

Executive Summary

Learning Achievement of Class III Students

- *A Baseline Study Under SSA*

***Dr. Avtar Singh, Professor
Dr. Santosh Kumar, Reader
Dr. Veer Pal Singh, Reader***

**DEPARTMENT OF EDUCATIONAL MEASUREMENT AND
EVALUATION
NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING
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The elementary education is intended to develop basic abilities in Reading, Writing, Arithmetic and Life skills, necessary for the children to grow and be able to lead a better life. The acquisition of basic competencies in the domain of literacy and numeracy is more important than the competencies in other related areas. The class III being in the middle of Primary stage assumes more significance from the point of knowing the learning of achievement as well as for initiating mid-stage corrections so that students acquire essential competencies at the end of Primary stage. Therefore, a baseline study was planned with the objectives:

- To know the level of achievement of children in Language and Mathematics at the end of Class III.
- To know the contribution of intervening variables like home, school and teacher on students achievement.

This study was initiated in Nov. 2002. The tools were developed and standardized in 2003 and the data was collected by administering these tools in the months of Feb-April 2004 in various states/UTs. The data was collected with active participation of SCERTs/SIEs in most of states.

Tools

The tools comprised of test in Language and Mathematics and three questionnaires i.e. one each for school, teacher and student. Multiple parallel tests were developed in all Indian Languages in both subjects. These were tried out across 22 States/UTs. The Language tests had 35 objective type test items. The first 20 items focused on Grammar and Usage and remaining 15 items were on Reading Comprehension. The Math test contained items on Number system, Four fundamental operations, Fractions, Geometrical figures, Measurement and problem solving questions etc. The core competencies tested through these tests are essential for learning for every grade three child across the nation. Some of these were even text free. The questionnaires were prepared to know the impact of other related variables on learning achievement of students.

Sampling Design

Multistage stratified random sampling design was used for the selection of districts, areas, schools, teachers and students. A maximum of 10% districts and minimum of four districts were selected from each state and each UT was treated as one district. This survey was planned for 125 districts of the country. Two states (AP and Bihar) and four UTs (A&N

Islands, Dadar and Nagar Haveli, Daman & Diu and Lakshadweep) could not participate. Therefore, data from 111 districts covering 29 states/UTs could be collected. In the actual sample, 92407 students were administered Language and Math tests in 5293 schools. The information from 8533 teachers teaching to sampled students in these schools was collected.

Findings

Different statistical techniques were used to analyse the data. The analysis provided the profiles of schools, teachers and students. The achievement of students areas-wise, gender-wise and category-wise was also studied. The contribution of other home and school variables is also being studied in detail. The findings are summarized below:

Profiles

- Percentage of multigrade teaching schools was highest (88.5%) in Uttaranchal and lowest (8.16%) in Chandigarh.
- Percentage of multigrade schools in rural areas was more in comparison to urban areas except Chandigarh, Delhi, Kerala and West Bengal.
- Percentage of inspected schools was the highest in Manipur (94.5%) and lowest in Meghalaya (19.89%).
- Percentage of regular teachers across the states varied from 53.49% (Sikkim) to 99.5% (Pondicherry).
- The percentage of para teachers, was highest (28.68%) in Sikkim and lowest in Tripura (0.11%).
- Number of school working days varied from 190 days in Haryana to 244 days in Chandigarh. The national average was 215 days.
- Most availed and used teaching aid in schools was chart.
- More than 50% teachers were using teacher's guide, charts and flash cards 'Regularly' in their teaching. Remaining teaching aids were used sometimes.
- Three or less than three percent teachers were not using any kind of teaching aid.
- Mid-day meal scheme was better availed by students than other schemes.
- Incentive scheme like mid-day meal, free uniform, free textbooks, scholarships and others were better availed by rural students than urban students.

