Time-on-Task of Teachers and Students in Primary Schools of Tamilnadu

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सब पढ़ें सब बढ़ें

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Acknowledgement

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Executive Summary

A. BACK GROUND :. An important aspect of the teaching-learning process is what the students do and how much time they spend on different types of learning activities in class while teacher undertakes various activities.. In this study, the investigators observed teachers and students activities in the class by using a modified version of classroom observation method developed by Jane A. Stallings. ABL methodology envisages a multi-grade class having students of all the grades of primary stage in which students learn at their own pace. For this study, it was decided to observe one class of 40 minutes duration each of Tamil, Mathematics and EVS in each of 80 selected schools from 10 districts of Tamil Nadu by using two stage-stratified sampling. Five schedules were used to gather information about profile of schools, teachers, classrooms, teachers' & students' activities and scholastic level of students.

B. SCHOOL PROFILE: In sampled schools, on an average 3 classrooms were available for an average strength of 70 students. The attendance rate of students and teachers was observed to be 84% and 91% respectively. During free time, on an average 32.7% students were engaged in reading supplementary books, around 14% viewed TV / VCD showing education related programmes and merely 1.10% of students were engaged in using TLMs.

C. TEACHER PROFILE: In the sampled schools, the classes of 114 teachers were observed. Of these majority of them (98.2%) were regular, 68% female, 72.% belonged to OBC category, 94.7% with qualification Sr. Secondary and above & trained and with average experience of 10 years. Of the total time, 63% of time was spent in interaction with students in classes, about 14% time on non-curricular activities, such as MDM, maintenance of registers, providing data etc. Majority of teachers (98.25%) had received training on ABL.

D. CLASSROOM ENIRONMENT: Under ABL, students in each class are divided in 6 ability groups. In all the subjects teachers spent maximum time (77.5% for Tamil, 91% for mathematics and 87.5% for EVS) on paying special attention to students of low ability groups 1 & 2. Under ABL method, the interaction of teacher with students is of utmost importance to take care of the self paced learning by students. Around 50% of teachers' time was spent on paying attention to individual students. Further, the teacher spent about one third time on paying attention to groups of students. Time (around 10%) spent by teacher on talking to the whole class is very less.. Moreover, there is no difference between male and female teachers in this respect. This shows that ABL scheme is implemented properly.

E. TEACHER ACTIVITIES: The 17 teachers' classroom activities that were identified for this study were broadly classified into 5 categories, (i) Student Centric Activities; (ii) Teacher Centric Activities; (iii) Supportive Instructional Activities; (iv) Class Management Activities and (v) Off Task Activities.

Teachers spent 57% of their time in the class on **'Student Centric Activities'**. Teachers teaching EVS spent more time (61.75%) on student centric activities as compared to teachers teaching Mathematics (59.13%) and Tamil (50.13%). This observation is also in tune with the ABL scheme of things. Among Student Centric activities, around 26% time was devoted to **'replying questions and providing clarifications'**, around 17% time on **asking questions,** 7.42% time on **providing feedback to individual student,** 5.75% of time on

helping students on **'Demonstration and use of TLM /TLE material'** and around 1% time on helping students on **'Project work / creative activities'**

The overall time devoted by teachers on '**Teacher Centric Activities'** is seen to be 19.63%. The time spent by teachers on teacher centric activities while teaching Tamil is much more (24%) as compared to teachers teaching EVS (19.13%) and Mathematics (15.75%). Among teacher centric activities, around 13% time was spent on **'Observing and supervising students activities',** 3.88% time on **lecturing and explaining verbally',** 3.50% of teachers time on **'Reading some text aloud from books',** 21% of time on **'Writing on blackboard and explaining'** and 1.92% of time on **'Giving dictation'**

The overall time spent on '**Supportive Instructional Activities'** , such as 'giving homework', correcting homework or test papers and encouraging students, is seen to be 14.58%, which is observed to be maximum in case of Tamil (16.88%) and least in case of EVS (11.38%.). Among the 3 **Supportive Instructional Activities** of teachers in Classroom**,** 6.96% time of teacher was spent on **'Correcting homework or test papers'** and 2.96% of time on **'Giving homework or assignments'**.

The overall time spent on **'Class Management Activities'** is observed to be only 6.92%.

1.88% of classroom time was lost due to the teachers being **'Off Task'**, (attending to visitors or being out of classroom for socializing or attending to their personal work).. The teachers teaching Tamil are seen to be spending more time (2.13%) on **'off task'** activities as compared to teachers teaching Mathematics (1.63%) and EVS (1.88%).

F. STUDENT ACTIVITIES: The 19 **students' classroom activities** that were identified for this study were broadly classified into 5 categories, (i) Active Learning Activities; (ii) Passive Learning Activities; (iii) Mechanical Learning Activities; (iv) Class Management Activities and (v) Off Task Activities..

Averaging over all the three subjects, it was found that student-time spent on **'Active Learning Activity'** is 57.91% is much higher than the time spent on each of the remaining four sets of activities. Among the 7 activities pertaining to **'Active Learning Activities',** the 3 activities which consumed more than 10% of time of students are **'studying on their own'** (24.24%), **'Doing Assignments'** (15.21%) and **'Peer Learning'** (11.95%). Of the remaining 4 active learning activities, 2.41% time was spent on **' Seeking Clarifications** 'and 1.79% each on **'Use of TLM/TLE Materials'** and **'Answering the queries by teachers'**. Only 0.52 % of time was spent on the **'Project and Creative'** activities.

Students are observed to be spending 16.54% of their time pertains to **'Mechanical Learning activities'**, which consist of '**copying'** (11.79%), '**reading aloud'** (3.46%) and '**rote memorisation'** (1.29%).

Only 6.58 % of student-time is seen to be spent on **'Passive Learning Activities'** which involves '**listening attentively to teacher'** (6.13%) and **'taking dictation'** (0.45% with no interaction with teachers.

Time spent on **'Off Task Activities'** is observed to be more (12.72%). Perhaps this is due to freedom the students get under ABL scheme of transaction for self paced learning. Some

students were observed to be involved in cross talking (3.28%) or found to be inattentive (7.35%), engaged in disruptive activities (1.44%) or entering into or going out of classrooms (0.65%).

G:ACHIEVEMENT OF STUDENTS: In order to **assess the overall achievement** a composite score for each subject, viz., Tamil, Mathematics and EVS has been computed for each student which is based on the information of the grade he is in, completed milestones (based on ladder grade achieved), current milestone he is in and percent marks achieved in the latest milestone.

Based on composite score, the percentage of students enrolled in grade I who could not learn anything (scores being 0 %) were observed to be 8.5% in Tamil, 25% in Mathematics and 19% in EVS. However, only 13.6%, 14.61% and 21.66% students are observed to have achieved satisfactory level (scores being more than 50%) in Tamil, Mathematics and EVS respectively. Similarly, among students enrolled in grade II, the achievement levels of about 3% in Tamil, about 9% in Mathematics and about 6% in EVS are observed to be at initial stage of learning (not having gone beyond grade I level of learning) and possibly could not keep pace with the learning activities over the 2 years. However, about 50%, 54% and 46% students are observed to have achieved satisfactory level in Tamil, Mathematics and EVS respectively. For students enrolled in grades III, achievement level of 4% in Tamil, 5.5% in Mathematics and 2.3% in EVS students was observed to be at initial stage , while 58%, 53% and 61% are observed to be at satisfactory level. The corresponding values for grade IV students are 4.8%, 5.9% and 3.7% for students with no learning and 63%, 58% and 68% for students with satisfactory level of learning .

An analysis to check whether the achievement of students was at par with the grades enrolled or not, it is observed that only 8.6 % of students of grade I in Tamil are seen to be below the desired level and majority (89%) of them are observed to be at par with their grade level. But as the grade advances, the percent of students below their grade level increases, so much so that about 65 % of students of grade IV are below their grade level. A similar trend is observed for achievement levels in Mathematics and EVS .

Investigator in each class observed every student during a period of 40 minutes for his/her motivation to learning in terms of overall participation as an **'active learner'** or **'passive learner'** or **'uninvolved in learning (off task)**'. In all the grades and subjects, more than 65% students were observed to be actively participating in their classes. Less percentage of students are observed to be off task in Mathematics and EVS classes of grades III and IV as compared to that for grades I and II.

In none of the subjects and grades difference in achievement of boys and girls are observed to be statistically significant. The mean values reveal that boys of grade I in EVS and boys of grade II in Mathematics are achieving higher than girls. In rest of the cases girls are seen to be out performing the boys.

The differences in achievement of different social groups differs significantly in all the subjects for each grade. The mean values reveal that students of 'other' category are achieving highest in all the subjects in grades I,II and III, followed by OBC and SC students.In grade IV, OBC students are achieving most. The achievement of students belonging to ST category is observed to be least in all classes and grades.

The differences in achievement of different learning behavior differs significantly in **Tamil** in all grades.The mean values reveal that active learners are achieving highest in Tamil in each grade as compared to passive and off task learners. In grades II, III and IV, the students belonging to 'Off task' students are achieving higher as compared to 'passive' students, however 'off task' students of grade I are achieving least in Tamil.

The differences in achievement of different learning behavior differs significantly in **Mathematics** in all grades. A look at the mean values reveal that that in grades III and IV, **active learners** are achieving highest, followed by **Off task** and **passive** learners. In grade II, **passive learners** are achieving higher as compared to **off task** learners. But, strangely in grade I, **off task** learners are observed to be highest achievers followed by **active** and **passive** learners..

The differences in achievement of different learning behavior differs significantly in **EVS** at the 0.05 level in grade I. The mean values reveal that **off task** learners are achieving highest (35.09) in grade I as compared to **active** (29.50) and **passive** (19.51) learners. In grade II, however the differences are observed to be not statistically significant and **active** students are observed to be out performing **passive** (44.68) and **off task** (45.73) learners. Lastly, the students of grades III and IV are seen to be differing significantly at 0.01 level. A look at the means of different groups shows that **active** learners are out performing the other two groups. Further, the achievement level of **off task** and **passive** learners of grade IV are more or less similar, but in grade III, achievement level of **off task** (54.37) is seen to be substantially higher than **passive** learners (41.74).

CHAPTER 1

INTRODUCTION

1.1 The Context of the Study

Activity Based Learning (ABL) is an innovative approach adopted in Tamil Nadu to provide joyful, self-paced and self-directed learning environment to children. The ABL has roots in the Neel Bagh school, Kolar district set up by an Englishman, Mr. David Horsburgh who undertook lots of experimentation to make effective teaching so as to learning becomes enjoyable and self- paced. Experiments at Neel Bagh later shifted to Rishi Valley School when it was merged with the latter after demise of Mr. Horsburgh. ABL was formally introduced in the Corporation schools of Chennai during 2003 with sufficiently modified format. At present 13 states are experimenting with this model of education.

The State Project Office, SSA of Tamil Nadu approached the Ministry of Human Resource Development to conduct a study similar to the study on 'Students' Time-on-task in Primary and Upper Primary school' conducted in the states of Assam, Haryana, Karnataka, Maharashtra, and Orissa two years ago. The main purpose of the study in these states was to find out how teachers and students spend their time on various teaching-learning activities in school. Apart from the time spent on active teaching by teachers and how they teach, an important dimension of the teaching-learning that takes place in school, is "what the students do and how much time they spend on different types of learning and other related or unrelated activities in school" The study in Tamil Nadu has the same intent covering the primary schools. The study was conducted with the following specific objectives:

i) To observe and describe various group and individual tasks/activities of students during school hours.
ii) To observe and record teachers' activities in class and the purpose of each activity and to relate them to the learning and other activities of students.
iii) To assess the time spent on active learning and other activities by students inside classroom during the school hours.
iv) To identify broad categories or patterns of tasks/activities and to find if there is any association between such patterns and scholastic achievement of students.Classroom Organization in ABL

1.2 Classroom Organization in ABL

The ABL class is a composite class of grades I to IV. The curriculum covers Tamil, English, Mathematics, EVS and Science. Beside these subjects, social science is .taught in grades III and IV. Competencies in each subject are split into different parts; completion of each part is called a milestone. Each milestone has different steps of learning process and each step of learning process is represented by a logo. Milestones are arranged in a logical sequence from simple to complex and also different types of activities such as introduction, reinforcement, practice, evaluation, remedial and

enrichment activities. The relevant milestones are clustered and linked as chain and this chain of milestones is called ladder. The number of milestones (competencies) for ea;ch subject in the ladder are given below.

Grade	Number of milestones		
	Tamil	Mathematics	EVS
I	23	15	15
II	18	11	15
III	17	19	13
IV	18	12	14

To enable the children to organize in groups, group cards are used. Evaluation is inbuilt in the system. Separate cards / activities are used for this purpose. Each child is provided with workbook/worksheet for further reinforcement activities. Children's progress is recorded through annual assessment chart.

The learning material is systematically stacked on the shelves and colour-coded for each class level. Each child is provided large space to write on blackboard at his/her eye level which makes it possible for every child to read others' exercises. The teacher closely monitors levels attained by every child and sometimes pairs an advanced learner with the slower one without hampering child's freedom to select the pace of learning.

1.3 Methodology

The annual school calendar is presently decided at the state level. The National Curriculum Framework-2005 (NCF-2005)[1] recommended that its planning should be more decentralized so that it is closer to the calendar of local activities and climate and weather. The NCF-2005[2] recommended 200 instructional days during a year and 6 hours per day as working time for schools. The study would attempt to verify how far these norms are adhered to in schools.

During a school year, teachers facilitate students within the framework of ABL to complete the prescribed course of study. Their presence in school is important. This study attempted to find out their presence in school and the time generally they spend on various curricular and other activities. However, what the students learn in school depends on several factors, many of which are school and teacher related factors. These factors affect not only students' learning in academic subjects but also personality development and achievement in various co-curricular areas also. Much depends on how teachers and students spend their time on various teaching-learning activities in school. Apart from the time spent by teachers in interacting with students, an important aspect of the teaching-learning process is "what the students do and how much time they spend on different types of learning and other related or unrelated activities in school". For the purpose of this study, students' activities have, therefore, been broadly classified as out-of-classroom activities and inside classroom activities. The out-of-classroom activities include curricular/ co-curricular activities, activities

[1] National Curriculum Framework 2005, NCERT (p.96)

[2] National Curriculum Framework 2005, NCERT (pp.95 & 97)

related to management of school and off-task activities. Time spent on morning assembly and on recess or mid-day meals is also counted.

Inside classroom, activities of students are generally different modes of their interaction with the teacher, the learning material and with the peers. Interaction between students and the teacher is is generally dependent on what the teacher asks students to do or students themselves asking the teacher to clarify something. In this study, the investigators observed teachers' and students' activities in the class by using a modified version of classroom observation method developed by Jane A. Stallings. ABL methodology envisages a multi-grade class having students of all the grades of primary stage. For this study, it was decided to observe one class of 40 minutes duration each of Tamil, Mathematics and EVS in every selected school. Besides observing students' activities in the class, their motivation to learning was also assessed on a three- point scale by another investigator. They also recorded the students' achievement in the most recent test given by the teacher on reaching a milestone on the ladder of the relevant grade.

For the purpose of recording students' and teachers' activities, each class was observed for 40 minutes by an investigator. This duration was split into 10 equal parts, each of four minutes duration. The first two minutes were used for observing students' and teachers' activities and the next two minutes for recording the activities on the TS-4 schedule specifically developed for this purpose. The observation in each slab of four minutes was called a snapshot. There were 10 snapshots for each class.

A 5-day training programme for field investigators was considered adequate because Block Resource Teacher Educators (BRTEs) who acted as investigators, were assigned the responsibility of observing classrooms and collecting other data. The first two days of the training focused on the strategy of data collection, coding procedure and use of the data collection tools. The next two days were spent on visit to local primary schools for providing hands-on experience to field investigators specifically in observing and recording the students' and teachers' activities inside the classroom. The last day was devoted on manual scrutiny of filled schedules and debriefing. The data collection was undertaken just after the training during the last 5 weeks before the end of academic session 2008-09.

1.4 The Sample

The target population for the study consisted of all primary schools in the state, which are under government or local body management. The latest DISE database was used as the sampling frame. The two stage-stratified sampling was used to select the sample of schools. The first stage sampling unit was a district. All the districts in the state were arranged according to administrative regions. A sample of 10 districts was selected so that number of selected districts in each region was approximately proportional to the total districts in the region. The 10 districts thus sampled are listed below.

1.	Coimbatore	2.	Cuddalore
3.	Dharampuri	4.	Madurai
5.	Nagapatinam	6.	Salem
7.	Thiruvallur	8.	Ramanathapuram
9.	Thanjavur	10.	Thiruvannamalai

The second stage sampling unit was school. Schools in each sampled district were stratified according to school location (rural and urban). From each district, a sample of 8 schools was selected using the circular systematic sampling procedure. Of the 80 primary schools thus selected 75 (93.75%) were in rural area and 5 (6.25%) were in urban area. The sample thus had proportional representation of urban schools of the state.

Primary stage in Tamil Nadu comprises grades I to V whereas ABL methodology is being implemented only up to grade IV. The main intent of the study is to estimate time spent by students and teachers on different classroom activities under ABL learning environment. Therefore, information for grade 5 is excluded from the study except for school background information.

1.5 Tools Used for Data Collection

The following five schedules were used for data collection.

