

**Innovative approaches for Promotion of Psychosocial
Development of Schedule Caste and Tribal Children in
Ashram Schools**

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Introduction

Children constitute nearly half the population of India and half of them are girl children. Yet psychosocial development of children in general and girls in particular has received scant attention from the Education, Health and Welfare sectors. The policy documents in India such as National Policy for Children (1974), Integrated Child Development Services (ICDS 1972), Integrated Education for Disabled Children (IEDC 1988), National Health Policy (1993), The National Mental Health Programme for India (1984), National Policy on Education (1986) and Child Labour (Prohibition and Regulation Act 1986) emphasize the promotion of health, psychosocial development, and primary, secondary and tertiary prevention of disabilities and mental health problems of children. The WHO publication "Mental Health Programmes for School Children" (Hendren, Weissen and Orley 1994) offers some excellent recommendations. Despite the progressive policy documents and programmes, the translation of these policies into reality at the grass roots level have not been carried out. For these reasons, sensitization regarding physical and psychosocial development, healthy or otherwise, to all the teachers who deal with children in the course of their work needs to be carried out. Also, innovative programmes to promote cognitive skills, language and arithmetic skills, creativity in children is also need to be considered.

The present investigator conducted a study on the promotion of psychosocial development of rural children in Karnataka, from 2000 to 2003 funded by the National Council of Rural Institutes. One thousand children from class 1 to 10 formed the sample. Innovative programmes to promote cognitive skills, language skills, number work and creativity were offered over 20 sessions using a child-to-child approach. Psychological tests showed a statistically significant improvement on all these parameters.

Of the 15 schools included in the study, one was an Ashrama school run jointly by the Education and the Welfare departments of the Karnataka Government and it catered to the scheduled caste and scheduled tribe children. It was observed

that the improvement shown by the children of this school was below what was observed in the other schools. It became obvious that it was necessary to find out the reasons for the poor performance, as well as to create and test out new models of skill development, taking in to account the 'Context' in which these children live and grow. Hence this study was convinced to identify the reasons for below average performance and to create a new model of skill development.

Aim :

To create a innovative model for promotion of psychosocial development and strategies for meeting the mental health needs of rural children (classes 1 to 7) in Ashrama schools in Karnataka.

Specific Objective :

1. Exploration into the reasons for poor learning environment for the tribal children in Ashrama schools.
2. Exploration into the family interaction and the conscious as well as unconscious factors towards promotion and hindrance of the psychosocial development of Ashrama School Children.
3. Development and evaluation of models for the promotion of psychosocial development in the light of child development, mental health and disabilities.
4. Training of primary school teachers in the taluk in Child development, mental health and disabilities.

Plan :

The programme was conducted in five phases.

Phase 1 An ethnographic study was carried out with a few chosen families (from tribal belt) in the H.D. Kote taluk of the Karnataka state to examine the interaction patterns and the methods they employ for the psychosocial development of their children. The networking of these people with the health, welfare and educational sectors were also examined.

- Phase 2** Intervention strategies in light of above exercise was added to the programme already developed for the promotion of psychosocial development with one thousand children (NCRI Study).
- Phase 3** Intervention strategies was carried over in 9 Ashrama schools. The pre and post training assessment was conducted through psychological tests. The children were screened for academic and mental health problems based on the ratings given by the teachers on the Rutter's Child Behaviour Questionnaire. Those found to be disturbed after a detailed examination by the team were offered appropriate help.
- Phase 4** 205 primary school teachers in the taluk were offered training workshops for the promotion of psychosocial development and sensitization to psychological needs of the children.
- Phase 5** Analysis of Results with qualitative and quantitative methods.

Sample

The project covered nine tribal schools (Ashrama Shale) in H.D. Kote Taluk of Mysore District in Karnataka. It is one of the most backward of the areas catering to the tribal population in the dense forests of western ghats. The number of children covered was 529 studying in the first to the seventh standards.