- VEC/AEC were found in more than 80% schools. PTA was in about 57% schools.
- Approximately 25% and 12% teachers were Graduates and Post graduates respectively. More female teachers had post graduate qualification than male teachers.
- Majority of teachers (approximately 85%) were possessing diploma/ certificate in primary/elementary education, as an essential qualification while approximately 14% were having B.Ed degree and remaining (1%) were possessing M.Ed as professional qualifications.
- Percentage of female teachers possessing B.Ed and M.Ed degrees was more in comparison to male teachers.
- Percentage of teachers who studied language upto class X, XII and graduation was approximately 32%, 36% and 24% respectively.
- Approximately 65% teachers studied Mathematics upto class X, 15% percent upto +2 level and 4% upto graduation while remaining studied less than class X.
- Majority of teachers were possessing more than 10 years teaching experience.
- Evaluation practices like unit test, quarterly test, half yearly test and annual examination were in vogue in schools. 44% teachers used all four types tests for assessing the performance of students.
- Approximately 77% mothers were housewives and 23% fathers were farmers.
- Approximately 3% fathers and less than 1% mothers were holding managerial/senior positions.
- Detention in class III was slightly more in rural areas than urban areas.
- Private/personal tuition was more prevalent in urban areas (32%) than rural areas (19%).
- Majority of the students attended school for 70-90% of working days.

Achievement

Language

- Mean achievement of students in language was 63.12 %.

- Mizoram state students scored highest (82%) and Madhya Pradesh state students scored lowest (45%) in language.
- Overall performance of students in 'Grammar and its Usage' (68%) was better than Reading Comprehension (56%). in language
- Urban students performed significantly better than rural students in Grammar and its Usage.
- Girls performed significantly better than boys in language
- Mean achievement of SC, ST and Others category students was 60.42%, 64.65% and 63.49 % respectively.
- Mean achievement of SC, ST and Others category students in Grammar & Usage was 67.02%, 71.77% and 69.72 % respectively
- Mean achievement of SC, ST and Others category students in Reading Comprehension was 53.09%, 57.97% and 56.71% respectively
- Mean Achievement of urban students of all categories was more than rural students in Language and its components Grammar & Usage.
- In reading comprehension the mean achievement of urban SC and ST was more than rural students of same category except in case of others category students.
- On comprehension items, less than 40% students of Chandigarh, Chhatisgarh and Madhya Pradesh could respond correctly.

Mathematics

- Mean Achievement in Mathematics was 58%
- Manipur state stood at top whereas MP state stood at bottom on the basis of mean scores in Mathematics.
- Overall boys performed significantly better than girls.
- Boys performed significantly better than girls in rural area.
- The performance of urban girls was better than rural girls.
- Mean of Others category students was better than SC category students.

- Boys mean achievement in Mathematics was significantly better than girls of SC and Others category.
- Questions on 'addition' were responded correctly by maximum number of students (69%).
- Questions based on 'Money Problem' and 'Fractions' were responded correctly by less than 40% students in seven and five states respectively.

Other Variables And Achievement

- The mean scores of students were higher in schools where the pupil teacher ratio was less than 20.
- Mean achievement of students studying in non-multigrade schools was higher than the students studying in multigrade schools
- The higher professional qualification of teachers did not make any difference in the achievement of students in both subjects.
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- The mean achievement of students studying in mother tongue was better than those studying in other languages in both subjects.
- Mean achievement of children of highly educated parents was better as compared to illiterate or less educated parents.
- The performance of students 'Getting help' from their family members was significantly better than students who 'did not get help' in their studies from family members.
- The mean achievement of Non-detained students was better than detained students.
- Mean achievement of students taking private tuition was better than those who were not taking tuition in both rural and urban areas.