(i) ***School Schedule (TS-1)****:* This schedule was canvassed in 80 schools to provide information on school location and their profile covering enrolment, teachers in position, attendance of teachers and students on the visit days of the investigator, opening and closing time of schools, time spent on morning assembly and mid-meal, students activities during recess and free time available before closing of school, and number of days schools remained closed during the prescribed working days along with the reasons for closing.

(ii) ***Teacher Schedule (TS-2):*** Of the 212 teachers presently working in the schools, this schedule was filled by 114 teachers whose activities in the classroom were observed. The information included in the schedule pertained to their gender, social group to which they belong, educational and teacher training background, tenure of appointment, first training on ABL, its duration and subsequent training in ABL, number of days they did not teach by reasons and distribution of time they spend during school working hours during a week.

(iii) ***Investigators Classroom Observation Schedule (TS-3):*** This schedule was filled for 240 classes, 80 classes of each subject: Tamil, Mathematics and EVS. The schedule contained items to obtain information about overall learning environment in each class. The information collected for this purpose was about grade-wise number of students in the class, place in which class was held, sitting space for children, teacher's behavior with

students, encouragement to students to ask question, gender discrimination by teacher, special attention to Group 1 or Group 2 students (who were relatively weak and slow learners), and use of TLM in the class with number of students using the same.

(iv) ***Class Observation Sheet (TS-4):*** This schedule was used to record students' and teachers' activities at intervals of 4 minutes in a class of 40 minutes duration Thus 10 TS-4 schedules had to be completed for each class the total number of TS-4 schedules to be filled being 2400 for 240 classes. Each of these schedules listed 17 teachers' activities and 19 students' activities to provide estimate of time spent on each of the activities.

Teachers' Activities

Activity Category	Activities
Student Centric	Providing feedback to individual or group of students, Asking questions, Replying question/ providing clarification, Demonstrating/ helping use of TLM/ TLE, Project work/ creative activity
Teacher Centric	Lecturing/ verbally explaining, Writing on blackboard and explaining, Reading from book, Giving dictation, Observing or supervising students' activity
Instruction Supportive	Giving homework or assignment, Correcting home work or test papers, Encouraging one or more students
Class management	Scolding/ Punishing students, Classroom management
Off Task	Attending to visitor, No activity/ being out of classroom, Social interaction and Personal work

Students' Activities

Activity Category	Activities
Active Learning	Studying on their own, Peer learning/ working in small groups, Answering Question, Seeking clarification, Using TLM/ TLE, Engaged in Project work/ creative activity, and Doing assignment
Passive Learning	Listening attentively to teacher, and Taking dictation
Mechanical Learning	Reading aloud to class/ alone, Copying, and Rote memorization
Class management	Waiting for teachers' attention, Being reprimanded, Assisting in classroom management
Off Task	Un-attentive, Cross talking, Engaged in disruptive activities, and Entering into or going out of class

(v) ***Students' Record Sheet (TS-5):*** Every student of Tamil, Mathematics and EVS class observed for teachers' and students' activities was also observed for general orientation or motivation to learning on a three- point scale, that is, whether the student was active, passive and off task in the class. This schedule also contains information about gender, social group of students and their grade/ marks obtained in the recent test. (Marks obtained by students were subsequently analyzed with respect to time spent by them and teachers on different broad categories of activities. It is to be noted in this context that marks obtained in each subject by

students are indicators of their learning efforts during the whole academic session whereas students' observed time-on-task pertains to the activity or activities in which they were engaged during a class of 40 minutes. Moreover, difficulty level of each step within a ladder varies and also across ladder. As such any rigourous analysis to estimate their contribution to marks in the tests was not expected to give any significant result. Association between various variables was therefore explored using simple classificatory analysis to get some indication of whether there was any visible impact of time spent on different activities by teachers and students on achievement of children.)

1.6 Report Format

The report of the study is organized in 7 chapters keeping in view the objectives of the study and the requirements of the State Project Office. Besides this chapter which described the objectives and methodology of the study, the following chapters report the findings based on analysis of data collected by the investigators using the schedules TS-1 to TS-5.

Chapter 2 reports the profile of schools covered in the sample, students' and teachers' attendance, percentage of students engaged in different activities during recess and free time, time spent on morning assembly and mid day meals, variation in prescribed and actual calendar of working days across districts and school days lost due to various reasons.

Chapter 3 on Teachers Background contains detailed information about those teachers whose classes were observed. Besides analyzing their academic and professional competence specially required to implement ABL, distribution of number of days for remaining out of school for full day on account of teaching related and non-teaching activities including leave, and finally distribution of their time on different types of curricular, co-curricular and other activities when they were present in school.

Chapter 4 dealing with classroom teaching environment covers suitability and availability of space required for teaching and different aspects of teachers' interaction with students inside class room.

Chapters 5 and 6 respectively provide distribution of estimated time on different activities of teachers and students.

Chapter 7 attempts to assess the association of the position on grade ladder of students with their achievement score. The chapter also explores the difference in students' achievement scores between different groups of students, different subject classes, etc.

Chapter 8 provides the summary of findings

CHAPTER 2

PROFILE OF SCHOOLS

2.1 Availability of Classrooms in Schools

As far as availability of classrooms in use (including verandas) is concerned (refer Table 1), in almost all schools, 3 classrooms are available. Availability of classrooms in schools of urban area is little better wherein almost 4 rooms are available in each school. Average number of students studying in these schools is observed to be around 70 in rural schools and around 115 in urban schools, which implies that occupancy level per classroom is seen to be around 25 in rural areas and around 30 in urban areas. Keeping in view the small number of urban schools, the results for urban areas, though presented in the report in the following sections can not be generalised. This limitation may be taken into consideration while interpreting the results for urban area.

Table 1: Classrooms and enrolment of the sampled schools

		Rural	Urban	All Schools
NUMBER OF SCHOOLS		75	5	80
MEAN NUMBER OF CLASSROOMS IN USE (INCLUDING VERANDAS)		2.80	3.80	2.86
STUDENTS ENROLLED	TOTAL ENROLLED	5125	581	5706
	% BOYS	49.44	53.53	49.86
	% GIRLS	50.56	46.47	50.14
	% SC	37.60	22.20	36.03
	% ST	8.76	0.34	7.90

2.2 Enrolment in sampled schools

A total of 5706 students were found to be enrolled in these 80 schools. The proportion of boys and girls is seen to be same. However, the girls (50.56%) out number the boys (49.44%) slightly in rural schools, while in urban schools, boys (53.53%) are seen to out number girls (46.47) substantially. Around one third of students (36.03%) belonged to Scheduled Castes and merely 7.90% students belonged to the Scheduled Tribes category

2.3 Attendance of Students on the Day of Visits

The attendance of students was observed on two days. Around 84 % of students were found to be present. The presence rates of students of urban schools (around 90%) were observed to be better as compared to the students of rural schools (around 83%).

A further analysis of students' presence, as shown in table 2, reveals that the attendance rates in lower classes is seen to be quite less as compared to higher class. There appears to be increasing trend in attendance as the classes advance.

Table 2: Grade wise students' attendance

Grade	% of Students Present on	Rural (75)	Urban (5)	All Schools (80)
ALL GRADES	Day1	83.28	89.33	83.89
	Day2	83.88	90.53	84.56
I	Day1	77.98	90.38	79.25
	Day2	78.31	88.46	79.35
II	Day1	81.17	85.57	81.58
	Day2	81.38	90.72	82.24
III	Day1	84.09	82.76	83.96
	Day2	84.28	90.52	84.90
IV	Day1	86.27	92.92	86.88
	Day2	85.74	86.73	85.83
V	Day1	85.71	93.38	86.66
	Day2	88.50	94.70	89.26

2.4 Attendance of Teachers on the Day of Visits

A total of 212 teachers (refer table 3) were observed to be in position in these 80 schools implying thereby that in each school around 2 to 3 teachers were in position. In urban schools, the teachers in position are observed to be around 4. Further, around two third of teachers in sampled schools were female, however, the female teachers in urban schools is observed to be around 91 percent. Almost all teachers (98%) are observed to be working in regular capacity.

In the same way as in case of students, the presence of teachers was observed for 2 days. It is observed that around 91% of teachers were found to be present. However, on day 1, the presence rate of teachers of urban schools was observed to be quite less (around 82%).

Table 3: Teachers in position and presence rates of teachers on the days of visits

	Rural	Urban	Total
Total teachers	190	22	212
% Male	33.68	9.09	31.13
% Female	66.32	90.91	68.87
Mean no. Of teachers per school	2.53	4.40	2.65
% Regular teachers	97.89	100.00	98.11
% Education volunteers	2.11	0.00	1.89
% Present on day 1	92.11	81.82	91.04
% Present on day 2	93.16	90.91	92.92

2.5 Time Spent on Morning Assembly and Mid Day Meals

On an average, the schools spent around 9 minutes on morning assembly and around 30 minutes on mid day meals. On average, urban schools spend a little less time (25.00 minutes) than the rural schools (about 30 minutes).

Table 4: Average time spent (in minutes) on morning assembly and mid day meals observed during visits

	Rural	Urban	Total
Morning assembly - day 1	9.17	9.80	9.21
Morning assembly - day 2	9.09	10.80	9.20
Mid day meals – day 1	29.60	25.00	29.31
Mid day meals – day 2	29.87	25.00	29.56

2.6 Students' Activities During Recess and Free Time`

During visit to the school on two days, students were observed in respect of their engagement in the following activities during recess or free time

a) Viewing TV or VCD Films related to Education
b) Reading Supplementary books
c) Using TLM / TLE
d) Drawing , Painting, Making Models
e) Playing / Socializing
f) Any other Activity

The summary of information collected from each of the 80 schools is presented in the Table5 below. On an average, about one-third (32.7%) of students were engaged in the activity of 'reading supplementary books'. The next prominent activity of students during recess or free time is that of 'Playing and Socializing' in which 18.08 % of students were engaged. Viewing TV or VCD films related to education is the next activities in which 13.65% of students were engaged. The least engaged activity was that of using TLM/TLE, where in only 1.10 % of students were engaged. The total of these %age figure do not add to 100 is due to the nature of observation being captured, but at the same time gives a fair idea of the activities in which students are engaged. A similar pattern is observed in the rural and urban schools

Table 5: Engagement of students in different activities during recess and free time

Student Activities	Rural (enrolment= 5125)				Urban (enrolment=581)				All Schools (enrolment=5706)			
	# of students engaged			%	# of students engaged			%	# of students engaged			%
	Day1	Day2	Average		Day1	Day2	Average		Day1	Day2	Average	
Viewing TV or VCD films related to education	427	903	665	12.98	117	111	114	19.62	544	1014	779	13.65
Reading supplementary books	1968	1488	1728	33.72	149	127	138	23.75	2117	1615	1866	32.70
Using TLM / TLE	67	58	62.5	1.22	0	0	0	0	67	58	62.5	1.10
Drawing, painting, making models	206	168	187	3.65	40	65	52.5	9.04	246	233	239.5	4.20
Playing, Socialising	910	985	947.5	18.49	98	70	84	14.46	1008	1055	1032	18.08
Any other	316	311	313.5	6.12	0	0	0	0	316	311	313.5	5.49

2.7 Days school opened and reasons for closing of schools

The school annual calendar is generally decided at the state level but there is some flexibility in it to make allowance for local events and climate or weather conditions. The district or school authorities are allowed to make some modifications suited to the local requirement. However, according to NCF-2005[3], a school needs to have 200 instructional days. Actual working days during preceding academic session (2008-09) of 75 rural schools varied from184 to 210 days with an average of about 196 days. The 5 urban schools worked for 193 to 204 days.

A noteworthy observation (refer Table 6) is that there were 51 (63.8%) which were not closed even for a single day because of the various reasons, while twenty schools remained closed for one working day. Only 2 schools did not work on four working days. Local festivals /events (17 schools) and natural disasters (15 schools) were the main reasons for closure of schools on working days and that too one day in most of the cases... Further, none of the school was closed for the reason of special drives and elections except one school closed for 2 days due to election.

School functions being an important activity, it was considered worthwhile to record separately whether schools were closed on a working day due to this reason. It is to be noted that there were 57 (70.1%) schools which did not close due to organization of school function. Of the remaining schools, 16 schools remained closed for one day, 2 schools each remained closed for 2 and 3 days. Besides, there were 3 schools which were closed for four days.

[3] NCF-2005: National Curriculum Framework 2005, NCERT (P.96)

Table 6: Number of days schools remained closed due to various reasons during 2008 -09

Reasons	All schools (80)					Rural (75)					Urban (5)				
	Number of days					Number of days					Number of days				
	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4
Local events	63	15	2	0	0	60	13	2	0	0	3	2	0	0	0
Natural disaster	65	10	2	3	0	61	10	2	2	0	4	0	0	1	0
Elections	79	0	1	0	0	74	0	1	0	0	5	0	0	0	0
Special drives (polio, etc)	80	0	0	0	0	75	0	0	0	0	5	0	0	0	0
Other reasons	79	1	0	0	0	74	1	0	0	0	5	0	0	0	0
All reasons (total)	51	20	4	3	2	49	18	4	2	2	2	2	0	1	0
School functions	57	16	2	2	3	53	16	1	2	3	4	0	1	0	0

2.8 Visits of BRTE to Schools During 2008-09

BRTEs are required to provide on site support to schools through their periodic visits. There are 5 rural schools which reported that no visit was made by BRTEs during 2008-09. Besides, there are 18, 25, and 22 schools reporting one, two and three visits respectively during the session. In addition to these schools, 5, 4 and 1 school reported 4, 5 and 8 visits respectively. It clearly indicates the number of visits to schools by BRTEs vary widely across schools

Table 7: Number of visits of BRTE to schools during 2008-09

Number of visits	All schools (80)	Rural (75)	Urban (5)
0	5	5	0
1	18	17	1
2	25	23	2
3	22	21	1
4	5	5	0
5	4	3	1
6	0	0	0
7	0	0	0
8	1	1	0

CHAPTER 3

TEACHERS' ACADEMIC AND PROFESSIONAL BACKGROUND

3.1 Type of Teachers' Appointment

In this study classroom activities of students and teachers were observed in Tamil, Mathematics and EVS classes in respect of grades I to IV. It was considered worthwhile to include only those teachers whose classes were observed. The following discussions in this chapter pertain to aforesaid teachers. This section describes the profile of the teachers whose classes were observed. As mentioned earlier, k**eeping in view the small number of teachers of urban schools, the results for urban areas, though presented in the report in the following sections may not be generalized for urban schools.. This limitation needs to be taken into consideration while considering the results for urban area.**

Of 114 teachers, majority (98.2%) of them were regular teachers. 78 (around 68%) were female teachers and about three-fourth of them (72.8%) belonged to OBC category.

Table 8: Percentage of teachers by gender and social group

Category of teacher	Teachers' category	All schools	Rural	Urban
All teachers	Number of teachers	114	106	8
	% Regular teachers	98.2	98.1	100.0
	% Para teachers	1.8	1.9	0.0
Male teachers	Number of teachers	36	35	1
	% Regular teachers	97.2	97.1	100.0
	% Para teachers	2.8	2.9	0.0
Female teachers	Number of teachers	78	71	7
	% Regular teachers	98.7	98.6	100.0
	% Para teachers	1.3	1.4	0.0
SC teachers	Number of teachers	17	15	2
	%	14.9	14.2	25.0
ST teachers	Number of teachers	4	4	0
	%	3.5	3.8	0.0
OBC teachers	Number of teachers	83	79	4
	%	72.8	74.5	50.0
Other teachers	Number of teachers	10	8	2
	%	8.8	7.5	25.0

3.2 Academic and Professional Qualifications

It is to be noted from table 8 that of the 114 teachers, only 2 teachers are para-teachers. From Table 9, it is seen that 94.7% teachers are Sr. Sec. or above and also trained. Only 3.5 percent of teachers were observed with secondary as academic qualifications but were trained as JBT. Further only 2 teachers were observed with out any formal training..

Table 9: Percentage of teachers according to academic qualifications and training

Teachers' qualifications	All schools			Rural schols			Urban school
	All	Male	Female	All	Male	Female	
No. of teachers	114	36	78	106	35	71	8
Sr.sec or above & JBT/B Ed	94.7	94.4	94.9	95.3	94.3	95.8	87.5
Below Sr. Sec & JBT	3.5	5.6	2.6	2.8	5.7	1.4	12.5
Sr.sec or above & untrained	0.9	0.0	1.3	0.9	0.0	1.4	0.0
Below Sr. Sec & untrained	0.9	0.0	1.3	0.9	0.0	1.4	0.0

3.3 Experience of Teachers

Table 10 provides the information about the experience of the teachers whose classes were observed. According to this the average experience is observed to be around 10 years. However, this index is 16.88 for teachers of urban schools. Majority of the teachers (36.84%) are with experience up to 5 years, however, in urban schools the majority of teachers (62.50%) are observed with the experience of more than 15 years.

Table 10: Teachers according to total teaching experience

	All schools	Rural	Urban
Total teachers	114	106	8
Average experience	9.89	9.36	16.88
% Teachers with experience of up to 5 years	36.84	38.68	12.50
% Teachers with experience of 6 to 10 years	20.18	20.75	12.50
% Teachers with experience of 11 to 15 years	19.30	19.81	12.50
% Teachers with experience of 15 to 20 years	16.67	15.09	37.50
% Teachers with experience of more than 20 years	7.02	5.66	25.00

3.4 Subject Specific Teachers

The table 11 below depicts that in rural majority of teachers (72.81%) taught all subjects to the observed classes. Subject specific teachers were very few (8.77% for EVS, 7.02% for Mathematics and 5.26% for Tamil. A similar trend is observed and urban schools.