Procedure

The programme was conducted in 5 phases

- Phase 1 : Ethnographic Study
- Phase 2 : Developing Intervention Strategies.
- Phase 3 : Assessment and Intervention Programme
- Phase 4 : Workshop for School Teachers.
- Phase 5 : Analysis of Results and Discussion

Phase 1

1. **Ethnographic Study** : An ethnographic study was carried out with a few chosen families of H.D. Kote tribal belt. 9 different tribal areas were chosen for study. These areas include Bhimanahalli, Metikuppe, Penjahalli, Kebbepura, Channagundi, Jakkahalli and D.B. Kuppe. The interaction patterns and the methods the tribal employ for the psychosocial development of their children were studied. The networking of these people with the health, welfare and educational sectors were also examined. Different areas under these aspects examined were – type of housing, water facility, electricity, toilet facility, health care, occupation, religious activity, traditional rituals followed in marriage, government benefits, entertainment, education and schooling and economic status. Qualitative analysis was done to understand their pattern of life.

Phase 2

2. **Developing Intervention Strategies** : The analysis of ethnographic study was considered to develop the intervention strategy. Improvements were made in the already developed intervention strategies for the promotion of psychosocial development with one thousand children (NCRI study).

The intervention to promote the psychosocial development of the children had the following features.

- They were flexible.
- They were continuously monitored through observational methods, feedback and formal assessment.
- Age appropriate tasks with simple tasks for the younger children and more varied and complex once for the older children were developed.
- All tasks were carried out through play, games, art, crafts and drama and not through formal lessons.
- Tasks were initiated and managed by the children while the team remained as catalysts.
- The team of field workers were trained in the use of child friendly methods.

- Most of the material was indigenous and inexpensive except for the sports equipment which was donated to all the schools as the schools had hardly any.
- The attempt was made to promote physical, cognitive, language, arithmetic and creative skills along with personal-social skills.
- The most important aspect was that the children enjoyed the activities and considered it 'fun time'.
- Traditional games, stories and songs of each particular tribal area was included as part of intervention programme.
- Leaders were selected among the groups and they managed the programme during the follow up sessions while the team members were not present.
- Environment was created such that innovative, novel ideas given by children were appreciated and not criticized, and were also included into the intervention programme.

The activities developed were as follows:

Motor Development

Activities for the promotion of gross and fine motor skills, eye-hand co-ordination and form perception through play and games, indigenous or otherwise.

Language Development

Activities for the promotion of linguistic skills through word games, story telling, enactment of story, story building, singing, etc.

Development of Number Concepts

Activities for the promotion of number recognition, identification and basic arithmetic concepts through games, board games, abacus etc.

Promotion of Intelligence

Activities to promote attention, concentration, memory, problem solving, analysis and synthesis, planning etc., through games and puzzles.

Promotion of Creativity

Child initiated art and craft work with inexpensive or indigenous materials, painting and drawings both individually and in groups, followed free art education model rather than copying or instruction.

Thus an innovative intervention package was developed to promote the psychosocial development of the children.

Phase 3

Assessment and Intervention

Pre and post assessment was carried out with the children before and after intervention program was conducted.

This can be represented as follows

Pre Assessment → intervention → Post Assessment

Pre and post assessment was done by using the following tools

A) For the teachers

- Children's Behaviour Questionnaires

Performa A and B (Rutter 1967) for screening of children as related by teachers for behaviours and school related problems.

- Developmental Psychopathology Check List (Kapur et al 1995) for detailed evaluation of the children identified as disturbed by the teachers/parents.

B) For the Children

The Children were assessed on the following tests according to their ages.

