்வு குறித்து வருணைை
 பாடம். பாடத்தலைப்பு. எருத்தாக்கம் என்ஐ? மற்றும் இவை எவ்வாறு கற்பிக்கப்பட்டது?
 கரும்பலயையய உபயோகித்த லிதம் எவ்வாறு இருந்தது? என்னென்ன வழிகளிவ் மற்றும் எத்தறை குழந்தைகள் இந்த நிகழ்வுகளிவ் பங்கேற்றனர்? ஆசிரியா்் எவ்வககயாண கேள்விகளைக் குழந்றைகளிடi் கேட்டார்? என்பனவற்றற நினைவில் கொள்ளவும்).
5. ஆசிிியாைப் பற்றி :

பெயயர்:

ஆண் / பெண்.
வயது:

கல்வித் ぁகுதி:

பெற்ற பயிற்சிகளின் எஎ்்ா ணிக்மை
 (5-point scale) உब்ள पொருத்தமானது எள நீங்கள் கருதும் எஷ்கை வட்டமிடுக. மேஷும் நீங்கள் தெரிவு செய்யும் ஒவ்லொரு அளவீட்டு எஷ்களளுக்காள உகந்த காரணா்் iளைச் சிறிய குறிப்பாக எழுதவும்


```
5 = மிகுந்த / தலைசிறந்த அளவுக்கு
4 = குறிப்பிட்ட அளவுக்கு
3 = ஒரளவுக்கு
2 = மிகச்சிறிய அளவுக்கு
1 = எதுவுமே இவ்லை
```

i. எந்த அளவுக்கு வகுப்பிவ் இகுக்கும் குழந்றைகள் ஆசிரியர் நடதததும் பாடத்தைக் சூர்ந்து கவ囚ிக்கிக்றாா்கள் எø நீங்கள் காக்கிிிீீா்கள்?




iii. வகுப்பில் உள்ளा ககும்பயாகயை வகுப்பாசிாியா் எந்த அளவுக்க திறi்பட ஜபயோகப் படுத்துகிறார்?

iv. பாiப்புத்தகங்களளத் தலிர கற்றல் கற்பித்தல் துணைக்ககுவிகளை வகுப்பாசிாியர் எந்த அளவுக்க வகுப்பில் உபயோகப்படுத்துகிறார்?

v. வகுப்பறைச் செயய்பாடுகளி்் வகுப்புக் குழந்யதகள் எந்த அளவுக்கு அூ்வத்தூடனம். ஈடுபாட்டுடஜூம் பங்கேற்கின்றனர்?

 பயனுルையதாக 2.ஸाளா?

vii. வகுப்பறையில் குழற்தைகள் கிறு குழுக்களாக செயல்படுவதற்கு வகுப்பா சிாியப் எந்த அளவுக்கு ஊக்கமளிக்கிறார்?





 அளவுக்கு மேற்கொள்கிறார்?

 Cேற்கொள்ளும் டெயல்பாடு/டுறை(melhod)க்கும் உள்ள தொடா்பு எந்த அளவுக்கு அா்த்தம் உள்ளதாக இருக்கிறது?


## V. About Myself

## Date:

1 Name:
2 Address:
3 Age:
4 Male/ Female:
5 Class:
6 Name of the school and address:
7 Number of siblings:
8 How many siblings go to school?
9 Father's name:
10 Father's Education:
11 Father's Occupation:
12 Father's Income:
13 Mothers name:
14 Mother's Education:
15 Mother's Occupation:
16 Mother's Income:

## V. என்னைப் பற்றி

> தேதி :

1. பெயா்
2. முகவாி
3. வயது
4. ஆணா / பெண்ணா
5. வகுப்பு
6. பள்ளியின் பெயர்,

முகவாி
7. உடன்பிறந்தோர்கள் எத்தளைபேர்?:
8. ச்ட்சிபிறநதோாில் ப்ள்ளிக்கு்் செல்பவர்கள் எத்தனை போ்?
9. தந்தையின் பெயா்
10. தந்தையின் கல்வித் தகுதி :
11. தந்தையின் தொழில்
12. தந்தையின் மாதவருமானம் :
13. தாயின் பெயர்
14. தாயின் கல்வித்தகுதி
15. தாயின் தொழில்
16. தாயின் மாதவருமானம் :

## VI. My World

Name of the student:
Class:
Name of the school:
Date:

1. What is your teacher's name?
2. Do you have a library in your class? Have you ever-borrowed books from there?
3. Do you enjoying coming to school? Why?
4. What do your parents want you to be when you grow-up?
5. What are your hobbies? What is your favorite game?
6. Do you have any pet animals at home or near your house? What do you know about them?
7. Who is the head of your village?
8. Have you seen a postman? What does he do?
9. How many members are there in your family? How many of them are older than you and how many are younger?
10. What language/ languages are generally spoken at
a) Your school:
b) At home:
c) With your friends:

11 How many colors are there in our national flag?
12 Match the following

| farmer | makes pots |
| :--- | :--- |
| fisherman | construction worker |
| carpenter | food producer |
| potter | fish |
| mason | wood |

13 Can you name your neighboring districts?
14 What do you do on Pongal?
15 what is the difference between an ancient man and the modern man?

## VI. என் உலகம்

மாணவரின் பெயர்:
வகுப்பு:
பள்ளியின் பெயர்:
தேதி

1. உஊது வகுப்பாசிரியாின் Qபயா் என்ள?
2. உளது பள்ளியில் நூலகம் உள்ளதா? அங்கிருந்து நீ புத்தகங்கள் எடுத்துப் படிப்பது உண்டா?
3. பள்ளிக்கு வருவது உனக்கு மகிழ்ச்சியாக உள்ளதா? ஏன்?
4. ந் வ்பிியவ்ான பிறகு என்னவாக வேண்டும் என்று உன். Qபற்றோர்கள் விரும்புகிறார்கள்?
5. உன்னுடடய பொழுதுபோக்குகள் என்ஞ? உளக்குப் பிடித்த விணையாட்டு என்எ?
6. உனக்குப் பிடித்த விலங்கு / பறவைக்் ஏதேனும் உன் வீட்டிலோ அல்லது லீட்ட்று அருகிலேயோ இருக்கின்றயவா? அவைகளைப் பற்றி உளக்குத் தெரிந்ததை எழுது.
7. உன் கிராமத் தலலவரின் பெயப் என்ன?
8. தபால்காரரை நீ பாா்த்திருக்கிறாயா? அவருமையய வேலை என்ள?

9．உன் குடும்பத்தில் எத்தळை பேர் உள்ளனர்？அவர்களின் உன்ணைவிடப் பெரியவர்கள் எத்தளை பேர்？கிறியவர்கள் எத்தளை போ்？

10．கீழே கொடுக்கப்பட்டுள்ள இடங்களில் நீ என்の மொழியி்் பேசுகி்்றாய்：
அ）உன் வீட்டில்
ஆ）உன் பள்ளியில்
இ）உன் நண்பர்களுடன் ：

11．நமது தேசியக்் கொடியிவ் எத்தळை நிறங்கள் உள்ளの？

12．பொருத்துக：

அ）உழவர்－மண்பாறை செய்பவா்（ ）
ஆ）மீாவர்－கட்டிட வேயை செய்பவர்（ ）
இ）தச்சர்－உணவு தானியயம் பயிாிடுபவர்（ ）
ஈ）குயவா்－டீன் பிடிப்பவர்（ ）
2）கொத்த๙ார்－மரவேறல டெய்பவா்（ ）

13．உனக்குத் தெரிந்து அருகில் உள்ள சிவ மாவட்டங்களின் பெய்ர்களள எழுது．

14．பொங்கல் பண்டிச்க நாளன்று நீ என்ன செய்தாய்？

15．ஆதிகால மனிதனுக்கும் தற்கால மனிதனுக்கும் உள்ள வேறுபாடுகぶッ எழுதுக．

## VII. My Mathematics

Name of the student:
Class:
Date:

1. 496
2) 814
$+215$
$-346$
3) $298+$
634
4) $962-473=$
5) $729+674=$
6) $38 \times 27=$
7) $168 \div 7=$
8) $7 \times \square=63$
9) Choose the biggest and the smallest number among the following

| (i) | $3786,8839,2989,8912,5799$ | Biggest Number | Smallest number |
| :---: | :---: | :--- | :--- |
| ii) | $6.75,0.72,8.09,3.79,8.90$ |  |  |
| iii) | $\frac{2}{2}, \frac{1}{6}, \frac{4}{3}, \frac{5}{2}, \frac{2}{4}$ |  |  |
| iv) | $2435,2431,4412,2453,4421$ |  |  |

11) Somu carried 583 coconuts in his bullock cark to the market. There he sold 359 coconuts to Murugan. Now how many coconuts are there with somu?
12) Which of the following are triangles? Tick them.
$\square$

VII. என் கணிதட்

மாணவாின் பெயர்:
வகுப்பு:
தேதி :

1) $\begin{array}{r}496 \\ +\quad 215 \\ \hline\end{array}$

2) $962-473=$
3) $38 \times 27=$
4) $93 \times 6=$
5) $7 \times \square=63$
10). ஒவ்வொருு வரிசையிலும் உள்ள எண்களில் இருந்து เிசப் பொிய எண், மிகச்சறறிய எண் எவை என்று கண்டுடிடித்து அருகில் உள்ள கட்டத்துக்குள் அந்த வரிசைக்கு நேராக எழுதவும்.

6) சோகு தன் மாட்டுவண்டியில் 583 தேங்கூாய்களை ஏற்றிக் தொண்டு சந்தைக்குச் சென்றான். அங்கு அவன் 359 தேங்காா்களளை முருசுனுக்கு விற்று விட் டான். அதன்பிறகு சோடுவிடம் உள்ள தேங்காய்கள் எத்தனை?
7) கடூ உள்ள வடிவங்களில் டுக்கோணங்கள் எவை என்பதனை குறியி்ட்டிசாட்டிசு.
$\square$




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## VIII. Reading Comprehension

Name of the school:
Date:
Name of the student:

1. Please read the following passage carefully once.
2. Read it again the second time then fill up the blanks. Write only ONE WORD in each blank.

VIII．படித்தேன்！புரிந்து கொண்டேன்！

ल்ளியின் பெயர் ：

カாணலலின் டெயயர் ：

வகுப்பு ：
C5，

2．மீண்இம் இருழேஜை அதை கவனமாகப் படித்த பிறகே கோடிட்ட இடங்களை நிரப்புக．
3．『வ்வொரு கோடிட்ட இடத்திதும் பொருந்துமாறு＿னருசொம் ம்டுுமே எழுதுக．

அப்ளuாழுது ஒரு நாி அங்கே சென்று கோyியைப் பார்த்து
＂ஓ கோழியே！உல்னுடைய ழுகம் எவ்வளவு அழகாக இருக்கிறது

தெரியுமா？உன்ணைப் டோன்ற புக அழகுடைய வேறொளு


குாலைப்போல $\qquad$ குரலையும் நான் வேறெய்கும்

கேட்டதில்லல，＂எホ்றறு $\qquad$ பகத்ந்து．பேசியது．நரி

எதற்காக இவ்வாறு $\qquad$ புழ்ந்து பேசுகிறது எஎ்றறு

Gாாழி எண்ணிப் $\qquad$ ，கேலுப் நூி கோழிமைய் பார்த்து，＂நீ $\qquad$ மூடிக்கொண்டு கூடுட் பொழுது

மிகவும் இெிமையாக $\qquad$ ＂என்று கூ＿றியது．

கோழி தன் கண்களை $\qquad$ ழூடிக்கொண்டு

கூவியது．இதணைப் பாா்த்த 戶斤ி $\qquad$ Cோழியின்

மேல் பாய்ந்து அதணை வாயில் ___

ஒடியது. அப்பொழுது வேட்டை நாய்கள் சில $\qquad$

துரத்திக் கொண்டு வந்தன. நுிி மேலும்
12

ஒடியது. நரியின் வாயிலிருந்த கோழி நரியயப் $\qquad$
"ஒ நாியே! நீ ஒடவேண்டாம். $\qquad$ நாய்களைப்

பார்த்து கோழி எஎல்கு உரியையானது $\qquad$

சொல்" எங்று சூ-றியது. வள்சனையில் கைதேர்ந்த நரி

இச்சமயத்தில் ஏமாந்து போய் விட்டது.

இக் கணதணை மேலும் கற்பணையாகத் தொடர்ந்து எழுது. . .

## IX. I can write a story!

Name of the school:
Name of the student:

Class:
Date:

Look at the picture given below and write a story based on it.


## IX. நான் கதை எழுதுவேன்!

பள்ளியின் பெயர்:
மாணாவிி்் பெயய்:

வகுப்பு:
5ேத:

கீழே உள்ள படத்தைப் பார்த்து ஒரு கதை எழுது.


## X. Teachers

Name of the school:
Date:

1 Name:
2 Address:
3 Age:
4 Sex:
5 Educational qualifications:
6 Income (per month approx):
7 How long have you been teaching?
a) Classes taught (tick mark)
b) Number of Years taught:

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |  |  |  |
|  | $\cdot$ | $\cdot$ |  |  |  |  |  |

8 Number of teacher training camps attended by you:
a) In service:
b) Pre service:
i) Block level:
ii) District level:
iii) State level:
iv) National level:
v) others:

9 Do you have access to any library? Which one? How often do you consult it?
10. How often are the block level meetings held? Please mention some of the issues discussed at these meetings.

11 How often are the cluster level meetings held? Please mention some of the issues discussed at these meetings.
12. How frequent are the follow-up visits (per month)? Are they helpful?
13. Did you get any grant for the TLM? How much? What did you buy?
14. How will you describe the kind of language you wish school children to learn? Is language teaching the primary focus of your teaching?
15. Do you have enough classrooms in your school?
16. Does your school have a teacher for each class?
17. Is there a blackboard in each class?
18. Does the school have a play ground?
19. What are the school hours? Are you happy with it?
20. What according to you, is the ultimate aim of education?
21. Are you happy with the MLL system?
22. How important is rote learning in primary education?
23. On a four-point scale given below, please indicate to what extent the DPEF teacher training programmes have been useful for the teaching community in general.


24 How do you make your timetable? Have the DPEP trainings helped you in anyway so that you can plan your timetable efficiently?

25 Do you maintain any written records of your teacher learning processes? Do you think it is helpful in anyway to maintain such a record? Who gave you the concept of maintaining such a record?

26 Have you as a teacher evolved under the DPEP trainings? How? Give examples?

27 How do you deal with translating a concept into understanding in a child?

28 How do you decide what TLM you need for which class and subject?

29 How do you buy/ make a TLM? Give examples.

30 Do you face any difficulties with the authorities? Are you able to convey your problems to them? Are your problems looked into?

# and anden made in the curriculum? 



Whaterat a whole and suggestions for further

## X. ஆசிாியர்கள் (TEACHERS)

பள்ளியின் பெயர் :
தேதி :

1. பெயா்
2. லீட்டு முதலfி
3. வயது
4. பால்
5. கல்வித் தகுதி
6. மாத வருமானம் (தோராயமாக)
7. நீங்கள் எத்தாை ஆண்டுகளாக ஆசிிியபப் பணிிபில் உள்ளீர்கள்?

அ) கற்பித்த வகுப்புகள் (ு குறியிடுக)
ஆ) கற்பித்த ஆண்குகளின் எண்ரணிக்கை :

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

8. நீங்கள் பங்கேற்ற ஆூசிிியப் பயயிற்சிகளின் எண்ணிக்கை :
(9) பணி முஷ்டாிற்சி

9. த்்ாியய शबலில்
10. மாவட்ட அளலில்
11. மாநிய அளவில்
12. Бஏசிய அளலில்
13. 1 D


 இக்சூட்டங்களில் இடம்பெற்ற சில விவாதத் தஸைட்புகளை இங்கு குறிப்பிடவும்.
14. தொக்ப்புக் கருத்தாய்வு மையக் (CRC) 8ூட்டங்கள் எத்தறை முறற நடைபெறுகிறது? இக்ஙூட்டங்களில் இடம்பெற்ற சில விவாதத் தாலப்புகளள இங்கு குறிப்பிடவும்.
15. மாதத்தில் எத்தணை முறற பள்ளி-பார்றவயிடல் நடைபெறுகிறது? அவை பயனுள்தாக இருக்கிறதா?

13．கற்றல் கற்பித்தல் துயணக்கருவிகளுக்காண（TLM）உதவித் தொாக உங்களுக்குக் கிணடக்கிறகாク அது எவ்வளவு？அதன்கூலம் நீந்கள் எங்ன பொருட்களள வாங்குகிறீர்கள்？

14．பள்ளிக்குழந்ததகள் எவ்வியல்புள்ள டொழிமயக் கற்க வேண்டுமௌ லிரும்புகிறீர்கள்？மொழிி கற்பித்தல் என்பது கற்பித்தலில் பிரதாளமாக உள்ளதா？
i5．உங்கள் பள்ளியில் தேவைக்கேற்ற அளவுக்கு வகுப்பறறகள் இருத்சிறதா？

16．2ங்கள் பள்ளியில் ஒவ்வொரு வகுப்புக்கும் ஒரு ஆசிிியர் இருக்கிற்றாரா？

1．ஒவ்வொரு வகுப்பறையிஓும் கரும்பலாக உள்ளதர？

18．உங்கต் பள்சியில் உள்ளா
வகுப்பாறகளிய் டொத்த எண்கேைி்கைை வகுப்புகளி்்் மொத்த எண்யிிக்ணை மாணயவர்களின் டொத்த எண்ாகைிக்மக

 குடிர゙ர்த் தொட்ட நூலைம்


20．பா்ளிக்குத் தோட்டம் உள்ளதா？

R1．பள்ளிக்கூட வேலை நேரம் என்ன？அது உங்களுக்கு மகிழ்லாணதாக உள்ளதா？
22．கல்வியின் அடிப்படடக் குறிக்கோள் எब்று நீங்கள் இெைந்து Enறுவது எதணぁ？

23．＇குறறந்தபட்சக் கற்றல் இலக்கு＇（MLL）அயமப்பு நீங்கள் லிரும்பத்தக்கதாக உள்ளதா？
24. தொடக்கக் டக்லியில் 'மறப்பாடம் செய்து கற்றல்' (rote learning) என்பது எந்த அளவுக்கு முக்கியத்துவ்் வாய்ந்ததாக இருக்கிறது?
25. எந்த அளவு்்து மாவட்டத் தொடக்கக் கல்வித் திட்டத்திக் ஆசிfியர் பயிற்சி முகாம்கள் பயனுள்ளதாக இருக்கிறது எங்பதளைக் கீழே கொடுக்கப்பட்டுள்ள 4-பள்ளி அளவுகோலில் (4-point scale) அாையாளப் படுத்தவும்.


 உதவும் வக்ாயாம் உள்ளைவா?



28. மாவட்டத தொ_க்கக் கல்வித் திட்டத்தின் பயிற்சிகாளப் பெற்றதின் வ்ாயிலாக நீட்கள்
 சான்றுகளுடக் தெரிலியுங்கள்.
29. குழந்ததகளுக் $்$ எளிதில் புரியுமாறு ஒரு கருத்தாக்கத்றைப் பொருள்புரிய எகுத்து விளக்குவதை எவ்வாறு நீங்கள் nையா डुகிறீா்கள்?
 என்பதளை எவ்வாறு முடிவு செய்கிற்ர்கள்?
31. எவ்வாறு கற்றல் கற்பித்தல் துயைக்கருவிகணை விறலக்கு வாங்குகிறீர்கள் / வடிவமைக்கிறீர்கள்?
32. அதிகாரிகளால் உங்களுக்குச் கிரமங்கள் ஏதேஞைம் உண்டா? உங்களூூடய பிரச்கிறைகளை அவா்களுக்குத் தெரிகிக்க முடிகிறதா? உங்கள் பljச்சினை கஹ்ளிக்கப்படுகிறதா?
33. பாடத்திட்டத்தில் ஏதேனும் மாற்றங்கள் செய்யப்ட_லேய்டும் என்ற கருத்துக் கொண்டுள்ளீர்களா?


35. கட்டுக்கு அடங்காத குழந்கதகளைள நீங்கள் テiபபி்க் சமாளிக்கிறீர்கள்?
36. ஒட்டுமொத்தமாக மால்ட்ட் தொட்க்க் கல்வித் திட் அயமப்ப குறித்து உங்கள் கருத்துக்கள் என்ன? இத்திட்ட்் மேஞும் வளர்ச்சியுற நீங்கள் சூறவிரும்பும் ஆலோசமைகள் யாறை?

## XI. Master Trainers

1. Name:
2. Address:
3. Age:
4. Sex:
5. Education:
6. Income (per month approx):
7. When and how were you appointed as a Master Trainer?

8 Nụmber of teacher training camps conducted by you:
In service/ pre service:
Block level:
District level:
State level:
National level:
9 What are the various kinds of trainings held under DPEP? What are the types of trainings that you conduct?
10. What is the frequency and duration of these trainings'? And where are they held?

11 Who organizes these trainings?
12 What according to you is the basic objective of conducting a teacher training camp?

13 What is the kind of support that you are provided by at the school/ block/ district/ state level?

14 If a training is need based, who decides what the needs are and how?
15 How do you decide the methodology and framework of conducting training?
16 Have these DPEP training camps made a potent change in the attitude and caliber of the teachers? How?

17 How is a master trainer selected? What should be her qualifications?
18 What are the kinds of methods you adopt to translate a curriculum so as to make it understandable to the teachers?

19 What are the kinds of training materials used in such trainings? How is the training material prepared?

20 How do you keep a feed back on these trainings?
21 Are these trainings evaluated?
22. Do you interact with the traince after evaluating her? Do you have a personal rapport with the trainees?

23 How useful are these trainings according to you?
24 Would you suggest any change in the training packages of the pre service and in service trainings?

25 What are the kinds of problems you face as a Master trainer?
26 Your comments about the DPEP system as a whole and suggestions for further development.

27 How important is rote learning in primary education?

28 On a five-point scale given below, please indicate to what extent the DPEP teacher training programmes have been useful for the teaching community in general.


29 What according to you, is the ultimate aim of education?

## XII. Resource Group Members

1. Name:
2. Address:
3. Age:
4. Sex:
5. Educational qualifications:
6. You have been a part of this team since:
7. State/District/BRC/ CRC:
8. What are the kinds of duties that have been assigned to you?
9. How were you selected as a resource group member?
10. What is the feed back process of DPEP all about? Are you a part of it? How beneticial is it? Comments?
11. Have you been a part of the textbook development process of DPEP? If yes then
a) How do you make sure that MLL's suggestions are incorporated in the textbooks?
b) What class books and subjects have you been involved with?
c) How do you make a content child friendly in a text? Give examples?
d) How do you make sure that the textbooks are child friendly?
e) How do you decide the text vs. picture ratio in a textbook?
1) What are the considerations that are kept in mind during the textbook renewal process?
g) What are the kinds of problems faced by you during the textbook renewal process?
h) How do you make sure that the language used in the text can be understood by all children?