Table 11: Number and % of teachers teaching different subjects in observed classes

Subjects taught	All schools		Rural schools		Urban schools	
	#	%	#	%	#	%
Total teachers	114	100.00	106	100.00	8	100.00
Tamil only	6	5.26	5	4.72	1	12.50
Math only	8	7.02	7	6.60	1	12.50
EVS only	10	8.77	9	8.49	1	12.50
Tamil and Math	5	4.39	5	4.72	0	0.00
Tamil and EVS	2	1.75	2	1.89	0	0.00
Tamil, Math and EVS (all)	83	72.81	78	73.58	5	62.50

3.5 Working Days of Teachers and Days They Did Not Teach

Table 12 below depicts the teachers response about the average number of days they attended school and also percentage of days they did not teach due to various reasons. On an average, number of working days during current academic session were about 187 days. .

On average a teacher did not attend school on 14.56 % days due to various reasons. The two main reasons for not attending school was due to teachers being on personal leave (9.14% days) and being away from school due to being deputed for training or meeting related to educational purpose (5.2% days). The other reasons (namely official duty not related to education, official duty related to education such as MDM, etc and other administrative work) that accounted for teachers being away from teaching were less than 1%.

The extent of teachers being away from teaching is more or less on similar pattern in rural schools, but is observed to be little less in urban schools, where the % of total days being away from teaching is 10.62.

Table 12: Average total working days and average % days teachers did not teach due to various reasons

	Teachers of		
	All schools (114)	**Rural (106)**	**Urban (8)**
Total working days	187.41	186.68	197.13
% Days - being on leave	9.14	9.32	6.70
% Days - being on official duty not related to education., eg, election, polio drive	0.06	0.06	0.00
Average % days - for attending training or meeting related to education	5.02	5.13	3.61
Average % days - being on other duty related to education (text books distribution, MDM, admission related work	0.14	0.14	0.12
Average % days - being busy with other administrative work	0.20	0.20	0.19
Average % days - total days not taught	14.56	14.85	10.62

3.6 Distribution of Teachers' Time on Different Activities

Table13 indicates the distribution of teachers' time on different activities as responded by them. Majority of time (About 63%) of the total time is spent on actual classroom teaching (interacting with students) which is followed by the activity of 'Giving and correction of home work' (6.56%) , 'Evaluating answer sheets' (6.20%),' Organising co-curricular activities, games, etc' (5.82%) and 'Lesson planning' (4.01%). About 14.28% of time is spent on non-curricular activities such as 'Providing data', Distribution of Mid-day – meals', Maintenance of attendance registers', ' Morning assembly' and attending to other miscellaneous activities. The distribution of time devoted to different activities is more or less on the similar pattern in rural and urban schools.

Table 13: percentage of time spent by teachers on different activities

Activity	All schools (114)	Rural (106)	Urban (8)
Actual classroom teaching (interacting with students)	63.14	62.73	68.63
Lesson planning	4.01	4.19	1.63
Evaluating answer scripts	6.20	6.28	5.13
Giving and correcting home work	6.56	6.42	8.38
Providing data and other information , doing administrative work	2.36	2.42	1.63
Mid day meals distribution	3.72	3.82	2.38
Maintenance of attendance register and other registers	3.42	3.42	3.38
Morning assembly	3.32	3.35	3.00
Organising co- curricular activities, games, etc	5.82	5.88	5.00
Some other activities	1.46	1.50	0.88

3.7 Training on Activity Based Learning

The Activity Based Learning (ABL) is the method of education which is in practice in the state of Tamil Nadu since last several years. Table 14 below depicts the status of training on ABL imparted to teachers from time to time. Almost all teachers (98.25 %) were in receipt of training on ABL across rural and urban schools. The duration of the training received is reported to be on an average of 5.5 days. Majority of them received the training in the years 2006 (41.07%) , 2005 (34.82%) and 2007 (15.18%). The remaining ones received training in the year 2008 (5.36%). About 3.57% of teachers reported the receipt of training prior to 2005.

The subsequent reinforcement of training on ABL has been reported by all teachers. The average duration of the training was about 21 days.

BRC and CRC also conducted training during 2008-2009.which was of about 10 days duration.

Table14: Percentage of teachers received of ABL training and training received at BRC and CRC

	All schools	Rural	Urban
Total teachers	114	106	8
% Teachers received training	98.25	98.11	100.00
Average number of days of training received	5.49	5.37	7.13
% Teachers received training in 2008	5.36	5.77	0.00
% Teachers received training in 2007	15.18	16.35	0.00
% Teachers received training in 2006	41.07	42.31	25.00
% Teachers received training in 2005	34.82	32.69	62.50
% Teachers received training before 2005	3.57	2.88	12.50
% Teachers received subsequent ABL training	99.11	99.04	100.00
Average number of days of subsequent training	20.74	20.65	21.88
Average number of days of training received at BRC	10.41	10.53	8.88
Average number of days of training received at CRC	9.11	9.07	9.63

CHAPTER 4

CLASSROOM ENVIRONMENT

4.1 Introduction

Under the study invigilators observed the classes for 40 minutes of each subject, viz, Tamil, Mathematics and EVS not only for time spent by students and teachers on different activities but also on some other aspects such as teachers' behaviour, encouragement of students, teacher paying equal attentions to boys, girls and different groups ,students approach towards teachers, etc. The analysis of the aspects is presented in this chapter.

4.2 Classroom Environment

(a) Sitting accommodation

It is to be seen from table 15 that all the classes were held in classrooms. On an average, the sitting space in a classroom in a rural school was 48 sq. m. where as the same for urban school was around 52 sq. m..

(b) Teachers behavior with students

In no classroom, teacher's behavior with students was very strict. In 80% classes of each subject, the behaviour of teachers with students Friendly and informal. However, in rural area, the teachers were some what strict in 17.33%, 18.67% and 14.67% classes for Tamil, Mathematics and EVS respectively where as in 20% urban schools, this behavior of school was observed in Tamil class only.

(c) Encouragement to students to ask question

More than 90 percent teachers encouraged students to ask the questions and seek clarification in each of the three subject classes. .

(d) Gender discrimination in the class

Except one Tamil class, two classes each of Mathematics and EVS , teachers paid equal attention to boys and girls in all the classes of the three subjects.

(e) Interaction of students with teacher

Except in one Tamil and EVS class and , two Mathematics classes , all the classes had free and without any fear interaction between students and teachers..

Table 15: Status of the observed classes (%) in respect of place where classes held, teacher's behaviour, teacher encouraging students, teacher paying equal attention, etc

	All schools			Rural schools			Urban schools		
	Tamil	Math	EVS	Tamil	Math	EVS	Tamil	Math	EVS
Place where classes held									
Classrooms	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Veranda	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Open space	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average sitting space	48.51	48.36	48.26	48.23	48.07	48.01	52.80	52.80	52.00
Behaviour of teacher with student									
Very strict	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Somewhat strict	17.50	17.50	13.75	17.33	18.67	14.67	20.00	0.00	0.00
Friendly and informal	82.50	82.50	86.25	82.67	81.33	85.33	80.00	100.00	100.00
Teacher encourages the student to ask the questions									
Yes	91.25	92.50	91.25	90.67	92.00	90.67	100.00	100.00	100.00
No	8.75	7.50	8.75	9.33	8.00	9.33	0.00	0.00	0.00
Teacher pays equal attention to boys and girls									
Yes	97.50	98.75	97.50	97.33	98.67	97.33	100.00	100.00	100.00
No	2.50	1.25	2.50	2.67	1.33	2.67	0.00	0.00	0.00
Interaction of students with teacher									
Free	98.75	96.25	98.75	100.00	96.00	98.67	80.00	100.00	100.00
Fearful	1.25	3.75	1.25	0.00	4.00	1.33	20.00	0.00	0.00

4.3 Use of TLM / TLE by Students

Use of TLM/TLE by students has a special emphasis in the ABL curriculum. With this background, it is observed that in 20 percent of Tamil classes, students were making use of TLM/ TLE (other than learning cards). On an average around 4 students was learning by using TLM. In the same way in 55 percent of Mathematics classes, on an average 6.73 students were observed to be learning through use of TLM. Similarly, in 30 percent of EVS classes, an average of 4.71 students was observed to be making use of TLM.

Table 16: Incidence of use of TLM /TLE by students in classroom activities

	All schools			Rural schools			Urban schools		
	Tamil	Math	EVS	Tamil	Math	EVS	Tamil	Math	EVS
Yes	20.00	55.00	30.00	21.33	52.00	29.33	0.00	100.00	40.00
No	80.00	45.00	70.00	78.67	48.00	70.67	100.00	0.00	60.00
Average number of students using TLM	4.25	6.73	4.71	4.25	7.03	4.23	.	4.40	10.00

4.4 Grouping of Students in a Classes

Under ABL, students in each class were divided in six different ability groups based on their learning level. The table 17 below, depicts the number and percent of students in different groups for each grade and subject. A look at rows for 'all grades' for Tamil class reveals that 5.28% students belonged to group 1 and 22.22% to group 2. Most of the students (30.39%) were in group 3. The remaining (about 40%) were in groups 4 to 6. In mathematics about 21% of students are in groups 1 and 2, As compared to Tamil, number of students in group 3 are almost half (16.56%) and majority of students (about 63%) are in groups 4 to 6. In EVS class, about 35% of students are in groups 1 and 2, only about 15% are in group 3 and remaining 50% are in groups 4 to 6.

Table 17: Grade-wise, subject-wise number and percentage of students in different ability groups

Grade	Group	TAMIL		MATHEMATICS		EVS	
		# of Students	%	# of Students	%	# of Students	%
1	1	55	14.40	40	11.27	49	14.16
	2	107	28.01	86	24.23	123	35.55
	3	120	31.41	40	11.27	45	13.01
	4	50	13.09	89	25.07	40	11.56
	5	21	5.50	51	14.37	31	8.96
	6	29	7.59	49	13.80	58	16.76
2	1	11	2.61	20	5.35	17	4.61
	2	11	2.61	67	17.91	98	26.56
	3	121	28.74	60	16.04	78	21.13
	4	53	12.59	96	25.67	49	13.28
	5	72	17.10	66	17.65	26	7.05
	6	81	19.24	65	17.38	101	27.37
3	1	5	1.23	14	2.96	19	3.83
	2	97	23.77	67	14.16	140	28.23
	3	129	31.62	70	14.80	96	19.35
	4	41	10.05	137	28.96	60	12.10
	5	49	12.01	92	19.45	65	13.10
	6	87	21.32	93	19.66	116	23.39
4	1	19	4.38	12	2.70	28	5.87
	2	81	18.66	56	12.58	128	26.83
	3	140	32.26	60	13.48	56	11.74
	4	43	9.91	120	26.97	65	13.63
	5	66	15.21	119	26.74	72	15.09
	6	85	19.59	78	17.53	128	26.83
5	1	11	5.64	2	1.10	1	0.57
	2	40	20.51	24	13.19	39	22.29
	3	48	24.62	30	16.48	33	18.86
	4	10	5.13	47	25.82	23	13.14
	5	38	19.49	40	21.98	30	17.14
	6	48	24.62	39	21.43	49	28.00
All	1	97	5.28	87	4.77	117	6.39
	2	408	22.22	302	16.55	531	29.00
	3	558	30.39	259	14.19	286	15.62
	4	197	10.73	492	26.96	240	13.11
	5	246	13.40	367	20.11	226	12.34
	6	330	17.97	318	17.42	431	23.54

4.5 Distribution of group 1 and 2 students over different grades and teachers special attention

Students in groups 1 and 2 are of special significance as teacher is expected to be more closely facilitating students of these two groups than the students of the remaining 4 groups. A look (Table 18) at values of groups 1 and 2 for different grades and subject reveal that in grade I, almost 50% students of EVS are in these groups, followed by 42% in Tamil and 36% in Mathematics. In grade II , merely 5% students of Tamil were observed to be in groups 1 and 2, while in Mathematics and EVS, 23% and 31% of students were found in groups 1 and 2.. In grades III to V about 25% students of Tamil class are observed to be in groups 1 and 2. In Mathematics class of grades III to V, about 15 % students are seen to be in groups 1 and 2. Lastly, in grades III to V of EVS class about one thirds of students are observed to be in groups 1 and 2.

Table 18: Grade-wise, Subject-wise percent of students in groups 1 and 2

Grade	Tamil	Mathematics	EVS
I	42	36	50
II	5	23	31
III	25	17	32
IV	23	15	32
V	26	14	23

. How far teachers pay special attention to students of groups 1 and 2 was attempted when classroom activities were observed. More than three fourth (77.50%) teachers paid special attention to students of group 1 and group 2 while teaching Tamil. In Mathematics class, 91.25 percent teachers paid special attention to students of group 1 and 2. In the same way 87.5 percent of teachers, while teaching EVS, were observed to be paying special attention to students of group 1 and group 2. A similar pattern is observed in rural and urban schools.

Table 19: percentage of class in which teacher pays special attention to students of group 1 and 2

	All schools			Rural schools			Urban schools		
	Tamil	Math	EVS	Tamil	Math	EVS	Tamil	Math	EVS
Attention paid	77.50	91.25	87.50	77.33	90.67	89.33	80.00	100.00	60.00
Attention not paid	22.50	8.75	12.50	22.67	9.33	10.67	20.00	0.00	40.00

CHAPTER 5

TEACHERS' ACTIVITIES INSIDE CLASSROOM

5.1 Categorisation of Teachers' Activities

One of the objectives of the study pertains to the teachers' activities in the classroom and correspondence of their activities with students' activities. As already mentioned in chapter 1, teachers' activities were recorded by using the modified version of the Stallings' method of classroom observation. According to this method, a class of 40 minutes is split into 10 equal parts each of 4 minutes duration. Each part, called as Snapshot, was used to observe and record students' and teachers' activities. The first two minutes of each snapshot were used for observation and the remaining two minutes for recording the observations.

In the classroom observation sheet (TS4) schedule, 17 possible activities in which teachers generally engage in a classroom are listed. In every snapshot, the observers had to observe what the teacher was doing. Apart from this, the observer had also to note whether the teacher was interacting with a single student or addressing more than one (group of) students or teacher was not involved in any interaction with students. Accordingly, the observer had to record the code 1 or 2 or 3 against the particular activity as per the status of interaction, i.e., 1 for interaction with one student; 2 for interaction with 2 or more students and 3 for interacting with none. Since there were 10 snapshot observations for every class, the average time spent by teachers on each activity could be estimated from the snapshot data. Activity-wise distribution of teachers' time was derived for each subject. The 17 teacher activities were divided into 5 categories as follows

Table 20: Details of teachers' activities and their grouping

Category 1 – Student Centric Activities		
1	Providing feedback to students	Generally, there is interaction between teacher and students; students are supposed to be more mentally involved, alert and active participants
2	Asking questions	
3	Answering questions / clarifying	
4	Demonstrating use of TLM / TLE	
5	Helping in project work / Creative activity	
Category 2 – Teacher Centric Activities		
6	Lecturing / explaining	In these activities teachers play active role while students remain passive listeners or observers; there is not much interaction between them and students; initiative and mental process of students are at a lower level
7	Writing on blackboard, explaining	
8	Reading from book	
9	Giving dictation	
10	Observing or supervising students activity	
Category 3 - Supportive Instructional Activities		
11	Giving homework / assignment	In these activities, there is no direct teaching but these are important part of teaching learning process
12	Correcting homework or test papers	
13	Encouraging one more students	
Category 4 – Class Management Activities		
14	Scolding / Punishing students	These activities refer to non – teaching activities that are common and related to teaching learning process , but not part of it
15	Class Management	
Category 5 – Off task Activities		
16	Attending to Visitor	These activities refer to avoidable activities, that are in no way conducive to teaching learning
17	Idle / being out of classroom involved in social interaction / doing personal work	

5.2 Teachers' Interaction with students

During observation of teachers' and student activities, the events were recorded in 10 snapshots for each class for each subject, viz. Tamil, Mathematics and EVS. Thus, for all 80 sampled schools, total 800 snapshots were recorded for each subject. Under ABL method, the interaction of teacher with students is of utmost importance to take care of the self paced learning by students. As discussed earlier, while recording the teachers' activity for each snapshot, the nature of interaction with students was also recorded as to whether the teacher was interacting with a single student or group of students or with none. Table 21 below shows the distribution of total snapshots with respect to interaction with 1, 2 or more students or with none for each subject. The values given in the last 3 columns can be interpreted as time spent by teachers in interaction with students.

Table 21: Interaction of Teachers with students

Subject	teachers	Total Snapshots	Number of snapshots showing Interaction with			Percent snapshots showing Interaction with		
			Single Student	2 or more students	none	Single Student	2 or more students	none
Lang	All	800	421	283	96	52.63	35.38	12.00
	Male	230	124	75	31	53.91	32.61	13.48
	Female	570	297	208	65	52.11	36.49	11.40
Math	All	800	399	312	89	49.88	39.00	11.13
	Male	250	114	105	31	45.60	42.00	12.40
	Female	550	285	207	58	51.82	37.64	10.55
EVS	All	800	386	329	85	48.25	41.13	10.63
	Male	270	121	107	42	44.81	39.63	15.56
	Female	530	265	222	43	50.00	41.89	8.11

The information in the table clearly shows that around 50% of teachers' time was spent on paying individual attention to students. Further, the teacher spent 35 to 40 percent time in paying attention to groups of 2 or more students. Time (around 11%) is spent by teacher in monologue (not addressing any student or group of students in particular) is very less. This is true for all the subjects. More over, this trend is similar whether the teacher is a male or female. This shows that ABL scheme is being generally followed in spirit

5.3 Overview of teachers' Activities in Classroom

It is observed from Table 22 that overall teachers spent 57% of their time in the class on **'Student Centric Activities'**. A look at the values for each subject, it is observed that teachers teaching EVS spent more time (61.75%) on student centric activities as compared to teachers teaching Mathematics (59.13%) and Tamil (50.13%). This observation is also in tune with the ABL scheme of things.