Students Achievement in Language

States	No. of Students	M%	S.D.	Difference in Mean with National Average	Rank Order
Mizoram	2170	81.78	12.8	18.66	1
Nagaland	1588	76.08	17.87	12.96	2
Manipur	2577	73.21	19.2	10.09	3
Karnatak	3703	69.96	18.23	6.84	4
Pondicherry	1294	69.9	20.37	6.78	5
West Bengal	3282	68.36	21.23	5.24	6
Meghalaya	1979	68.27	16.23	5.15	7
Delhi	4652	68.19	19.9	5.07	8
Tripura	4457	66.85	18.34	3.73	9
Tamil Nadu	5382	66.51	24.72	3.39	10
Assam	2555	65.91	16.96	2.79	11
Orissa	3252	64.78	20.82	1.66	12
Maharastra	4578	64.33	22.46	1.21	13
Uttar Pradesh	6114	64.26	22.12	1.14	14
Kerala	5327	63.31	21.94	0.19	15
Goa	1672	63.19	19.4	0.07	16
Himachal Pradesh	3324	61.61	19.91	-1.51	17
Rajasthan	2874	61.48	21.98	-1.64	18
J& K	2437	61.1	21.91	-2.02	19
Arunachal Pradesh	2506	60.34	19.96	-2.78	20
Jharkhand	3905	59.97	22.26	-3.15	21
Haryana	3232	59.33	22.02	-3.79	22
Gujarat	4639	58.54	18.4	-4.58	23
Sikkim	2921	58.1	17.37	-5.02	24
Punjab	2172	54.29	21.43	-8.83	25
Uttanchal	2174	53.95	21.3	-9.17	26
Chandigarh	1410	53.14	18.42	-9.98	27
Chhatisgarh	2485	50.69	23.52	-12.43	28
Madhya Pradesh	3738	45.21	28.77	-17.91	29
Average	-	63.12	22.05	-	-

Students Achievement in Mathematics

States	No. of Students	M%	S.D.	Difference in Mean with National Average	Rank Order
Manipur	2577	72.27	20.09	14.02	1
Karnatak	3708	68.45	23.97	10.2	2
Delhi	4652	68.12	21.83	9.87	3
Assam	2555	68.1	18.97	9.85	4
Nagaland	1589	67.56	19.22	9.31	5
Meghalaya	1979	67.45	18.91	9.2	6
Mizoram	2170	66.89	18.69	8.64	7
Tripura	4457	66.58	19.1	8.33	8
Gujarat	4639	64.24	21.74	5.99	9
Orissa	3252	62.56	25.96	4.31	10
West Bengal	3282	62.02	22.69	3.77	11
Arunachal Pradesh	2506	59.98	20.7	1.73	12
Uttar Pradesh	6114	58.21	25.27	-0.04	13
Goa	1672	58.08	22.51	-0.17	14
Pondicherry	1294	57.97	23.76	-0.28	15
Maharastra	4578	57.77	24.45	-0.48	16
J& K	2437	56.98	26.11	-1.27	17
Rajasthan	2874	56.79	22.9	-1.46	18
Haryana	3232	55.95	25.97	-2.3	19
Jharkhand	3905	54.67	25.83	-3.58	20
Himachal Pradesh	3324	54.42	22.28	-3.83	21
Punjab	2172	53.89	24.71	-4.36	22
Tamil Nadu	5382	53.48	22.52	-4.77	23
Kerala	5327	51.36	21.27	-6.89	24
Sikkim	2921	51.22	19.31	-7.03	25
Chandigarh	1410	50.99	20.4	-7.26	26
Uttranchal	2174	46.79	24.15	-11.46	27
Chhatisgarh	2485	41.96	26.12	-16.29	28
Madhya Pradesh	3738	36.94	30.22	-21.31	29
Average	-	58.25	24.89	-	-