12 have you been a part of the teacher training process under DPEP? If so then
a) What are the various kinds of trainings organized under DPEP?
b) If a training is need based, who decides what the needs are and how?
c) How do you dscide the methodology and framework of conducting training?
d) What do you think are the overall positive factors of a teacher training camp
e) Have these DPEP training camps made a potent change in the attitude and caliber of the teachers? How?
f) What is the frequency and duration of these trainings? And where are they held?
g) How do you keep a feed back on these trainings?
h) Are these trainings evaluated? How?
i) Do you interact with the trainee after evaluating her? Do you have a personal rapport with the trainees?
j) Would you suggest any change in the training packages of the pre service and in service trainings?
13. What are the kinds of problems you face under the DPEP system?
14. how has the DPEP's pedagogioal intervertions ir Tamil Nadu heilpid"w hi Primary school education scenario?
a) How important is role learning in primary cducation?
b) What according to you, is the ultimate aim of education?

15 Your comments about the DPEP system as a whole and suggestions for further development.

Appendix C
Pilot Study－Student Profile DPEP Tamil Nadu

January 2002

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Pilot Study-Mathematics
DPEP Tamil Nadu

1) $\begin{array}{r}-367 \\ +456\end{array}$
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$-118$
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96 $\qquad$
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3) $\begin{array}{r}758 \\ +654\end{array}$

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$\cdots+120$ $\qquad$
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4) $865-541 \equiv 324$
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$\qquad$
5) $934+346=1280$
$\qquad$
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6.) $\qquad$

$$
\begin{array}{r}
41 \\
\frac{x 7}{247}
\end{array}
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7) $\begin{array}{r}23 \\ \times 6\end{array}$

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Pilot Study-Writing Skills
DPEP Tamil Nadu


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Appendix d
Final Study
February 2002
S.No. 35

Mathematics Answer Sheets
வகுப்பு:

வகுப்ப:
தேதி:
66
2)
814
$-\frac{346}{15}$
(a) 15
.1

1) 496 万人
2) $496 \sqrt{\sigma} \curvearrowright \ldots$
$\frac{3}{.1}$
3) $298+$
$\begin{array}{r}\frac{634}{812}(2) \\ \hline\end{array}$
4) $962-473=$

p) $7 \times \square=63$

$$
\begin{aligned}
& \text { ovosifn } \\
& \text { WrH? }
\end{aligned}
$$

10). ஒவ்வொரு வரிசையிலும் உள்ள எண்களில் இருந்து மிகப் பொிய எண், பிசச்ச்றிிய எண் எவை என்று கண்டுபிடித்து அருகல் உள்ள கட்டத்துக்குள் அந்த வரிசைக்கு நேராக எழுதவும்.

11) சோடு தன் மாட்டுவண்டியில் 583 தேங்காாய்களை ஏற்றிக் கொண்டு சந்தைக்குச் சென்றான். அங்கு அவன் 359 தேங்காய்களை முருகனுக்கு விற்று விட்டான். அதன்பிறகு சோடுவிடம் உள்ள தேங்காய்கள் எத்தனை?
12) கீழே உள்ள வடிவங்களில் முக்கோணங்கள் எவை என்பதனை V குறியி்ட்டுகாட்டுகெ.



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VII. என் கணிதம்
$S N_{0 .} 2$ வகூப்பு:
தேத :

2) $\begin{array}{r}814 \\ -\quad \frac{346}{115} \\ \hline\end{array}$
3) $\begin{gathered}298+ \\ \frac{634}{7+}+ \\ \ldots\end{gathered}$
4) $729+674=$
$18 \quad 161$
5. $962-473=$
6) $93 \times 6=$ 13 $\bigcirc$
7) $\begin{aligned} & 38 \times 27 \\ & 11\end{aligned} 9$
8) $168 \div 7=$ 16
9) $7 \times 115=63$
10). இவ்வொரு வரிசையிலும் உள்ள எண்களில் இருந்து மிகப் பெரிய எண், மிகச்சிறிய எண் எவை என்று கண்டுபிடித்து அருகல் உள்ள கட்டத்து்குள் அந்த வரிசைக்கு நேராக எழுதவு்்.

11) சோடு தன் மாட்டுவண்டியில் 583 தேங்காய்களை ஏற்றிக் கொண்டு சந்தைக்குச் ிென்றாஷ். அங்கு அவன் 359 தேங்காய்களை முருகனுக்கு விற்று விட் _ான். அதன்பிறகு சோடுவிட ம் உள்ள தேங்காய்கள் எதத்தனை?
12) கழே உள்ள வடிவங்களில் முக்கோணங்கள் எவை என்பதனை レ குறியிட்டுொட்டுெ.



## VII. என் கணிதம்

மாணவாின் பெயய்்:
வகுப்பு:
தே5 :

1) 496
$+215$
2) $\quad 874$
$-\frac{346}{46}$
3) $298+$
4) $729+674=$ 634 $\ulcorner$
5) $962-473=1$
6) $93 \times 6=$

7) $168 \div 7=$
8) $7 \times \square=63$
10). ஒவ்வொருு வாிசையிலும் உள்ள எண்களில் இருந்து மிகப் பொிய எண், டிகச்சிறிய எண் எவை என்று கண்டுபிடித்து அருகில் உள்ள கட்டத்துக்குள் அந்த வரிசைக்கு நேராக எழுதவும்.

9) சோகு தன் மாட்டுவண்டியில் 583 தேங்காய்களை ஏற்றிக் கொண்டு சந்தைக்குச் சென்றான். அங்கு அவன் 359 தேங்காய்களை டுருகனுக்கு விற்று விட்டான். அதன்பிறகு சோமுவிடம் உள்ள தேங்காய்கள் எத்தனை?
10) கழே உள்ள வடிவங்களில் முக்கோணங்கள் எவை என்பதன்் குறியிட்டுகாட்டுகு.


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மாணவாின் ดெயா்: !

1) $\begin{aligned} & 11 \\ & 496\end{aligned}$

VII. என் கணிதம்

வகுப்பு:
தேதி:
வகுப்பு:
தேதி:

2)

$$
\begin{array}{r}
-7014 \\
-\quad 374 \\
\hline 468
\end{array}
$$

$$
\underline{\square}
$$

3) $\stackrel{1}{298}+$

4) $\begin{aligned} & 729+674=1403 \\ & 729\end{aligned}$

1403 V.....
6)

10). ஒவ்வொரு வரிசையிலும் உள்ள எண்களில் இிருந்து மிகப் பொிய எண், பிக்்சறிய எண் எவை என்று கண்டுடிடித்து அருகி் உள்ள கட்ட.த்துக்குள் அந்த வாிசைக்கு நேராக எழுதுவ்்.

11) சோடு தன் டாட்டுவண்டியில் 583 தேங்காய்களை ஏற்றிக் கொண்டு சந்தைக்குச் சென்றான். அங்கு அவன் 359 தேங்காu்களை முருகனுக்கு விற்று விட் டான். அதன்பிறகு சோமுவிடம் உள்ள தேங்காய்கள் எத்தனை?

12) கடே உள்ள வடிவங்களில் புக்கோணங்கள் எ்வை என்பதனை குறியி்்டுகாட்டுக.

VII. என் கணிதம்

மாணவாின் பெயா்:
வகுப்பு:
தேத :
1)

| 11 | $\vdots$ |
| ---: | ---: |
| 496 | 40 |
| +215 | - |
| 711 |  |

2) 
3) 814
$-\frac{346}{46}$

82
46
3) ${ }^{11} 298+$

$$
\frac{634}{730}
$$

4) $729+674=$
5) $962-^{473}=480$

6) $38 \times 27=024$

10.6
7) 


6) $\begin{aligned} & 93 \times 6=542 \\ & 93\end{aligned}$

8) $168 \div 7=$

$2 \%$
$\because \therefore$
168
1
4

10). ஒவ்வொரு வாிசையிலும் உள்ள எண்களில் இரநந்து மிகப் பொிய எண், மிகச்சிறிய எண் எவை என்று கண்டுபிடித்து அருகில் உள்ள கட்டத்துக்குள் அந்த வாிசைக்கு நேராக எடுதவும்.

11) சோடு தன் மாட்டுவண்டியில் 583 தேங்காய்களை ஏற்றிக் கொண்டு சந்தைக்குச் சென்றான். அங்கு அவன் 359 தேங்காய்களை முருகனுக்கு விற்று விட்டான். அதன்டிறகு சோடுவிடi் உள்ள தேங்காய்கள் எத்தனை?


$$
6,5,4+8
$$

12) கழே உள்ள வடிவங்களில் முக்கோணங்கள் எவை என்பதனை குறியிட்டுகாட்டுகெ.



மாணவின்் பெயர்:

> வகுப்ப:
> தேதி

$$
\text { 7) } \begin{array}{r}
496 \\
+\quad 215 \\
\hline 711
\end{array}
$$

$$
\text { 2) } \begin{array}{r} 
\\
-\frac{346}{36} \\
-\frac{34}{64}
\end{array}
$$


10). ஒவ்வொரு வரிசையிலும் உள்ள எண்களில் இிருந்து மிகப் பொிய எண், பிகச்சறிய எண் எவை என்று கண்டுபிடித்து அருகல் உள்ள கட்டத்துக்குள் அந்த வாிசைக்கு நேராக எగடூதவும்.

11) சோடு தன் மாட்டுவண்டியில் 583 தேங்காய்களை ஏற்றிக் கொண்டு சந்தைக்குச் சென்றான். அங்கு அவன் 359 தேங்காாய்களை முருகனுக்கு விற்று விட்டான். அதன்பிறகு சோமுவிடம் உள்ள தேங்காய்கள் எத்தனை?

12) கீழே உள்ள வடிவங்களில் முக்கோணங்கள் எவை என்பதனை


358

Samples of Learner Achievement

## Writing Skills (Tool IX, Translated stories)

## School Code - TRMU 2

A tiger had been living in a forest. Something in his mind had been bothering him for a long time. Determined to find an answer, one day, it went far into the forest. At one place there was a gathering of an elephant, a deer, a wolf, a snake and a rabbit. They all saw the tiger rushing towards them. "O! Raja is coming", announced the elephant. "Raja! You look anguished. Please tell us why", the elephant enquired the tiger. "Tell me one thing who did come first into this world - my mother or 1? Tell me", the tiger spoke its mmd, the question ihat had been bothering him. Since the bear did not know the answer, it just gave a blank look. As the bear could not reply, the tiger became very furious. So it began to chase the bear. The bear too, having sensed the impending danger, took to its heels at once. On its way, the bear fell into a tank and the water was of deep blue in colour. The tiger missed the bear and the bear too began to swim across the tank to a different place. After a while it came out of the water and it was surprised to see his entire body in blue colour. The bear became extremely happy about this and thought it was the best way to escape the tiger. It began to walk into the forest again. At one place the elephant, the deer, the tiger, the snake and the wolf were all there and they all saw the bear at a distance. They could not recognize the bear and the tiger said, "look there, a new animal has arrived in the forest". Immediately the elephant asked others not to allow the new animal to go anywhere out of the forest.

## School Code -CUMO 2

It was a small forest next to a village. Animals like elephant, snake, leopard, bear and deer were all living there. Of them, the elephant and the deer were friends. The snake and the leopard were friends. Elephant was the chief of its group. The leopard was the chief of its group. Animosity between the groups was well known and frequent clashes between the groups were also not uncommon. One day as usual the two groups were fighting and the bear had come there for the first time. It called both the leaders and asked, "wouldn't both of you ever live in peace and harmony?" That night both the groups could not sleep. Each group determined to do something and took a decision. Do you know what did they decide? "We both should never fight again, instead unite and live in peace", the leopard expressed its wish to the elephant. Do you know what was the elephant's response? "Even I have come here to mect you exactly with the same intention", the elephant revealed its mind. While these two leaders met and discussed, the bear overheard their whole conversation hiding behind a thick bush. Once the leaders spoke their minds, the bear came out of the bush and asked them, "now that both of you have come together, you would not forget to accommodate me in your group, 1 suppose". Thereafter they all lived together.

School Code - TRMU 4

In a forest an elephant, a rabbit and a deer were all good friends. One day they were playing together happily. Suddenly a tiger came there. Arrival of the tiger scared them all. They started shivering on seeing the tiger approaching them. On its way, a snake hanging from the branch of a tree hissed at the tiger loudly. The tiger too roared back at the snake angrily. The rabbit got frightened hid behind the elephant and screamed, "my dear elephant friend, please tell the together to go away from this place somehow". The rabbit thought for a while and said, "O 360
elephant friend, $O$ elephant friend, you ask the tiger a question and if the tiger answers correctly we all will leave the forest immediately. So please ask him a question". On hearing this conversation the tiger responded, "You don't need to asis me any question. I will ask you to perform some task like lifting something : if you all show me you can lift that thing I will leave this forest on my own". - ay, tell us what to lift", asked all of them. The tiger showed them a tree and sid "you have to lift that tree only". On hearing this, the elephant laughed antrollably. The tiger got angry and shouted, "Hey! Elephant. Why did you Sh?" The elephant replied, "I will lift that tree right now". Its friends asked the hant, "are you alone going to lift the tree?" "Yes" said the elephants and lifted tree by its trunk and threw it far away. Excited friends clapped their hands rously. Tiger saw this event and said, "it is not the end of it. you have to orn yet another task." All of them asked the tiger what more they had to do. sou have to climb upto the end of the topmost twig of the tree without breaking en "crusting any of them" replied the tiger. "If you could not climb so you all have to leave the forest at once". The tiger warned them. Suddenly everyone 10 d a giggle. All of them looked up and saw the snake giggling, "Have you all $\therefore$ aten me or what, see, right now I can do this task all alone", said the snake atarted moving up the tree in a lightening speed and completed the task ciantessly. Seeing this the tiger left the forest at once. After the tiger's departure, a: wem started to play happily once again.

## - CUMO I

The d3y a little deer was playing alone in a forest. Later on, a snake came and Frex him in the game Very soon they beame good friands and started plaving raveter. Then a bear came there. The little deer saw the fat bear and asked curously, "O Bear brother! How did you get such a big pot belly?" "I ate a lot We: that is why my belly is big", replied the bear. "Would my tummy toe get big is : alo eat a lot of food" enquired the little deer. "Yes" said the bear. After a
while an elephant came there and as soon as it approached them it asked, "why do you all crowd this place?" Little deer replied that there was nothing like that. Infuriated by this response the elephant shouted, "why do you all hide it from me? There must be something". On hearing the elephant shouting, a tiger came running to the spot immediately. The snake, on seeing the tiger, began to shiver. "Who did shout inside the forest?" roared the tiger angrily. "Oh tiger brother! How is that your teeth are all white and sparkling?" the little deer enquired the tiger. "Everyday I use Colgate to brush my teeth" replied the tiger. At once, all of them left the place and went to a nearby shop to buy 'Colgate'.

## School Code -CUMO 1

A deer was grazing all alone in a forest. There was no noise, it appeared still and strangely quiet. The deer felt something and got suspicious. Suddenly a lion emerged from behind the bushes and began to chase the deer. The deer ran for its life and on its way it saw a cave. It went into the cave to hide. A bear had been living in that cave for a long time and the deer approached it for help. It requested the bear, "Bear brother, a hon has been after my life, please save me". The bear said "my dear friend, listen to me. Even my life is also in danger here. I have been leading an uncertain life here and very often get caught between life and death situations. But I can show you a way out. I have an elephant friend who lives in the forest. I can entrust you with him. That much I can do for you now". On hearing this the deer became very sad. Sensing the fear of the deer the bear quickly responded, "you need not have to worry. My friend would not do any harm to you. He also has a snake friend with him".

School Code - TRMU 4

One day an elephant walked deep into the forest. Suddenly there came a tiger, and it scared the elephant. Frightened elephant immediately took to its heels. It started running as fast as possible. A snake saw the elephant and shouted, "don't run. Stop!" As soon as the elephant headed to the snake, the tiger began to chase the elephant again. On its way a fox asked the tiger. "Why are you chasing the poor elephant? What harm did the elephant do to you?" Irritated by this, the tiger began to chase the fox now. Both started running and the tiger found it too tough to run after the fox. The tiger, however, thought that somehow it ought to catch this fox and did not know what to do since the fox disappeared into the bushes somewhere. The tiger embarked on an extensive hunt for the fox but it could not find it. Ultimately it gave up the search and left the place disappointed

School Code-CUMO 2

One day there was nobody in the forest. Suddenly there was noise and all the animals ran towards that direction. They all saw to their surprise a snake hanging down from the branch of a tree. In the crowd there was an elephant, a bear, a deer and a tiger. They all saw the snake. The tiger walked upto the elephant and said, "dear elephant friend. Hunting for food everyday has become a tedious task for me. For a change, let me hunt this snake today. Moreover, the snake looks very pretty. But the snake is up there in the tree. That too it looks like a python. I am dead scared even to go near. Tell me how to hunt the snake?" Elephant began to think about it. Meanwhile the bear came with an idea and suggested, "let us break the tree and throw a big stone on the snake to immobilize it and then we are can eat". All of them accepted the bear's idea and were about to embark on the task. "Before we break the tree, let us ask the snake what its last wish is," said the elephant and asked the snake for it last wish. The snake thought for a while and said to himself, the only way to escape is leaving the tree at once. But it seems,
difficult since the whole of my tail is too tightly coiled around the branch and even a slight move to unwind would alert all of them'. After on while the snake said, "I don't have any last wish". Immediately the elephant broke the tree as suggested by the bear. But in the end the snake escaped from the spot quietly Everybody scolded the bear and all of them left the place disappointed.

# Final Study <br> EVS Answer Sheets 

VI．என் உலகட்

மாணவரின் ढேயர்：
பள்ளியின் பெயர்：

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& \text { வகுப்பு: IV:C } \\
& \text { தேதி: } 1 \cdot 3 \cdot 2002
\end{aligned}
$$

1．உனது வகுப்பாசிரியரின் பெயப் என்ன？

2．உのது பள்ளியில் நூலகம் உள்ளதா？அங்கிருந்து நீ புத்தகங்கள் எடுத்துப் படிப்பது உண்டா？


3．பள்ளிக்கு வருவது உனக்கு மகிழ்ச்சியாக உள்ளதா？ஏब்？

2）21以
4．நீ பொியவனான பிறகு என்னவாக வேண்டும் என்று உள் பெற்றோர்கள்
விரும்புகிறார்கள்？


5．உன்னுடைய பொழுதுபோக்குகள் என்எ？உனக்குப் பிடித்த விறையாட்டு என்ன？


6．உனக்குப் பிடித்த் விலங்கு／பறவைகள் ஏதேனும் உன் வீட்டிலோ அஷ்லது வீட்டிற்கு





8．தபால்காரறை நீ பாா்த்திருக்கிறாயா？அவイுூடைய வேேூை என்ன？




9．உன் குடும்பத்தில் எத்தனை பேர் உள்ளனர்？அசுர்களில் உன்ळைகிடப் பெரியவர்கள் எத்தனைை பபா்？சीறியவர்கள் எத்தனை பேர்？


10．கீழே கொடிக்கப்பட்டுள்ள இடங்களில் நீ என்ன மொழியில் பேசுகிக்றாய்：


இ）உன் நண்பா்களுடன் ：历ுவப் quாூ

11．நமது தேசியக் கொடியில் எத்தனை நிறங்கள் உள்ளன？


12．பொருத்துக：

9）உழவா்－மண்பாளை वெய்பவா்（ サ・）
\％）மீ円வர்－கட்டிட வேலை செய்பவா்（Q）
இ）தச்சர்－உணவு தானியம் பயிกிடுபவா்（ 91）
ஈ）குயவா்－மீன் பிடப்பவா்（\％）
2）கொத்தனார்－பரவேலை செய்பவா்
（3）

13．உனக்குத் தெரிந்த அருகில் உள்ள சில மாவட்டங்களின் பெயர்களை எழுது．


14．பொங்கல் பண்டிகை நாளன்று நீ என்ன செய்தாய்？


15．ஆதிகால மனிதனுக்கும் தற்கால மனிதனுக்கும் உள்ள வேறுபாடுகズ« எடுதுக．





## VI．என் உலகம்

மாண்னவாிக் பெயர்：
பள்ளியிஷ் பெயர்：＇

வகுபப：Iy－C
தேकी ： $1.3 \cdot 2002$
由お卖

2．உனது பள்ளியில் நூவகம் உள்ளதா？அங்கிருந்து｜ு நீ பத்தகங்கள் எலுத்துப் படிப்பது உண்டா？
 $D$ reater 8 ovion

3．பள்ளிக்கு வருவது உஐக்கு மகிழ்ச்சியாக உள்ளதா？ஏன்？

## gintony

4．நீ பெரியவனாள பிறகு என்னவாக வேண்டும் என்று உன் Qபற்றோர்கள் விரும்புகிறார்கள்？


5．உன்னுடைய பொழுதுபோக்குகள் என்ன？உனக்குப் பிடித்த விளையாட்டு எள்ன？



6．உஎக்குப் பிடித்த விலங்கு／பறறவகள் ஏதேனும் உன் வீட்டிலோ அல்லது வீட்டிற்கு அருகிலேயோ இருக்கின்றஞனா？அவைக๓ாப் பற்றி உホக்குத் தொி்ததை எழுது：


7．உன் கிராமத் தலைவரின் பெயர் என்ன？

8．தபால்காரறர நீ பா்ந்த்திருக்கிறாயா？அவருடைய வேலை என்ன？



9．உன் குடும்பத்தில் எத்தணை பேர் உள்ளனர்？அலா்களில் உன்னைハிடப் பெரியவர்கள் எத்தனை பேர்？சிறியவா்கள் எத்தனை Cur்？


10．கீழே கொடுக்கப்பட்டுள்ள இடங்களில் நீ என்ன மொழியில் பேசுகிக்றுாய：






12．பொருத்துக：

அ）உழவா்－மண்பாのை वெய்பவா்－（17．）
ஆ）மீவவா்－கட்டிட வேலை செய்பவா்（～）
இ）தச்சர்－உணவு தானியபம் பயிிிடுபவா்（B））
ஈ）குயவர்－மீன் பிடப்பவா்（タ3）
2）கொத்தனார்－மரவேலை செய்பவர்（8）

13．உனக்குத் தெரிந்த அருகில் உள்ள சில மாவட்டங்களின் பெயர்களை எழுது．


14．பொங்கல் பண்டிகை நாளன்று நீ என்ன செய்தாய்？


15．ஆதிகால ம்னிதனுக்கும் தற்கால மனிதனுக்கும் உள்ள வேறுபாடுகளツ எழுதுக．
 20） जNTE BartiLTOAT．

VI．என் உலகம்

மாணவரின் பெயர்：

பள்ளியின் பெயர்：

வகுப்பு：JF，$\lambda$
தேதி：1．欠．民Cス

1．உஊது வகுப்பாசிாியாின் பெயா்் என்ன？

2．உனது பள்ளியில் நூலகம் உள்ளதா？அங்கிருந்து நீ புத்தகங்கள் எடுத்துப் படிப்பது உண்டா？


3．பள்ளிக்கு வருவது உளக்கு மகிழ்ச்சியாக உள்ளதா？ஏன்？


4．நீ பெரியவனான பிறகு எண்யவாக வேணாடும் எब்று உஞ பெற்றோர்கள விரும்புகிறார்கள்？

5.