The overall time devoted by teachers on '**Teacher Centric Activities'** is seen to be 19.63%. The time spent by teachers on teacher centric activities while teaching Tamil is

much more (24%) as compared to teachers teaching EVS (19.13%) and Mathematics (15.75%).

The overall time spent on '**Supportive Instructional Activities'** , such as 'giving homework', correcting homework or test papers and encouraging students, is seen to be 14.58%, which is observed to be maximum in case of Tamil (16.88%) and least in case of EVS (11.38%.).

The overall time spent on **'Class Management Activities'** is observed to be only 6.92%.

Lastly, only 1.88% of classroom time was lost due to the teachers being **'Off Task'**, i.e., by attending to visitors or being out of classroom for socializing or attending to their personal work.. The teachers teaching Tamil are seen to be spending more time (2.13%) on 'off task activities as compared to teachers teaching Mathematics.

Table 22: Teachers' Time-on-Task (in %) by Category of Activities

Activity	Tamil	Mathematics	EVS	All Subjects
Total Time – All Activities (Snapshots)	800	800	800	2400
Student centric activities (category 1)	50.13	59.13	61.75	57.00
Teacher centric activities (category 2)	24.00	15.75	19.13	19.63
Supportive instructional activities (category 3)	16.88	15.50	11.38	14.58
Class management activities (category 4)	6.88	8.00	5.88	6.92
Off-task activities (category 5)	2.13	1.63	1.88	1.88

5.4 Teachers' Time Spent on different Student Centric Activities in Classroom

Table 23 below depicts the time spent on different student centric activities for each subject and for all subjects together. Among the 5 student centric activities 26.29% time of teachers is spent on **'answering questions and providing clarifications'**. The teachers teaching EVS devote more time (28.25%) on this activities as compared to Tamil and Mathematics (around 25%).

The next activity which take up a good deal of time is that of '**Teacher asking questions'** from students. As per the table, overall 16.71% time is spent on this activity. Among the subjects 22.50% time is spent by teachers teaching EVS.

Overall 7.42% of teachers' time is seen to be devoted by teachers in '**providing feedback to individual student or a group of students (at teachers' initiative)**. Among the different subjects, teachers teaching Tamil are seen to be devoting 8.38% of time on this activity.

Teachers are devoting 5.75% of their time on helping students in the **'Demonstration and use of TLM /TLE material'**. The teachers teaching Mathematics are possibly struggling to help students to learn the use of TLM materials and that is why they are seen to be

spending 12.88% of their time as compared to teachers of Tamil and EVS, where they are seen to be spending merely around 2% time.

Helping students in **'Project work / creative activities'** is taking very less of teachers time (only 0.83%)

Table 23: Teachers' time (in %) spent on Student Centric Activities

Activity	Tamil	Mathematics	EVS	All Subject
Providing feedback to individual or group of students (at teachers' initiative)	8.38	6.75	7.13	7.42
Asking questions	14.25	13.38	22.50	16.71
Replying questions / providing clarifications	25.25	25.38	28.25	26.29
Demonstrating / helping use of TLM / TLE	2.00	12.88	2.38	5.75
Helping project work / creative activities	0.25	0.75	1.50	0.83
Student Centric Activities (total)	50.13	59.13	61.75	57.00

5.5 Teachers' Time Spent on different Teacher Centric Activities in Classroom

Table 24 below depicts the time spent on different teacher centric activities for each subject and for all subjects together. Among the five teacher centric activities 8.13% time of teacher is spent on **'Observing and supervising students activities'**. The teachers teaching Tamil devote more time (9.38%) on this activity as compared to EVS (6.63%) and Mathematics (8.38%).

The next teacher centric activity, which took a good deal of time was '**Teacher lecturing and explaining verbally'** to the class. As per the table, overall 3.88% time was spent on this activity. Among the subjects, 5.88% time was devoted to this activity by the teachers teaching EVS, while the corresponding percentage for this activity in the case of teachers teaching Tamil and Mathematics was merely 2.88%.

Overall, 3.50% of teachers time was devoted by teachers to **'Reading some text aloud from books**. Among the different subjects, teachers teaching Tamil are seen to be devoting 5.75% of time to this activity. As expected, the teachers teaching Mathematics spent much less time (0.88%) on reading some text aloud from books.

Teachers devoted only 2.21% of their time to **'Writing on blackboard and explaining'**. The teachers teaching Mathematics made more use of blackboard for explaining the concepts and thereby spent a little more time (2.75%) to this activity as compared to teachers of Tamil (2.25%) and EVS (1.63%).

The teachers spent 1.92% of their time on **'Giving dictation'** to students**.** As expected, the time devoted to this activity by the teachers teaching Tamil was much more (3.75%) compared to those teaching EVS (1.13%) and Mathematics (0.88%)

Table 24: Teachers' time (in %) spent on Teacher Centric Activities

Activity	Tamil	Mathematics	EVS	All Subject
Lecturing /Verbally Explaining	2.88	2.88	5.88	3.88
Writing on blackboard and explaining	2.25	2.75	1.63	2.21
Reading some text	5.75	0.88	3.88	3.50
Giving dictation	3.75	0.88	1.13	1.92
Observing / supervising students' activities	9.38	8.38	6.63	8.13
Teacher Centric Activities (total)	24.00	15.75	19.13	19.63

5.6 Teachers' Time Spent on different Supportive Instructional Activities in Classroom

Table 25 below depicts the time spent on different supportive instructional activities for each subject and for all subjects together. Among the three supportive activities 6.96% time of teacher is spent on **'Correcting homework or test papers'**. The teachers teaching Mathematics were seen to be devoting more time (8.13%) to this activity as compared to EVS (5.0%) and Tamil (7.75%).

The next activity, among the supportive Instructional activities, which takes up substantial time of teachers is **'Encouraging one or more students'**. Overall 4.67% of time was spent on this activity. Among the subjects, this activity is seen to be little more apparent in case of teachers teaching Tamil, where in 5.75% time is seen to be devoted in encouragement of students.

Overall 2.96% of teachers' time is seen to be devoted by teachers in **'Giving homework or assignments'**. Among the different subjects, teachers teaching Tamil were devoting 3.38% of time on this activity whereas teachers of Mathematics and EVS spent 3.13% and 2.38% time respectively on giving homework/ assignments..

Table 25 : Teachers' time (in %) spent on Supportive Instructional Activities

Activity	Tamil	Mathematics	EVS	All Subject
Giving homework or assignment	3.38	3.13	2.38	2.96
Correcting home work or test papers	7.75	8.13	5.00	6.96
Encouraging one or more students	5.75	4.25	4.00	4.67
Supportive Instructional Activities (total)	16.88	15.50	11.38	14.58

5.7 Time-on-Task of Male and Female Teachers

Table 26 below shows the distribution of teachers' time spent on different categories of activities of male and female teachers. There seems to be no difference between male (56.13%) and female (57.39%) teachers in time spent on **student centric activities in** Tamil and Mathematics class. However, female teaches teaching EVS are seen to be spending more time (63.58%) as compared to male teachers (58.15%) on this category of activities.

A look at the values of time spent on **teacher centric activities** reveals that male teachers devoted more time by almost 4 percent points and this gap is consistent in all the subjects in favor of male teachers.

In **supportive instructional activities,** female teachers are observed to be spending more time by almost 6 percent points and this gap is consistent across subjects in favor of female teachers.

Male teachers spent more time on **class management activities** the percentage of time spent by them being 9.07% against 5.94% spent by female teachers. Male teachers teaching EVS spent substantially more time (10.74%) on such activities compared to female teachers of EVS for whom the percentage was merely 3.4%. The gap between male and female teaching Tamil and Mathematics is not much in this respect.

Male teachers remained **'Off Task'** slightly more often than female teachers in Mathematics and Tamil class. In Tamil classes, it is otherwise. However, the percentage of off-task time was very low (less than 3%) in every case.

Table 26: Percent distribution of time for male and female teachers

Activity	Lang		Math		EVS		All subjects	
	Male	Female	Male	Female	Male	Female	Male	Female
Total Time – All Activities (Snapshots)	230	570	250	550	270	530	750	1650
Student centric activities (category 1)	49.57	50.35	60.00	58.73	58.15	63.58	56.13	57.39
Teacher centric activities (category 2)	26.96	22.81	19.20	14.18	21.11	18.11	22.27	18.42
Supportive instructional activities (category 3)	13.04	18.42	11.20	17.45	7.04	13.58	10.27	16.55
Class management activities (category 4)	8.70	6.14	7.60	8.18	10.74	3.40	9.07	5.94
Off-task activities (category 5)	1.74	2.28	2.00	1.45	2.96	1.32	2.27	1.70

5.8 Time-on-Task of teachers of different social categories

Table 27 below depicts the distribution of time spent on different categories of activities of teachers belonging to different social groups. The table reveals that of the 240 classes observed for 3 subjects in 80 schools, majority of them (175) were conducted by OBC teachers. Of the remaining 65 classes,31,10 and 24 classes respectively were conducted by SC, ST and General category teachers.

The teachers of OBC category were seen to be spending maximum time (60.23%) on **student centric activities** followed by ST, general category and SC category teachers. SC teachers spent comparatively much less time (44.84%) on student centric activities.

A look at the values of time spent on **teacher centric activities** reveals the opposite, wherein SC teachers are seen to be devoting maximum time (27.42%), followed by teachers of general category. The teachers of ST and OBC categories were devoting almost same amount of time (18%) on teacher centric activities.

In **supportive instructional activities, teachers** of general category were seen to be spending maximum time (21.25%). The teachers of other categories were seen to be devoting between 13% to 19% of their time to supportive activities.

Teachers belonging to ST category were observed to be devoting least time (2%) to **class management activities.** SC teachers **were** observed to be spending maximum time (9.03%) to such activities. The teachers of each one of the other social groups, viz. OBC and general, devoted around 7% of time to such activities.

ST teachers were observed to be spending 3% time on remaining '**Off Task'** as compared to 2.26% time spent by SC teachers, 1.77% spent by OBC teachers and 1.67% by general category teachers.

Table 27: Percent distribution of time for teachers of different social categories

Activity	ALL SUBJECTS			
	SC	ST	OBC	OTHER
Total Time – All Activities (Snapshots)	310	100	1750	240
Student centric activities (category 1)	44.84	58.00	60.23	48.75
Teacher centric activities (category 2)	27.42	18.00	18.06	21.67
Supportive instructional activities (category 3)	16.45	19.00	13.09	21.25
Class management activities (category 4)	9.03	2.00	6.86	6.67
Off-task activities (category 5)	2.26	3.00	1.77	1.67

5.9 Time-on-Task on academic activities of teachers

A teacher performed one of the 17 listed activities Of these 17 activities, 13 activities pertain to academic activities and 2 activities each pertain to activities of class management and teacher being off-task. In this section an effort is made to look into the time spent by teachers on the different academic activities.

Table 28 depicts the academic activities of teachers arranged in the order of time spent on them for all subjects taken together. It can be seen that teachers spent maximum time (26.29%) in answering questions/providing clarification. It is followed by 'asking questions' activity on which teachers spent 16.71% of their total time. Further, they spent about 5% to 8% time on (a) observing / supervising students' activities (8.13%), (b) providing feedback at her/his initiative to individual or group of students (7.42%), (c) correcting home work or test papers (6.96%), (d) demonstrating/helping use of TLM/TLE (5.75%) and (e) Encouraging one or more students (4.67%). Time spent on every other academic activity is less than 4%. It is thus clear that teachers spent more time on interacting with students and other student centric activities and much less time on such teacher centric activities as lecturing, writing on the blackboard, reading from book, giving dictation, etc.

. **Table 28: Time spent (in %) by teachers on different academic activities for all subjects**

Answering questions / providing clarification	26.29
Asking questions	16.71
Observing / supervising students' activities	8.13
Providing feedback to individual or group of students (at teachers' initiative)	7.42
Correcting home work or test papers	6.96
Demonstrating / helping use of TLM / TLE	5.75
Encouraging one or more students	4.67
Lecturing /verbally explaining	3.88
Reading some text	3.50
Giving homework or assignment	2.96
Writing on blackboard and explaining	2.21
Giving dictation	1.92
Helping project work / creative activities	0.83

CHAPTER 6

STUDENTS' ACTIVITIES INSIDE CLASSROOM

6.1 Categorisation of Students' Activities

One of the main objectives of the study was to find out what the students do in the classroom when the teacher is teaching. As already mentioned that method of recording the time spent by students on each activity and also the schedule (TS-4) were the same as described in the previous chapter on Teachers' Activities Inside Classroom. Along with recording the activity or activities in which students were engaged in each snapshot, the number of students involved in that activity was also recorded. This schedule also had provision for recording whether an activity is performed individually or in groups as per the following scheme.

No. of students engaged	**Code**
(a) Only one student undertaking the activity	I
(b) 2 to 5 students (small group)	S
(c) 6 to 10 students (medium group)	M
(d) 11 to the number of students in the class minus 1 (large group)	L
(e) All students (whole class)	A

There were 19 activities listed in TS-4 Schedule, which were classified into 5 broad categories as follows:

Table 30: List of students' activities and their broad classification

Set 1: **Active Learning Activities**		
1	Studying on their own	These are the activities of students in which there is interaction with teacher and / or students are engaged in such learning tasks that require mental process of thinking, comprehending and analyzing information. This set of activities can be considered as active learning activities
2	Peer learning	
3	Answering questions	
4	Seeking clarifications	
5	Using TLM /TLE	
6	Project work / Creative activities	
7	Doing assignments	
Set 2: **Passive Learning Activities**		
8	Listening attentively to teacher	In these activities, there is no interaction of students with teachers and students simply listen or observe. This set can be considered as set of passive learning activities.
9	Taking dictation	
Set 3: **Mechanical Learning Activities**		
10	Reading aloud to class / alone	These are the activities in which students carry out tasks mechanically without much mental process of thinking and comprehending.
11	Copying	
12	Rote memorization	
Set 4: **Class Management**		
13	Waiting for teachers' attention	Class management activities are those in which students are not involved in any learning tasks but are directly or indirectly helping in management of the class
14	Being reprimanded	
15	Assisting in classroom management	
Set 5: **Off task Activities**		
16	Being inattentive	These activities are neither for students' learning nor for class management. These activities hamper learning or cause distraction, but these do take place in classrooms
17	Cross talking with others	
18	Engaged in disruptive activities	
19	Entering into or going out of class	

6.2 Estimation of Time Spent on Different Activities

In order to estimate the percentage of time spent by students on different activities, the number of students undertaking any activity during a snapshot was taken as student-time for that activity. Thus the total student-time during a snapshot for all the activities was equal to the total number of students in the class when observations were made

The aggregate of these values over all the snapshots of classes/ subjects provides an estimate of students' time for the activity for the given class/ subject. The following sections presents the findings on percentage of student- time spent on different activities.

6.3 Time spent by students on different category of activities

Table 31 shows the percentage of student-time spent on the five categories of activities while attending the classes of different subjects. The values of percentage under all subjects indicate the overall percentage of the time spent on different activities.

It is to be noted that overall student-time spent on student centric activities was 57.91% which is much higher than the time spent on each of the remaining four sets of activities If we look at activities included in this set of activities, it is seen that these are the ones which make the students learn at their own pace as these include such activities as, ' studying on their own', 'seeking clarification from teachers, 'doing assignments' , 'seeking help from seniors', ' making use of TLM/ TLE' , etc. Moreover all these activities are the core of the classroom processes adopted in Activity Based Learning approach.

The next set of activities on which students were observed to be spending substantial (16.54%) of their time pertains to 'Mechanical Learning activities', which again consists of activities which may be considered as a part of self pace learning.

Only about 6% of student-time is seen to be spent on passive learning activities that involve no interaction with teachers and students such as simply listening to the teacher or observing what the teacher does.

Time spent on off -task activities is observed to be rather more (12.72%). Perhaps this is due to freedom the students are given as a part of ABL scheme of transaction for self paced learning that some students were observed to be involved in cross talking or found to be inattentive or entering into or going out of classroom.

Table 31: Distribution of student time on different category of activities

Activities	Tamil	Mathematics	EVS	All Subjects
Active Learning Activities (Set-1)	57.90	59.91	55.90	57.91
Passive Learning Activities (Set 2)	5.95	5.92	7.87	6.58
Mechanical Learning Activities (Set 3)	17.66	15.73	16.22	16.54
Class Management Activities (Set 4)	6.88	5.96	5.93	6.25
Off Task Activities (Set 5)	11.61	12.47	14.09	12.72

A further look at the table 31 reveals how the time spent by students on different categories of activities differs from subject to subject.