- Seguin Form Board (SFB) (Cattell, 1945) to assess the Intellectual functioning.
- Colour Cancellation Test (CCT) (Kapur 1975) to assess attention and concentration for the younger children.
- Vocabulary test (for younger children) – developed for the project.
- Memory test (for younger children – four sub tests) (Barnabas, 1992)
- Arithmetic test (for younger children) – developed for the project.
- Number Cancellation (Kapoor 1974) to assess attention and concentration for the older children.
- Raven's Progressive Matrices (Colored Progressive Matrices) (Raven 1975) to assess intellectual ability.
- Vocabulary test (WISC Modified, NIMHANS, 1991) to assess the vocabulary.

- Arithmetic test (Shoenell Modified : NIMHANS, SLD Battery, Kapur et al 1991) to assess arithmetic ability.
- Test of Creativity of Kogan and Wallach – Indian adaptation by Mehdi, 1972.
- Memory test for children (Barnabas, 1992) to assess memory.

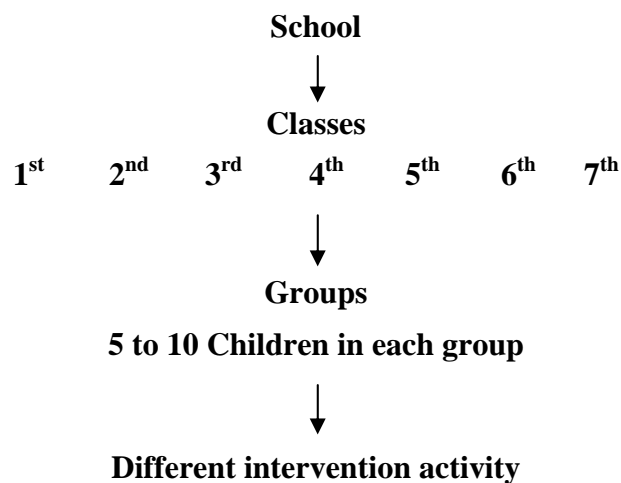
Of the above tests 1 - 5 were administered for younger children of class 1 & 2. Rest of the tests were administered to children from classes 3 to 7.

Intervention Programme :

Working with children in small groups, for an hour or two every day of the week, the stimulation programme made use of play, games, art work, number and word games, drama, song and dance activities to promote fine and gross motor, cognitive, language, emotional, social and moral development. Apart from games, innovative ways to promote Creativity were carried on. The programmes were carried out with the involvement of the teacher, villagers and older children teaching young children. The cost per child worked out to be Rs. 100/-.

- Initially monitored by team members
- Later, selected student leaders monitor the activities.
- Approximate time allotted for each school for intervention was around 35 days.
- Each day spending one and half an hour with each group.

Intervention Programme carried over can be represented as follows.



Art, Craft, Play, Number Game, Puzzles, Singing, Dancing, Story Telling, Drama.

Phase 4

Workshop for Teachers

Four training workshops for the teacher were carried out about mental health problems and disabilities in the children in order to identify, refer and manage the children in the school setting. The lecture consisted of : Causes of disturbed behaviour, Conduct, Emotion and Learning disorders and Normal development and disorders in specific age groups. Manuals were distributed titled “Child Mental Health Problem Guide to Teachers”– (NIMHANS).

Among those four training workshops two training workshops were conducted for different groups of teachers from H.D. Kote. Where as other two training workshops were conducted for teachers from Ashrama Schools. One workshop was conducted before the intervention started and another workshop was conducted after the intervention was completed with the children of Ashrama Schools. During the last workshop feedback was collected from the teachers regarding the training programme and the feedback was analyzed quantitatively.

Phase 5

Analysis of Results and Discussion

Quantitative Analysis

The result of the groups, that is the performance of children, before and after intervention were compared. As the statistics of significance on ‘t’ test is no longer considered adequate (American Psychological Association, 2001 and British Psychological Society, 2003), in addition, the ‘effect-size’ has been considered especially to measure the impact of intervention, as is the case of the present study. Cohen’s ‘d’ (Cohen, 1988) is the most popular of the effect size. He describes them as small, medium and large effects. The effect size of 0,2 (or just under a quarter of standard deviation difference between the conditions) is small, 0,5 (or half standard deviation) is medium and 0,8 (over $\frac{3}{4}$ of standard deviation) is considered large.