5．உன்னுட்டய பொழுதுபோக்குகள் என்ஞ？உனக்குப் பிடத்த வி毋ளயாட்கு என்ன？


6．உாக்குப் பிடித்த விலங்கு／பறவைகள் ஏதேனும் உன் வீட்டிலோ அல்லது வீட்டிற்கு அருகிலேயோ இருக்கில்றயவா？அவைகஎாப் பற்றி உயக்குத் தொிந்ததை எழுது．



 जたका 2LL

8．தபால்காரரை நீ பாா்த்துருக்கிறாயா？அவருடைய வேலை என்ன？





9．உன் குடிம்பத்தில் எத்தஞை போ் உள்ளனர்？அவர்களிண் உன்னைலிடப் பெரியவர்கள் எத்தのை பேர்？சிறியவர்தள் எத்தளை பேர்？

 forkin
10．கீழே கொடுக்கப்பட்டுள்ளா இடங்களில் நீ என்ヵ மொழியில் பேசுகிக்றாய்：
அ）セன் வீட்ட்ல்
ஆ） $2 \dot{~ ப ள ் ள ி ய ி ் ் ~}$
：52 0 身
இ）உன் நண்பர்களுடன்

馬 6 ） 6

11．நமது தேசியயக் கொடியில் எத்தளை நிறங்கள் உள்ளன？

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\begin{aligned}
& \text { Fीquiny, गम2jortconon, } \\
& \text { Untoos }
\end{aligned}
$$

12．பொருத்துக：

\＆）மீ円வா்－கட்டி வே๗ை செய்பவா்（7）
இ）தச்சர்－உணவு தானியப் பயிாிிுபவர்（2）
ஈ）குயவா்－மீब் பிடிப்பவ்（2）
（2）கொத்தனார்－மரவேலை செய்பவா்（ ி户）

13．உளக்குத் தெரிந்த அருகில் உள்ள சிळ மாவட்டங்களின் பெயா்்களள எழுது．


4．பொங்கல் பண்டிகை நாளன்று நீ என்ள செய்தாய்？
TUMrb；Fकण


15．ஆதிகால மனிதனுக்கும் தற்காால மலிதனுக்கும் உள்ள வேறுபாடுகయツ எழுதுக．



















## Appendix $\mathbf{e}$ i

## Teaching and Learning Strategies

## Ms. Saraswati

When we look at the nature of teaching learning processes adopted in some well functioning schools the common elements of the teaching learning process are: uses of material other than textbooks;Space for the child to articulate and express closing of gap between the teacher and the child; innovative efficient classroom opportunity for peer learning. However the meaning form and manifestation of these elements differs from school to school depending upon the teachers underlying assumptions and beliefs about how children learn. Hence a deeper understanding of the learning will help in developing a repertoire of activities around it.

Often overtly concerned with content, the process of leaming gets ignored. The process always affects the content. Therefore the content and pedagogy are complementary parts of the same whole. Both are incomplete without each other and therefore stated alone they are meaningless.

## The Pedagogy

- Child is the center of the teaching learning process. In this sense learning is viewed as an activity by the child rather than imparted by the teacher and hence the need to shift from textbook based lecture-oriented teaching where the child is a passive recipient to a more exploratory learning style.
-. Learning is not to be equated with recalling facts. Those facts are easily forgotten. Mind retains information by linking new information with existing knowledge. If students do not make such linkages and association, it is unlikely that they will retain or apply what they are learning. Thinking skills develop from how we question, respond and interact with children.
. -Learning is not linear with a right answer to a question but exploratory process. Emphasis is on articulation and expression, rather than on forcing children to arrive at the right answer determined by the teacher. Textbooks are just a beginning or initiation point for creating, building interesting learning situations allowing the children to create, innovate and express themselves. Classroom transaction is not limited within the boundaries of the lesson - it is the discussion among the children which becomes central
-Children feel the freedom to articulate their views when they are free from the fear of being reprimanded for incorrectness. In a non- threatening and supportive environment children feel confidant and thus take part in learning activities. . Where errors are being looked upon as a necessary step in the whole learning process- this changing view is important in the cognitive as well emotive content. It frees the child to be active and free.
- Freedom of pace of learning; different children have different pace of learning. New concepts, strategies and techniques are introduced at the pace that is most appropriate for those children who are then able to move forward without failure. Students can progress at their own rate of learning.
- Different children have different learning styles. Research shows that when instruction matches with child's learning preferences, achievement increases and behaviour improves. Providing many different types of strategies, activities and experiences- something for everyone should form part of our instruction. Instead of repetitive exercises such as copying the same thing again and again, a range of teaching and learning approaches- group work, role plays, games, experiential activities, individual study and teacher input are offered to suit the learning styles of children.

The curiosity, sense of wonder inherent in children needs to protected and nurtured. Successful teachers capitalize on student's interests and curiosity as they model the learning process. With effective instructional strategies, we can motivate students and foster their desire to learn. Their quest for knowledge and
curiosity about the world are natural human attributes. We can feed that curiosity and facilitate that quest.
-It becomes difficult to separate the content, material and transaction all three being interlinked and interdependent. Use of variety of learning material in a creative way helps in holding children's attention, stimulates their interest and allows the teacher to conduct many activities. When material is interactive, in the sense that children can use and manipulate it; it generates group and peer learning as all members jointly find answers and solutions. Material often takes the children and teacher beyond the textbook and therefore does not confine the teacher and the children within the limits of the book. Also material also offers multiple entry points and does not direct the child towards just one answer.

- Shift to a more active, exploratory learning style with extensive use of TLM necessiates changes in classroom organization also. When children sit in groups and are allowed to freely interact with each other, not only does the atmosphere become more joyfu! but the prime purpose of learning gets a boost. Children are more creative and their communication skills get expanded. In shared learning teacher does not remain the sole authority. Peer groups become an important and valuable source of Knowledge.
- Centrality of the child in the teaching and learning process changes the role of the teacher in the classroom thereby bringing about significant changes in the teacher child relationship. When the nature of transaction is such that it encourages children to articulate their views and raise questions it inevitably creates spaces for an open and friendly dialogue between the teacher and child thereby reducing the distance. Children join hands with the teacher in enriching learning environment in the classroom The teacher no longer stands at a distance near the blackboard, but sits with the children in a circle. With children put into groups and given responsibility of their own learning, not only are they engaged at a much
higher level, the teacher is able to attend to other tasks such as observing and assessing children, providing help where necessary. There is space for selflearning tasks, teacher assisted tasks peer group tasks in the transaction.
- Children's learning is holistic and not segmented in nature. Competencies do not necessarily get acquired by children in a sequence from one competency to another and then to another unidirectionally. Instead children need to move back and forth in a kind of spiral form within the same learning area again and again in order to learn well. At the same time they can pick up many competencies from one activity lesson or experience.
- Often instead of rigid division of knowledge into subjects, the teacher is extremely comfortable using the same text to develop language skills, mathematical abilities and so on.

Each child is capable of learning. Each has special strengths and abilities. Each needs to experience success and security in the classroom. And each child needs to be valued and loved and accepted.

The lessons given in the textbooks are just a beginning point for creating, building interesting learning situation. In classroom the teacher has to devise many other related activities as suited to their environment.

## Language skills

Fom birth to school language is the foundation of so many activities and experiences. Lstening and speaking are prerequisites to discussing any subject as well as forming bonds with peers. Reading and writing are fundamental ways of taking in new irformation and sharing own ideas and understanding. Whole of language - listening. speaking, writing and reading are interrelated, developing together each as important as the other.

How does language come alive to children? How does it grow and develop to become not just a life long skill but a life long friend? It is not out of copying or memorising a few words. It grows out of life, out of its needs and experiences. To help children to speak wth self confidence, to express their ideas and thoughts, to make sense.of.what they-read; . . to use language creatively are some of the main goals of language learning. Activities ned to be structured such that there is space for all these in the classroom. Content and mathod are inseparable parts of language learning and each as important as the othe $:$.. Tle existing methods adopted in classrooms need to change to achieve the above goals. The new books have been structured in such a way as to elicit children's curiosity, thnking and creative skills.

1 Stories - Children are always attracted to stories. What makes them hear and read steries again and again? Can we structure our lessons in such a way that they read them agin and again? With this view in mind a number of stories have been included in the textbooks brok.

## Activities that can be undertaken based on stories:

1.Telling the story in own words
2. Arranging the story events in sequence

## Page no

2, 3 book ii
$32,49,64$ book ii

57, 83 book iii
\(\left.$$
\begin{array}{ll}\text { 3. Searching for words from the story } & \begin{array}{l}49,64 \text { book ii } \\
59 \text { book iii }\end{array}
$$ <br>
4. Enacting the characters, events of the story <br>

31,48,109 book iii\end{array}\right]\)| 8 book ii, 104 book iii |
| :--- |
| 5.Drawing the events/characters of the story |
| 6. Hear part of the story and guess the ending |
| 7. change the ending of the story |
|  |
| 8. Extending the events of the story |
| 9. Giving titles for the story |

| 10.Telling the main idea of the story/ giving |  |
| :--- | :--- |
| opinion about main characters | $77,82,84$ book iii |
| 11. Join unrelated words and create sentences /stories | 65 book ii |
|  | 22,114 book iii |
| 12. Each one add a line and create story in group | 80 book ii |

## Group discussion in training

- If children have to listen with interest how should story telling be?
- Is it important to have a moral at the end of each story?

II Use of pictures - Pictures greatly enhance children's interest, observation skills, imagination and foster language skills.

## Activities based on pictures

1. Talking/asking questions about the picture

Page no.
6, 7, 24, 25 book ii
12, 13, 74, 75 book iii
2. Writing the names of those depicted in the picture and classifying them

71,72 book ii
3. Writing sentences about those depicted in the picture
4. Writing the events of the story based on the picture
$16,17,1822,95$ of ii
119 book iii
23, 49 book ii
37, 43, 115 book iii
5. Looking at the picture and identifying similarities and differences

50, 51 book ii
6. One person describes the picture and other identifies it

42, 80 book ii
4, 5, 35 book iii
7. Observing the picture and saying whether given sentences are correct / their category

41, 50 book ii
8. Looking at the picture and completing the dialogues

13, 85 book ii
9. Looking at the picture and writing related words
10. Looking at the pictures and writing composition

26,27 book ii
11. Looking at the picture and guessing previous and past events
12. Following the given instructions and drawing/

8-10, 22,72,73 of ii
Colouring activity
13. One person draws and the other writes sentences about it

4, 5,11,66 104 of iii
16 book iii
14. Craft activities

35, 36, 56 book ii
99,112 book iii

## Group discussion/activity in training

- How can the pictures given for oral activity in the initial pages be used later on for writing and reading activities?
-What activities given above can be conducted as group activities?
- Using a given picture how would you conduct activities for children of different levels?
- Let one person draw any line, others add on and complete a group drawing

III Songs/poem - This is an important medium in language learning. Children respond easily to the rhythm of songs and poems and these get imprinted in their minds easily. Children can also feel the richness of the language thru these. Apart from the ones given in the textbook a number of poems can be shared with the children depending on the lesson and activity in progress.

## Activities using songs

- Acting out the songs, drawing the situation depicted in the song.
- Searching for rhyming words from the poem
- Mixing up the various lines of the poem and children arranging them in the sequence.
- Listening to simple lines of the poem and extending them further


## Group activity in training

- Identify songs that can be used in the course of some lessons/stories
- Take the rhyming sentences in page 19-20 and extend them further
- Identify other simple poems which can be further extended by children from your poem collection

IV Dramatization - A lot of learning takes place from day to day incidents of life.Drama is an ideal tool to create/ simulate situations that are closer to life

Activities based on drama

1. Listening to instructions and acting them out
2. Enact various scenes- railway stations, market, hospital
3. Acting out various emotions, miming, imitating sounds

Page no

5,21 book ii
30, 49 book iii
12, 13 book ii
12, 13 book iii
30, 31 book iii
$31,48,99,112$ of iii

## Group discussion/activity in training

Does drama constitute merely memorizing a set of dialogues and act out in the stage? How can it be used in the classroom situation for fostering language development? What sort of environment in the classroom will prompt children to participate in drama spontaneously?

Which lessons in the textbook lend scope for dramatization.
Each participant writes an instruction on paper and puts it in a box. The others read and enact one by one.
xperiences around school
ol environment and surroundings provide an excellent resource for exploration and servation. These can be material for extensive investigation and discussion.
fisities around school environment
oture walk/observing birds, animals, objects around;
$\because$ tiing, drawing, grouping, describing them
mparing and contrasting objects in the
sivironment
iis to bus stand, market, post office
cracting with neigbours, friends and
swhering material/ information

Page no

34, 36,42, 89 of iii
8, 93, 119 book iii
50, 51 book iii

24, 25 book ii
12, 13 book iii
28, book ii
15,98 book iii

## \%olip activity in training

- Each group goes out and lists all that they see in the environment in a limited time.

See which group has made the longest list?

- Let one person describe an object and others guess what it is.
- Keep a few objects in the middle of the group and compare and contrast them.
- What are the activities that need to be planned/done before and after a field trip?

VI Sharing about oneself - Children have a wealth of information to share about their families, friends, home, environment and these they are always eager to share if given an opportunity. They have opinions, views to offer on many things and it is important to elicit these while undertaking the activities of the lesson.

## Activities <br> Page no

Children sharing their interests/
$7,26,28,32,54,59$ book ii experiences/hobbies/ perceptions/ imagination /thinking $\quad 8,21,42,71,82,92,98,104,105,115$ book iii

VII Question answers - At the end of the lessons a number of questions have been given. It is important to phrase the questions differently and encourage children to respond in their own words rather than reproduce what is memorized. Open-ended questions help children to think and give their own views. Encourage children to formulate their own questions - What, When, Where, How, Why

## Group work in training

Take a lesson picture and see how many questions can be asked from the material

## VII Meanings

Children hear a rumber of words in their day to day lives. For many of them they may not know the meaning, but from the context children make out the meaning. Hence while introducing new words, simultaneously contexts have been given so that children could apply what they learnt.

Page no - 65, 78, 79 of book ii
$3,22,29,35,49,58,60,105$ book iii
VIII Games - Children always participate in games eagerly. Learning becomes pleasant and enjoyable. Hence a number of games, riddles and puzzles have been
given in the book. These can be easily extended to many other lessons

> Page no $-18,34,38,39,42,65,79$ book ii $$
8,16,22,35,36,49,59,66,70,76,106,114 \text { book iii }
$$

## Group activity in training

- Create more puzzles similar to what is given in $34,39,65,79$ of book ii
- Create more riddles in 17,66 of book ii, $4,14,15$ of book iii
- Share other games that can be added on to the lesson


## IX Use of news paper/books and other material

Every child would like to read story books eventually and one of the goals of language learning is to take them from their textbooks to reading other material.

- Opportunities for exploring other material heed to be given in the classrooin itseif


## Page no

Activities using newspapers $9,36,37,38,59$ of book ii
books and other material
8, 70,98 of book iii

## Group activity in training

- What activities can be held in the classroom using newspapers and story books for reinforcing the activities of the lesson?
- Make a news paper of the workshop activities similar to the one given in page 94 of book iii
- What activities can be done in the classroom to cultivate extra reading habits?

The above list of the activities have been given to serve as reference material during lesson planning. Teachers can use any of these or add on others to make learning meaningful and interesting for children.

## Appendix e ii

## Comparison of old and new Tamil text books

## Class IV

## Mr. Mohanasundaram

When Lesson 6 in the old text and Lesson 17 in the new text are compared, the number of polysyllabic words seems to be more or less the same. But, it should be noted that the number of words/sentence is significantly more in the case of the old textbook.

The story in the old text is said in passive voice. Hence, very few punctuation marks are used. otherwise, punctuation marks and linkers are used wherever necessary. Students would face lexical complexity while reading the story, since the lesson has significant number of complex words for which they need the help of the teacher.

The story in the New text is said in Active Voice. Hence, lot of punctuation marks are used. the linkers are used wherever necessary. The story is more like a conversation, hence children would be very familiar with the spoken form that is used in the story. Since there are very few complex words they would not require the help of the teacher to understand the sentence.

## LETTER WRITING

Old Text Books
(It's a letter from the Child's Uncle)

| Variables | Part I | Part II | Part III | Part I | Part II | Part III |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| No. of paragraphs | 1 | 1 | 2 | 2 | 2 | 2 |
| No. of words | 20 | 45 | 24 | 32 | 32 | 30 |
| No. of sentences | 4 | 7 | 4 | 6 | 6 | 6 |
| Words/sentences | 5 | 6.43 | 6 | 5.33 | 5.33 | 5.0 |

## POLYSYLLABIC WORDS

| Trisyllabic | 33 | Tri | 29 |
| :--- | :--- | :--- | :--- |
| Tetra | 15 | Tera | 21 |
| Penta or more | 6 | Penta or more | 10 |

Since the letter is from an elderly person the The sentence structure is simple. It is
standard of the language is comparatively simple in lexical terms too.

## 'STORY ${ }^{\prime}$

Old Text Books
Lesson 6 - Work is Worship (pg. no. 15)

New Text Book Lesson 17. - Empty Dial (pg. no. 78)

| Variables | Part I | Part II | Part III | Part I | Part II | Part III |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| No. of paragraphs | 4 | 3 | 3 | 4 | 7 | 8 |
| No. of words | 160 | 132 | 116 | 60 | 65 | 72 |
| No. of sentences | 24 | 15 | 18 | 9 | 13 | 16 |
| Words/sentences | 6.7 | 8.8 | 6.4 | 6.7 | 5.0 | 4.5 |

## POLYSYLLABIC WORDS

| Trisyllabic | 116 | Tri | 88 |
| :--- | :--- | :--- | :--- |
| Tetra | 45 | Tetra | 44 |
| Penta or more | 21 | Penta or more | $35^{*}$ |

In this lesson, the polysyllabic word 'Aattukutti' has been used 13 times. Whereas in the old text all the 21 penta syllabic words are different. The polysyllabic word
'Aattukutti' which means 'Lamb' cannot be replaced with another any other equivalent word in Tamil which would be less complex than 'Aattukkutti'.

POETRY

| Old Test | New Text |
| :---: | :---: |
| Lesson 2: Girl is no less than Boy! | Lesson 6: Drum |
| Poet: C. Subramaniya Bharathiyar | Poet: C. Subramaniya Bharathiyar |
| VARIABLES |  |


| No. of paragraphs | 4 | 8 |
| :--- | :---: | :---: |
| No. of words | 60 | 55 |
| No. of sentences | 10 | 14 |
| Word/sentence | 6 | 3.78 |
| Polysyllabic words | 16 | 7 |
| Trisyllabic | 22 | 13 |
| Tetra | 2 | 4 |

Both the poems are that of the 'Tagore of South' Mahakavi Subramaniya Bharathiyar.
In the poem of the old text, he addresses the issue of 'gender discrimination directly and he sounds aggressively positive in that poetry. So, many complex words are seen in the poem and hence the children would encounter lexical complexity.

In the new text, a simpler poem of Bharathi is chosen. In this poem, he addresses 'Racial discrimination' very subtly. Very few complex words are found.

# Appendix e iii <br> Introduction to the Concept of Addition <br> Class-I TO Class - IV. 

## CLASS - I

Lesson No. 5 is the first one on this topic. The earlier lessons have already trained the student to reçognize a numeral in terms of the quantity of objects the numeral represents. Now she is able to relate a given number to the corresponding quantity of objects:

In the given illustration, two sets of objects (in picture) of the same kind in different quantities put together gives the total (represented by the number only). Under each set the corresponding numeral is given and in between the two numerals ' + ' sign is placed and after the second numeral ' $=$ ' sign and the numeral (sum) are shown. There are two such illustrations "and many exercises of the same kind but of different varieties are there for the child to practice. Gradually the numbers placed below each set of objects are moved away and placed along side the illustrations and thus the addition pattern/form (structure) is introduced.
In the illustrations and in the exercise the objects in the picture are placed in four different positions. Initially in the horizontal form of addition (i.e. $2+2=4$ ) the pictures of objects are placed just on top of each addend. In the second type the two sets of pictures of objects representing the addends are removed from the numerals and are placed on the left side and numbers to be added are shown on the right side. The two sets of pictures are also separated by a wavy line. In the following few illustrations even the wavy line which earlier separated the pictures vertically, now slightly moved horizontally such that each set of picture is placed against each addend to be added in the vertical format. Finally, the set of pictures of objects are arranged in a row against each addend. Thus the idea is to train the child to do additions with numerals alone and not just by counting the objects in the picture.
Once the child learns to do additions with the help of objects and numbers; can now be trained to do addition operation with numbers alone. Such exercises follow the
last two pages of this chapter. In one set of exercises he finds the sum of given numbers, in another type of exercise he learns to write the missing,$+==$ signs at the appropriate places and finds the sum. There is another type of exercise in which the child out all those sets of numbers whose sum is 9 and colours the appropriate boxes in which they are given. In another exercise one of addends remains the same number (i.e. 2) and is to be added to $1,2,3,4,5,6,7$ and as he adds each of them he observes the sum in each operation progresses from 3 to 9 .

This lesson has introduced the concept of addition-1-digit addition of two numbers whose sum does not exceed 9 . Zero as one of the addends is also introduces with appropriate illustrations.

The next chapter on Addition is lesson No. 12. This again is a 1 -digit two numbers addition lesson but the sum exceeds 9 . The child has by this time been introduced to the concept of 2-digit numbers. He can recognize the numeral 10 and the concept of 10. Such as so many units (ones) make 10 and the place value of a digits in a given number as tens and ones. Also he can write numbers up to 20 in ascending and descending order and can compare 2-digit numbers up to 20.

This chapter on addition also follows the same method as the earlier one in using pictures of objects to illustrate addition operations. And there are exercises with numbers alone.

This lesson has five new types of exercises on addition and one of them is an activity based exercise. In one type, the child has to tick the sums with correct answers; in another he has to match the sums with the set of addends. And the third type from the given numbers ( $0-9$ ) the child makes his own addition details. In the activity based exercises the child is asked to read the spots on the face of the each dice every time he throws and writes the sum in the given table. And the last exercise is a verbal statement with a mixture of numbers and pictures. This exercise does not use + or $=$ signs as the given statement implies addition. In order to do this exercise on his own, he must have already acquired reading and comprehending skills in language.

## CLASS II

In Class II, addition operation taught begins with two 1-digit numbers addition (sum up to 19) and progresses to addition of three 1-digit numbers and finally to addition by three 2-digit numbers (sum not exceeding 99). There are three lessons (Nos. 2,4 and 6) one on each of them.
In the first chapter or addition (Lesson No. 2) introduces one of the properties of addition. That's two numbers added in either order give the same sum. First form exercises of this chapter demonstrate this property of addition. The given illustrations consist of pictures of objects to enable the child to count and the corresponding addends to do the exercise. The addends are also placed in different orders to demonstrate and to practice to see that the sum remains the same.