Although there is not much variation across subjects in respect of percentage of time devoted to different sets of activities, the students in Mathematics class were observed to be spending slightly more (about 60%) time on active learning activities as compared to students attending the EVS class (about 56%).

In Tamil class, students were seen to be spending a little more time (17.66%) on activities such as reading aloud, rote memorization (may be poems) and copying which form part of mechanical learning. In Mathematics and EVS classes, student- time in each class is about 16% time, which is slightly less than the time in Tamil class.

Students in EVS class were seen to be involved slightly more in off-task activities, spending about 14% time as compared to about 12%% time in the other two subjects.

6.4 Time spent by students on individual activities of 'Active Learning'

As discussed above, a total of 57.91 % time was spent by students on active learning activities. Table 32 shows the amount of time spent on individual activities of active learning. Of the 7 activities, the 3 activities which consumed more than 10% time of students are ' studying on their own' (24.24%), 'Doing Assignments' (15.21%) and 'Pear Learning' (11.95%). Of the remaining 4 active learning activities, 2.41% time was spent on seeking clarification and 1.79% each on use of TLM/TLE materials and answering the questions asked by teachers. Only 0.52 % of time was spent on the project work and creative activities. There is not much variation across subjects. Only in mathematics, student-time spent on use of TLM/ TLE was more (4.7%) compared to less than 0.5% in the other subjects. Also students did some project work in EVS but spent only 1% time on it, while there was hardly any project work done by students in other subjects. Again, in EVS students spent much less time on doing assignments compared to other subjects.

Table 32: Distribution of student-time on Active Learning Activities

Activities	Tamil	Mathematics	EVS	All Subjects
Studying on their own	24.60	22.39	25.76	24.24
Peer learning	12.13	11.40	12.31	11.95
Answering questions	1.89	1.40	2.08	1.79
Seeking clarification	2.53	2.64	2.06	2.41
Using TLM/ TLE	0.31	4.70	0.35	1.79
Engaged in project work /creative activities	0.32	0.28	0.96	0.52
Doing assignments	16.12	17.12	12.37	15.21
Active learning activities (total)	57.90	59.91	55.90	57.91

6.5 Time spent by students on individual activities of ' Passive Learning'

As discussed above, only a meager 6.58% time was spent by students on passive learning. Table 33 shows the amount of time spent on individual activities of passive learning. Of the two activities, 'listening attentively to teacher' and 'taking dictation',

maximum time (6.13%) was spent on the activity of 'listening to teacher' attentively and very little (less than 1%) to 'taking dictation'.

Table 33: Distribution of student-time on Passive Learning Activities

Activities	Tamil	Mathematics	EVS	All Subjects
Listening attentively to teacher	5.21	5.64	7.54	6.13
Taking dictation	0.74	0.28	0.32	0.45
Passive learning activities (total)	**5.95**	**5.92**	**7.87**	6.58

6.6 Time spent by students on individual Activities of ' Mechanical Learning'

As seen in Table 34, a total of 16.54% of time was spent on 3 activities related to 'Mechanical learning activities'. Of these maximum time (11.79%) was spent on copying / taking note of the transactions that took place in the class for future reference. The next activity on which 3.46% of students' time was spent was practice session of reading from books and finally 1.29 % on rote memorization. Subject to subject variation is significant, as much more time was spent on reading aloud from books in Tamil and EVS than in Mathematics. Rote memorization was also a little more in Tamil than in the other two subjects.

Table 34: Distribution of student time on Mechanical Learning Activities

Activities	Tamil	Mathematics	EVS	All Subjects
Reading aloud	5.16	1.31	3.91	3.46
Copying	10.60	13.56	11.21	11.79
Rote memorization	1.90	0.87	1.10	1.29
Mechanical learning activities (total)	**17.66**	**15.73**	**16.22**	16.54

6.7 Time spent by students on individual ' Class Management Activities'

As per Table 35, of the total time (6.25%) spent on class management activities, the major amount of time (4.22%) of students was spent on waiting for their turn to get the attention of teacher for seeking certain clarification about something. There is hardly any variation across subjects in this respect.

Table 35: Distribution of student time on Class Management Activities

Activities	Tamil	Mathematics	EVS	All Subjects
Waiting for teacher's attention	4.35	4.22	4.07	4.22
Being reprimanded	0.22	0.14	0.13	0.16
Assisting in class management	2.30	1.59	1.72	1.87
Class management activities (total)	**6.88**	**5.96**	**5.93**	**6.25**

6.8 Time spent by students on individual Activities of 'Off Task'

Of the 12.72 % of the total student-time spent on the four individual off-task activities, more than 10 % was observed to be spent on just two activities: namely being inattentive or simply watching others (7.35%) and being engaged in cross talk with fellow students (3.28%). Apart from this, 1.44 % of time was seen to be spent on 'disruptive activities' such as disturbing others or doing some mischief. Only a few students were found to be entering into or going out of classroom while the teacher was busy with other students. The trend was similar in the classes of all the three subjects.

Table 36: Distribution of student-time on Off Task Activities

Activities	Tamil	Mathematics	EVS	All Subjects
Inattentive / watching others	6.71	7.36	7.99	7.35
Cross talking	3.09	2.96	3.80	3.28
Engaged in disruptive activities	1.17	1.53	1.63	1.44
Entering into or going out of class	0.65	0.62	0.67	0.65
Off task activities (total)	**11.61**	**12.47**	**14.09**	**12.72**

6.9 Correspondence between Teachers' and Students' Activities

A question that arises and needs to be answered is about what the students do when the teacher is engaged in a particular teaching activity. The situation is different in ABL classes from that of classes in which the conventional teaching and learning takes place. In a conventional classroom environment, for most of the teacher's activities, students are supposed to be engaged in a learning activity that corresponds with the teaching activity. For example, when teacher is lecturing or explaining some thing verbally, students are supposed to be listening attentively or observing the teacher. But under ABL environment students are generally involved in a variety of activities, which may be independent of what teacher is doing at that moment. For example, teacher is helping some students, the other students may be involved at that moment in some other activities not related to teacher's activity such using TLM, using blackboard, seeking help from peers, writing on blackboard, etc. The correspondence between students' and teacher's activity is to be seen in this context. The following discussion on this aspect relates to only student centric, teacher centric and instructional supportive activities of teachers.

Table 37 below shows the student activities corresponding to student centric activities of teachers while teaching different subjects. Among the **student centric activities,** an important activity of a teacher is to '**provide feedback to students'**. In all subjects together, teachers are seen to be devoting 7.42% of their time in providing feedback to students. Against this, students are seen to be devoting merely 4.78% of their time in listening attentively to the feed back provided to them by teacher. This is understandable since the feedback given by the teacher is generally not for the whole class but just for one or a small group of students. While the teacher is providing feedback, about 8% of student-time was spent on off-task activities and maximum time (87.27%) time was seen to be spent on other activities that did not correspond with the activity being carried out by the teacher. Obviously most students were busy with their own assigned tasks while the teacher was interacting with one or a small group of students. It may be noted that there was not much variation across subjects in this respect. Teachers were seen to be spending 16.71% of their time on **asking questions** from students. But only 6.4% (4.78%+1.60%) of students' time was on listening to

the teacher and answering the questions asked by him/ her. This was so because the teacher was interacting with one or a few students only at any time while most of the remaining students were expected to be busy with their own assignments at that time. During this process only about 8% of student-time was spent on off-task activities while about 86 % of time was on spent on other learning activities.

Similarly, while teachers were spending about 26% of their time on **replying to the questions** raised by students, only about 5% of student-time was spent on listening to the replies given by teachers. Again it was so because teachers put questions to individual students and not to the whole class and only the concerned student answered the question while other students remained busy with their own assigned work. Much of their time (about 87%) was spent on learning tasks and only about 8% on being off-task on such occasions.

Finally among the student centric activities, only 5.75% time of teachers was observed to be devoted to **demonstration of TLM materials** while only about 7% of students' time was found spent on listening to the teacher or actually using TLM/TLE. Student-time spent on use of TLM was rather meager (only 2.3%). The reasons for a large percentage of student-time being spent on learning activities other than listening to the teacher or using TLM was the same as given above for other teacher activities, that is, most students were busy doing their own specific assignments when the teacher was busy demonstrating use of TLM to one student or a small group of students.

It is apparent from the above discussions that variation in students' time spent on different activities across subjects is rather insignificant. Only in Mathematics class the students tend to become off-task relatively more often compared to other subjects when the teacher is busy with some student-centric activity.

Table 37: Students Activities corresponding to different student centric activities

Teacher Activity	Student Activity	LANGUAGE		MATHEMATICS		EVS		ALL SUBJECTS	
		% Time spent by teachers	% Time spent by students	% Time spent by teachers	% Time spent by students	% Time spent by teachers	% Time spent by students	% Time spent by teachers	% Time spent by students
Providing feedback	Listening	8.38	4.52	6.75	5.42	7.13	4.11	7.42	4.78
	Off task		6.67		9.92		6.70		7.95
	Others		88.81		84.66		89.19		87.27
Asking Questions	Listening	14.25	4.52	13.38	5.42	22.50	4.11	16.71	4.78
	Answering questions		2.00		1.48		1.18		1.60
	Off task		6.67		9.92		6.70		7.95
	Others		86.81		83.18		88.01		85.67
Replying Questions	Listening	25.25	4.52	25.38	5.42	28.25	4.78	26.29	4.78
	Off task		6.67		9.92		7.95		7.95
	Others		88.81		84.66		87.27		87.27
Demonstrating TLM / TLE	Listening	2.00	4.52	12.88	5.42	2.38	4.11	5.75	4.78
	using TLM / TLE		0.67		5.00		0.35		2.29
	Off task		6.67		9.92		6.70		7.95
	Others		88.14		79.66		88.84		84.98

Table 38 below depicts the students' activities corresponding to different **teacher centric activities** of teachers while teaching different subjects.

Among the teacher centric activities, an important activity of the teacher is to deliver information by lecturing or explaining verbally. Overall, teachers spent 3.88% of their time on this activity. In response to this, a good amount of student-time (38.52%) was spent on listening attentively to the teacher. However, 10.60% of student-time was spent on off- task activities, while 50.88% was spent on other learning activities. Similar trend was observed in the classes of different subjects.

In the same way, corresponding to 2.21% time devoted to the activity **'writing on black board'** by teachers, students devoted about 16.5% time on listening and copying the matter written on blackboard while 75.48% of students' time i spent on other learning or related activities and only about 8% of student-time was spent on off-task activities. Obviously, whatever time teachers spent on blackboard writing it was meant for one or a small group of students; other students continued to be preoccupied with their own learning tasks.

An important teacher centric activity was to **observe and supervise the students' activities**. Teachers spent 8.13% of their time on this activity; at such time students were seen to be busy with activities that needed to be observed or supervision by the teacher. They were busy studying on own (23.9% time), copying and writing orally given work (11.8% time), learning from peers and working in small groups (12.8% time) or doing assignments (19.6% time). About 24% of student-time was spent on other activities while teacher was busy observing students' activities. The situation was more or less same in the classes of different subjects.

Table 38: Students Activities corresponding to different teacher centric activities

Teacher Activity	Student Activity	LANG		MATH		EVS		ALL SUBJECTS	
		% Time spent by teachers	% Time spent by students	% Time spent by teachers	% Time spent by students	% Time spent by teachers	% Time spent by students	% Time spent by teachers	% Time spent by students
Lecturing	Listening	2.88	50.29	2.88	39.61	5.88	32.86	3.88	38.52
	Off task		4.43		8.78		14.15		10.60
	Others		45.28		51.61		52.99		50.88
Writing on black board	Listening	2.25	4.52	2.75	5.42	1.63	4.11	2.21	4.78
	Copying		11.56		12.32		11.28		11.79
	Off task		6.67		9.92		6.70		7.95
	Others		77.24		72.34		77.91		75.48
Reading some text	Listening	5.75	4.52	0.88	5.42	3.88	4.11	3.5	4.78
	Reading Aloud		4.30		0.49		3.64		2.65
	Off task		6.67		9.92		6.70		7.95
	Others		84.51		84.17		85.55		84.62
Giving Dictation	Listening	3.75	4.52	0.88	5.42	1.13	4.11	1.92	4.78
	Taking Dictation		0.67		0.07		0.35		0.36
	Off task		6.67		9.92		6.70		7.95
	Others		88.14		84.59		88.84		86.91
Observing / supervising students' activities	studying on their own	9.38	23.28	8.38	21.75	6.63	28.55	8.13	23.92
	copying and writing orally given work		11.56		12.32		11.28		11.79
	Peer learning / working in small groups		13.34		11.96		13.28		12.79
	Doing Assignment		19.13		21.60		17.16		19.64
	Off task		6.67		9.92		6.70		7.95
	Others		26.02		22.45		23.03		23.92

Table 39 similarly shows the time spent by students on different activities while the teacher was busy with such **instructional supportive activities** as giving homework or correcting homework and assignments. While teacher was engaged in the activity of '**giving homework or assignments'** which took only 3.4% of teacher's time, students were busy listening to the teacher or copying/ (16% time) or actually doing assignments (20% time). Much of the student-time (56%) was spent on other tasks, which shows that homework or assignments were given not to the whole class but to individual students or groups of students. Subject to subject variation was not large in this respect.

Teachers spent 7.5% time on **'correcting home work'.** During such time, students were observed to be spending about 24% of their time in studying on their own, about 12% time in copying and writing orally given work and 20 % time in doing assignments and 37% time on other activities Only 8% of student-time was spent on off-task activities when the teacher

was correcting homework or other assignments. Teachers interacted with the student(s) whose homework/ assignment they were checking, leaving other students free for doing their assigned tasks or activities. Again, there was not much variation acroos subjects in this respect.

Table 39: Students Activities corresponding to different instructional supportive activities

Teacher Activities	Student Activities	Lang		Math		EVS		All subjects	
		% Time spent by teachers	% Time spent by students	% Time spent by teachers	% Time spent by students	% Time spent by teachers	% Time spent by students	% Time spent by teachers	% Time spent by students
Giving homework or assignment	Listening	3.38	4.52	3.13	5.42	2.38	4.11	2.96	4.78
	Copying		11.56		12.32		11.28		11.79
	Doing Assignment		19.13		21.60		17.16		19.64
	Off task		6.67		9.92		6.70		7.95
	Others		58.12		50.74		60.75		55.84
Correcting Homework	Studying on own	7.50	23.28	8.13	21.75	5.00	28.55	6.96	23.92
	copying or writing orally given work		11.56		12.32		11.28		11.79
	Doing Assignment		19.13		21.60		17.16		19.64
	Off task		6.67		9.92		6.70		7.95
	Others		39.36		34.41		36.31		36.70

CHAPTER 7

ASSOCIATION OF STUDENTS' TIME ON TASK WITH SCHOLASTIC ACHIEVEMENT

7.1 Introduction

This chapter attempts to address fourth objective of the study, which deals with exploration of association between pattern of students tasks / activities and scholastic levels achieved. For the purpose of assessing scholastic level achieved, information on ladder completed, milestones achieved and percent marks scored in the latest milestone were recorded for each student through the schedule TS-5. Apart from this, TS-5 also provided information on gender, social category, grade studying and learning behavior of students (active learner, passive learner, off task).

7.2 Achievement levels attained by students

An important information about the achievement of any student is the ladder grade attained, the latest milestone for which he has been tested and % marks obtained in the latest milestone of the ladder for each subject. The following table shows the milestones to be completed for each grade in each subject.

Table 40: Milestones to be completed for each grade in each subject.

Ladder Grade	Mile stones to be completed in		
	Tamil	Mathematics	EVS
I	23	15	15
II	18	11	15
III	17	19	13
IV	18	12	14

In order to assess the overall achievement a composite score has been computed for each student which is based on the information

1. Grade in which the student is enrolled presently – this information provides the base for arriving at the % indicator for achievement. For example, if the child completes grade 1 successfully, then he should have completed 23 milestones of ladder grade 1 in Tamil. In case child completes grade 2, then he should have completed 41 milestones (23 of ladder grade 1 + 18 mile stones of grade 2). In the same way the above mentioned base for Tamil of students completing grade 3 and 4 will be 58 and 76 respectively. Similarly, the base for Mathematics shall be 15, 26, 45 and 57 for students completing in grades 1, 2, 3 and 4 respectively. In the same way, the base for EVS shall

be 15, 30, 43 and 57. Let us term the base values as **'maxlang', maxmath' and 'maxevs'** for Tamil, Mathematics and EVS.

2. Ladder grade completed – In case the child is in ladder grade 1, a value of 0 is assigned to completed milestones. In case, the child is in ladder grade 2 for Tamil, then the value for completed milestones is assigned a value 23. In the same way, the values of completed milestones is assigned the values 41 and 58 if the child has attained ladder grade 3 and 4 for Tamil. In the same way, the completed milestones for Mathematics will be 0, 15, 26 and 41 for students attaining ladder grades 1, 2, 3 and 4 respectively. In the same way , the value of completed milestones for EVS shall be 0, 15, 30 and 43. Let us denote these values by name **'completedlang', 'completedmath' and 'completedevs'** for Tamil, Mathematics and EVS respectively.

3. Current milestone for which the student is being evaluated. For. Let us denote the values by names **'mstonelang', 'mstonemath' and 'mstoneevs'** for Tamil, Mathematics and EVS respectively.

4. Percent marks achieved in last milestone. Let us denote the values by names **'pmarkslang', 'pmarksmath' and 'pmarksevs'** for Tamil, Mathematics and EVS respectively.