Qualitative Analysis

Content Analysis was carried on for ethnographic study and for the feed back given by teachers.

RESULTS AND DISCUSSION

Results will be discussed under the headings.

Part 1 : Ethnographic study.

Part 2 : Universal intervention with 529 children for the promotion of their psychosocial development.

Part 3 : Teachers feed back regarding the intervention programme.

Part 1 – Ethnographic Study

Family background of the children of the forest.

The project work was carried on in the Ashrama Schools at Metikuppe, Bhimanahalli, Penjahalli, Jakkahalli, Kebbepura, Channagundi, Dodda Bhairana Kuppe (D.B. Kuppe), Udbur and Educational Complex for girls in Udbur. These Ashram schools were located near various tribal settlements. The tribals were also called Girijanas (forest people). Some of the settlements (colonies) are government sponsored. Some were partially supported through money or material like bricks and tiles. Some were not supported and only use of land was permitted.

Though all the tribal areas mentioned above were examined, two tribal areas will be discussed through case study pattern. This would give the background about areas from which the children came from. Through the case studies, the families, sociocultural aspects, health aspects and their interaction pattern were studied.

1st Case Study : Case of Jenukurubas (Honey Gatherers) at Metikuppe.

Most of the tribals who lived in this haadi (settlement) were Jenukurubas.

Housing : There were about 104 families and these were mostly joint families. Two or three families lived in each of these small houses. There were about 48 houses constructed with cement, two with tile roofs and another 25 thatched huts. The cement houses were built more than 20 years back and were in need of repairs. Five such houses had been abandoned as they were not habitable any longer. The houses

were built close to each other in rows along a narrow road. The huts were small, walls were constructed by mud and bamboo.

Water : There were three bore wells supplying water to the village.

Electricity : Though the village was electrified, houses were not provided with electricity as the bills were not paid.

Toilet : None of the houses had toilets and people generally had to use open ground or bushes around the village.

Health Care : A nurse would attend the village once a fortnight. H.D. Kote general hospital was located 12 km from this village. But the villagers had negative attitude towards medical personnel and medical facilities. They usually used some herbs for any physical problems.

Occupation : Occupation of the people varied a great deal. Some people owned farm of one or two acres, some worked for daily wages, some collected materials from forest such as gum, lichen, spices, honey and root vegetables, some migrated to coffee plantations in Coorg or Kerala.

Religious Activity : One of the cement house was used as a temple. A female diety 'Venkatamma' was worshipped there. All the house holders, paid homage to the goddess with coconut, flowers and camphor. People also worshiped other gods like Nettakallappa and Aiappa. Once in a year, a festival is celebrated during which a male individual would gets possessed by the deity and during this period he delivered orders.

Marriage : For them marriage was a simple affair. Boy and girl when they decide to get married simply went into the forest and then returned as man and wife. In the event the marriage was not a success, either of the partner was free to choose another partner.

Government Benefits : No one in the village got any benefit like disability pension, old age pension, etc.

Entertainment : The village had no TV. Few people had radios. Occasionally they would rent a TV and Video record player and watch movies all through the night and children joined them.

Education and Schooling : Most of the adults were illiterate. Till now only one boy had completed high school (in the year 2003). About 23 children were studying in the higher primary school at Metikuppe. Not all the children in the village went to school. Some of them accompanied their parents to work. Villagers had indifferent and negative attitude towards school. Reason being as stated by villagers were that the school being run indifferently, meals not provided adequately, teachers not being regular, etc.

Social Concern of Metikuppe :

Consumption of alcohol by both men and women was seen. They were drunk most of the time. They were found gambling and playing cards and children are also involved in it. Children also consumed liquor. Village elders were poor role models for the children. It was found that reports of problems in the children was due to the fact that parents had neglected them totally and children ran wild doing what they wanted to.