## All the exercises consist of single digit 2 number addition and the sum do not exceed

9. Use of number of smaller value and keeping the sum low make things easier for the child to do the exercise on his own and thus learns the logic behind such operation without much difficulty.

In another kind of exercise the child learns to double a number that is, he practices to add a number to itself and observes the sum.

The next set of exercises uses an interesting TLM - 'Ten Segmented Frame', a rectangle frame divided into ten squares of equal size and the round tokens as objects to be used for counting. Through this activity the child learns to recognize the numeral 10 and the quantity it represents. The rotation of ten as ' 10 ' is one of the most confusing form of representing the quantity of ten, because to the child the two numerals individually mean different values. By keeping the sum constant as 10 , the nine exercises given-under this type familiarizes the child with are possible combinations of addition of two numbers which makes 10 .

Once he learns to recognize 10 as ten tokens placed one in each square of the frame, chapter moves to the next stage of addition of two numbers whose sum is more than 10 and less than 18. In the given exercises one of addends is kept as 9 and the child
learns to add the other addend by using the Ten Segmented Frame. The end of this chapter has four verbal problems of addition along with pictures of objects.

The second chapter on addition is lesson no. 4 and it introduces addition of three 1digit numbers. This chapter ruses flash cards for selecting the numbers to learn addition of three and in the illustration is kept under 18.

The illustration shows that addition of three numbers involves two steps. First add any two numbers and add that to the remaining number to get the sum. This chapter encourages the child to select the three numbers from the flash cards and make all possible combinations of placing them to make the addition detail.
The other kinds of exercises in this chapter include one of matching the three addends with its sum given in jumbled order and other is colouring the exact number of boxes in the given table corresponding to the number stated in the verbal problem and answering the questions and in the exercise.
The third chapter on addition is lesson no. 6 and it introduces of 2-digit numbers.
Appendix e iv
TAMIL CLASS IV (NEW)
Exercises - Variety
I STORIES
Adtivities that can be undertaken based on stories:
Page No.

1. Arranging the story events in sequence ..... 7, 4, 50
2. Write Story in own words ..... 52
3. Searching for words from the story ..... 21
4. Enacting the characters, events of the story ..... 81
5. Hear part of the story and develop it into a story, guess ending ..... 82
6. Change the ending of the story ..... 55, 72
7. extending the events of the story ..... 56
8. Giving titles for the story ..... 7
9. Telling the story by cbanging the eyents/objects of the given-stery 8: 5610. Join unrelated words and create stories / sentences22, 45, 50
10. Each one add a line and create story in a group ..... 31
11. collection of more such stories ..... 4, 41
12. Collect more picture of interesting events / scenes and ask questions to a group and make them answer ..... 14
13. Narrate an event happened on way to school, ..... 22
14. Gather stories from the children's magazines on animals, birds etc. ..... 22
15. Conversion of the given story into a dialogue form ..... 40
16. Fill the blanks and continue the story and give a title to the story ..... 57
II PICTURES
Acivities based on Pictures:
Page No.
17. Talking / asking question about the picture ..... 10,11,12,13
18. Vriting a story based on series of pictures ..... 52
19. Vriting names of those depicted in the picture ..... 12
20. Vriting sentences about those depicted in the picture ..... 12, 8
21. Writing the events of the story depicted in the picture ..... 12
22. Looking at the picture and identifying, similarities and differences ..... 36
23. Looking at the picture and writing related words ..... 9,13,56,57
24. Following the given instructions and drawing / colouring activity ..... 4,22,25,37.63
III SONGS
Activities that can be undertaken based on songs:
Page No.
25. Acting out the songs ..... 9,26,59
26. Searching for rhyming words, from the poem ..... 24,85
27. Write the interesting lines from the poem ..... 24
28. Make your own drum / instruments following the given instruction and sing the songs and sing ..... 26
29. Gather local folk songs and sings ..... 26
IV. DRAMATISATION
Drama is an ideal took to create/simulate situations that are closer to life
Activities based on Drama
30. Enact various scenes-railways stations, markets hospital ..... 13,17,35
31. Acting out various emotions, mining, imitating sounds ..... 35
32. In an open ended drama, if you participate how would you act out your role to change the course of an event ..... 28
33. Change the characters of the drama and narrate the story ..... 30
34. Writing about many other similar characters of the drama ..... 30

## V. EXPERIENCES AROUND THE SCHOOL

School environment provides an excellent resource for exploration and observation.
Activities based on school environment:

1. Nature walk/ observing birds, animals, objects around; writing, drawing, grouping, describing them44
VI. ACTIVITIES THAT CAN BE UNDERTAKEN AT HOME
Follow the instructions and prepare some drinks using the material ..... 41 available at home,
VII. SHARING ABOUT ONESELF
Activities
Children sharing their interests / experience / hobbies/ perceptions / imagination/thinking
2. Write names and experience of tourist places visited ..... 68
3. Give a running commentary of a cricket match between teams of India and Sri Lanka ..... 44
4. Continue the conversations betweerı two persons ..... 51
5. Write a reply to the letter of the lesson ..... 63
6. Each one write a few sentences about an object/ animal and exchange script and read ..... 63
7. Write are the events took place at home in a diary ..... 71
VIII. QUESTIONS ANSWERS
At the end of each lesson a number question have been given
8. Open ended questions help children to think and give their own view
9. Encourage children to formulate their own question - What, When, How, Why, Where ..... 18
10. Answer from the set of given statements and frame suitable questions and answers ..... $18,25,51,82$
IX. WORD / SENTENCES / MEANINGS
Children hear a number of words - may not a known the meaning of all, but from thecontext children make out the meanings.
11. Make all possible words, writing the all / some letters
from the given word76
12. Writing an essay using the given words ..... 37
13. Write many sentences describing an event/thing using given words ..... 40
14. Write appropriate meanings of homonym to fill the blank ..... 66,76
15. Use the given letters to form different names of the same thing (e.g. names of flowers) ..... 66
16. Select from the lesson different nouns and verbs ..... 67
17. Write palindromes ..... 75
18. Create word - staircase from pair of words - in each set the first word is the last word of the previous pair set of words ..... 77
19. Make words from the given set of letters and pick out the nouns, and verbs ..... 88
X. GAMES
Games of all sorts interesting to kids. Learning become pleasant and enjoyable. Hence a number of Games, Riddles, Puzzles, humors/jokes.
Cross Words Puzzles 31, 46, 56, 62, 83, 85, 88, 89
Types
20. Letters in each square and follow the instruction to find out the answers (words) ..... 31.89
21. Typical cross word with clues (Across up and down) ..... 46,83
22. Clues given for across only; ..... 62
Riddles ..... 73,74.75,77
Humor/Jokes ..... 32.33
-Writing names of all games into individual games/sports and team ones ..... 35
Write 'cause and effect' sentences in two different cards in a group when one read a 'cause' sentence and the related 'effect' card holder read it aloud ..... 68
Use of adjectives, and adverbs is a group one says a noun ..... 67
XI. USE OF NEWSPAPER/BOOKS AND OTHER MATERIALS
Opportunities for exploring other materials need to be given in the classroom itself.
Activities:
23. Using flash cards of words to form new sentences in a group ..... 9
24. Answering questions looking at billboards advertisements ..... 16
25. Acting out various radio and television advertisements ..... 16
26. Identifying and writing various modes of advertisement ..... 17
27. How would you advertise if you were to own different shops ..... 18
28. Write various catchy captions in advertisements ..... 18
29. Write some interesting events of the day from the newspaper ..... 37
30. Give a write-up on the headline news item of the day ..... 37
31. Gather news items and pictures relating to sports games from newspaper 37
32. collect many puzzles from children's magazines ..... 77

## XII. PUNCTUATION MARKS

1. Read the sentences and punctuate them accordingly 7,45
2. Read a passage and punctuate them

21, 71

There are many exercises on the following in each lesson

1. Comprehension question at the end of each lesson
2. Fill in the blanks

7,29.35,41,75
3. Cloze test type fill in the blanks 61
4. Word meanings $\quad 3,7,13,22,25,30,36,41,45,50.57 .62,67,75,80$
5. Opposite words $30.40,61,70.75$
6. Spoken into formal words,
29.55,70,81
7. Separate the words
$3,21,25.29,36,45.56 .62,65,71.80$

## Appendix ev <br> Approaches in the Revised Textbooks

## Constraints/gaps in the old books ii and iii

- The lessons and exercises did not lend scope for interactive, activity -based learning
- There was very little space for expression of children or for fostering child's creativity. Exercises chosen were of memorization type - meanings, opposites, joining up words and separating them. Activities were exam oriented meant to test the child's memory rather than help them to learn.
- The activities were teacher centered and had little to interest children. What the children ought to know was thrust on them irrespective of whether they understood them or not.
- The methodology of learning and teaching was neglected compared to the content.
- There was one to one relationship between the competency and the lesson. Often lessons were contrived to meet the needs of the competency and were not presented in away that will kindle the interest of the child. It had very little to do with how children learn.
- The pictures were not helpful in stimulating children's imagination.
- Language used in the books was often formal and difficult.


## Concerns which the new books tried to address

- How the child would relate to learning was the main focus. Learning of the child
was central and not just teaching.
-. The methodology of classroom transaction, the process of learning was given equal importance.
- Since the focus is on helping children to learn, lessons are structured in away that will interest them, arouse their curiosity and bring about learning in a spontaneous and non-threatening manner.
- Variety of formats were used to make the lessons interesting. The book has something to offer to each child, who can relate to the book in its own way. Role of pictures in stimulating children is recognized.
$\therefore$ Exercises give space to the child's creative potertial, make them think and discover their own capacities and talents. And to let the teacher too discover the potential of their children.
- Many of the activities were intended to broaden the perspective of the teachers and clarify that children can be helped to learn in many different ways.
- Activities aim at facilitating child-to-child interaction, teacher-child interaction, greater participation of children in classroom transaction and close the doors for the earlier memorization/copying type of activities.
- Diverse activities were introduced to take care of the learning needs many children and to minimize the monotony of the classrooms
- Teachers get ideas for structuring group activities and engaging children in selflearning. Often lesson activities assume that there is one teacher for one class and he or she is available to the children all the time. However this is not so. Many of the activities can be used for multi-grade situations.
- A number of games are included to make children, parents and teachers aware that games are an integral part of the learning process.
- Making the book simple and demystify learning to reduce the burden of noncomprehension. Parents too who are educated to a limited extent can comprehend simple concepts given in the books. Since many children would be first generation learners making them feel that they are capable of learning is important.
- Compartmentalization of language learning into listening, talking, reading and writing is minimized and these run throughout the book rather than restricted to the beginning of the book.
- Though the pattern of allotting one lesson for one competency is continued in some cases, other activities which the lesson lends scope are included to make learning spiral. The fact that one activity can cover many competencies and that competencies are interrelated is being recognized. Lessons and activities have a broader focus compared to the previous one.
- There is an attempt to link lessons and child's own experience and knowledge rather than carrying on teaching and learning as an isolated activity. Giving contexts, pictures, stories to which children respond naturally make learning less theoretical and abstract.

In general the books aimed at engineering certain changes in the teaching and learning processes. Contents and activities of the book could vary over time depending on the groups. However some of the pedagogic concerns that are addressed above would remain. The books if supported with other mechanismstraining inputs, manuals and improved evaluation methods provide a number of opportunities for those who want to practice activity based teaching and learning.

## An overview of the revised book - 2 (Tamil language)

## 1.Competency -Requests, Instructions, Commands

The old book ii listed instructions (page 8) - wash your hands, wash your glass, bring the book etc to the children. Pictures were given and teachers were asked to assess whether children were able to perform the actions.

The new book ii lists a set of commands for a variety of movement activities (page 5 new book ii). Pictures are given to help the child and the teacher.

- form a train, go like a bus:
- All types of walks - fast walk, slow walk, backward walk, forward walk
- Jump, jump forward, jump backward, stand like statue.

This is further reinfocced thru another movement activity-in lesson 10 (page 21). Heie commands are given to rows of children -jump like a frog; move like an elephant; run like a deer, gallop like a horse etc.

A story situation is built in page 8 of new book ii. Here a cat's instruction on what to be drawn around her house is listed- draw two trees; draw birds; draw windows etc. In page 9 children are given space to draw around the house and colour. Another activity suggested in page 9 is pasting and drawing activity using newspaper. Instructions for making a paper boat again figure in page 36 as part of an activity for a poem on using waste paper creatively.

A conversation where an elderly person requests for help is given in page 4 with a suggestion that similar events be enacted in the classroom. This is further reinforced in lesson 23 (pages 82, 83 and 84) for a related competency of making polite conversation. Here a parrot talks to a visitor and each time the parrot talks the little girl corrects it, helping it to add please, thank you etc. The uncle goes back impressed by the parrot's talk. In the old book ii this was dealt in lesson 29. It contains an address to children as to how they should behave if they have to be considered as good children.

The English Text book iii covers instructions and commands through a game (page 4, 5 and 14,15 of Book iii). Requests are communicated thru a polite elephant, which gets into a bus (page 6, 7, 8). The new book iii (Tamil) has instructions for making colour from flowers, fruits etc in lesson 3. Lesson 2 is about a child explaining how musical chairs was played in their school. Suggested activities for this lesson include playing the above game and describing it; sharing rules of other games they play; sharing games which are played with songs; cutting pictures from the sports pages of news papers (Page 8 of book iii)

Comments - Comparatively there is a greater variety in the lessons and activities, which are for both the body and the mind. There is greater scope for the child to participate spontaneously in these activities. Activities are built in spirally for reinforcement and are not forgotten after the oral section. Besides the intended competency they cover other skills. The contents of the lesson are introduced in a non-didactic way.

## 2. Competency - understanding simple questions, dialogues, gathering information about familiar things, answering in complete sentences

The old book ii (page 8)gives some isolated pictures and a set of questions- W hat is the colour of the shirt? What is the bird doing? Is there water in the glass? What is the man cutting?

The new book ii (pages 6, 7) gives pictures several on one theme - games played by children. The suggested activity include children asking questions and talking what is happening in the picture; sharing details of the games they play and the friends with whom they play; and the material they use for playing. They also list the names of other games they knew.

This is further reinforced in lesson 11, which is about gathering information. Pages 24 and 25 give a composite picture where children again ask questions Activities include
children doing a project of collecting all the details about the buses in their area; making a web of related words around a theme-bus, tree, house (page 26,27): children interviewing each other and finding about each other's interests (page 28). Many of these reinforce and give opportunity to ask questions.For gathering information competency the old book ii (lesson 13,14) gave information abcut a lion, parrot, TV and farmer and children were expected read and discuss the details given in the lesson. Activities suggested were meanings, opposites, fill in the blanks.

The page 12 and 13 of new book ii was about understanding conversation and dialogues. One example is given and pictures of other situations are given for children to predict and enact the conversation. Book iii gives a picture of a railway station for children to enact the dialogues in a railway station and similar places (Pages 12,13 ). Lesson 10 is about answering in full sentences. It has a poem format where a child attempts to copy the - actions of various anmals: Many "pictures/ contexts' are given in page $22^{\circ}$ and $23^{\circ}$ to prompt children to write full sentences. Late chapters too reinforce it.

Comments - Instead of isolated pictures and putting in disjointed questions and interpreting the competencies literally, the new textbooks present contextsicomposite pictures to enable children to respond naturally and more holistically. The distinctions between activity and lesson start getting blurred and the lesson itself is introduced as an activity in some cases. Opportunities are built in for the child to share own experiences/ understanding rather than treating lessons as isolated learning activities. Though apparently one lesson had been allocated for each competency, it covers many others.

## 3. Competencies - correct pronunciation

The previous books ii had three lessons for focusing on closely related letters- one for two types of 'na', the other for two types 'ra' and the third one was for closely related 'las' and 'zha' letters. However the lessons were contrived to focus repeatedly on these letters. The exercises suggested involved grilling of letters, words and sentences involving the above letters.

In the new book ii also the group chose to maintain the focus on these letters in separate chapters. However stories and poems, which naturally had a greater spill of these letters. was chosen to make the natural and interesting for children.

The lesson 9 of book ii has a poem. The fantasies and of a aspirations of a rat are depicted. The poem has a number of words that contain 'na' letters. Activities included children sharing their own aspirations; writing words and sentences based on the pictures; riddles and a game of rhyming words. (Pages 16, 17,18).

Lesson 12 is about a magic mango that rolls on, challenging children on its way to catch it. Eventually it escapes. sleeps and sprouts into a fresh mango plant. A number of words with various types of 'la' figured in them. Exercises include sequencing the story events; searching and locating a given set of words from the lesson; crosswords; filling in the blanks etc

Lesson 17 is a story about a young horse, which is hesitant to cross a river. It is in a dilemma whether to listen to the advice of the buffalo that says that the water is only knee deep or to the advice of a little mongoose which says it will be washed away. Eventually the mother makes the horse compare its own size with that of the other two different animals. Activities include questions, rhyming words, taking a reference point mongoose and listing the animals bigger and smaller than it (page 54), deleting one letter and discovering new words, a game (page 56).

These competencies figure in book iii and the lessons 6,7 and 11 cover it.

Comments -. The lessons have story formats to which children would relate to naturally rather than a contrived one to achieve the focus. Lessons and exercises are broad based and offer a variety. It introduces several contexts/ pictures for children to think, discuss, read and write rather than and repeatedly grill letters, words, and sentences of the above letters. The emphasis was that children get to see these words in several contexts and
lessons and gain confidence in using them correctly over time. However as even older children make errors in using these closely related letters, the predominant view is that correctness of pronunciation is an important component. In repeated grilling, expression of children is sacrificed. Often closely related words/similar sounding words are focused and existing training strategies too reinforce this point of view.

## 3. Competency - reading of big and small letters; reading signs and advertisements;

The old book ii covered this lesson in page 44-48 where advertisements containing both types of letters were given. Children had to answer questions about the details given in the advertisements. The new book ii structures the lesson in the form of a presentation by a child where he explains about a group activity they did in school. Each group cut headlines from newspapers and pasted them on cards. The teacher calls out a particular - letter and groups search for wordss starting with that letter in the cutings. The lesson has a note to the teacher for undertaking similar activity in the classroom. A closely related lesson figures in lesson 15 of book iii. A young boy is looking for his lost elephant and each time he is told that it was spotted near a particular sign post and when he goes there he is directed to a new sign post. In the course of the lesson children get to read various sign posts. (The previous book gave a list of traffic rules and road signs).

Comments- Unlike the previous book the activities do not end with the chilćren reading a few big letters and small leters printed in the textbook but goes beyond it. For eg when they undertake the activity of browsing through newspapers they would come across many things to which they can relate in their own way. Playing the game of searching for particular words (page 38 and 39) would foster many other language skills.

There are other examples of activities that do not end with reading the contents of the lesson. The activity of magazine making (62-65 of book iii)is not only is about reading handwriting, but about many other creative activities If such an exercise is undertaken every two months, children get to read not merely different types of handwriting again and again, but their creativity gets a boost. Book iii (page 98) has a suggestion for
children to form their own library from the material in their environment, so that library reading becomes a sustained activity. In book iii lesson 18 suggests a field trip and lesson 20 gives ideas for dramatization. Most lessons include a number of group-based activities so that these become part of classroom strategies. Many of these are intended for broadening the perspective of the teachers so that they make them as part of their activities. However these need to be supported through training interventions.

## 4. Competency -reading aloud stories and poems; writing simple words and sentences; recognizing not so frequently used letters; dictation

Lesson 12 is a poem on trees planted by grandpa, grandma and all other family members and about the fruits and vegetables they gave. Activities include substitution table, ticking the correct sentences after observing the picture (Page 41); writing the appropriate name of the fruit / vegetable in the table based on its taste and colour (page 42); game with flash cards where one child describes a picture and others identify the fruit or vegetable. Lesson 16 is a fantasy type of story. Activities include arranging the events of the story in sequential order; searching for words ending with the same rhyme from the lesson; narrating the story events in the picture (page 49); identifying sentences that are realistic and those that are based on imagination (page 50). Though the above lessons were meant for reading there is space for the child to think, to speak, read and write.

Lesson 18 features a quiz program on TV wherein names and other details of National leaders figure in. In the process some letters which are used less frequently, are covered. Suggested activities include collecting pictures of National leaders and writing their names; sharing about favorite TV programs; circling some rare letters from a given set of words (page 60 ).

Lesson 19 is story of a caterpillar, which eats and eats, grows fatter and refuses to play with the bee and the squirrel that invite her. They see it disappear into a pupa and wonder about it. One day to their surprise a caterpillar emerges from it. Activities include writing
activities such as sequencing of events; searching for rhyming words; riddles; identifying the root word; word play (page $64,65,66,67$ )

For the dictation competency the old book ii had a poem. Exercises had meanings; list of words for dictation etc. Old book iii had a chapter on uses of electricity and in the course of the lesson a number of Tamil names for items which have popular English names such as Mixi. grinder, iron box, TV, telephone, computer, light, fan, video, radio etc. As opposed to this the new book iii features a story (lesson 20) Activities include writing the names of the pictures in the correct category (page 71 and 72 ); drawing as many items as possible using a circle and writing their names (last part page 72) etc. In all these activities the child gets to write the words on their own and is a different form of dictation. The new book iii does not have a separate lesson for dictation, but includes it as apart of exercises of other lessons. Page 59 of book iii gives a set of words and asks children to write them, locate the words in the different chapters of the book and check the answers on their own.

Comments- Helping children to learn rather test them or load them with memorization type of activities, use of methods which are less threatening, greater diversity in activities are some of the features. When the lessons/ activities/ pictures are interesting involvement springs from the child's own initiative and is not necessarily teacher directed. The methodology of learning gets as much important as the content. Since many of the learners are first generation learners, language used is simpler compared to the earlier books.

## 5. Competency - descriptive sentences; repeating sequential events, answering What, How questions

Lesson 21 depicts a set of animals trying to figure out the mysterious animal hiding behind a bush. Each one sees a part and speculates what it could be. Finally when a Dinosaur emerges, they all run away. Exercises involve filling in the appropriate descriptive words (page 78); searching for the opposites from a table and filling in the
words and sentences (page 79); a group activity where each one says a line and builds a story (page 80); describing one animal shown in the composite picture and asking others to locate it (similar to card game in page 42).

These competencies are reinforced in new book iii. Lesson I has a poem about animal's displaying their varied talents. Exercises include children describing the given scene. one child drawing a picture and others describing it. Lesson 9 depicts a conversation between two birds, each claiming its own tree to be the greatest. Activities include children observing trees and documenting the colours of their fruits and flowers (page 34); an oral group activity where each child takes a slip and talk about their greatness (page 35); taking one name and adding all the descriptive words that go with it (page 36); describing the events of the picture (page 37). Lesson 18 is about children describing a field trip they undertook. A number of key words, pictures and situations are given to enable children to write compositions. (Pages 91, 92 and 93).

Lesson 24 is a chain story for the competency of sequencing events correctly. Wherever there was a story in the previous pages sequencing activity was included as part of the exercises. Page 89 includes one more such exercise.