Based on the above, the achievement scores in Tamil, Mathematics and EVS have been arrived at as follows and have been termed as **'scorlang', 'scormath' and 'scorevs'** respectively.

Scorlang = completedlang + (mstonelang – 1) + pmarkslang / 100.
Scormath = completedmath + (mstonemath – 1) + pmarksmath / 100.
Scorevs = completedevs + (mstoneevs – 1) + pmarksevs / 100.

Finally, the above scores have been converted to percentage as shown below, which is being used as an indicator for achievement for each student.

Ind-scorlang = scorlang*100/maxlang
Ind-scormath = scormath*100/maxmath
Ind-scorevs = scorevs*100/maxevs.

For example, a child enrolled in grade IV and at milestone 12 of ladder grade 3 in mathematics. Suppose his score in the present milestone is 60% (3 out of 5 marks). Then his achievement score in mathematics will be (15+11) + 11+(60/100) = 37.6. The maximum possible for any child in mathematics for completing successfully all milestones till grade IV is 15+11+19+12 =57. Based on this information, the final indicator of achievement for this student for mathematics will be 37.6*100/57 = 65.96 .

It may be noted that with the scheme of scoring as mentioned above, there is a possibility of few student scoring more than 100% due to the fact that students may progress at faster pace and may have attained some competencies of next higher grade.
In the discussions that follows students scoring at least 50% score have been termed as having attained the satisfactory level of learning for the grade .

7.3 Distribution of Achievement levels attained by students

It may be stated that the students were assessed at the fag end of the academic session.

The table 41 depicts the distribution of achievement scores of students enrolled in grade I in Tamil, Mathematics and EVS. In Tamil, 8.5% students are seen to have learnt nothing, only 13.6% students could achieve more than 50%. However, merely 2.27% are observed to have learned beyond grade I. In Mathematics, the learning level is more adverse as about 25% students are seen to have learnt nothing, whereas only 14.61% students could attain satisfactory level of achievement. Similar is the situation for learning achievement of EVS, where about 19% of students are seen to have learnt nothing and about 21.66% are observed to have attained more than 50% marks. It may be noted that a few students (2.27% in Tamil, 1.01% in Mathematics and 1.26% in EVS) scored over 100%. These students have progressed at a faster pace and have achieved some competencies of grade II or grade III.

Table 41: Distribution of achievement scores of students enrolled in grade I

Distribution of scores	Tamil		Mathematics		EVS	
	# of students	%	# of students	%	# of students	%
0	34	8.56	99	24.94	76	19.14
> 0 but le 25	231	58.19	166	41.81	144	36.27
> 25 but le 50	69	17.38	70	17.63	86	21.66
> 50 but le 75	42	10.58	50	12.59	66	16.62
> 75 but le 100	12	3.02	8	2.02	20	5.04
> 100	9	2.27	4	1.01	5	1.26
Total	397	100.00	397	100.00	397	100.00

The table 42 depicts the distribution of achievement scores of students enrolled in grade II in Tamil, Mathematics and EVS. Although, the students are enrolled in grade II, but the achievement levels of about 3% in Tamil, about 9% in Mathematics and about 6% in EVS are observed to be at initial stage of learning and possibly could not keep pace with the learning activities over the 2 years. However, about 50% , 54% and 46% students are observed to have achieved satisfactory level in Tamil, Mathematics and EVS respectively.

Table 42: Distribution of achievement scores of students enrolled in grade II

Distribution	Tamil		Mathematics		EVS	
	# of students	%	# of students	%	# of students	%
0	12	2.96	37	9.14	24	5.93
> 0 but le 25	100	24.69	73	18.02	80	19.75
> 25 but le 50	82	20.25	68	16.79	109	26.91
> 50 but le 75	88	21.73	110	27.16	87	21.48
> 75 but le 100	115	28.40	110	27.16	100	24.69
> 100	8	1.98	7	1.73	5	1.23
Total	405	100.00	405	100.00	405	100.00

The table 43 depicts the distribution of achievement scores of students enrolled in grade III in Tamil, Mathematics and EVS. Although, the students are enrolled in grade III, but the achievement levels of about 4% in Tamil, about 5.5% in Mathematics and about 2.3% in EVS are observed to be at initial stage of learning and possibly could not keep pace with the learning activities over the 3 years. However, about 58% , 53.4% and 61% students are observed to have achieved satisfactory level in Tamil, Mathematics and EVS respectively.

Table 43 Distribution of achievement scores of students enrolled in grade III

Distribution of achievement scores of students enrolled in grade III						
Distribution	Tamil		Mathematics		EVS	
	# of students	%	# of students	%	# of students	%
0	19	4.03	26	5.51	11	2.33
> 0 but le 25	102	21.61	89	18.86	76	16.10
> 25 but le 50	74	15.68	105	22.25	90	19.07
> 50 but le 75	120	25.42	185	39.19	163	34.53
> 75 but le 100	155	32.84	67	14.19	127	26.91
> 100	2	0.42	0	0.00	5	1.06
Total	472	100.00	472	100.00	472	100.00

The table 44 depicts the distribution of achievement scores of students enrolled in grade IV in Tamil, Mathematics and EVS. Although, the students are enrolled in grade IV, but the achievement levels of about 4.8% in Tamil, about 5.9% in Mathematics and about 3.7% in EVS are observed to be at initial stage of learning and possibly could not keep pace with the learning activities over the 4 years. However, about 63.6% , 58% and 67% students are observed to have achieved satisfactory level in Tamil, Mathematics and EVS respectively.

Table 44: Distribution of achievement scores of students enrolled in grade IV

Distribution of achievement scores of students enrolled in grade IV						
Distribution	Tamil		Mathematics		EVS	
	# of students	%	# of students	%	# of students	%
0	22	4.79	27	5.88	17	3.70
> 0 but le 25	82	17.86	61	13.29	62	13.51
> 25 but le 50	63	13.73	104	22.66	69	15.03
> 50 but le 75	124	27.02	142	30.94	150	32.68
> 75 but le 100	168	36.60	125	27.23	161	35.08
> 100	0	0.00	0	0.00	0	0.00
Total	459	100.00	459	100.00	459	100.00

7.4 Students according to ladder grades and desired level of achievement

Table 40 depicts the grade-wise milestones to be completed in each subject for each grade. For example, a student of grade I in Tamil should have the score (completed milesones) in Tamil somewhere between 1 and 23 for being at par with grade level I. His/her score below 1 shows that he is at the level below grade I and his score above 23 shows that he is at the level beyond grade I. In the same way a student of grade II in Tamil should have score in Tamil somewhere between 24 and 41 for being at par with the level of grade II. Any student whose score is below 24 has been termed as being below grade II and the student of grade II with score above 41 has been termed at level beyond the grade II. Based on this criteria, the tables 45 to 47 show the number and percentage of students whose achievement are below the grade level, or are at par with their grade level or beyond their grade level for different subjects, namely, Tamil, Mathematics and EVS respectively for grades I, II, III and IV.

According to table 45, only about 8.6 % of students of grade I in Tamil are seen to be below the desired level and majority (89%) of them are observed to be at par with their grade level. But as the grade advances, the percent of students below their grade level increases, so much so that about 65 % of students of grade IV are below their grade level.

A similar trend is observed for Mathematics (Table 46) and EVS (Table 47).

Table 45: Count and Percent of students whose achievement level is below or at par or beyond the grade level they are in for Tamil

Grade Level	below grade		on grade		beyond grade	
	Count	%	Count	%	Count	%
I	34	8.56	354	89.17	9	2.27
II	194	47.90	203	50.12	8	1.98
III	264	55.93	206	43.64	2	0.42
IV	298	64.92	161	35.08	0	0.00

Table 46: Count and Percent of students whose achievement level is below or at par or beyond the grade level they are in for Mathematics

Grade Level	below grade		on grade		beyond grade	
	Count	%	Count	%	Count	%
I	54	13.60	336	84.63	7	1.76
II	165	40.74	233	57.53	7	1.73
III	271	57.42	201	42.58	0	0.00
IV	330	71.90	129	28.10	0	0.00

Table 47: Count and Percent of students whose achievement level is below or at par or beyond the grade level they are in for EVS

Grade Level	below grade		on grade		beyond grade	
	Count	%	Count	%	Count	%
I	76	19.14	316	79.60	5	1.26
II	151	37.28	249	61.48	5	1.23
III	263	55.72	204	43.22	5	1.06
IV	302	65.80	157	34.20	0	0.00

A further analysis of grade III and grade IV students who were below their grade level is presented below.

The table below shows as to how many of grade III students are at grade level I and grade level II. The percent values are with respect to total enrolled in grade III. For each subject

Table 48: Distribution of grade III students whose achievement is below their grade level

Subject		Total	Grade I	Grade II
Lang	count	264	151	113
	%	55.93	31.99	23.94
Math	count	271	132	139
	%	57.42	27.97	29.45
EVS	count	263	106	157
	%	55.72	22.46	33.26

Note - % ages are with respect to total enrolled in grade III.

Similarly, the table below shows as to how many of grade IV students are at grade level I, grade level II and grade level III. The percent values are with respect to total enrolled in grade IV. For each subject

Table 49: Distribution of grade IV students whose achievement is below their grade level

Subject		total	Grade I	Grade II	Grade III
Lang	count	298	104	71	123
	%	64.92	22.66	15.47	26.80
Math	count	330	75	86	169
	%	71.90	16.34	18.74	36.82
EVS	count	302	79	80	143
	%	65.80	17.21	17.43	31.15

Note - % ages are with respect to total enrolled in grade IV.

7.5 Distribution of students according to learning behavior in classroom

Investigator in each class observed every student during a period of 40 minutes for his motivation to learning. Each student was observed in terms of whether he/she was **active learner** (doing expected work, interacting with teachers or peers) or was a **passive learner** (mechanically doing some work, not interacting with teachers or other students) or was **off task** (idles or doing some other unrelated work). Table 50 below depicts the grade- wise distribution of percentage of student's participation in each subject. In all the grades and subjects, more than 65% students are observed to be actively participating in classes. Less percentage of students is observed to be off task in Mathematics and EVS classes of grades III and IV as compared to that for grades I and II.

Table 50: Percentage of students according to participation by grades and subjects

Grade	Subject	% of Active students	% of Passive students	% of Off task students
I	Tamil	74.3%	16.6%	9.1%
	Math	70.8%	14.1%	15.1%
	EVS	65.2%	13.4%	21.4%
II	Tamil	83.0%	8.6%	8.4%
	Math	75.1%	7.7%	17.3%
	EVS	69.4%	10.6%	20.0%
III	Tamil	81.8%	9.1%	9.1%
	Math	80.7%	9.5%	9.7%
	EVS	82.6%	7.0%	10.4%
IV	Tamil	77.1%	12.6%	10.2%
	Math	80.8%	9.2%	10.0%
	EVS	77.6%	9.4%	13.1%

7.6 Differences in achievement level among different groups of students

As discussed above, an effort has been made to arrive at an index of achievement of students enrolled in each grade for each subject as a continuum. The following sections present the differences in achievement of students belonging to different groups for each grade and subject separately This is covered in the following sections.

7.6.1 Between Boys and Girls – Grade wise

Table 51 below depicts the count, means and standard deviations of achievement score for boys and girls separately in each subject for each grade. The last column provides the value of student's t . According to this in none of the subjects and grades difference in achievement of boys and girls are observed to be statistically significant. A look at the mean values reveal that boys of grade I in EVS and boys of grade II in Mathematics are achieving higher than girls. In rest of the cases girls are seen to be out performing the boys..

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Table 51: Test of Significance for achievement between boys and girls - Grade wise

Grade	Subject	sex	N	Mean	Std. Deviation	Std. Error Mean	Value of t statistics
I	Tamil	Boys	200	22.35	24.66	1.74	-0.94
		Girls	197	24.94	30.01	2.14	
	Math	Boys	200	25.05	25.90	1.83	-0.53
		Girls	197	26.43	25.59	1.82	
	EVS	Boys	200	29.55	29.44	2.08	0.86
		Girls	197	27.12	26.55	1.89	
II	Tamil	Boys	183	50.95	32.67	2.41	-0.29
		Girls	222	51.90	33.39	2.24	
	Math	Boys	183	53.67	31.23	2.31	0.09
		Girls	222	53.39	31.47	2.11	
	EVS	Boys	183	49.86	29.56	2.18	-0.84
		Girls	222	52.36	29.88	2.01	
III	Tamil	Boys	240	52.71	30.93	2.00	-0.92
		Girls	232	55.32	30.94	2.03	
	Math	Boys	240	47.78	25.55	1.65	-0.17
		Girls	232	48.17	25.29	1.66	
	EVS	Boys	240	55.31	28.07	1.81	-0.77
		Girls	232	57.30	28.22	1.85	
IV	Tamil	Boys	239	54.33	30.15	1.95	-1.59
		Girls	220	58.87	31.06	2.09	
	Math	Boys	239	52.33	27.82	1.80	-1.84
		Girls	220	57.11	27.68	1.87	
	EVS	Boys	239	54.28	27.11	1.75	-1.95
		Girls	220	59.13	26.10	1.76	

** Significant at the 0.01 level (2-tailed).
* Significant at the 0.05 level (2-tailed).

7.6.2 Between Social Category – Grade wise

Table 52 below depicts the count, means and standard deviations of latest achievement score for different social categories (SC, ST, OBC, Others) separately in each subject for each grade. A look at the column for 'N' (number of students in each social category), it is seen that majority of students belonged to SC or OBC. Very few students belonged to 'Other' category (None of the students of grade IV belonged to this category). The students belonging to ST category is seen to quite less as compared to SC and OBC. The last column provides the value of 'F' by applying 'One way of analysis of variance' (ANOVA)' test. According to this the differences in achievement of different social groups

differs significantly in all the subjects for each grade. A look at the mean values reveal that students of 'other' category are achieving highest in all the subjects in grades I, II and III, followed by OBC and SC students. In grade IV, OBC students are achieving most. The achievement of students belonging to ST category is observed to be least in all classes and grades.

Table 52: Test of Significance for achievement between different social groups - Grade wise

Grade	Subject	Caste	N	Mean	Std. Deviation	Std. Error	F – Test
I	Tamil	SC	153	20.64	21.55	1.74	9.65**
		ST	31	15.12	22.16	3.98	
		OBC	207	25.62	30.35	2.11	
		OTHERS	6	75.32	22.87	9.34	
		Total	397	23.63	27.44	1.38	
	Math	SC	153	26.37	24.03	1.94	5.20**
		ST	31	11.57	21.55	3.87	
		OBC	207	26.68	26.95	1.87	
		OTHERS	6	50.00	11.20	4.57	
		Total	397	25.73	25.72	1.29	
	EVS	SC	153	25.55	27.63	2.23	9.17**
		ST	31	11.17	16.33	2.93	
		OBC	207	31.97	28.42	1.98	
		OTHERS	6	63.22	9.32	3.80	
		Total	397	28.34	28.04	1.41	
II	Tamil	SC	146	56.39	33.16	2.74	17.87**
		ST	28	11.66	20.08	3.80	
		OBC	227	52.68	31.06	2.06	
		OTHERS	4	81.99	9.93	4.97	
		Total	405	51.47	33.03	1.64	
	Math	SC	146	57.67	31.67	2.62	18.98**
		ST	28	14.50	21.79	4.12	
		OBC	227	55.13	28.87	1.92	
		OTHERS	4	83.32	11.47	5.74	
		Total	405	53.51	31.32	1.56	
	EVS	SC	146	50.03	31.03	2.57	12.96**
		ST	28	22.36	23.91	4.52	
		OBC	227	54.95	27.39	1.82	
		OTHERS	4	86.06	17.02	8.51	
		Total	405	51.23	29.72	1.48	

Table 52 (Contd…….)

Table 52 (Contd…..)

Table 52: Test of Significance for achievement between different social groups - Grade wise

Grade	Subject	Caste	N	Mean	Std. Deviation	Std. Error	F – Test
III	Tamil	SC	174	53.60	32.16	2.44	21.58**
		ST	29	14.81	20.63	3.83	
		OBC	259	57.65	28.13	1.75	
		OTHERS	10	80.00	10.08	3.19	
		Total	472	54.00	30.93	1.42	
	Math	SC	174	48.33	25.59	1.94	21.06**
		ST	29	15.78	17.51	3.25	
		OBC	259	50.53	23.43	1.46	
		OTHERS	10	68.89	21.76	6.88	
		Total	472	47.97	25.40	1.17	
	EVS	SC	174	55.99	28.01	2.12	16.62**
		ST	29	24.02	28.59	5.31	
		OBC	259	59.42	26.13	1.62	
		OTHERS	10	74.05	15.11	4.78	
		Total	472	56.29	28.13	1.29	
IV	Tamil	SC	168	55.97	29.43	2.27	25.32**
		ST	41	26.83	30.81	4.81	
		OBC	250	61.73	28.65	1.81	
		Total	459	56.51	30.64	1.43	
	Math	SC	168	53.87	26.14	2.02	35.21**
		ST	41	23.57	27.74	4.33	
		OBC	250	60.21	25.53	1.61	
		Total	459	54.62	27.82	1.30	
	EVS	SC	168	55.46	24.63	1.90	29.49**
		ST	41	29.39	30.29	4.73	
		OBC	250	61.84	24.66	1.56	
		Total	459	56.61	26.72	1.25	

** Significant at the 0.01 level (2-tailed).

* Significant at the 0.05 level (2-tailed).