Selected Districts and Number of Schools, Teachers and Students

Sl. No.	States/UTs	Total No. of Districts	Names of Sampled Districts	No. of Sampled Schools		No. of Sampled Teachers		No. of Sampled Students	
				R	U	M	F	B	G
1.	Arunachal Pradesh	15	Tawang, East Kameng, West Siang, Tirat	192 (169+23)		333 (252+81)		2506 (1282+1224)	
2.	Assam	23	Berpeta, kamrup, laxhimpur, Tinsukia	192 (158+34)		315 (190+125)		2555 (1286+1269)	
3.	Chandigarh	1	Chandigarh	49 (13+36)		68 (12+56)		1410 (749+661)	
4.	Chhatisgarh	16	Bastar, kawardha, Raipur, Sarguja,	187 (148+39)		232 (161+71)		2485 (1368+1117)	
5.	Delhi	9	North East, North West, South West, South Delhi	159 (51+108)		202 (133+69)		4652 (2310+2342)	
6.	Goa	2	North Goa, South Goa,	100 (78+22)		145 (18+127)		1672 (846+826)	
7.	Gujarat	25	Ahmedabad, Mahesana, Navsari, Rajkot	200 (155+45)		228 (74+154)		4639 (2386+2253)	
8.	Haryana	19	Panchkula, Panipat, Rewari, Sirsa	200 (159+41)		209 (93+116)		3232 (1631+1601)	
9.	Himachal Pradesh	12	Hamirpur, Kinnaur, kullu, Shimala	200 (153+47)		209 (85+124)		3324 (1689+1635)	
10.	J& K	14	Srinagar, Anantnag, Jammu, Baramulla	197 (156+41)		381 (180+201)		2437 (1146+1291)	
11.	Jharkhand	22	Palamu, Ranchi, Bokaro, Godda	200 (154+46)		300 (186+114)		3905 (2106+1799)	
12.	Karnatak	27	Belgaum, Gulbarga, Udipi, Bangalore	200 (150+50)		293 (130+163)		3708 (1908+1800)	
13.	Kerala	14	Thiruvanthapuram, Idukki, palakkad, Wayanad	198 (170+28)		384 (102+282)		5327 (2789+2538)	
14.	Madhya Pradesh	45	Bhopal, Dhaar, Gwalior, Riwa, Seoni,	250 (186+64)		322 (179+143)		3738 (1927+1811)	
15.	Maharashtra	35	Gadchiroli, Jalgaon, Kolhapur, Mumbai	199 (135+64)		357 (221+136)		4578 (2368+2210)	
16.	Manipur	9	Churachandpur, Imphal West, Thoubal, Ukhrul	200 (152+48)		400 (275+125)		2577 (1273+1304)	
17.	Meghalaya	7	East khasi Hills, Jaintia Hills, Raibhoi, West Garo Hills	176 (137+39)		302 (144+158)		1979 (959+1020)	
18.	Mizoram	8	Aizwal, Kolasib, Lunglei, Serchhip,	198 (128+70)		371 (183+188)		2170 (1240+930)	
19.	Nagaland	8	Dunapur, Mokokchung, Mon, Wokha	126 (95+31)		191 (109+82)		1589 (886+703)	
20.	Orrisa	30	Jagatsingpur, Khurda, Mayurbhanj, Nuapada,	200 (165+35)		340 (158+182)		3252 (1760+1492)	
21.	Pondicherry	1	Pondicherry	50 (32+18)		84 (33+51)		1294 (618+676)	
22.	Punjab	17	Jalandhar, Ferozepur, Sangrur, Hoshiarpur	163 (139+24)		489 (370+119)		2172 (1068+1104)	

23.	Rajasthan	32	Bikaner, Jaipur, Pali, Udaipur	199 (158+41)	372 (249+123)	2874 (1508+1366)
24.	Sikkim	4	East, North, South, West	160 (145+15)	277 (142+135)	2923 (1506+1417)
25.	Tamil Nadu	29	Chennai, Salem, Madurai, Kanyakumari	200 (107+93)	322 (53+269)	5382 (2722+2660)
26.	Tripura	4	West Tripura, South Tripura, Dhalai, North Tripura	198 (157+41)	393 (267+126)	4457 (2216+2241)
27.	Uttar Pradesh	70	Agra, Bareilly, Deoria, Fatehpur, Lucknow, Saharanpur, Sonbhadra	350 (265+85)	510 (250+260)	6114 (3060+3054)
28.	Uttaranchal	13	Chamoli, Dehradun, Nainital, Pithoragarh	200 (161+39)	225 (78+147)	2174 (1004+1170)
29.	West Bengal	19	Murshidabad, Purulia, North 24 Paraganas	150 (114+36)	279 (216+63)	3282 (1665+1617)
	Total		Total Sampled Districts = 111	5293 (3990+1303)	8533 (4543+3990)	92407 (47276+45131)