On the whole their attitude towards life was negative. The general impression was that sizable members of the settlement were socially dysfunctional. This had a major impact on children too.

2nd Case Study : Jenukuruba (Bhimanahalli)

Bhimanahalli is located on the H.D. Kote - Hunsur highway. The people appeared to be more modernized in their manner of speaking and clothing.

Housing : 28 houses were constructed by the government, 20 years age. 20 were habitable but not in good condition. Most families were joint families.

Water : They had 2 bore wells supplying waters to the village.

Electricity : Only 3-4 houses had electrical connections.

Toilet : None of the houses had toilets.

Health Care : They had positive attitude towards medical professionals. For health requirements they had to go to government hospital at H.D. Kote, Hunsur or Gurupur with 18 to 20 kms from their village. A mobile health van from Swamy Vivekananda Memorial Hospital visited the village once in a week.

Occupation : 13 people owned 4 acres of land each. As there was a pond, they grew paddy. Some went into the forest to graze cattle. As they were dependent on farming they rarely collected the forest products.

Religious Activities : They worshiped 'Jama'. They also worshiped different Gods and Goddesses. The village celebrated Jama festival and other festivals related to other Hindu Gods. The festivals were celebrated with processions, dances and singing.

Entertainment : They also did not have TV. Some people had radios. Occasionally they would rent TV and Video Player and watch movie through night and children joined them.

Education and Schooling : The villagers had positive attitude towards schooling. Boys though did not study beyond the primary school, one girl had completed her SSLC. The teacher who was heading the school was a responsible lady. She worked with the community to improve the education of children. She was appreciated for her commitment by the villagers.

Social Concerns: Despite poverty this community seemed psychologically healthier. They encouraged the children to go to school. Though few drank and gambled, they tried keeping children away from these activities.

3rd Case Study of Kadu Kurubas :

Following is a discription in general about some of the haadis (Kadu Kuruba) visited.

Housing : They have houses built 10-15yr back and are not in good condition

Water : Haadies have either bore wells or water tanks.

Electricity : There is electricity. But very few houses are electrified.

Toilets : There are no toilets.

Occupation and Food : Most people in the haadies worked for the forest department some work on daily wages on road construction and maintenance. They had

community halls where they follow their traditional occupation of making baskets, mats, etc. These were sold either to middle men or at local weekly shandies. They ate root vegetables and greens that grew abundantly in their area. Children were given raagi as food. Raagi is staple diet which is rich in protein.

Health Care : Health facilities are available in the general hospitals (at H.D. Kote Sargur and Beechanahalli), Primary Health Centres and Vivekananda hospital. The present generation of families made use of hospitals if they had health concerns. Kadu Kurubas believe in herbal traditional treatment for common illnesses.

Marriage : Marriage among them was a social affair unlike Jenu Kurubas. The marriage was decided by the family. And the marriage was occasion of celebrations. There were a rule of 'endogamy' and 'exogamy'. And marriage are family affairs unlike the Jenu Kurubas, where it is an individual choice. There were sub groups called 'mage'. Marriages are prohibited within the 'mages'.

Pattern of Worship - Each 'mage' had a deity deep inside the forest. They had yearly festivals and rituals related to their deities. They did not belong to the Hindu pattern of gods. The Kadu Kuruba's have their own legends and rituals. They also worshiped in addition the Hindu gods. Most of these people also believed in possession by spirits. Oracle of spirits were heard with immense faith and their orders were obeyed.

Death rituals : Dead were buried in their own property. Chief of the haadi had to supervise the burial. They believed that dead person's spirit will be around for 9-10 days after the death.

Education & Schooling : Kadu Kurubas want their children to be educated, so that they can manage their own affairs. They are happy with Ashrama schools. However, when they go for seasonal plantation labour, they take their children with them. This causes break in the schooling and also increases the chances of their dropping out of school.