7.6.2 Between Learning Behavior for Tamil – Grade wise

Table 53 below depicts the count, means and standard deviations of achievement score of Tamil for different learning behaviors (Active, Passive, Off Task) in each grade. The last column provides the value of 'F'. According to this the differences in achievement of different learning behavior differs significantly in Tamil in all grades.. A look at the mean values reveal that active learners are achieving highest in Tamil in each grade as compared to passive and off task learners. In grades II, III and IV, the students belonging to 'Off task' students are achieving higher as compared to 'passive' students, however 'off task' students of grade I are achieving least in Tamil.

Table 53: Test of Significance for achievement between different Learning Behavior for Tamil

Grade		N	Mean	Std. Deviation	Std. Error	F- Test
I	Active	295	28.63	29.05	1.69	22.02**
	Passive	66	11.82	15.11	1.86	
	Off Task	36	4.33	12.13	2.02	
	Total	397	23.63	27.44	1.38	
II	Active	336	53.91	32.94	1.80	5.59**
	Passive	35	38.11	36.39	6.15	
	Off Task	34	41.09	24.79	4.25	
	Total	405	51.47	33.03	1.64	
III	Active	386	58.40	28.92	1.47	25.93**
	Passive	43	27.62	27.05	4.13	
	Off Task	43	40.82	35.55	5.42	
	Total	472	54.00	30.93	1.42	
IV	Active	354	60.07	29.40	1.56	12.39**
	Passive	58	40.06	27.56	3.62	
	Off Task	47	49.99	35.96	5.24	
	Total	459	56.51	30.64	1.43	

** Significant at the 0.01 level (2-tailed).
* Significant at the 0.05 level (2-tailed).

7.10 Between Learning Behavior for Mathematics – Grade wise

Table 54 below depicts the count, means and standard deviations of achievement score of Mathematics for different learning behaviors (Active, Passive, Off Task) in each grade. The last column provides the value of 'F'. According to this the differences in achievement of different learning behavior differs significantly in Mathematics in all grades. A look at the mean values reveal that in grades III and IV, **active learners** are achieving highest, followed by **Off task** and **passive** learners. In grade II, **passive learners** are achieving higher as compared to **off task** learners. But, strangely in grade I, **off task** learners are observed to be highest achievers followed by **active** and **passive** learners.

Table 54 Test of Significance for achievement between different Learning Behavior for Mathematics

Grade		N	Mean	Std. Deviation	Std. Error	F – Test
I	Active	281	27.63	25.66	1.49	12.28**
	Passive	56	12.49	16.28	2.00	
	Off Task	60	34.45	31.98	5.33	
	Total	397	25.73	25.72	1.29	
II	Active	304	57.11	30.27	1.65	14.49**
	Passive	31	39.92	32.43	5.48	
	Off Task	70	31.93	28.63	4.91	
	Total	405	53.51	31.32	1.56	
III	Active	381	51.89	23.80	1.21	28.46**
	Passive	45	28.42	24.12	3.68	
	Off Task	46	32.33	26.05	3.97	
	Total	472	47.97	25.40	1.17	
IV	Active	371	58.94	26.23	1.39	21.03**
	Passive	42	37.24	28.03	3.68	
	Off Task	46	43.50	28.33	4.13	
	Total	459	54.62	27.82	1.30	

** Significant at the 0.01 level (2-tailed).
* Significant at the 0.05 level (2-tailed).

7.11 Between Learning Behavior for EVS – Grade wise

Table 55 below depicts the count, means and standard deviations of achievement score of EVS for different learning behaviors (Active, Passive, Off Task) in each grade. The last column provides the value of 'F'. According to this the differences in achievement of different learning behavior differs significantly in EVS at the 0.05 level in grade I. A look at the mean values reveal that **off task** learners are achieving highest (35.09) in grade I as compared to **active** (29.50) and **passive** (19.51) learners. In grade II, however the differences are observed to be not statistically significant and **active** students are observed to be out performing **passive** (44.68) and **off task** (45.73) learners. Lastly, the students of grades III and IV are seen to be differing significantly at 0.01 level. A look at the means of different groups shows that **active** learners are out performing the other two groups. Further, the achievement level of **off task** and **passive** learners of grade IV are more or less similar, but in grade III, achievement level of **off task** (54.37) is seen to be substantially higher than **passive** learners (41.74).

Table 55: Test of Significance for achievement between different Learning Behavior for EVS - Grade wise

Grade		N	Mean	Std. Deviation	Std. Error	F – Test
I	Active	259	29.50	27.36	1.59	4.65*
	Passive	53	19.51	23.13	2.85	
	Off Task	85	35.09	37.50	6.25	
	Total	397	28.34	28.04	1.41	
II	Active	281	52.47	30.05	1.64	1.73
	Passive	43	44.68	27.55	4.66	
	Off Task	81	45.73	27.86	4.78	
	Total	405	51.23	29.72	1.48	
III	Active	390	58.12	27.43	1.40	6.83**
	Passive	33	41.74	28.68	4.37	
	Off Task	49	54.37	30.09	4.59	
	Total	472	56.29	28.13	1.29	
IV	Active	356	60.33	25.76	1.37	16.03**
	Passive	43	43.34	25.97	3.41	
	Off Task	60	44.96	26.64	3.89	
	Total	459	56.61	26.72	1.25	

CHAPTER 8

SUMMARY OF FINDINGS

A. BACK GROUND OF THE STUDY

During a school year, teachers facilitate students within the framework of ABL to complete the prescribed course of study. Much depends on how teachers and students spend their time on various teaching-learning activities in school. Apart from the time spent by teachers in interacting with students, an important aspect of the teaching-learning process is "what the students do and how much time they spend on different types of learning activities in class.

Inside classroom, activities of students are generally in the form of different modes of their interaction with the teacher, the learning material and with the peers. Interaction between students and the teacher is generally dependent on what the teacher asks students to do or students themselves asking the teacher to clarify something. In this study, the investigators observed teachers' and students' activities in the class by using a modified version of classroom observation method developed by Jane A. Stallings. ABL methodology envisages a multi-grade class having students of all the grades of primary stage. For this study, it was decided to observe one class of 40 minutes duration each of Tamil, Mathematics and EVS in every selected school. Besides observing students' activities in the class, their motivation to learning was also assessed on a three- point scale by another investigator. They also recorded the students' achievement in the most recent test given by the teacher on reaching a milestone on the ladder of the relevant grade.

For the purpose of recording students' and teachers' activities, each class was observed for 40 minutes by an investigator. This duration was split into 10 equal parts, each of four minutes duration. The first two minutes were used for observing students' and teachers' activities and the next two minutes for recording the activities on the TS-4 schedule specifically developed for this purpose. The observation in each slab of four minutes was called a snapshot. There were 10 snapshots for each class.

B. THE SAMPLE

- The study was conducted during the academic session 2008-09. The target population for the study consisted of all primary schools in the state, which are under government or local body management The study used two stage-stratified sampling. The first stage sampling unit was a district... A sample of 10 districts was selected.

- The second stage of sampling unit was school. From each district, a sample of 8 schools was selected using the simple circular systematic sampling procedure. Of the 80 primary schools thus selected 75 (93.75%) belonged to rural and another 5 (6.25%) to urban area.

C. TOOLS USED

- The following 5 tools were used

a) TS-1: School Schedule to capture the information on school location and their profile

b) TS-2: Teacher Schedule to capture the information of teachers whose activities in he the classroom was observed.

c) TS-3: Investigators Classroom Observation Schedule to capture the information about over all learning environment in each observed class.

d) TS-4: Class Observation Sheet to record students' and teachers' activities at an interval 4 minutes in a class of 40 minutes duration.. Each of these schedules contained 17 teachers' activities and 19 students' activities to provide estimate of time spent on each of the activities. .

*e) TS-5: Students' Record Sheet to capture the information of e*very student for motivation to learning and achievement.

D. PROFILE OF SCHOOLS

- On an average 3 classrooms are observed to be available in each school.
- Average number of students studying in these schools is observed to be around 70.
- A total of 5706 students were found to be enrolled in these 80 schools. The proportion of boys and girls is seen to be same.
- The attendance of students was observed on two days. Around 84 % of students were found to be present.
- Around 91% of teachers were found to be present.
- On an average, the schools spent around 9 minutes on morning assembly and around 30 minutes on mid day meals.
- During free time, on an average, about one-third (32.7%) of students were engaged in the activity of 'reading supplementary books'. The next prominent activity of students during recess or free time is that of 'Playing and Socializing' in which 18.08 % of students were engaged. Viewing TV or VCD films related to education is the next activities in which 13.65% of students were engaged. The least engaged activity was that of using TLM/TLE, where in only 1.10 % of students were engaged.

E. PROFILE OF TEACHERS

- Of 114 teachers, whose classes were observed, majority (98.2%) of them were regular teachers. 78 (around 68%) were female teachers and about three-fourth of them (72.8%) belonged to OBC category
- 94.7% teachers are observed to be with academic qualification as Sr. Sec. or above and also trained.
- Average experience of teachers is observed to be around 10 years. Majority of the teachers (36.84%) are with experience up to 5 years.

- Majority of teachers (72.81%) taught all subjects to the observed classes. Subject specific teachers were very few (8.77% for EVS, 7.02% for Mathematics and 5.26% for Tamil.
- On average a teacher did not attend school on 14.56 % days due to various reasons.
- Teachers spent majority of time (About 63%) on actual classroom teaching (interacting with students) which is followed by the activity of 'Giving and correction of home work' (6.56%) , 'Evaluating answer sheets' (6.20%),' Organising co-curricular activities, games, etc' (5.82%) and 'Lesson planning' (4.01%). About 14.28% of time is spent on non-curricular activities such as 'Providing data', Distribution of Mid-day –meals', Maintenance of attendance registers', ' Morning assembly' and attending to other miscellaneous activities.
- Almost all teachers (98.25 %) were in receipt of training on ABL across rural and urban schools. The duration of the training received is reported to be on an average of 5.5 days.

F. CLASSROOM ENVIRONMENT

- All the classes were held in classrooms. On an average, the sitting space in a classroom in a rural school was 48 sq. m. where as the same for urban school was around 52 sq. m
- In no classroom, teacher's behavior with students was very strict. In majority of classes , the behaviour of teachers with students was friendly and informal.
- More than 90 percent teachers encouraged students to ask the questions and seek clarification in each of the three subject classes. .
- In most classes of each subject, teachers were observed to be paying equal attention to boys and girls.
- In most classes of each subject, the interaction of students with teachers was observed to be free and without any fear.
- Use of TLM/TLE by students has a special emphasis in the ABL curriculum. With this background, it is observed that in 20 percent of Tamil classes, students were making use of TLM/ TLE (other than learning cards). On an average around 4 students were learning by using TLM. In the same way in 55 percent of Mathematics classes, on an average 6.73 students were observed to be learning through use of TLM. Similarly, in 30 percent of EVS classes, an average of 4.71 students was observed to be making use of TLM.
- Under ABL, students in each class were divided in six different ability groups based on their learning level. In Tamil class 5.28% students belonged to group 1 and 22.22% to group 2. Most of the students (30.39%) were in group 3. The remaining (about 40%) were in groups 4 to 6. In mathematics about 21% of students are in groups 1 and 2, As compared to Tamil, number of students in group 3 are almost half (16.56%) and majority of students (about 63%) are in groups 4 to 6. In EVS class, about 35% of students are in groups 1 and 2, only about 15% are in group 3 and remaining 50% are in groups 4 to 6.
- More than three fourth (77.50%) teachers paid special attention to students of group 1 and group 2 while teaching Tamil. In Mathematics class, 91.25 percent teachers paid special attention to students of group 1 and 2. In the same way 87.5 percent of teachers, while teaching EVS, were observed to be paying special attention to students of group 1 and group 2..

G. TEACHERS' ACTIVITIES INSIDE CLASSROOM

- The 17 teachers' classroom activities that were identified for this study were broadly classified in to 5 categories, viz., (i) Student Centric Activities; (ii) Teacher Centric Activities; (iii) Supportive Instructional Activities; (iv) Class Management Activities and (v) Off Task Activities.
- Under ABL method, the interaction of teacher with students is of utmost importance to take care of the self paced learning by students. .While recording the teachers' activity for each snapshot, the nature of interaction with students was also recorded as to whether, the teacher was interacting with a single student or group of students or with none.
- Around 50% of teachers' time was spent on paying individual attention to students. Further, the teacher is spending about one third of time while paying attention to group of students. Time (around 10%) spent by teacher in monologue is very less. The same is true for all the subjects. More over, this trend is similar whether the teacher is a male or female. This shows that ABL scheme is being generally followed in spirit.
- Teachers spent 57% of their time in the class on **'Student Centric Activities'**. Teachers teaching EVS spent more time (61.75%) on student centric activities as compared to teachers teaching Mathematics (59.13%) and Tamil (50.13%). This observation is also in tune with the ABL scheme of things.
- The overall time devoted by teachers on '**Teacher Centric Activities'** is seen to be 19.63%. The time spent by teachers on teacher centric activities while teaching Tamil is much more (24%) as compared to teachers teaching EVS (19.13%) and Mathematics (15.75%).
- The overall time spent on '**Supportive Instructional Activities'** , such as 'giving homework', correcting homework or test papers and encouraging students, is seen to be 14.58%, which is observed to be maximum in case of Tamil (16.88%) and least in case of EVS (11.38%.).
- The overall time spent on **'Class Management Activities'** is observed to be only 6.92%.
- 1.88% of classroom time was lost due to the teachers being **'Off Task'**, i.e., by attending to visitors or being out of classroom for socializing or attending to their personal work.. The teachers teaching Tamil are seen to be spending more time (2.13%) on 'off task activities as compared to teachers teaching Mathematics.
- **Among the 5 Student centric activities of teachers,**

a) 26.29% time of teacher is spent on **'replying questions and providing clarifications'**. The teachers teaching EVS devoted more time (28.25%) on this activities as compared to Tamil and Mathematics (around 25%);

b) 16.71% of teachers' time was devoted to the activity '**Teacher asking questions'** from students;

c) 7.42% of teachers' time is seen to be devoted by teachers in '**providing feedback to individual student or a group of students (at teachers' initiative)**..

d) Teachers devoted 5.75% of their time on helping students in the **'Demonstration and use of TLM /TLE material'**. The teachers teaching Mathematics are possibly struggling to help students to learn the use of TLM materials and that is why they are seen to be

spending 12.88% of their time as compared to teachers of Tamil and EVS, where they are seen to be spending merely around 2% time.

e) Helping students in **'Project work / creative activities'** is taking very less of teachers time (only 0.83%)

- **Among the 5 Teacher centric activities of teachers,**

a) .13% time of teacher is spent on **'Observing and supervising students activities'**. The teachers teaching Tamil devoted more time (9.38%) on this activities as compared to EVS (6.63%) and Mathematics (8.38%).

b) 3.88% time is spent on **lecturing and explaining verbally'**. Among the subjects 5.88% time is spent by teachers teaching EVS, while extent of this activity in case of teachers teaching Tamil and Mathematics is merely 2.88% each.

c) 3.50% of teachers time is seen to be devoted by teachers in **'Reading some text aloud from books'** . Among the different subjects, teachers teaching Tamil are seen to be devoting 5.75% of time on this activity. As expected, in case of teachers teaching Mathematics spend very less time (0.88%) on reading the text aloud from books.

d) Teachers devoted.21% of their time by **'Writing on blackboard and explaining'**. The teachers teaching Mathematics are making use of blackboard for explaining the concepts and thereby spending a little more time (2.75%) as compared to teachers of Tamil (2.25%) and EVS (1.63%).

e) On overall, the teachers spent 1.92% of their time on **'Giving dictation'.** As expected, the time devoted by teachers teaching Tamil is seen to quite higher (3.75%) as compared to EVS (1.13%) and Mathematics (0.88%)

- **Among the 3 Supportive Instructional Activities of teachers in Classroom**

a) . 6.96% time of teacher is spent on **'Correcting homework or test papers'**. The teachers teaching Mathematics are seen to be devoting more time (8.13%) on this activity as compared to EVS (5.0%) and Tamil (7.75%).

b) 4.67% of time is spent on the activity **'Encouraging one or more students'**. Among the subjects, this activity is seen to be little more apparent in case of teachers teaching Tamil, where in 5.75% time is seen to be devoted in encouragement of students.

c) Overall 2.96% of teachers' time is seen to be devoted by teachers in **'Giving homework or assignments'**. Among the different subjects, teachers teaching Tamil are seen to be devoting 3.38% of time on this activity.

H. STUDENTS' ACTIVITIES INSIDE CLASSROOM

- The 19 students' classroom activities that were identified for this study were broadly classified in to 5 categories, viz., (i) Active Learning Activities; (ii) Passive

Learning Activities; (iii) Mechanical Learning Activities; (iv) Class Management Activities and (v) Off Task Activities..