Lesson 25 is about a set of children who see an elephant that has fallen into a ditch and want to help. As part of the lesson what and how questions figure in. These get further reinforced in lesson 16 and 21 of new book iii too.

Comments - Children can describe, narrate a number of things. Only when cornered and put in unnatural situations that they go blank or fumble. The exercises and pictures are intended to stimulate and make it possible for many children to participate and succeed rather than a few.

The lessons and activities are intended to promote greater teacher- child and child to child interaction, activity based learning rather than rote methods, greater variety in
methods and material to make the classroom process a more dynamic one. It places greater faith in the capacities of the child and recognizes that a child has a right to interesting learning. It gives greater space for the child to respond to things in their own way. A number of games are included to break the monotony and make learning fun. These with training inputs and better evaluation methods have the potential to improve classroom transaction.

## English book 3

- There is a combination of whole language and phonetic approach.
- While accommodating the 65 competencies, child's nature and level were taken into consideration compared to the previous book, which looked at things from the competency point of view.
- Competencies were combined rather than dealt in isolation in each lesson.
- Activities were built in spirally for reinforcement in the later lessons.
- Each page does not end with reading the words or repeating after the teacher as in the previous book but has something for the child and the teacher to do. These extension activities give space for going beyond what is given. There is space for interaction, thinking, recall and application.
- That rural children need to listen and speak the language before they can read and write was recognized and these activities run throughout.
- Pictures have been used extensively for easy comprehension. Keeping the material simple to make it easier for the child, the teacher and the parent was attempted.
- The book provides a number of contexts, stories, pictures to enable children to respond. A wide range of games and activities figure in class i , ii and iii (Tamil) class iii (English). These constitute a good variety and a teacher can use/ apply these for not only the lessons in which they are given but in any other lesson.. The books also serve as a means for capacity building of teachers in undertaking participatory learning and enlighten parents about different ways of learning.

Maths book -Issues that were of concern were

- Making math learning simple, interesting and meaningful;
- Adding contexts thru pictures / words to help children comprehend the abstract concepts and link it to their environment.
- Helping children see patterns, inter- relationships; make the contents mathematically oriented.
- Making math enjoyable was one of the concerns. Games and activities were included for this end.
- Activities that ensure that learning does not stop with the problems given in the text books, but goes beyond it. Children are also encouraged to formulate their own problems. Self-learning and group learning were built in.
- Teachers and parents get number of ideas about classroom transaction.


## Social sciences book iii

As compared to the previous book which was content heavy that went above the head of children the present book contains many improvements.

- Content is introduced through varied formats - stories, conversation, pictures etc
- Methodology for classroom transaction was taken into consideration while introducing the content. An attempt has been made to incorporate what the child knows in the learning process and build the lesson on it.
- The lessons were introduced in a simpler manner to facilitate easy understanding and reducing the burden on the child.
- The activities of the lessons provide a number of opportunities for the child to explore the environment, undertake projects, interact with a wide range of people and draw inferences from their personal experiences. In this way learning is made practical, life oriented, relevant and interactive.
- The approach used in the book is to make the child start from immediate surroundings and then apply to larger contexts such as village, district, state and country.
- Evaluation exercises are in built in the lessons and also reinforced at regular intervals

For English, maths and science a number of models and references from other states and countries were available. However in the case of social sciences and Tamil references for material that uses alternative teaching strategies were minimal. Often existing textbooks become the model. Altering the existing books does pave the way for the future

## Appendix evi <br> NEW TAMIL TEXT BOOK <br> LESSON NO. 17 BABY HORSE THAT CROSSED THE RIVER (aarraik kaṭanta kuttik kutirai)

"Mother! Mother! I am grownup now! Can I do some help to you?" said the baby horse.
"Yes! Of-course. You could drop this small bag of paddy at the rice mill", said the mother.
The baby horse felt very happy. It walked carrying the bag of paddy.
On the way a river.
'The river may be too deep!' The baby horse was hesitant to cross the river.
'Whom to ask?' Looked around.
A bull was grazing nearby.
"Bull brother! Bull brother! Could I be able to cross this river?"
"Yes! Of-course. There is only knee-deep water. You can easily cross the river".
The baby horse was about to get into the river.
"Stop! Don't get into the river". The baby horse turned to look at the direction from where the voice came.

Under the tree a mongoose.
"Don't believe this bull's words! Yesterday this river has washed away my friend" said the mongoose.

The baby horse is confused again.
'To cross the river or not!'
Went back to its mother; narrated the events; the mother laughed.
"How big is the bull! How small is the mongoose! Think for a while.
On your own you will understand whether you can cross the river or not", said the mother.
The baby horse has come out of its confusion.
Crossed the river with the bag.

## I.COMPREHENSION QUESTIONS:

1. Where did the baby horse go?
2. Why was the baby horse hesitant to cross the river?
3. Who said to whom? What?
"You can easily cross the river".
"Stop! Don't get into the river".
4. What was the advice of the mother horse?
II. READ ALOUD THE FOLLOWING WORDS WITH CORRECT PRONOUNCIATION.

| arai <br> (room) | karai <br> (dissolve, bund, melt, used up) | aaru <br> (river, heal) | kari <br> (charred, burnt) |
| :---: | :---: | :---: | :---: |
| karai. <br> (stain) | tirai. (screen. curtain) | kиики . . . <br> (say, aspect, a heap) | (spread, expand) |
| ai | narai | nuuru | car |
| (hide, the Veda) | (grey hair) | (hundred) | (yes, correct, slide) |
| cirai | tarai | eeru | vari |
| (jail) | (floor) | (climb, rise, | (line, stripe, |

III. TAKE PART IN GROUP DISCUSSION AND MAKE THE FOLLOWING LIST:

| LIST OF ANIMALS LARGER/BIGGER <br> THAN MONGOOSE | LIST OF ANIMALS SMALLER THAN <br> MONGOOSE |
| :--- | :--- |

IV. JOIN THE WORDS TO MAKE SENTENCES: page no. 55

| kaakam |  |
| :--- | :--- |
| (Crow) |  |
| taamarai |  |
| (Lotus) | parantatu |
| paruntu | (flying) |
| (Eagle) | malarntatu |
| mallikai | (blossom) |
| (Jasmine) |  |
| mullai |  |


kaakam parantatu
(Crow has flown)
mallikai malarniatu
(Jasmine blossomed)
5. Delete the middle letter of the word. Write the new word in the blank.

| avarai <br> (beans) | arai <br> (half) |  |
| :---: | :---: | :---: |
| kazutai |  | katai |
| (donkey) |  | (story) |
| canıu |  | $a a^{\prime}$ |
| (year) |  | (dance) |
| katal |  | kal |
| (sea) |  | (stone) |
| tavalai |  | talai |
| (frog) |  | (head) |
| pañcu |  | pacu |
| (cotton) |  | (cow) |

6. FILL IN THE BLANKS (given passage not from the text) (page no55)

A picture of a cock is given alongside the text with the blanks. It narrates the features and food habits of the cock. There are five blanks to be filled) The answers i.e., five words are given at the end of the text within brackets.
7. LET US PLAY. (page no.56)

- Students are to stand in a circle.
- One of them tells the name of a BIRD and the rest of them spreads their hands in a flying motion and say "para para" ("Fly! Fly!") and go around the circle like flying.
- In case of a animals name being uttered, the rest of them have to say "naṭa nata" ("walk, walk") and walk around the circle.
- The person who mess up the action and the chorus is considered to be out and loses the chance of continuous play.

8. Pictures on paper cutting to make shapes, dolls, dominos etc., ( only pictures and no descriptions are given).

Comparison of Old Tamil Text Book and the New text book of class II.
In the old the lesson 11. "Is the River Sleeping?" and in the new Lesson no.17. "The Baby horse that crossed the River" are compared.

OLD T/B NEW T/B
Total Number of Paragraphs
5
15
Total Number of Sentences 19 41

Total number of words 98
149
Words / sentence 5.15
3.63

## POLLYSYLLABIC WORDS:

3 syllables
30
52
4 syllables
13
25
5+
8
9

## Appendix e vii

AN OVERVIEW OF THE OLD AND THE NEW MATHEMATICS TEXTBOOKS

|  | Description | Class I |  | ClassII |  | Class III |  | Class IV |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sl. No . |  | OLD | NEW | OLD | NEW | OLD | NEW | OLD | NEW |
| 1. | Name of the Book | kanakku | karkantı | kanakku | karkantu | kanakku | karkanţ | --- | karkantu |
| 2. | Years of Publication | First Edition <br> 1996 <br> Reprint 1998 | $\begin{array}{\|l\|} \hline \text { First Edition } \\ 2000 \end{array}$ | Revised Edition 1999 Reprint 2000 | First Edition 2001 <br> Reprint 2002 | First Edition <br> 1997 <br> Reprint 2000 | First Edition <br> 2001 |  | Revised <br> Edition 1999 <br> Reprint 2002 |
| 3. | Copy Right | Govt., of TN | Govt., of TN | Govt., of TN | Govt., of TN | Govt., of TN | Govt., of TN |  | Govt., of TN |
| 4. | Published by | TN Text Book Corporation | TN Text Book Corporation | TN Text Book Corporation | TN Text Book Corporation | TN Text Book Corporation | TN Text <br> Book <br> Corporation |  | TN Text <br> Book <br> Corporation |
| 5. | Lessons Production | --- | $\begin{aligned} & \text { DPEP (TN) } \\ & \text { for the Govt., of } \\ & \text { TN } \end{aligned}$ | ----- | DPEP (TN) for the Govt., of TN | -- | $\begin{aligned} & \text { DPEP (TN) } \\ & \text { for the Govt., } \\ & \text { of TN } \end{aligned}$ | ---- | DPEP (TN) for the Govt., of TN |
| 6. | Based on | MLL | MLL | MLL | MLL | MLL | MLL |  | MLL |
| 7. | Composition of the Team of Writers | Text Book <br> Writers: one <br> lecturer from <br> a DIET; <br> One Teacher <br> of a middle <br> school; <br> Supervisor: <br> onc lecturer of <br> a DIET; | Text Book Writers: Eight Teachers of different primary \& middle schools; One Artist. SRG <br> Members: Two Lecturers of | Text Book Writers: One Asst., Professor of DTERT; one teacher of a primary school. Supervisors: one senior | Text Book Writers: <br> Seven Teachers of Primary \& Middle schools; Two lecturers of DIETs; Two Artist SRG Members: Three lecturers of | Text Book Writers: One Asst., Professor of DTERT, one head teacher of a primary school. <br> Supervisos: one asst. | Text Book <br> Writers: <br> Eight <br> Teachers of <br> Primary, <br> Middle <br> Schools; <br> Two Artists <br> SRG <br> Members: |  | Text Book <br> Writers: <br> Eleven <br> Teachers <br> from <br> Primary, <br> Middle <br> schools ; two <br> artists. <br> SRG |


|  |  | Team <br> Leader: one <br> Senior <br> Lecturer, <br> DIET. | different DIETs. | lecturer of a DIET; one Asst Prof., of DTERT. <br> Team Leader: AddI. Director of DTERT | DIETs. | professor, DTERT one maths teacher of a higher secondary school. Team Leader: Addl. Director, DTERT | Two lecturers of different DIETs, | Members: four lecturers from DIETs; one person from a BRC, Banruti, Cuddlalore. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8. | CONTENTS | There are 24 Lessons each one named on the competency imparted in them covering four main areas such as Whole Numbers \& Numerals; Whole Numbers - Addition, subtraction; Measurements \& Geometric shapes | There are 18 <br> Lessons, 3 <br> Review <br> Exercises one after the $6^{\text {th }} 11^{\text {th }}$ \& $18^{\text {th }}$ <br> lessons.Three pages of 'Play with Numbers' <br> at frequent <br> intervals. <br> Covers 24 <br> competencies of <br> four broad areas <br> namely <br> 1. Whole <br>  <br> Numerals; <br> 2.Whole | There are 22 lessons each known by the name of the competency on four major areas namely:whole numbersnumerals; whole numbers: basic operations; measurements; and geometric shapes. | There are 15 lessons, which include on Recall Exercise as the first lesson. Eight Revieyv Exercises at frequent intervals. Lessons are known by the name of operation/concepts for e.g. Addition, Place Value and so on. Covers 22 competencies distributed in different lessons. | There are 48 lessons each known by the competency covering Five areas such as Whole numbersnumerals; Basic Operations; Measurements; Fractional Numbers and Geometric shapes know each one. | There are 20 lessons begin with Recall Exercise as the first lesson; 8 Review Exercises at frequent intervals after each lesson. Covers 48 competencies distributed into different lessons. The lessons are known by the | There are 20 lessons and are interestingly named and hence not strictly known by the name of operation or the concept; Five Review Exercises one after every two lessons; covers 56 competencies distributed |


|  |  |  | Numbers- Addition, Subtraction; 3.Measurements 4.Geometric shapes. Includes numerous appropriate, interesting colourful pictures and illustrations. |  |  |  | name of concept/ operation. | across <br> different <br> lessons. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 9. | Lesson <br> Arrangement | Unidirectional i.e. one to one relationship between the competency and the lesson | Spirally arranged | Unidirectional i.e. one to one relationship between the competency and the lesson | Spirally arranged | Unidirectional i.e. one to one relationship between the competency and the lesson | Spirally arranged | Spirally arranged |
| 10. | Total <br> Number of Pages (Contents only) | 92 pages | 90 pages | 116 pages | 106 pages | 154 pages | 136 pages | 98 pages |

Appendixe viij
AN OVERVIEW OF THE OLD AND THE NEW EVS TEXT BOOKS

|  |  | Class I |  | Class ${ }^{\text {I }}$ |  | Class 111 |  | Class IV |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8. | Description | OLD | NEW | OLD | NEW | OLD | NEW | OLD | NEW |
| 1 | Name of the Book | cuuznilaiyiyal | vaanavil | cuuznilaiyizal | vaanavit | cmiznilaiyiyal | Not availa ble | NoI availabl e | en ulakam |
| 2 | Years of Publication | First Edition 1995 | First Edition 2000 | First Edition 1999 Reprint 2000 | First Edition 2001 | Revised Edition 1999; Reprint 2000 |  |  | Revised Edition 1999 Reprint 2001 |
| 3 | Copy Right | Govt, of TN | Govt, of TN | Govt, of TN | Govt., of TN | Govt., of TN |  |  | Govt., of TN |
| 4 | Published by | TN Text Book Corporation | TN Text Book Corporation | TN Text Book Corporation | TN Text Book Corporation | TN Text Book Corporation |  |  | TN Text Book Corporation |
| 5 | Lessons Production | --- | $\begin{aligned} & \text { DPEP (TN) } \\ & \text { for the Govt., of } \\ & \text { TN } \end{aligned}$ | --.. | DPEP (TN) for the Govt., of TN | ---- |  |  | DPEP (TN) <br> for the Govt., of TN |
| 6 | Based on | MLL | MLL | MLL | MLL | MLL |  |  | MLL |
|  | Composition of the Team of Writers | Text Book <br> Writers: Three Lecturers from DIETs; One head teacher of a middie School Team Leader: Addl. Director of the Dept., of School Education. | Text Book <br> Writers: Nine <br> Teachers of different primary \& middle schools; One Artist. <br> SRG Members: <br> Two Lecturer of DIETs; the <br> Women <br> Development Officer of the SPD of DPEP | Text Book <br> Writers: <br> One Lecturer from a DIET; a head teachier of a middle school. <br> Supervikors: <br> One lecturer of a <br> DIET andone <br> asst., head teacher <br> of a higher <br> secondary school. <br> Team Leader: <br> One addn! <br> Director of the <br> Dept., of School | Text Book <br> Writers: <br> Seven Teachers of <br> Primary \& Middle <br> schools; Four <br> Artists; <br> SRG Members: <br> Two Sr. lecturers of DIETs; and the <br> Women <br> Development Officer at the SPD,DPEP, <br> Chennai | Text Book Writers: One lecturer of the SPD, DPEP, Chennai and one head teacher of a middle school. <br> Supervisors: One Field Consultant of DPEP and one lecturer of a DIET Team Leader: The Director of Primary Education. |  |  | Text Book Writers: T Teachers of Primary, Middle schools, three artists. <br> SRG Members: Thre lecturers of DIETs ap Two members of BRA Sankarapuram and Tiruvennainallur |


|  |  |  |  | Education |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8 | CONTENTS | There are 13 lessons and the contemts are mostly pictures. The type of exercises given at the end of each lesson are not appropriate to the level of class I because it asks the students to write the names of objects etc and at this stage they may not have acquired the writing skïlls. The 13 lessons cover six broad areas of competencies such as awareness of about one's body and its parts; one's family and neighbors and the relationships; local festivals; one's natural environmentlocal land features river, pond, common | There are 15 lessons and 3 exercises one each after every $5^{\text {th }}$ lesson. <br> Concepts and themes are illustrated through interesting pictures. Exercises are of verbal or just marking a tick type. Full page pictures; cartoon story formats have been adopted to illustrate the concepts. Covers 15 competencies but the book does not mention the competencies explicitly anywhere in the book. | There are 16 lessons and each lesson is known by the competency taught in it. The lesson content are statement of facts/definitionan d pictures to complement each other. Each concept/ theme of a lessons is fragmented into different components/ parts and treated individually and hence the lesson on the whole resembles a mere collection of information/ facts. Exercises at the end of each lesson are of fill in the blanks; stating the given statement as true/false, matching etc., Covers 16 competencies in six areas such as awareness about | There are 15 lessons, two review exercises and one tossing- game. Though this book also covers the same competencies as the old book, this book employs different approaches to handle the theme of the subject in each of its lesson. The name of each lesson is attractive and imaginative: Each lesson, the theme/ concept is treated as a whole through interesting contexts, stories, dialogues and so on. Verbal presentation of each lesson is complemented by series of colourful pictures that fit exactly to the format adopted in each lesson. The exercises are builtin in each lesson content and are imaginatively disgned. | There are 22 lessons covering six major areas of competencies. The first area of the competency: road safety and social values and customs and under this there are four lessons. The first lessons describe various social values and customs in an attempt to cultivate the socially accepted behavior in the child. Lessons are mostly narrative in nature. The next two lessons deal with road/traffic rules and how important it is for everyone to follow in order to avoid accidents and related discomforts. The second area of competency is on various aspects of local socio-civic environment and the functioning of various institutions such as local panchayat, post office primary health centers, police station, courts, banks etc., The third area is on various occupations, workers and their importance to |  |  | There are 18 lessons. lesson contents are nc monotonous narrative descriptions; there are formatted into interesting contexts, story format, conversation/dialogu format and are interactive in nature. exercises are all builtthe lesson and at the $\varepsilon$ of each lesson also contain activity based exercises in addition t the comprehension, f in the blank types. Topics covered incluc local and national festivals features of ex festival and festival seasons, various agricultural implemen equipments and agri products and their relationship given in a dialogue format, on ci amenities, on tribal culture, road safetyforms of various accidents and first-aid procedures, on ancien man- his life and the modes of modern transportation, variou occupations and work |



## Appendix eix

AN OVERVIEW OF THE OLD AND THE NEW TAMIL TEXT BOOKS

|  | Description | Class I |  | ClassII |  | Class III |  | Class IV |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | OLD | NEW | OLD | NEW | OLD | NEW | OLD | NEW |
| 1 | Name of the Book | lamizp paatanuul | tamiz amu't | tamizp paatamul | camiz amutı | tamizp paatamal | tamiz amult | tamizp paatamul | tamiz amu |
| 2 | Years of Publication | First Edition 1995 <br> Reprint 1998 | First Edition 2000 Reprint 2001 | Revised Edition 1999 <br> Reprint 2000 | First Edition 2001 | First Edition 1997 Reprint 1998 | $\begin{aligned} & \text { First Edition } \\ & 2001 \end{aligned}$ | Revised Edition 1990 Reprint 1997 | Revised Edition 19 Reprint 2 C |
| 3 | Copy Right | Govt., of TN | Govt., of TN | Govt., of TN | Govt., of TN | Govt., of TN | Govt., of TN |  | Govt., of: |
| 4 | Published by | TN Text Book Corporation | TN Text Book Corporation | TN Text Book Corporation | TN Text Book Corporation | TN Text Book Corporation | TN Text Book Corporation |  | TN Text E Corporatic |
| 5 | Lessons Production | Corer | DPEP (TN) for the Govt., of TN |  | DPEP (TN) <br> for the Govt., of TN | - | $\begin{aligned} & \text { DPEP (TN) } \\ & \text { for the Govt., } \\ & \text { of TN } \end{aligned}$ | --.. | $\begin{aligned} & \text { DPEP (TT } \\ & \text { for the Go } \\ & \text { of TN } \\ & \hline \end{aligned}$ |
| 6 | Based on | MLL | MLL | MLL | MLL | MLL | MLL |  | MLL |
| 7 | Composition of the Team of Writers | Text Book <br> Writers: Two <br> Lecturers from <br> DIETs; One <br> Tamil Teacher <br> from a Higher <br> Secondary <br> School <br> Supervisor: <br> Two lecturers from DIETs; <br> Team Leader: <br> one Retd. <br> Professor of <br> Tamil | Text Book <br> Writers: Eight <br> Teachers of different primary \& middle schools; Four Artists. <br> SRG Members: <br> One Lecturer of a <br> DIET; One <br> Educator from a <br> DIET; One <br> Consultant of the SPD-DPEP | Text Book Writers: One Lecturer from a DIET; a head teacher of a higher secondary school. Supervisors; two lecturers from DIETs Team Leader: one Retd., Professor of Tamil | Text Book Writers: Nine Teachers of Primary \& Middle schools; one Artist SRG Members: Two Sr. lecturers and a lecturer of DIETs; one consultant, DPEP, Chennai; One consultant from CRY, Chennai | Text Book Writers: - <br> One lecturer of a DIET: one head teacher of middle school <br> Supervisors: one asst. head teacher of a higher secondary school; a lecturer of a DIET, Team Leader: one Professor of Tamil. | Text Book <br> Writers: Seven <br> Teachers of Primary, <br> Middle <br> Schools; Three Artists <br> SRG Members: <br> Two senior lecturers of DIETs, one consultant of the SPD; one consultant from CRY, | Text Book <br> Writers: one <br> PG Tamil <br> Teacher and a teacher of higher secondary schools Supervisors: one head teacher and a Tamil teacher of higher secondary schools; Team | Text Bool <br> Writers: T <br> Teachers s <br> Primary, <br> Middle <br> schools, tt <br> artists. <br> SRG <br> Members: <br> four DIET <br> lecturers |


|  |  |  |  |  |  |  | Chennai | Leader: one head teacher of a higher secondary school |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8 | CONTENTS | There are 19 lessons one each for a competency- 3 rhymes, 2 picture stories, one conversation format based on picture; answering simple questions based on pictures; reading common letters of alphabets, simple words; copying vowels, consonants, writing simple words, sentences. Covers 9 broad areas com competencies. | There are 18 lessons, a table of vowels and consonants, a poem; two activity based learning exercises (5 pages), The lesson could be classified into: 5 rhymes, 3 picturestories; 2 activity based command \& instructions; one on conversation based on pictures; 5 cartoon stories; 2 lessons of questions based on pictures; one lesson of word game to be played in a group. <br> Exercises are built-in the lesson itself, Covers 19 competencies of 9 areas such as | There are 33 lessons including three poems. The book begins with a three page review exercises on recognizing the letters. There are 8 rhymes in all; 2 picture stories; 4 stories; one on command and instructions; 5 lessons of information about animals etc., one conversation. Each lesson has exercises which are of comprehension type questions; word meaning, opposites; reading sentences; fill in the blanks and so on. | There are 27 lessons and one poetry section consisting three poems. In all there are five rhymes/songs; two lessons on following/understan ding commands and instructions; two lessons on narrating various activities in the given pictures; two lessons of simple conservations; eight stories; two lessons of picture-song combination; most of the lessons have exercises at the end consisting items like fill in the blanks; writing the names of objects in the given picture; simple crosswords; group activities/ games, story-telling word | There are 37 <br> lessons, one word dictionary; a poetry section of 5 poems; 2 <br> revision tests; one recall exercise in the beginning of the book. Covers 19 competencies of 9 areas such as listening; speaking; reading; writing; comp- rehension of ideas, <br> - functional <br> - grammar; self- <br> - leaming; <br> - language use and <br> - vocabulary <br> - control. The end - of each lesson has .two parts- one . contains word . meaning, . opposites, separation of words, words in |  | There are 20 lessons consisting 6 songs, one letter writing, 2 stories, lessons imparting moral values and a biography. Most of these are of narrative type. A separate poetry section of 4 poems. There is no mention of competency in the book. The end of each lesson has 3 parts- in one of them word meaning, exercises on opposites, grammar, separate the words, fill in |  |



## 11. ஆறு தூங்குகிறதா?

செல்லப்பர் ஒரு வணிகா். அவா் பக்கத்து ஊா் செல்ல நினனனத்தா்். மூன்று வேலையாள்களை அழைத்துச் वெச்்றறாா.