To summarize

Jenu Kurubas and Kadu Kurubas differ in terms of Language, Occupation, Marriage rituals, Endogamy - Exogamy system, Educational aspirations, Worshiping and Health practices.

Part 2 – Universal intervention

Universal intervention with 529 children for the promotion of their psychosocial development.

Results will be discussed under the following headings.

I Demographic Description

- Number of Schools and Children
- Frequency distribution of Gender
- Frequency distribution of Residence
- Frequency distribution of Caste.
- Frequency Distribution of Class

II Impact of Intervention

- Age / Class trends
- Class and Test trend
- School trends
- Gender trends
- Caste trends

I Demographic Description

The project covered nine tribal schools in the H.D. Kote Taluk of Mysore District in Karnataka. H.D. Kote is located 50 kms from Mysore. H.D. Kote is one of the most backward of the areas catering to the tribal population in the dense forests of western ghats. Each tribal school that was selected for the study were at a distance that ranged between 18 kms to 45 kms from H.D. Kote. Though all the tribal schools were considered for the study, only seven schools were included for statistical analysis as they had both pre and post psychological assessment. But the two schools were covered in the later dates ethical reasons but not included for analysis. The project was coordinated with the help of Social welfare Department which is in charge of running the Ashrama schools, the BEO of H.D. Kote and teachers of this area.

Total number of children exposed to the Intervention programme in Ashrama Schools was around 800. Out of that the assessments before and after the intervention was carried out for 529 children. Among these 32 children did not have complete data despite the best attempts.

Table 1 : Showing number of children from each school.

Sl. No.	School	No. of Children		
		1 st & 2 nd	3 rd – 7 th	Total
1	Metikuppe	19	27	46
2	Bhimanahalli	26	52	78
3	Penjahalli	34	44	78
4	Kebbepura	20	36	56
5	Channagundi	30	25	55
6	Jakahalli	28	66	94
7	D.B. Kuppe	33	57	90
	TOTAL	190	307	529

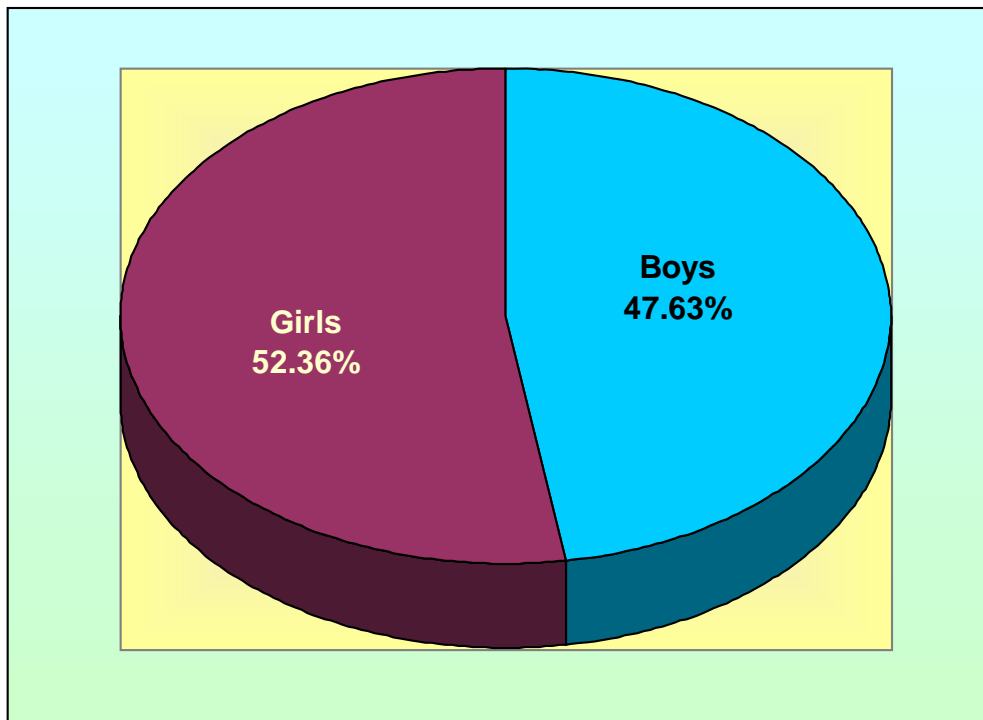
As seen in the table, Penjahalli and D.B. Kuppe have largest number of 1st and 2nd standard children i.e. having 34 and 33 children respectively. Lowest number of children are seen in Metikuppe and Kebbepura constituting 19 and 20 children respectively studying in 1st and 2nd standard. When the sample of 3rd to 7th standard children are taken into account it can be seen that Jakkahalli have the highest sample of 66 and Channagundi has the lowest sample of 25.