- Student-time spent on **'Active Learning Activity'** is 57.91% which is much higher than the time spent on each of the remaining four sets of activities. These activities are the ones which makes the students learn at his own by devoting sufficient time on activities such as, 'on studying on his own' , ' seeking clarifications ' from teachers, 'doing assignments' , 'seeking help from seniors', ' making use of TLM/ TLE' , etc. More over all these activities are core to the classroom processes adopted in Activity Based Learning method..
- Students are observed to be spending 16.54% of their time pertains to **'Mechanical Learning activities'**, which again consists of activities which refer to self paced learning.
- Only about 6% of student-time is seen to be spent on **'Passive Learning Activities'** which involves no interaction with teachers and students simply listen and observe the teachers.
- Time spent on **'Off Task Activities'** is observed to be more (12.72%). Perhaps this is due to freedom the students are given as part of ABL scheme of transaction for self paced learning that some students were observed to be involved in cross talking or found to be inattentive or entering into or going out of classrooms.
- **Among the 7 activities pertaining to 'Active Learning Activities',**

  a) The 3 activities which consumed more than 10% of time of students in order of magnitude are **' studying on their own'** (24.24%), **'Doing Assignments'** (15.21%) and **'Pear Learning'** (11.95%).

  b) Of the remaining 4 active learning activities, 2.41% time was spent on **' Seeking Clarifications** 'and 1.79% each was spent on **'Use of TLM/TLE Materials'** and **'Answering the queries by teachers'**. Only 0.52 % of time was spent on the **'Project and Creative'** activities.

- **Among the 2 activities pertaining to Passive Learning Activities**

  a) Majority of time (6.13%) was devoted to the activity of **'Listening to Teachers Attentively'** and
  b) Merely 0.45 % of time was devoted to the activity '**Taking Dictation'**

- **Of the 3 activities related to 'Mechanical learning activities'**

  a) Majority of time (11.79%) was spent on **'Copying / Making Notes'** of the transactions that took place in the class for future reference.

  b) The next activity on which 3.46% of students time was spent pertains to practice session of **'Reading Text from Books'** and

  c) 1.29 % of time is spent on **'Rote Memorization'**.

- **Of the 3 activities pertaining to 'Class Management Activities'**

  a) Majority of time (4.22%) of students is seen to be spent on 'Waiting for their turn to get the attention of the teacher,.
  b) 1.87 % of time was spent on activities relating to **'Assisting in class management'** and
  c) Merely 0.16 % time was spent on **'Being Reprimanded'** by teacher for offending.

- **Of the 12.72 % of time spent on 4 individual activities by students on remaining 'Off Task'**

  a) More than 10 % was observed to be spent on 2 activities, viz., being **'inattentive'** or **'simply watching others'** (7.35%) and **'engaged in cross talk with fellow students'** (3.28%).
  b) Apart from this, 1.44 % of time was seen to be spent by students which pertained to **'disruptive activities'** and
  c) Only a 0.65 % of students' time was spent by few students who were observed to be engaged in '**entering and going out of classroom'** while the teacher is busy with other students.

I. ASSOCIATION OF STUDENTS' TIME ON TASK WITH SCHOLASTIC ACHIEVEMENT

- In order to assess the overall achievement a composite score for each subject, viz., Tamil, Mathematics and EVS has been computed for each student which is based on the information of the grade he is in, completed milestones (based on ladder grade achieved), current milestone he is in and percent marks achieved in the latest milestone.
- Based on composite score, the percentage of students enrolled in grade I who could not learn anything (scores being 0 %) were observed to be 8.5% in Tamil, 25% in Mathematics and 19% in EVS. However, only 13.6%, 14.61% and 21.66% students are observed to have achieved satisfactory level (scores being more than 50%) in Tamil, Mathematics and EVS respectively.
- Similarly, among students enrolled in grade II, the achievement levels of about 3% in Tamil, about 9% in Mathematics and about 6% in EVS are observed to be at initial stage of learning and possibly could not keep pace with the learning activities over the 2 years. However, about 50% , 54% and 46% students are observed to have achieved satisfactory level in Tamil, Mathematics and EVS respectively.
- Achievement levels of students enrolled in grades III and IV are observed to be similar to those of grade II.
- An attempt was made to check whether the achievement of students was at par with the grades enrolled or not, it is observed that only about 8.6 % of students of grade I in Tamil are seen to be below the desired level and majority (89%) of them are observed to be at par with their grade level. But as the grade advances, the percent of

students below their grade level increases, so much so that about 65 % of students of grade IV are below their grade level.

- A similar trend is observed for achievement levels in Mathematics and EVS .
- Investigator in each class observed every student during a period of 40 minutes for his motivation to learning in terms of her/his participation as active learner or passive learner or uninvolved in learning (off task) for most of the time during the period. In all the grades and subjects, more than 65% students are observed to be actively participating in classes. Less percentage of students is observed to be off task in Mathematics and EVS classes of grades III and IV as compared to that for grades I and II.

- **Differences in achievement level among different groups of students among grades**

a) In none of the subjects and grades difference in achievement of boys and girls are observed to be statistically significant. The mean values reveal that boys of grade I in EVS and boys of grade II in Mathematics are achieving higher than girls. In rest of the cases girls are seen to be out performing the boys.

b) The differences in achievement of different social groups differs significantly in all the subjects for each grade. The mean values reveal that students of 'other' category are achieving highest in all the subjects in grades I,II and III, followed by OBC and SC students.In grade IV, OBC students are achieving most. The achievement of students belonging to ST category is observed to be least in all classes and grades.

c) The differences in achievement of different learning behavior differs significantly in **Tamil** in all grades.The mean values reveal that active learners are achieving highest in Tamil in each grade as compared to passive and off task learners. In grades II, III and IV, the students belonging to 'Off task' students are achieving higher as compared to 'passive' students, however 'off task' students of grade I are achieving least in Tamil.

d) The differences in achievement of different learning behavior differs significantly in **Mathematics** in all grades. A look at the mean values reveal that that in grades III and IV, **active learners** are achieving highest, followed by **Off task** and **passive** learners. In grade II, **passive learners** are achieving higher as compared to **off task** learners. But, strangely in grade I, **off task** learners are observed to be highest achievers followed by **active** and **passive** learners..

e) The differences in achievement of different learning behavior differs significantly in **EVS** at the 0.05 level in grade I. The mean values reveal that **off task** learners are achieving highest (35.09) in grade I as compared to **active** (29.50) and **passive** (19.51) learners. In grade II, however the differences are observed to be not statistically significant and **active** students are observed to be out performing **passive** (44.68) and **off task** (45.73) learners. Lastly, the students of grades III and IV are seen to be

differing significantly at 0.01 level. A look at the means of different groups shows that **active** learners are out performing the other two groups. Further, the achievement level of **off task** and **passive** learners of grade IV are more or less similar, but in grade III, achievement level of **off task** (54.37) is seen to be substantially higher than **passive** learners (41.74).

ANNEXURE 1

STUDY OF STUDENTS' TIME-ON-TASK IN PRIMARY SCHOOLS

SCHOOL SCHEDULE

1 State: Tamil Nadu **33** 2 District _____

3 Name & address of school_____

4 Dates of visit: (i) _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ (ii) _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

5 School Location *Rural(1); Urban(2)*

6 Number of classrooms in use (including *verandah* if used for teaching)

7. Class wise number of sections and enrolment as on dates of visit.

Class	No of sections	Total enrolment			Enrolment		Total Students Attendance	
		Boys	Girls	Total	SC	ST	Day 1	Day 2
I								
II								
III								
IV								
V								

8 Number of teachers (including Head Teacher) in position and present in school

	In position			Present	
	Male	Female	Total	Day 1	Day 2
Regular Teachers					
Education volunteers					

9

i. Opening time of school: ____ AM

ii. Closing time of school : _____ ____

	Day 1	Day 2
10. a) Time spent on morning assembly (in minutes)		
b) Time spent on mid-day meal (in minutes)		

11. Number of students engaged in different activities during recess and free time available before closing of school on Day 1 and Day 2

S.No	Students activities	Day 1	Day 2
I	Viewing TV or VCD film related to education		
II	Reading supplementary books		
III	Using TLM / TLE (other than cards) for more practice		
IV	Drawing, painting, making models etc		
V	Playing, socializing, no activity (idle)		
VI	Any other (mention)		
Total			

12 On how many days was the school actually open during 2008-09? ☐ days

(Get the information from the school register)

13 If the school remained closed during the prescribed working days, on how many days it was closed due to the reasons listed below: (*Write 0 if the school was not closed for any reason)*

	Reason	**No of days**
a.	Local events/ festivals	
b.	Natural disasters	
C	Elections	
d.	Special drives (polio etc)	
E	Other reasons	
	Total	

14 Of the total days on which school was open in 2008-09 (given at item 12), on how many days teaching was not done due to organization of school functions, cultural activities, etc. ☐ days

15. On how many days did BRTE visit your school since February upto March 27, 2009. ☐ days

Signature and name of Head Teacher with date

Signature and name of Investigator with date

ANNEXURE 2

STUDY OF STUDENTS' TIME-ON-TASK IN PRIMARY SCHOOLS

TEACHER'S SCHEDULE

(For Teachers whose classes are observed)

1 State: **Tamil Nadu** **33** 2 District _____ ☐

3 Name & address of school_____ School code ☐

4 Teacher' s Name:_____ Teacher Code* ☐

5 Gender *(Male:1 ; Female:2)* ☐

6 Type of Teacher *(Regular:1 ; Education volunteer:2)* ☐

7 Educational Qualification *(Below Secondary:1; Secondary:2; Sr. Secondary:3; Graduate/ Post Graduate :4)* ☐

8 Teacher Training *(No training:1;JBT/Dip.Ed:2; B.Ed/:3;)* ☐

9 Social Group *(SC:1 ; ST:2 ; OBC : 3; Other : 4)* ☐

10 Total teaching experience (in completed years) ☐

11 Which of the following subjects were you teaching in the observed class ? (write 1 for ' Yes' and 2 for 'No' in the cells)

Tamil ☐ Mathematics ☐ EVS ☐

12 Total number of working days during the current academic year? (Till the day of ☐

interview from the day posted in this school after starting of the current session)

13 How many days in this session you did not teach due to such reasons as given below? (Obtain this information from school records/log book)

	Reasons	**No. of days**
i.	Being on leave	
ii.	Being on official duty not related to education e.g. election work, Polio mission	
iii.	Attending training or meetings related to education	
iv.	Being on other duties related to education e.g. enrolment drive, child census, Text books distribution, Admission related work; MDM related work	
v.	Being busy with other administrative work (salary collection, preparation of statistics or other information for the Education Department; completing school registers or monitoring forms, etc)	
	Total	

14 In a week, what **percentage of time** do you spend on the following activities? (Total should be 100)

S,No	**Activity**	**%**
i.	Actual classroom teaching (interacting with students, guiding them)	
ii.	Lesson planning	
iii.	Evaluating answer scripts	
iv.	Giving and correcting home work	
v.	Providing data and other information; doing administrative work	
vi.	Mid Day Meal distribution	
vii.	Maintenance of Attendance Register and other registers	
viii	Morning assembly	
ix.	Organizing Co-curricular activities, games etc.	
x.	Any other (mention):	

	Total (i to x)	100

15 (a) Did you receive any training on ABL? Yes (1); No (2) [ ]

(b) If yes, when did you receive the first training? Month [ ] [ ]

(c) For how many days was the training? [ ] days

16 (a) Did you receive any subsequent training on ABL ? Yes (1); No (2) [ ]

(b) If yes, for how many total days? [ ]

days

17 During 2008-09 how many days of training (including ABL related training) did you receive at

i. BRC [ ]

ii. CRC [ ]

Teacher's name & signature with date: _____

Investigator's name & signature with date _____

ANNEXURE 3

STUDY OF STUDENTS' TIME-ON-TASK IN PRIMARY SCHOOLS

Investigator's Classroom Observation Schedule

1 State: **Tamil Nadu** 33 2 District _____ Code ☐

3 Name & address of school _____ _____ School code ☐

4 Name of Teacher _____ Teacher code ☐

5 Name of Investigator . _____ Code ☐

Subject taught by the teacher in the observed class : ☐

6 Language (1), Mathematics (2),EVS (3)

7 Number of students in different groups in the classes observed

Grade	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Total
I							
II							
III							
IV							
V							
Total							

8 Number of students present in the class being observed Boys ☐ Girls ☐ Total ☐

9 Where is the class being held? Classroom(1); Verandah(2); Open Space(3) ☐

10 Sitting space i.e. Floor Area (in sq. m.) of the classroom: ☐ *sq.m.*

11 Behaviour of teacher with students: ☐

Very strict (1); Somewhat strict (2); Friendly & informal (3) ☐

12 Did the teacher encourage students to ask questions? Yes(1); No (2) ☐

13 Did the teacher pay equal attention to boys and girls? Yes(1); No (2); ☐

(code 3 to be used if the class has only boys or only girls) Not applicable (3)

14 Did the teacher give special attention to students of Group 1 and Group 2 most of the time ? ☐
Yes(1); No(2)

15. Are the students free with teacher or fearful of teacher ☐

Free (1) Fearful (2)

16. Did the students use any TLM / TLE (other than learning cards) in the class ? Yes (1); No (2) ☐

17. If yes, how many children were using TLM / TLE in the class ☐

Name of Investigator: _____

Date : _____

ANNEXURE -4

TS – 4

STUDY OF STUDENTS' TIME-ON-TASK IN PRIMARY SCHOOLS

CLASS OBSERVATION SHEET

1. State: **Tamil Nadu** **33** 2. School Code as per list

3. No. of grades being taught together in the classroom

4 Subject taught: (Tamil-1; Maths-2; EVS-3) 5. Teacher code (Teacher code should be same as given in Schedule TS3 for a given grade & subject

6. Snapshot No. 7. Start time 8. Total No. of students being observed

9. ***Mark your observation***

(1) by writing 1 in column 3 if teacher is interacting with one student and 2 if teacher is interacting with two or more students. Otherwise leave it blank

(2) by encircling the applicable response code in* the *appropriate column for students' activity under 6.

under 7 write the number of students engaged in that activity

Sl.No 1	Teacher's activity 2	3
i	Lecturing/ explaining (whole class)	
ii	Writing on blackboard and explaining	
iii	Reading some text	
iv	Giving dictation	

Sl.No 4	Student/s ' activity 5	Students Group Code* 6					No. of Students 7
i	Listening attentively to teacher	**I**	**S**	**M**	**L**	**A**	
ii	Studying on their own using learning cards	**I**	**S**	**M**	**L**	**A**	
iii	Reading aloud or /alone with others	**I**	**S**	**M**	**L**	**A**	
iv	Taking dictation	**I**	**S**	**M**	**L**	**A**	

v	Giving homework or assignment	
vi	Correcting home work/test paper	
vii	Providing feedback to individual or group of students (at teacher's initiative)	
viii	Asking questions	
ix	Replying question/providing clarification	
x	Demonstrating/ helping use of TLM/TLE	
xi	Helping Project work/creative activity	
xii	Observing/ supervising students' activity	
xiii	Encouraging one or more students	
xiv	Scolding / discipling students	
xv	Classroom management	
xvi	Attending to visitor	
xvii	No activity/out of classroom	

v	Copying	**I**	**S**	**M**	**L**	**A**	
vi	Rote memorization / Practice	**I**	**S**	**M**	**L**	**A**	
vii	Peer learning	**I**	**S**	**M**	**L**	**A**	
viii	Answering question	**I**	**S**	**M**	**L**	**A**	
ix	Seeking clarification	**I**	**S**	**M**	**L**	**A**	
x	Using TLM/ TLE	**I**	**S**	**M**	**L**	**A**	
xi	Engaged in project work/creative activity	**I**	**S**	**M**	**L**	**A**	
xii	Doing assignment or some work using black board	**I**	**S**	**M**	**L**	**A**	
xiii	Waiting for teacher's attention	**I**	**S**	**M**	**L**	**A**	
xiv	Being reprimanded/punished	**I**	**S**	**M**	**L**	**A**	
xv	Assisting in class management	**I**	**S**	**M**	**L**	**A**	
xvi	Un-attentive / watching others	**I**	**S**	**M**	**L**	**A**	
xvii	Cross talking	**I**	**S**	**M**	**L**	**A**	
xviii	Engaged in disruptive activities	**I**	**S**	**M**	**L**	**A**	
xix	Entering into or going out of class	**I**	**S**	**M**	**L**	**A**	

*** Students Group Code**: **1**-One Student; **S** – 2-5 students; **M** – 6-10 students; **L** - More than 10 but not all; ***A*** – All/ everyone

Note: - This schedule will be filled separately for each of 10 snapshots. Please make sure that entries for items 1 to 5 and 8 are same in each of Snapshot for a given grade and subject. Thus 10 TS-4 schedules will have to be completed for each class that is observed.

Investigator's name & Signature : _____ Date

ANNEXURE – 5

STUDY OF STUDENTS' TIME-ON-TASK IN PRIMARY SCHOOLS

STUDENTS' RECORD SHEET (TS-5)

1.State: Tamil Nadu | **33** | 2 District _____

3 Name & address of school_____

4. School Location *Rural(1)/ Urban(2)* ☐

5. Students' information

Code list:

Gender: **Boy** – 1; **Girl** – 2; Social group: SC – 1; ST – 2; OBC – 3; other - 4

Learning Behavior: Active -1; Passive -2 ; Off Task – 3

(Please refer to instructions for classifying the students on Learning Behavior)

a*: ladder grade **b*:** completed milestone **c*:** % of marks obtained in (b*)

S.No	Students' Name	Grade in which enrolled	Gender (code list)	Social group (code list)	Learning behavior			Academic status								
								Tamil			Mathematics			EVS		
					Tamil	Mathematics	EVS	a*	b*	c*	a*	b*	c*	a*	B*	c*
1																
2																
3																
4																
5																
6																
7																
8																
9																
10																