ஜ゙ேே๙மலபயாள்கள் அறிவில் குறைந்தவா்கள். வழியில் ஒர் ஆற்றைற் கடந்து செல்லவேண்ாட இருந்தது. ஒரு வேலையாள், "ஐயா! ஆறு பொல்லாதது. நம்மை ஸிழுங்கி விடிம். அது தூங்கிய பின் போகலாம்" எச்றான். "ஆறு தூங்குகிறதா? பார்" என்று வணणிகா் Eூறினாாा்.


அற்றின் கரையில் ஒரு கொள்ளிக்கட்டை கிடந்தது. அஞை எடுத்து எட்டி நின்று ஆற்று நீாில் வைத்தான். சுரீர் என்ற ஒலியுடன் புகையும் எழுந்தது. "ஐயா, ஆறு விழித்திருக்கிறது" என அவன் ஓடி வந்தான்.

அ) வண्னிகா் எங்குச் செல்ல நிணைத்தார்?
$\qquad$
ஆ) அவா் எத்தறை வேலையாள்கணை அழைத்துச் ட்ச்றாா்?
$\qquad$
இ) வேடலலயாள்கள் எப்படிப்பட்டவா்கள்?
$\qquad$
ஈ) முதல் வேலையாள் ஓடிவந்த என்ன சூறினான்?
$\qquad$
2) முதல் வேலையாள் எதணை ஆற்று நீாில் வைத்தான்?
$\qquad$
๓5) இரண்டாவது வேலையாள் என்ன Eூறினான்?
$\qquad$


1. செல்லப்பா் யாா்?
2. ஒரு வியாபாกி.
3. ஒயு தச்சர்.
4. வேலையாா்.
5. வேலையாம் ஆைறு விழித்திருக்கிறது என்று கூறியது ஏன்?
6. சலசல என்று நீர் ஒடியதால்.
7. சுரீர் எธ்று ஒலி எழுந்ததால்.
8. ஆறு பேசியதைக் கேட்டதால்.
9. ஆற்றிலிர்ந்து ரரீா என்ற ஒலி எழுந்ததை ஏன்?
10. ஆறு கோபத்துட்் கத்தியதால்.
11. ஆறு விழித்திருந்ததால்.
12. கொள்ளிக்கட்ணையில் நெருப்பு இருந்ததால். $\qquad$

" அம்மா! அம்மா! நான்தான் பெரியவனாக வளர்ந்து விட்டேனே! உங்களுக்கு ஏதாவது

"ஓ! தாராளமாக. இந்தச் சிறிய நெல் மூட்டையை அரிசி ஆலையில் இறக்கிவிட்டு வருகிறாயா" என்றது தாய்க் குதிரை.

குட்டிக் குதிரைக்கு ஒரே மகிழ்ச்சி. அது நெல் மூட்டையைச் சுமந்து சென்றது.

வழியில் "ஓர் ஆறு.
'ஆற்றின் ஆழம் அதிகமாக இருக்குமோ!' ஆற்றைக் கடக்கத் தயங்கியது குட்டிக் குதிரை...
'யாரிடம் Cேட்கலாம்?' திரும்பிப்
பார்த்தது.
அருகே ஓரு காளைமாடு புல் மேய்ந்து கொண்டிருந்தது.
"காளை அண்ணா! காளை அண்ணா! இந்த ஆற்றை என்னால் கடக்க முடியுமா?"
‘‘ஓ! தாராளமாக. என் முழங்கால்
வரைதான் தண்ணீர் உள்ளது. நீ எளிதில் ஆற்றைக் கடக்கலாம்".

குட்டிக் குதிரை ஆற்றில்
இறங்கச் சென்றது.


மரத்தின் அடியில் கீரி.
"இந்தக் காளை சொல்வதை நம்பாதே! நேற்று என் நண்பனை இந்த ஆறு அடித்துச் சென்றுவிட்டது" என்றது கீரி.

குட்டிக் குதிரைக்கு மீண்டும் குழப்பம். 'ஆற்றைக் கடப்பதா, வேண்டாமா!'

அம்மாலிடம் சென்றது; நடந்ததைக்
கூறியது: தாய்க் குதிரை சிரித்தது.

## "காளை எவ்வளவு டபரியது!' கீரி

எவ்வளவு சிறியது! சிந்தித்துப் பார், ஆற்றை உன்னால் கடக்க இயலுமா இயலாதா என்பது உனக்கே புரியும்" என்றது தாய்க் குதிரை.
 மூட்டையுடன் ஆற்றைக்
கடந்தது.


வழியில்லஓா ஆறு, 5
'ஆற்றின் ஆழம் அதிகமாக இருக்குமோ!' ஆற்றைக் கடக்கத் தயங்கியது குட்டிக் குதிரை...
‘யாரிடம் கேட்கலாம்?' ' திரும்பிப்
பார்த்தது.
அருகே ஒரு காளைமாடு புல் மேய்ந்து கொண்டிருந்தது.
"ககாளை அண்ணா! காளை அண்ணா! இந்த ஆற்றை என்னால் கடக்க முயயுமா?"
."ஓ! தாராளமாக. என் முழங்கால் வரைதான் தண்ணீர் உள்ளது. நீ எளிதில் ஆற்றைக் கடக்கலாம்".

குட்டிக் குதிறர ஆற்றில்


1．氏ிடை
1．குட்டிக் குதிரை எங்கே சென்றது？
2．அது ஆற்றைக் கடக்கத் தயங்கியது ஏன்？

3．யாா்，யாரிடம் சொன்னது？ஏன்？
＋＇நீ எளிதில் ஆற்றைக் கடக்கலாம்＇．
－＇நில்！ஆற்றில் இறங்காதே＇．
4．தாய்க் குதிரை，குட்டிக் குதிரைக்குக் கூறிய அறிவுரை யாது？
ث仑：2．சொற்களைச் சரியான ஓலிபபுடன் படி．

| अறை¢ | கரை | Hetm |
| :---: | :---: | :---: |
| கণin | திரை | ¢¢9\％ |
| மறை | நரை | நூறு |
| சிறை | தரை | ஏற1 |


| காி |
| :--- |
| விாி |
| சாி |
| வாி |

3．குழுலிவ் கஹந்துரையாடு；பட்டியலிடு．

| க்ரியையிடப் Quாிய வியங்குகள் | க்ரி円யலிட் சிறிய வியங்குகள் |
| :---: | :---: |
| ． |  |

4．சொற்களை இயைா்்துத் தொடராக்கு．

| காகம் |  | காகம் பறந்தது |
| :---: | :---: | :---: |
| தாமரை |  |  |
| பருந்து | பறந்தது |  |
| மல்லிகை | மலர்ந்தது |  |
| －முல்லை |  |  |
| －கருவி |  |  |

5．நடுவில் உள்ள எழுத்தை நீக்கு．கிடைக்கும் புதிய ．சொல்லை எழுது．

| அவரை | அரை | தவலை |
| :---: | :---: | :---: |
| கழுळை | － | பாடல் |
| ஆண்டு | － | பஞ் |
| கடல் | － | கூண்டு |

6．கோடிட்டஇடத்றத कிரப்பு．
－கோழி ஒரு $\qquad$ ．
：அதற்குச் $\qquad$ உண்டு． ஆனால் $\qquad$ பறக்க முடியாது． அது $\qquad$ ， $\qquad$ ，சோளம் முதலியவற்றற உண்ணும்．

அாிசி，புழு，பறவை，சிறகுகள்，உயரத்தில்
7. ளிி்ாயாடுவோம்| வட்டமாக நில்லுங்கள்; உங்களில் ஒருவா் ஒரு பறவையின் பெயரைச் சொல்ல゙ மற்றவர் ‘பறபற' என்று கூறிக் கொண்டு பறப்பது போலச் சுற்றி வருக.

லிலங்குகளின் பெயா் சொன்னால் 'நடநட' என்று கூறிக் கொண்டு வட்டத்தில் நடந்து செல்க. மாற்றிச் செய்பவர் விளளயாட்டிலிருந்து விலகி
8. செய்து பார்.



## «. ஆணுக்குப் பெண் இறைப்பில்லை!

கும்லியபप! தமிழ்நாరு முழுதும்
 நம்மைப் டிடித்த ப்தாகசகள் போuினா நன்க்ம எண்ாடோ மெல்று கும்மியாட!
எட்ாடபட்ம் பெண்கள் வொடுவது தீணுயயென்

வீட்டுக்குஸ்ளே பெண்ாேணப் பூட்புவைப் போமெல்ற


பட்டங்கள் ஆள்வதும் சட்டங்கத் செய்வதும் பாாிळில் பெண்ாகக் தடந்த. வந்தோம்:


வேத்் பாட்்கவும் நீதிசக் செய்யவும்

 ச்ா்தி பாடக்கவுi் ிெi்திடுவோம்.




| 2．தயம் <br> தீர்ப் <br> 『ப்பந்தம் <br> திต்ாடாட்டம்－ <br> 2．ロக்கம் |
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இரய்டு ஆடுகள்－முட்டி விறளயயாடுதல்－நாி ஒன்று பார்த்தல்－ ஆடுகளின் தாலயில் இாத்தம் வழிதல்－ சிறிது வில\＆ி நிற்றல்－நாி நாக்கில் நீர் சரதத்தல்三
－ஆலுகளூக்கு இாடயில் செல்லல்－இரத்தத்றதச் சுறவத்த்்－ஆடுகள் மீண்டும் முட்டிக் கொள்ளல்－நாி நடுஷிவ் மாட்டிக் கொள்ளல்．

 uழす


## 7 ஓடி விளையாடு பாப்பா!


『்ப்ந்திருக்க லாகாது பாப்பா




காறை யெழுந்தவுடன் படிட்பு - பின்பு
கळிவு. கொடுக்கும் நன்லபாட்டு
Iロாமை முழுதும் விளளயாட்டு - என்று வழக்கப் படுத்திக்கொள்ளு பாப்பா.
2. பிர்களிடத்தில் அன்பு வேணும் - தெய்வம்

உண்மையென்று தானறிதல் வேண்டிய் வயிரமுடைய நெஞ்சு வேனும் - இது




† வயலுக்குச் சென்றார்.

* பொழுது $\qquad$ தொியவில்லல.
* பொழுது விடியாமல் $\qquad$ நன்றiகதத் திண்ா_ாயடடும்ம் என்று காகமும் சேவலும் $\qquad$ செய்துகொண்டன.
* நாய் ஒன்று வாயில் $\qquad$ கவ்விக் கொா்ாுு வந்தது
$\stackrel{+}{\circ}$ $\qquad$ முதலில் ஒப்பந்தத்றை மீறியது
* "என் இவ்வாறு சண்டையிடுகிறீர்கள்?" என்று
$\qquad$



$\qquad$
* அமர்ந்திருந்த $\qquad$
* வழங்யியிருக்கும் $\qquad$



என் உடல் ஏழு நிறங்களால் ஆனது ஊதா கருநீலம் நீலம் பச்றச மஞ்சள் இளஞ்சிவப்பு எब்ற வரியசயில் நிறங்கள் அமைந்திருக்கும் எனத் பெயாின் முன்பகுதிஎன் இருப்பிப் பின்பகுதி என் வடிவம் என் பெயறைர் கண்ரிலிடத்துலிட்டாயா

## 





1. கடிதம் எழுதியவர் யார்?
2. கடிதம் எந்த உாரிலிருந்து எழுதப்பட்டது?
3. கடிதம் யாருக்கு எழுதப்பட்டது?
4. பொன் விழா என்றால் என்ஞ?


* நாடு + बொடி $=$
* பாகை + பட் =
* $\boldsymbol{\infty}+$ எழுத்து $=$
$\qquad$
$\qquad$

அசைப்புக்குள் கொடுக்கப்பட்டுள்ள சொற்களுக்குப் பொருத்தமாா $\sigma$ कிர் ச் சொவ்லை எழுதுக்.
+ பொம்றம உடைந்ததால் செல்வி்்கு $\qquad$ (மகிழ்ச்சி)
* அவசரத்தில் $\qquad$ முடிவை எடுத்துவிட்டேன். (சாியான)
* விமானம் என் பார்யவயிிிரருந்து $\qquad$ - (தோळ்றியது)

அடைப்புக்குள் உள்ள சொற்களைப் பயன்படுத்து
(பாம்றப. ஒடிாான், பொம்மம, பாறதயில். குறும்பு. சிலா்,
குறுங்கிக் குலுங்கி)
கண்ணன்் வீட்டுக்குத் திரும்பும் $\qquad$ ஒரு $\qquad$ கண்டான் உடனே பயந்து $\qquad$ சிறிது தூரத்தில் நிள்று கொண்டிருந்த
சிறுவர்கள் $\qquad$ கண்ண ன் ஒடியறதப் பார்த்து $\qquad$
சிிித்தனர். அப்போதுதான், $\qquad$ பாம்மபப் பாறதயில் போட்டு
அவा்்க் $\qquad$ செய்தனர் என்பळதக் கண்ணன் அறிந்து
கொண்டான்.


カிாிபபோம்！

 ந்ங்க தானே பு போன்ற இட்லி கிடடக்கும்＇என்று எழுதிப் போட்டிருக்க゙ங்க．
$\stackrel{\underset{\sim}{4}}{ }$

முதுகு அரிக்கிறது！கொஞ்சம் சொறிஞ்சிவிடுறியா？
（6）


எபாழைப் பழத் தோலுக்கும் சீப்புக்கும் என்ன லித்தியாசம்？

முன்ளது காறல வாாிவிடிம் பின்னது தலையை வாரிஷுiடிம்．

27


 வருகிறது．

山ानை：！


## 

" "ம்பிக்குக் காய்ச்சல். இந்த மருந்றதச் சீக்கிாம் வாங்கி வா!" என்று சொல்லி அம்மா மருந்துச் \&ீட்ாையும் பயத்றதயும் தந்தார். நான் அவற்றற வாங்யிக் கொண்டு கடைவீதிமய அடைந்தேன்.

அங்தே ...
கண்னுக்கெட்.டய தொலிலவு வரை வெறிச்சோடிய தெரு.
அடைத்த கடைகள்.
வெயிலோ கொஸுத்தியது.
மின் கம்பிகளில் காக்றககள் அு்குமிங்குமாக அமா்ந்திருந்தன.

பக்காட ஒரத்துக் குப்றபக் குவியல்களில் கிழிந்த சட்டையுடன், நாலைந்து சிறுவர்கள் எதையோ தேடிக் கொச்்டிருந்தனர். சாக்கடை ஒரமாகத் தெரு நாய் ஒன்று படுத்திருந்தது. பேருந்து ஒன்றறக்சூடக் காணலில்மை. கட்டை வண்டிகள் அங்குமிங்குமாகக் கிடந்தள. தார்ப்பாய் மூடிய சரக்கு வண்டி ஒன்று வேகமாகப் போயிற்று. 'குப்'பென்று பழுதி. புகையாக எங்கும் பரவியது நான் கண்களைக் கசக்கிக் கொன்டேன்..

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நேற்று நான் பார்த்ร பரபரப்பான கடைவீதி இல்றறM இப்படி மாறிலிட்டCீ! ஏன்? அதோ! அந்தக் கモைடயில் மிதிவஷ்டிகள் வரிஜசயாக நிறுத்தப்பட்டாருக்குமே. அஹை எங்கே? காய்கறிக் கறைகள் விற்பாரும் வாங்குவாரும் இக்ர மூடியிருக்கின்றனவே! அழகাக: பழக்கள்ா அடுக்கப்பட்டிரு்க்ும் பழக்காடயும் மூடிக்கிடக்கின்ற!:

நானும் பாலுவும் மிட்டாய் வ்ாங்கிச் சுவைக்கும் கடையில் இன்று புட்டுத்தான் தொங்குகின்றது. ஆண்களும் பெண்களும் ஆரவாரம் எழுப்பும் நியாாய லிமலக் கடையும் திறக்கப்படலி|ல்லலயே! தேநீர்க் கடையிில் ーிற்கும் சூடான வடையை வாங்க மக்கள் க்ாறையிலேேேே வந்து விடுவார்களே! அவர்களாாय|ம இள்று காணோடமே!

பட்டப்பகல் வேளளயில் சாமலயும் கடைவீதியும் இப்படி இருப்பது அரிது.

ஏன் இந்த நிறல? என்ன
செய்வேன்? நான் எப்பட
மருந்றத வாங்குவேன்?


บแกิต่カூสั่

1．சிறுவன் எதற்காகக் கடைவீதிக்குச் சென்றான்？
2．தெரு எப்படியிருந்தது？
3．காக்றககள் எங்கே இருந்தன？
4．காட வீதியி்் காடகள் இருந்த நிறலயை விளக்குக．


$$
\text { கடைகள் } \quad \text { விற்கும் பொருள்க்ள் }
$$


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4．－－－－－－－－－－－
＊－－－－－－－－－－
இ）அழீய แ

சென்றன சிதம்பரம் விறையாட்டரங்கத்தில் நடடடெறும் கிிி்கெெட் விறளயயாட்டுப் போட்டி：－
அரங்கம் பார்றவயாளர்களால் நிரம்பி வழிகின்றது．இந்திய அயியின் தமைவரும் இலங்மக அணியின் தலலவரும் ஆடுுகத்தின் நடுவில் மின்றுகொண்கு இருக்கிறார்கள்． இதோ நடுவர் அவர்களள நோக்கி வருகிறார்．
இலங்மக அணித் தமலவா்＇பூவா தாலயா＇போடுகிறார்． ஒ－இந்कிய அணியின் தலலவருக்கே முதலில் வாய்ப்பு！ இந்திய அணித் தமலவா் முதலில் பந்து அபிப்பதாக முடிவு செய்கிறாா்．
இலங்கை அணி வீரர்கள் பந்து வீசக் களத்றத நோக்கி்் செல்கிறார்கள்

＊தேன்மொழி எங்கே சென்றறாள்
＊தேன்மொழி நெல்லிக்காய் இலந்றதப் பழீ் கடமல

＊நெல்லிக்காu் ஒரே புளிப்பு

＊கண்றுக்கெட்டிய＝ $\qquad$
＊நாமலந்து＝
＊அங்குமிங்கும்
$=$
＊．மூடியிருக்கின்ற＝



கொடுக்கப்பட்ட சொற்களளப் பயன்படுத்துத．
தம்பி－அம்மா－தேடு－ஓடு－மரம்－கிளி－பாாு
（எ－டு）என் தம்பி விமளயயாடிவதற்காக வெயிய乌்ல சென்றிருந்தான் அம்மா தம்பியயக் कूट்டிவரச் னொன்னார்．நாாள் அவளைத் தேடி ஒடினேன்．என் தம்பி ஒரு மரத்தின் கீழே விறளயாா＇ிக் கொண்டிருந்தான்．அ｜ந்த மரக்கிறளயிி் அமர்ந்திருந்த கிளியயப் பார்த்தேன்．கிளியைத் தம்பிக்குக் காட்டினேன்．உடனே தம்பி，＂பச்ணைக் கிளியே வா！வா！！＂ என்று பாடத் தொடங்கினான்．
இதே சொற்காளக் கொண்டு ஒவ்வொருவரும் Qரு கதை எழுதுக．

|  |  |
| :---: | :---: |
|  | 34 இல் <br> 3 இன் இட மதிப்பு <br> 3 பத்துகள். <br> 4 இண் இட மதிப்பு <br> 4 ஒன் றுகள். |
|  | நி்பப்பூ. <br> 46 இல் <br> 4 இன் இட மதிப்பு $\qquad$ <br> -• 6 இனன் இi i iதிப் |
|  | 52 இல் <br> 5 $\qquad$ மதிப்பு $\qquad$ <br> 2 இன் இட மதிப்பு $\qquad$ |












பத்துப் பத்தாக வட்டமிடுவோம். எண்களை எழுதுவோட்.




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எங்றூு்க் ஏற்ப வண்ஙணமுடு.

()-)

$20 \quad 40 \quad 50 \quad 30$
$60 \quad 80$ $90 \quad 70$

离

()-)பொர்த்து.


> © எண்ணூக்கேற்ய . . .

குழுவில் ஒருவர் தரையில் ஈரிலக்க எண் ஒன்றை எழுதவும் மற்றொருவா் எண்ணுக்கு
 ஏற்பக் குச்ச்க் கட்டுகளையும் குச்சிகளையும் வைக்க. இவ்வாறு தொட்்ந்து விளையாடுக.
(ن)எண் அட்டைகளைக் कொண்டு ஈாிலக்க எண் ஒன்றை உருவாக்கு. அந்த எண்ணுக்கேற்ப மணிகள் இடு. இதே போல் உன் !நண்பனுடன் மாறிமாறி விளையாடு.

()சிியாゥ எண்ணை $\checkmark$ செய்


## சோ்்த் எழுது.

$\begin{array}{ll}3 \text { பத்துகள் }+5 & \text { ஒன்றுகள் }=35 \\ 2 \text { பத்துகள் }+2 & \text { ஒன்றுகள் }= \\ 9 \text { பத்துகள் }+7 & \text { ஒன்றுகள் }= \\ 8 \text { பத்துகள் }+6 & \text { ஒன்றுகள் }=-\end{array}$
$76=$ _ பத்துகள் + __ ஒன்றுகள்
$95=$ _ பத்துகள் + __ ஒன்றுகள்
$50=$ _ பத்துகள் + _ ஒன்றுகள்

84

இடமதப்யை எழுது.
45
57
68
5
ஒø்றுக்்
$\underline{2} 3$
30
68
95

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57ல் 5ன் இடமதுபப 5 பத்துகள் அல்லது 50

பின்னோக்கி எழுது.
தொட்்்்து எழுது.


பத்துப் பத்தாக ஏற்றி எழுது.


(3) ஒரு பூங்காவில் 6 ஊஞ்சல்கள் உள்ளன. - 10 月ிறுவர்கள் வருகின்றனர். ஒரு ஊஞ்சலில் - ஒருவர் மட்டுமே ஆடலாம். எல்லாருக்கும் - உஞ்சல் கடைக்குமா?

-     - ஆம்/இல்லை
-. முதலாம் வகுப்பு 1 ாணவர்களுக்குக் - கொடுப்பதற்கு 28 சலேட்டுகள்
- உள்ளன. அங்கு 20 மாணவர்கள்

- Яலேட்டுகள்̣ கிடைக்குமா?
-     - ஆம்/இல்லை
(-) $15 \dot{\text { க்கும் } 8 \dot{க} க ு ம ் ம ் ~} 2 \dot{\text { ள்ள வித்தியாச்் } 7 .}$ : - ஆம்/இல்லை

பத்துகளாக்கு.

அட்டையில் பத்துக் கட்ட் சட்டம் தயார் செய். அதைப் பயன்ப(ு)த்திக் கணக்குகளைச் செய்து, விடை எடுது.

$$
\begin{aligned}
& \text { ஆட்ட் } \\
& \text { அட்த் } \\
& \text { தளள்் }
\end{aligned}
$$


$+3$ $+2$

ஒன்பதுடன் கூட்டி விடை எடுது.



I




அண்டை அயலாாின் பணிகளினால்


2 ழவுத் தொழில் ழூலடா கக் காய்க றிகளும்,
உணவுப் பொருள்களும் கிடைக்கின் றன.
$\stackrel{\leftrightarrow}{-}$




26

 எハூதுチ.


மதிபபீடு: 2.படத் தில்ள் ள பணியாளருக் சுப்



 எழுதுக.


| l. கத்தரிக்கோல். |  |
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## Appendix $f$ Mean Scores and the Correlation Matrix

| Number of | valid obs | rvations 1 | istwise) |  | . 00 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Variable | Mean | Std Dev | Minimum | Maximum | Valid N | Label |
| VARO0011 | Variable | is missing | for every | case. |  |  |
| VAR00021 | 1.44 | . 50 | 1.00 | 2.00 | 719 |  |
| VAR00001 | 1.50 | . 50 | 1.00 | 2.00 | 719 |  |
| VAR00004 | 1.53 | . 50 | 1.00 | 2.00 | 719 |  |
| VAR00003 | 1.70 | 1.48 | 1.00 | 6.00 | 505 |  |
| VAR00013 | 1.77 | . 42 | 1.00 | 2.00 | 719 |  |
| VAR00023 | 1.97 | 1.45 | 1.00 | 5.00 | 719 |  |
| VAR00002 | 2.11 | . 69 | 1.00 | 3.00 | 719 |  |
| VAR00015 | 2.24 | 2.19 | 1.00 | 15.00 | 719 |  |
| VAR00016 | 5.61 | 1.83 | 2.00 | 8.00 | 719 |  |
| VAR00014 | 8.03 | 5.37 | . 00 | 17.00 | 719 |  |
| VAR00024 | 10.79 | 7.87 | :00 | 35.00 | 719 |  |
| VAR00009 | 12.03 | 11.63 | . 00 | 80.00 | 692 |  |
| VAR00005 | 18.25 | 17.83 | . 00 | 74.00 | 709 |  |
| VAR00006 | 32.60 | 27.16 | . 00 | 100.00 | 709 |  |
| VAR00010 | 36.83 | 33.65 | . 00 | 100.00 | 634 |  |
| VARO001.9 | 38.33 | 6.84 | 26.00 | 49.00 | 719 |  |
| VAROOOT | 38. 54 | $5.63^{\circ}$ | 26.00 | - 48.00 | - 719 |  |
| VAR00018 | 39.75 | 5.90 | 27.00 | 49.00 | 719 |  |
| VAR00022 | 41.38 | 10.62 | 26.00 | 58.00 | 719 |  |
| VAR00007 | 47.10 | 24.95 | . 00 | 96.00 | 706 |  |
| VAR00008 | 50.17 | 22.80 | . 00 | 90.00 | 683 |  |
| VAR00012 | 58.95 | 19.57 | 30.00 | 101.00 | 719 |  |
| VAR00020 | 116.62 | 16.68 | 83.00 | 144.00 | 719 |  |



|  | VAR00001 | VAR00002 | VAR00003 | VAR000'g4 | VAROJ005 | VARG0006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| VAR00012 | -. 0097 | . 3165 | . 6508 | . 5463 | -. 1021 | -. 0656 |
|  | 719) | ( 719) | ( 505) | ( 719) | 709) | 709) |
|  | $\mathrm{P}=.794$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.007$ | $\mathrm{P}=.081$ |
| VAR00013 | . 0306 | -. 2626 | . 1368 | . 5797 | -. 1284 | -. 0553 |
|  | ( 719) | ( 719) | ( 505) | ( 719) | ( 709) | ( 709) |
|  | $\mathrm{P}=.412$ | $\mathrm{P}=.000$ | $\mathrm{P}=.002$ | $\mathrm{P}=.000$ | $\overline{\mathrm{F}}=.001$ | $\mathrm{P}=.141$ |
| VAR00014 | . 0446 | -. 2026 | -. 4243 | -. 0284 | -. 0382 | -. 0353 |
|  | ( 719) | $(719)$ | ( 505) | ( 719) | ( 709) | ( 709) |
|  | $\mathrm{P}=.233$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.447$ | $\mathrm{P}=.309$ | $\mathrm{P}=.348$ |
| VAR00015 | -. 0434 | . 0547 | -. 1875 | -. 4609 | -. 0841 | -. 0989 |
|  | ( 719) | ( 719) | ( 505) | ( 719) | ( 709) | 709) |
|  | $\mathrm{P}=.246$ | $\mathrm{P}=.143$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.025$ | $\mathrm{P}=.008$ |
| VAR00016 | . 0170 | . 0444 | . 0527 | . 5765 | -. 1465 | -. 1340 |
|  | ( 719) | $(719)$ | ( 505) | ( 719) | ( 709) | ( 709) |
|  | $\mathrm{P}=.649$ | $\mathrm{P}=.234$ | $\mathrm{P}=.237$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ |
| VAR00017 | . 0105 | . 2099 | . 3702 | -. 0450 | . 1188 | . 1232 |
|  | ( 719) | ( 719) | ( 505) | ( 719) | ( 709) | ( 709) |
|  | $\mathrm{P}=.779$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.228$ | $\mathrm{P}=.002$ | $\mathrm{P}=.001$ |
| VAR00018 | -. 0141 | . 4015 | . 3313 | . 2287 | -. 0482 | -. 0361 |
|  | $(719)$ | ( 719) | 1 505) | $(719)$ | ( 709) | ( 709) |
|  | $\mathrm{P}=.706$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.200$ | $\mathrm{P}=.337$ |
| VAR00019 | -. 0379 | . 3104 | . 4541 | -. 1249 | . 1028 | . 1054 |
|  | ( 719) | ( 719) | ( 505) | ( 719) | ( 709) | ( 709) |
|  | $\mathrm{P}=.310$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.001$ | $P=.006$ | $P=.005$ |
| VAR00020 | -. 0170 | . 3400 | . 4309 | $.0145^{\circ}$ | .0648 | -.0716 |
|  | ( 719) | ( 719) | ( 505) | ( 719) | ( 709) | ( 709) |
|  | $\mathrm{P}=.649$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.699$ | $\mathrm{P}=.085$ | $\mathrm{P}=.057$ |
| VAR00021 | -. 0180 | . 2262 | -. 2530 | -. 3471 | . 2417 | . 2538 |
|  | $(719)$ | $(719)$ | $(505)$ | ( 719) | ( 709) | ( 709) |
|  | $\mathrm{P}=.629$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ |
| VAR00022 | -. 0639 | . 5760 | . 3708 | -. 0541 | . 2283 | . 1747 |
|  | ( 719) | ( 719) | ( 505) | ( 719) | ( 709) | ( 709) |
|  | $\mathrm{P}=.087$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.148$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ |

(Coefficient / (Cases) / 2-tailed Significance)
" . " is printed if a coefficient cannot be computed

|  | - Aatoous) | VAR00002 | VAR00003 | VAR00004 | VAR00005 | VAR00006 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| VAR00023 | . 3125 | . 2103 | -. 1030 | . 2218 | . 2950 | 3227 |
|  | 719) | ( 719) | ( 505) | ( 719) | ( 709) | ( 709) |
|  | $\mathrm{P}=. .738$ | $\mathrm{P}=.000$ | $\mathrm{P}=.021$. | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ |
| VAR00024 | . 0610 | . 2374 | -. 2795 | . 0609 | . 2480 | . 1907 |
|  | ( 719) | ( 719) | ( 505) | ( 719) | ( 709) | ( 709) |
|  | $\mathrm{P}=.102$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.103$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ |

(Coefficient / (Cases) / 2-tailed Significance)
" . " is printed if a coefficient cannot be computed

|  | VAR00007 | VAR00008 | VAR00009 | VAR00010 | VAR00011 | VAR00012 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| VAR00001 | -. 0627 | . 0804 | -. 0330 | : 0505 | - | -. 0097 |
|  | ( 706) | ( 683) | ( 692) | ( 634) | $(0)$ | ( 719) |
|  | $\mathrm{P}=.096$ | $\mathrm{P}=.036$ | $\mathrm{P}=.387$ | $\mathrm{P}=.204$ | $\mathrm{P}=$ | $\mathrm{P}=.794$ |
| VAR00002 | . 2806 | . 1184 | . 1762 | . 1652 | - | . 3165 |
|  | ( 706) | ( 683) | ( 692) | ( 634) | ( 0) | ( 719) |
|  | $\mathrm{P}=.000$ | $\mathrm{P}=.002$ | $\mathrm{P}=.000$ | $P=.000$ | $\mathrm{P}=$ | $\mathrm{P}=.000$ |
| VAR00003 | $-.0458$ | -. 2581 | . 1106 | -. 1974 | - | . 6508 |
|  | ( 492) | ( 473) | ( 482) | ( 424) | $(0)$ | ( 505) |
|  | $\mathrm{P}=.311$ | $\mathrm{P}=.000$ | $\mathrm{P}=.015$ | $\mathrm{P}=.000$ | $\mathrm{P}=$ | $\mathrm{P}=.000$ |
| VAR00004 | . 0139 | -. 0517 | -. 0430 | -. 1104 | - | . 5463 |
|  | ( 706) | ( 683) | ( 692) | ( 634) | $(0)$ | ( 719) |
|  | $\mathrm{P}=.713$ | $\mathrm{P}=.177$ | $\mathrm{P}=.259$ | $\mathrm{P}=.005$ | $\mathrm{P}=$. | $\mathrm{P}=.000$ |
| VAR00005 | . 5899 | . 4489 | . 3291 | . 2699 | 01 | -. 1021 |
|  | ( 704) | ( 676) | ( 685) | ( 629) | ( 0) | ( 709) |
|  | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=$ | $\mathrm{P}=.007$ |
| VAR00006 | . 6190 | . 4712 | . 3727 | . 3164 | - | -. 0656 |
|  | ( 704) | ( 676) | ( 685) | $(629)$ | $(0)$ | ( 709) |
|  | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=$ | $\mathrm{P}=.081$ |
| VAR00007 | 1.0000 | . 4616 | . 3402 | . 3909 | - | -. 1377 |
|  | ( 706) | ( 673) | ( 683). | ( 628) | $(0)$ | ( 706) |
|  | $\mathrm{P}=$. | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=$ | $\mathrm{P}=.000$ |

(Coefficient / (Cases) / 2-tailed Significance)
" . " is printed if a coefficient cannot be computed

-     - Correlation Coefficients

|  | VAR00007 | VAR00008 | VAR00009 | VAR00010 | VAR00011 | VAR00012 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| VAR00008 | . 4616 | 1.0000 | . 4219 | . 5054 | - | -. 2176 |
|  | ( 673) | ( 683) | ( 676) | ( 627) | ( 0) | ( 683) |
|  | $\mathrm{P}=.000$ | $\mathrm{P}=$. | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=$ | $\mathrm{P}=.000$ |
| VAR00009 | . 3402 | . 4219 | 1.0000 | . 3726 | -* | . 1259 |
|  | ( 683) | ( 676) | ( 692) | ( 632) | ( 0) | ( 692) |
|  | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=$. | $\mathrm{P}=.000$ | $\mathrm{P}=$ | $\mathrm{P}=.001$ |
| VAR00010 | . 3909 | . 5054 | . 3726 | 1.0000 | - | -. 0631 |
|  | ( 628) | ( 627) | ( 632) | ( 634) | ( 0) | ( 634) |
|  | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=$ | $\mathrm{P}=$ | $\mathrm{P}=.112$ |
| VAR00011 |  | - | - | - | 1.0000 | - |
|  | $(0)$ | $(0)$ | $(0)$ | ( 0) | ( 0) | $(0)$ |
|  | $\mathrm{P}=$. | $\mathrm{P}=$ | $\mathrm{P}=$. | $\mathrm{P}=\cdot$. | $\mathrm{P}=$ | $\mathrm{P}=$. |
| VAR00012 | -. 1377 | -. 2176 | . 1259 | -. 0631 | - | 1.0000 |
|  | ( 706) | ( 683) | ( 692) | ( 634) | ( 0) | ( 719) |
|  | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.001$ | $\mathrm{P}=.112$ | $\mathrm{P}=$ | $\mathrm{P}=$. |
| VAR00013 | -. 0549 | . 0013 | -. 0270 | -. 1193 | - 01 | ( 1345 |
|  | ( 706) | ( 683) | ( 692) | ( 634) | ( 0) | ( 719) |
|  | $\mathrm{P}=.145$ | $\mathrm{P}=.974$ | $\mathrm{P}=.478$ | $\mathrm{P}=.003$ | $\mathrm{P}=$ | $\mathrm{P}=.000$ |
| VAR00014 | . 11190 | .1116 | -. 0214 | . 2765 | - 1 | -. 4204 |
|  | \% $706 \%$ | - ${ }^{(683)}$ | (* 692) | (* 634 )* | $(-0)^{\circ}$ | - 7199 |
|  | $\mathrm{P}=.002$ | $\mathrm{P}=.003$ | $\mathrm{P}=.574$ | $\mathrm{P}=.000$ | $\mathrm{P}=$ | $\mathrm{P}=.000$ |
| VAR00015 | -. 0175 | . 0451 | -. 0266 | . 2069 | - | -. 2984 |
|  | ( 706) | ( 683) | ( 692) | ( 634) | $(0)$ | ( 719) |
|  | $\mathrm{P}=.642$ | $\mathrm{P}=.239$ | $\mathrm{P}=.485$ | $\mathrm{P}=.000$ | $\mathrm{P}=$. | $\mathrm{P}=.000$ |
| VAR00016 | $-.1687$ | -. 0964 | -. 0176 | -. 1913 | - | . 4482 |
|  | $(706)$ | ( 683) | $(692)$ | ( 634) | $(0)$ | ( 719) |
|  | $\mathrm{P}=.000$ | $\mathrm{P}=.012$ | $\mathrm{P}=.644$ | $\mathrm{P}=.000$ | $\mathrm{P}=$ | $\mathrm{P}=.000$ |
| VAR00017 | . 1378 | -. 0292 | . 0292 | . 2573 | - | . 0430 |
|  | ( 706) | ( 683) | ( 692) | ( 634) | D) | (. 719) |
|  | $\mathrm{P}=.000$ | $\mathrm{P}=.447$ | $\mathrm{P}=.443$ | $\mathrm{P}=.000$ | $\mathrm{P}=$ | $\mathrm{P}=.249$ |
| VAR00018 | . 0092 | -. 0650 | . 0113 | . 0847 | - | . 2047 |
|  | ( 706) | ( 683) | ( 692) | ( 634) | $(0)$ | ( 719) |
|  | $\mathrm{P}=.806$ | $\mathrm{P}=.090$ | $\mathrm{P}=.766$ | $\mathrm{P}=.033$ | $\mathrm{P}=$ | $\mathrm{P}=.000$ |

(Coefficient / (Cases) / 2-tailed Significance)
" . " is printed if a coefficient cannot be computed


|  | VAR00013 | VAR00014 | VAR00015 | VAR00016 | VAR00017 | VAROOO18 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| YARO0001 | . 0306 | . 0446 | -. 0434 | . 0170 | . 0105 | -. 0141 |
|  | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) |
|  | $\mathrm{P}=.412$ | $\mathrm{P}=.233$ | $\mathrm{P}=.246$ | $\mathrm{P}=.649$ | $\mathrm{P}=. .779$ | $\mathrm{P}=.706$ |
| VAR00002 | -. 2626 | -. 2026 | . 0547 | . 0444 | . 2099 | . 4015 |
|  | $(719)$ | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) |
|  | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.143$ | $\mathrm{P}=.234$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ |
| VAR00003 | . 1368 | -. 4243 | -. 1875 | . 0527 | . 3702 | . 3313 |
|  | ( 505) | ( 505) | ( 505) | ( 505) | ( 505) | ( 505) |
|  | $\mathrm{P}=.002$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.237$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ |
| VAR00004 | . 5797 | -. 0284 | -. 4609 | . 5765 | -. 0450 | . 2287 |
|  | ( 719) | $(719)$ | ( 719) | ( 719) | ( 719) | ( 719) |
|  | $\mathrm{P}=.000$ | $\mathrm{P}=.447$ | $\mathrm{P}=. .000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.228^{\text {- }}$ | $\mathrm{P}=.000$ |
| VAR00005 | -. 1284 | -. 0382 | -. 0841 | -. 1465 | . 1188 | -. 0482 |
|  | ( 709) | $(709)$ | $(709)$ | ( 709) | ( 709) | ( 709) |
|  | $\mathrm{P}=.001$ | $\mathrm{P}=.309$ | $\mathrm{P}=.025$ | $\mathrm{P}=.000$ | $\mathrm{P}=.002$ | $\mathrm{P}=.200$ |
| VAR00006 | -. 0553 | -. 0353 | -. 0989 | -. 1340 | . 1232 | -. 0361 |
|  | ( 709) | $(709)$ | $(709)$ | ( 709) | $(709)$ | 709) |
|  | $\mathrm{P}=.141$ | $P=.348$ | $\mathrm{P}=.008$ | $\mathrm{P}=.000$ | $\mathrm{P}=.001$ | $\mathrm{P}=.337$ |
| VAR00007 | -. 0549 | . 1190 | -. 0175 | -. 1687 | . 1378 | . 0092 |
|  | ( 706) | ( 706) | $(706)$ | ( 706) | ( 706) | ( 706) |
|  | $\mathrm{P}=.145$ | $\mathrm{P}=.002$ | $\mathrm{P}=.642$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.806$ |
| VAR00008 | . 0013 | . 1116 | . 0451 | -. 0964 | -. 0292 | -. 0650 |
|  | ( 683) | ( 683) | ( 683) | ( 683) | ( 683) | ( 683) |
|  | $\mathrm{P}={ }^{\circ} .974$ | $\mathrm{P}=.003$ | $\mathrm{P}=.239$ | $\mathrm{P}=.012$ | $\mathrm{P}=.447$ | $\mathrm{P}=.090$ |
| VARD0009 | . -0270 | -. 0214. | .-.0266. | . -.0176 | . .. 0292 | . 0113 |
|  | 1 692) | 1 692) | $($ 692) | ( 692) | 1 692) | 1 692) |
|  | $\mathrm{P}=.478$ | $\mathrm{P}=.574$ | $\mathrm{P}=.485$ | $\mathrm{P}=.644$ | $\mathrm{P}=.443$ | $\mathrm{P}=.766$ |
| VAR00010 | -. 1193 | . 2765 | . 2069 | -. 1913 | . 2573 | . 0847 |
|  | ( 634) | ( 634) | ( 634) | ( 634) | ( 634) | ( 634) |
|  | $P=.003$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.033$ |

VAR00011

(Coefficient / (Cases) / 2-tailed Significance) " . " is printed if a coefficient cannot be computed

|  | - Correlation Coffficients - - |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | VAR00013 | VAR00014 | VARC0015 | VAR00016 | VAR00017 | VAR00018 |
| VAR00012 | . 1345 | -. 4204 | -. 2984 | . 4482 | . 0430 | . 2047 |
|  | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) |
|  | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.249$ | $\mathrm{P}=.000$ |
| VAR00013 | 1.0000 | -. 0739 | -. 2755 | . 6806 | . 1783 | . 4216 |
|  | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) |
|  | $\mathrm{P}=$ | $\mathrm{P}=.047$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathbf{P}=.000$ | $\mathrm{P}=.000$ |
| VAR00014 | -. 0739 | 1.0000 | -. 0235 | $-.1745$ | -. 4250 | -. 3128 |
|  | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) |
|  | $\mathrm{P}=.047$ | $\mathrm{P}=$ | $\mathrm{P}=.529$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ |
| VAR00015 | -. 2755 | -. 0235 | 1.0000 | -. 3939 | -. 0112 | -. 0745 |
|  | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) |
|  | $\mathrm{P}=.000$ | $\mathrm{P}=.529$ | $\mathrm{P}=$. | $\mathrm{P}=.000$ | $\mathrm{P}=.765$ | $\mathrm{P}=.046$ |
| VAR00016 | . 6806 | -. 1745 | -. 3939 | 1.0000 | -. 0007 | . 4626 |
|  | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) |
|  | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=$. | $\mathrm{P}=.985$ | $\mathrm{P}=.000$ |
| VAR00017 | . 1783 | -. 4250 | -. 0112 | -. 0007 | 1.0000 | . 6325 |
|  | ( 719) | ( 719) | ( 719) | $(719)$ | ( 719) | $(719)$ |
|  | $\mathrm{P}=.000$, | $\mathrm{P}=.000$ | $\mathrm{P}=.765$ | $\mathrm{P}=.985$ | $\mathrm{P}=$ | $\mathrm{P}=.000$ |
| VAR00018 | .4216 | -. 3128 | -. 0745 | . 4626 | . 6325 | 1.0000 |
|  | (719) | $(719)$ | ( 719) | ( 719) | ( 719) | (719) |
|  | $P=.000$ | $P=.000$ | $\mathrm{P}=.046$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=$. |
| VAR00019 | ( 1973 | -. 5605 | . 0465 | . 1133 | . 8885 | . 6782 |
|  | ( 719) | ( 719) | ( 719) | $(719)$ | ( 719) | ( 719) |
|  | $\mathrm{P}=.000$ | P=. 000 | $\mathrm{P}=.213$ | $\mathrm{P}=.002$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ |
| VAR00020 | . 2901 | -. 4837 | -. 0110 | . 2098 | . 9252 |  |
|  | ( 719) | $(719)$ | $(719)$ | ( 719) | ( 719) | ( 719) |
|  | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.768$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ |
| VAR00021 | $-.4141$ | . 1535 | . 0934 | -. 3428 | . 1828 | -. 1343 |
|  | ( 719) | $(719)$ | ( 719) | $(719)$ | ( 719) | ( 719) |
|  | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.012$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ |
| VAR00022 | -. 0834 | -. 0465 | . 2253 | . 1379 | . 2837 | . 3648 |
|  | ( 719) | $(719)$ | $(719)$ | ( 719) | ( 719) | ( 719) |
|  | $\mathrm{P}=.025$ | $\mathrm{P}=.213$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ |

(Coefiscient / (Cases) / 2-tailed Significance)
" . " is printed if a coefficient cannot be computed

- Correlation Coefficients

|  | VAR00013 | VAR00014 | VAR00015 | VAR00016 | VAR00017 | VAR00018 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| VAR00023 | . 0305 | . 0469 | -. 0438 | -. 2419 | -. 0081 | -. 0867 |
|  | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) |
|  | $\mathrm{P}=.414$ | $\mathrm{P}=.209$ | $\mathrm{P}=.241$ | $\mathrm{P}=.000$ | $\mathrm{P}=.828$ | $\mathrm{P}=.020$ |
| VAR00024 | . 2936 | . 2081 | -. 1844 | . 4103 | . 1569 | . 2587 |
|  | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) |
|  | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ |

(Coefficient / (Cases) / 2-tailed Significance)
" . " is printed if a coefficient cannot be computed

|  | VAR00019 | VAR00020 | VAR00021 | VAR00022 | VAR00023 | VAR00024 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| VAR00001 | -. 0379 | -. 0170 | -. 0180 | -. 0639 | . 0125 | . 0610 |
|  | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) |
|  | $\mathrm{P}=.310$ | $\mathrm{P}=.649$ | $\mathrm{P}=.629$ | $\mathrm{P}=.087$ | $\mathrm{P}=.738$ | $\mathrm{P}=.102$ |
| VAR00002 | . 3104 | . 3400 | . 2262 | . 5760 | . 2103 | . 2374 |
|  | ( 719) | $(719)$ | $(719)$ | $(719)$ | $(719)$ | $(719)$ |
|  | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ |
| VAR00003 | . 4541 | . 4309 | -. 2530 | . 3708 | -. 1030 | -. 2795 |
|  | $(505)$ | ( 505) | ( 505) | ( 505) | ( 505) | ( 505) |
|  | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.021$ | $\mathrm{P}=.000$ |
| VAR00004 | -. 1249 | . 0145 | -. 3471 | -. 0541 | . 2218 | . 0609 |
|  | (. 719) | ( 719) | (.719) | $(719)$ | ( 719) | ( 719) |
|  | $\mathrm{P}=.001^{\circ}$ | $\mathrm{P}={ }^{\circ} .699^{\circ}$ | $\mathrm{P}={ }^{\circ} .000$ | $P=.148$ | $\cdot \mathrm{P}=.000$ | - $\mathrm{P}=.103$. |
| VAR00005 | . 1028 | . 0648 | . 2417 | . 2283 | . 2950 | . 2480 |
|  | ( 709) | ( 709) | ( 709) | ( 709) | ( 709) | ( 709) |
|  | $\mathrm{P}=.006$ | $\mathrm{P}=.085$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ |
| VAR00006 | . 1054 | . 0716 | . 2538 | . 1747 | . 3227 | . 1907 |
|  | ( 709) | ( 709) | ( 709) | ( 709) | ( 709) | $(709)$ |
|  | $\mathrm{P}=.005$ | $\mathrm{P}=.057$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ |
| VAR00007 | . 1024 | . 0913 | . 3850 | . 1624 | . 3511 | . 2020 |
|  | $(706)$ | ( 706) | $(706)$ | ( 706) | $(706)$ | $(706)$ |
|  | $\mathrm{P}=.006$ | $\mathrm{P}=.015$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ |

(Coefficient / (Cases) / 2-tailed Significance)
" . " is printed if a coefficient cannot be computed

-     - Correlation Coefficients

|  | VAR00019 | VAR00020 | VAR00021 | VAR00022 | VAR00023 | VAR00024 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| VAR00008 | -. 0927 | -. 0701 | . 1422 | -. 0512 | . 2071 | . 2550 |
|  | ( 683) | ( 683) | ( 683) | ( 683) | ( 683) | ( 683) |
|  | $\mathrm{P}=.015$ | $\mathrm{P}=.067$ | $\mathrm{P}=.000$ | $\mathrm{P}=.181$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ |
| VAR00009 | . 0860 | . 0487 | . 2006 | . 0891 | -. 0586 | . 0339 |
|  | ( 592) | ( 692) | ( 692) | ( 692) | ( 692) | ( 692) |
|  | $\mathrm{P}=.024$ | $\underline{D}=.200$ | $\mathrm{P}=.000$ | $\mathrm{P}=.019$ | $\mathrm{P}=.124$ | $\mathrm{P}=.373$ |
| VAR00010 | . 1363 | . 1645 | . 4034 | . 2001 | -. 0417 | . 2380 |
|  | ( 634) | ( 634) | ( 634) | ( 634) | ( 634) | ( 634) |
|  | $\mathrm{P}=.001$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.295$ | $\mathrm{P}=.000$ |
| VAR00011 |  |  |  |  |  |  |
|  | $\stackrel{( }{ } \mathrm{P}=.0$ ) | $\stackrel{( }{p}=. \quad 0)$ | $\begin{array}{ll} ( & 0) \\ \mathrm{P}=. \end{array}$ | $\left.\begin{array}{ll} ( & 0 \end{array}\right)$ | $\begin{array}{ll} 1 & 0 \\ \mathrm{P}=. \end{array}$ | $\begin{array}{ll} ( & 0) \\ \mathrm{P}=. \end{array}$ |
| VAR00012 | . 1961 | . 1673 | -. 1006 | . 2547 | -. 3238 | -. 1467 |
|  | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) |
|  | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.007$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ |
| VAR00013 | . 1973 | . 2901 | -. 4141 | -. 0834 | . 0305 | . 2936 |
|  | ( 719) | ( 719) | ( 719) | $(719)$ | ( 719) | ( 719) |
|  | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.025$ | $\mathrm{P}=.414$ | $\mathrm{P}=.000$ |
| VAR00014 | -. 5605 | -. 4837 | . 1535 | -. 0465 | . 0469 | . 2081 |
|  | ( 719) | ( 719) | ( 719) | ( 719) | $(719)$ | ( 719) |
|  | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.213$ | $\mathrm{P}=.209$ | $\mathrm{P}=.000$ |
| VAR00015 | . 0465 | -. 0110 | . 0934 | . 2253 | -. 0438 | -. 1844 |
|  | ( 719) | ( 719) | ( 719) | ( 719) | $(719)$ | ( 719) |
|  | $\mathrm{P}=.213$ | $\mathrm{P}=.768$ | $\mathrm{P}=.012$ | $\mathrm{P}=.000$ | $\mathrm{P}=.241$ | $\mathrm{P}=.000$ |
| VAR00016 | (.1133 | . 2098 | $-.3428$ | . 1379 | -. 2419 | . 4103 |
|  | ( 719) | (719) | ( 719) | ( 719) | ( 719) | ( 719) |
|  | $\mathrm{P}=.002$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ |
| VAR00017 | . 8885 | . 9252 | . 1828 | . 2837 | -. 0081 |  |
|  | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) |
|  | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.828$ | $\mathrm{P}=.000$ |
| VAR00018 | . 6782 | . 8449 | -. 1343 | . 3648 | -. 0867 | . 2587 |
|  | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) |
|  | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.020$ | $\mathrm{P}=.000$ |
| (Coefficient / (Cases) / 2-tailed Significance) |  |  |  |  |  |  |

- Correlation Coefficients - -

|  | VAR00019 | VAR00020 | VAR00021 | VAR00022 | VAR00023 | VAR00024 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| VAR00019 | 1.0000 | . 9494 | .1646 | . $465 \%$ | -. 1569 | . 1023 |
|  | ( 719) | ( 719) | ( 719) | ( 71\%, | ( 719) | ( 719) |
|  | $\mathrm{P}=$. | $\mathrm{P}=.00 \mathrm{C}$ | $\mathrm{P}=.000$ | $\mathrm{P}=.0 \mathrm{r} \%$ | $\mathrm{P}=.000$ | $\mathrm{P}=.006$ |
| VAR00020 | . 9494 | 1.0000 | . 0817 | . 41 j6 | -. 0977 | . 1863 |
|  | ( 719) | -719) | ( 719) | ( 719j | ( 719) | ( 719) |
|  | $\mathrm{P}=.000$ | $\mathrm{F}=$. | $\mathrm{P}=.029$ | $\mathrm{P}=.000$ | $\mathrm{P}=.009$ | $\mathrm{P}=.000$ |
| VAR00021 | . 1646 | . 0817 | 1.0000 | . 2132 | . 1218 | . 2267 |
|  | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) |
|  | $\mathrm{P}=.000$ | $\mathrm{P}=.029$ | $\mathrm{P}=$. | $\mathrm{P}=.000$ | $\mathrm{P}=.001$ | $\mathrm{P}=.000$ |
| VARO0022 | .4608 | .4136 | . 2132 | 1.0000 | -. 2350 |  |
|  | ( 719) | - 719) | ( 719) | ( 719) | $(719)$ | $(719)$ |
|  | $\mathrm{P}=.000$ | $\mathrm{F}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=$. | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ |
| VAR00023 | -. 1569 | -. 0977 | . 1218 | -. 2350 | 1.0000 | . 1172 |
|  | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) | ( 719) |
|  | $\mathrm{P}=.000$ | $\mathrm{F}=.009$ | $\mathrm{P}=.001$ | $\mathrm{P}=.000$ | $\mathrm{P}=$. | $\mathrm{P}=.002$ |
| VAR00024 | . 1023 | . 1863 | . 2267 | . 3146 | . 1172 | 1.0000 |
|  | ( 719) | -719) | ( 719) | ( 719) | ( 719) | $(719)$ |
|  | $\mathrm{P}=.006$ | $E=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.000$ | $\mathrm{P}=.002$ | $\mathrm{P}=.$ |

(Coefficient / (Cases) / 2-tailed Significance)
" . " is printed if a coefficient cannot be computed

## Appendix g

## List of Addresses

## 1. Tamil Nadu- DPEP/ DTERT/ DIET

| 1. | Thiru. Chandrasekaran, State Project Director | District Primary Education Programme, College Road, <br> DPI Campus, <br> Chennai-600006 <br> E mail- dpeptn@vsnl.com | 044-8278068; $8241504 ;$ 8253684 (o) Fax- 8202257 4719422 (R) |
| :---: | :---: | :---: | :---: |
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| 3. | Dr. D. Ranjini Devi Secretary/Deputy Director, | District Primary Education Programme, College Road, DPI Campus, Chennai-600006 <br> E mail-dpeptn(@) vsnl.com | $\begin{aligned} & \text { 044-8278068; } \\ & 8241504 ; \\ & 8253684(\mathrm{o}) \\ & \text { Fax- } 8202257 \end{aligned}$ |
| $4 .$ | Tmt. A. Balapushpam, Woman Development Officer | District Primary Education Programme, College Road, <br> DPI Campus, Chennai-600006 <br> E mail-dpeptn(avsnl.com | $\begin{aligned} & \text { 044-8278068; } \\ & 8241504 ; \\ & 8253684(\mathrm{o}) \\ & \text { Fax- } 8202257 \\ & 4769134 \text { (R) } \end{aligned}$ |
| 5. | Dr. M R. Santhanam, Consultant Professor | District Primary Education Programme, College Road, <br> DPI Campus, <br> Chennai-600006 <br> E mail-dpeptn@vsnl.com | $\begin{aligned} & \hline 044-8278068 ; \\ & 8241504 ; \\ & 8253684(\mathrm{o}) \\ & \text { Fax- } 8202257 \end{aligned}$ |
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| 7. | E. Bemen Jeyaraj Teacher Training Wing | District Primary Education Programme, College Road, <br> DPI Campus, Chennai-600006 <br> E mail-dpeptn $($ ) vsnl.com | $\begin{aligned} & \text { 044-8278068; } \\ & 8241504 ; \\ & 8253684(0) \\ & \text { Fax- } 8202257 \end{aligned}$ |
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| 9. | K. Natarajan Lecturer, PMT Wing | District Primary Education Programme, College Road, DPI Campus, Chennai-600006 E mail- dpeptn@vsnl.com | $\begin{aligned} & \text { 044-8278068; } \\ & 8241504 ; \\ & 8253684(\mathrm{o}) \\ & \text { Fax- } 8202257 \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| 10. | V. Bikshandi, AMDO | District Primary Education Programme, College Road, DPI Campus, Chennai-600006 <br> E mail-dpeptn@vsnl.com | 044- 8278068; $8241504 ;$ $8253684(\mathrm{o})$ Fax- 8202257 |
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| 12. | M. Ayyasamy, Planning Assistant, PMT Wing | District Primary Education Programme, College Road, <br> DPI Campus. <br> Chennai-600006 <br> E mail- dpeptn(a)vsnl.com | $\begin{aligned} & \text { 044-8278068; } \\ & 8241504 ; \\ & 8253684 \text { (o) } \\ & \text { Fax- } 8202257 \end{aligned}$ |
| 13. | M. Kathirvelu Consultant Planning | District Primary Education Programme, College Road, DPI Campus, Chennai-600006 E mail-dpepın@vsnl.com | $\begin{aligned} & 044-8278068 ; \\ & 8241504 ; \\ & 8253684(\mathrm{o}) \\ & \text { Fax- } 8202257 \end{aligned}$ |
| 14. | $\begin{aligned} & \text { C.S. Sukumari } \\ & \text { S.W.D, D.P.L.A. } \end{aligned}$ | District Primary Education Programme, College Road, DPI Campus, Chennai-600006 E mail- dpeptnenvsnl.com | $\begin{aligned} & \text { 044-8278068; } \\ & 8241504 ; \\ & 8253684 \text { (o) } \\ & \text { Fax- } 8202257 \end{aligned}$ |
| 15. | D. Meera, Research Assistant, EMIS Wing | District Primary Education Programme, College Road, <br> DPI Campus, <br> Chennai-600006 <br> E mail- dpeptn $(\omega)$ vsnl.com | $\begin{aligned} & \hline 044-8278068 ; \\ & 8241504 ; \\ & 8253684 \text { (o) } \\ & \text { Fax- } 8202257 \end{aligned}$ |
| 16. | G. Rajendran, Curriculum Development Wing | District Primary Education Programme, College Road, DPI Campus, Chennai-600006 E mail-dpeptn@vsnl.com | $\begin{aligned} & \text { 044-8278068; } \\ & 8241504 ; \\ & 8253684 \text { (o) } \\ & \text { Fax- } 8202257 \\ & 8235418 \text { (R) } \end{aligned}$ |
| 17. | Mr. R. Kannan Director, D.T.E.R.T. | D.T.E.R.T. College Road, DPI Campus, Chennai-600006 |  |


|  |  | E mail-dpeptn@vsnl.com |  |
| :---: | :---: | :---: | :---: |
| 18. | S. Lakshmi | D.T.E.R.T. <br> College Road, <br> DPI Campus, <br> Chennai-600006 <br> E mail- dpeptn@vsnl.com | 044-4933473 |
| 19. | D.V. Balaraman Researchs Assistant E.R.E.M. | District Primary Education Programme, <br> College Road, <br> DPI Campus, <br> Chennai-600006 <br> E mail-dpeptn@vsnl.com | $\begin{aligned} & \text { 044-8278068; } \\ & 8241504 ; \\ & 8253684 \text { (o) } \\ & \text { Fax- } 8202257 \end{aligned}$ |
| 20. | Mr. Perumal, Teacher Training Officer | District Primary Education Programme, College Road, DPI Campus, Chennai-600006 E mail- dpeptn@vsnl.com | $\begin{aligned} & \text { 044-8278068; } \\ & 8241504 ; \\ & 8253684 \text { (o) } \\ & \text { Fax- } 8202257 \end{aligned}$ |
| 21. | Mr. C.V. Seshadri Consultant | District Primary Education Programme, <br> College Road, <br> DPI Campus, <br> Chennai-600006 <br> E mail-dpeptn(i) vsnl.com | $\begin{array}{\|l} \hline 044-8278068 ; \\ 8241504 ; \\ 8253684(\mathrm{o}) \\ \text { Fax- } 8202257 \\ \hline \end{array}$ |
| 22. | Mr. Benson Jeyaraj Assistant Teacher Training Officer | District Primary Education Programme, College Road, DPI Campus, Chennai-600006 E mail- dpeptn@vsnl.com | 044-8278068; $8241504 ;$ 8253684 (o) Fax- 8202257 |
| 23. | P.S. Grover Consultant Planning | District Primary Education Programme, College Road, <br> DPI Campus, <br> Chennai-600006 <br> E mail- dpeptn $(1)$ vsnl.com | $\begin{aligned} & \text { 044-8278068; } \\ & 8241504 ; \\ & 8253684(\mathrm{o}) \\ & \text { Fax- } 8202257 \end{aligned}$ |
| 24. | P. Babu <br> District Project Consultant \& District Elementary Education officer | District Primary Education Programme, AEEO Office Complex, Periyakanganankuppam, Cuddalore-607001 | $\begin{aligned} & 04142-322912(\mathrm{o}) \\ & 321093(\mathrm{R}) \end{aligned}$ |
| 25. | V. Srinivasan P.P.C. In charge | District Primary Education Programme, AEEO Office Complex, Periyakanganankuppam, Cuddalore-607001 | 04142-322912(0) |
| 26. | R. Guruchandran Supervisor, B.R.C. | District Primary Education Programme, AEEO Office Complex, Periyakanganankuppam, Cuddalore-607001 | 04142-322912(0) |
| 27. | P. Prema | District Primary Education Programme, | 04142-322912(0) |


|  | Women Development Officer | AEEO Office Complex, Periyakanganankuppam, Cuddalore-607001 |  |
| :---: | :---: | :---: | :---: |
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| 29. | R. Sudagopal Assistant | District Primary Education Programme. AEEO Office Complex, Periyakanganankuppam, Cuddalore-607001 | 04142-322912(0) |
| 30. | J.Vijay Shree, Junior Programmer | District Primary Educatión Programme. AEEO Office Complex, Periyakanganankuppam, Cuddalore-607001 | 04142-322912(0) |
| 31. | S.K. Thulasidass Teacher Educator Block Resource Centre | District Primary Education Programme. AEEO Office Complex, Periyakanganankuppam, Cuddalore-607001 | 04142-322912(0) |
| - 32. | ए. Satyamurthy, Teacher Educator | District Primary Education Programme. Panruthi, Cuddalore | $\begin{aligned} & 04142- \\ & 345191(R) \end{aligned}$ |
| 33. | P. Rajakkannu, Teacher Educator | District Primary Education Programme. Panruthi. <br> Cuddalore | $\begin{aligned} & 04142- \\ & 34915+(\mathrm{R}) \end{aligned}$ |
| 34. | R. Jayaraju. Teacher Educator | District Primary Education Programme. Pancuthi, <br> Cuddalore | $\begin{aligned} & 04142- \\ & 331303(\mathrm{R}) \end{aligned}$ |
| 35. | Mrs. C. Saroja Lecturer, | DIET, Vadalur, Cuddalore District |  |
| 36. | Ms. Saraswati Textbook writer | 57/ 5A Ranga Road, Abhiramapuram, Chennai 600018 | 044-4992704 <br> (R) |
| 37. | Mr. Mahadevan Lecturer | DIET, Chennai |  |
| 38. | Mr. A. Vijay Kanthi Lecturer | Hobart Training School Chennai |  |
| 39. | Mrs. M. Kamini Devi Senior Lecturer | DIET, Ranipet. Vellore. |  |
| 40. | Mr. N. Narayanaswamy Senior Lecturer | DIET, T. Kalluppatti, Madurai |  |


| 41. | Mr. Venkatachalam Senior Lecturer | DIET, Kumulur, Trichy. |  |
| :---: | :---: | :---: | :---: |
| 42. | Mr. C. Subramaniam Senior Lecturer | DIET, Thirumoorthy Nagar, Chennai. |  |
| 43. | $\begin{aligned} & \text { Mr. Kumaresan } \\ & \text { BRC Supervisor (Retd.). } \end{aligned}$ | Kaveripattinam Dharmapuri |  |
| 44. | S. Natarajan Sr. Lecturer | D.I.E.T. <br> Thirumoorthy Nagar, Coimbatore District |  |
| 45. | T. Dhanushkodi, Sr. Lecturer, | D.I.E.T. Sivaganga District Kalagarkoil-630 537 |  |
| 46. | C. Balaiah Sr. Lecturer | D.I.E.T. <br> Padukkottai-622 004 |  |
| 47. | V.R. Narayanasamy Senior Lecturer | D.I.E.T. <br> T. Kallupatti Chennai- 625702 |  |
| 48. | Dr. S. Muthukrishnan Senior Lecturer | $\begin{aligned} & \text { D.I.E.T. } \\ & \text { Vadalur } \end{aligned}$ | 04142-3359394 <br> (R) |
| c 49. | M. Ramamurthi Lecturer | $\begin{aligned} & \hline \text { D.I.E.T. } \\ & \text { Vadalur } \end{aligned}$ | 04142-345276 <br> (R) |
| 50. | R. Anbazhagan Lecturer | $\begin{aligned} & \text { D.I.E.T. } \\ & \text { Vadalur } \end{aligned}$ | 04142-359394 <br> (R) |
| 51. | S. Kothandanaman Lecturer | $\begin{aligned} & \text { D.I.E.T. } \\ & \text { Vadalur } \end{aligned}$ | $04142-60300$ <br> (R) |
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| 53. | G. V. Balasubramanian | No. 1, M.K. Madnali st., Gidangal-1, Tindnanam |  |
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| 58. | Ilangovan <br> Lecturer | D.I.E.T, Kilpennathur <br> Tiruvannamalai |  |
| ---: | :--- | :--- | :--- |
| 59. | Pavazada Kundrk <br> Lecturer | D.I.E.T, Kllpennathur <br> Tiruvannamalai | $\mathbf{9 5 4 1 7 5 - 2 9 4 1 7}$ |
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| 4. | A. Santhimathi | Pernamallur North Post Vandavasi (TK) . . . . . . . . Thiruvannamalai District- 604503 | $\cdots \cdots$ |
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| 11. | D. Murugesan | No. 10 Ghandhi Nagar <br> Virappanur Salai <br> Jamunamarthur, Polur Taiuk <br> Thiruvannamalai District- 635703 |  |
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## Appendix h





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