It is also to be noted that schools like Metikuppe and Channagundi have either one or two class rooms and either one or two teachers allotted from Social Welfare Development. Whereas schools like Penjahalli, D.B. Kuppe and Jakkahalli have adequate infrastructure with 4-5 class rooms and number of teachers ranging between five to ten.

Taking the entire sample of children from 1 to 7th standard it can be seen that schools like D.B.Kuppe and Jakkahalli have larger samples i.e. 90 and 94 respectively. It could be seen that better infrastructure facilitates enrolment of large number of children.

Table 2 : Frequency distribution by gender in percentages.

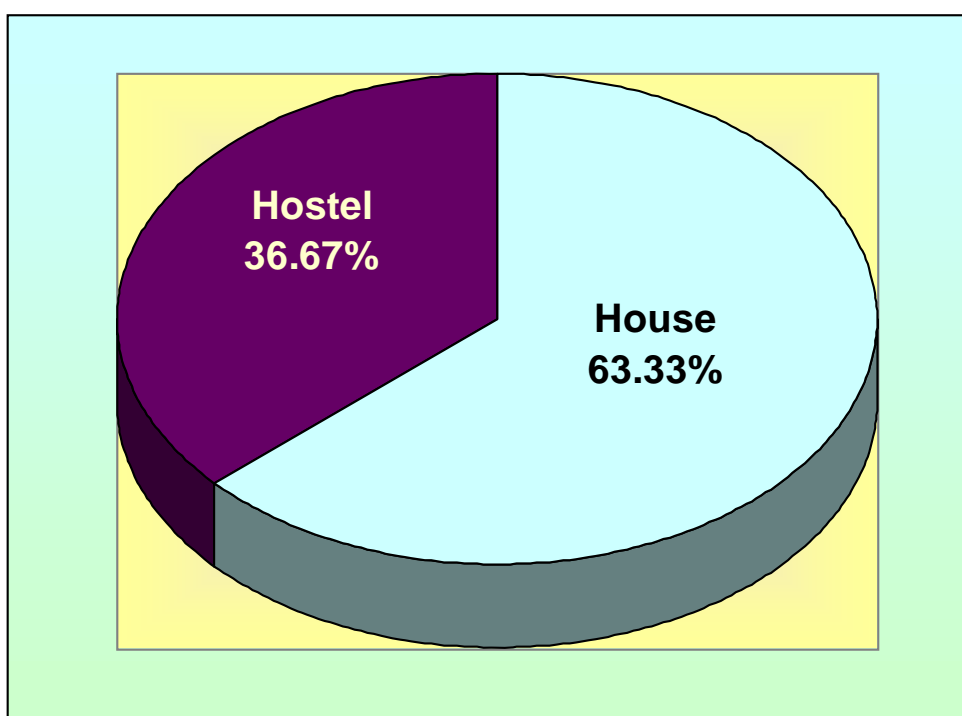
Gender	Presentation	
	Number	Percentage
Boys	252	47.63
Girls	277	52.36
Total	529	100.0



As seen in the table, in the total sample 47.63% were males and 52.36% were females.

Table 3 : Frequency distribution by residence / type of stay in percentage.

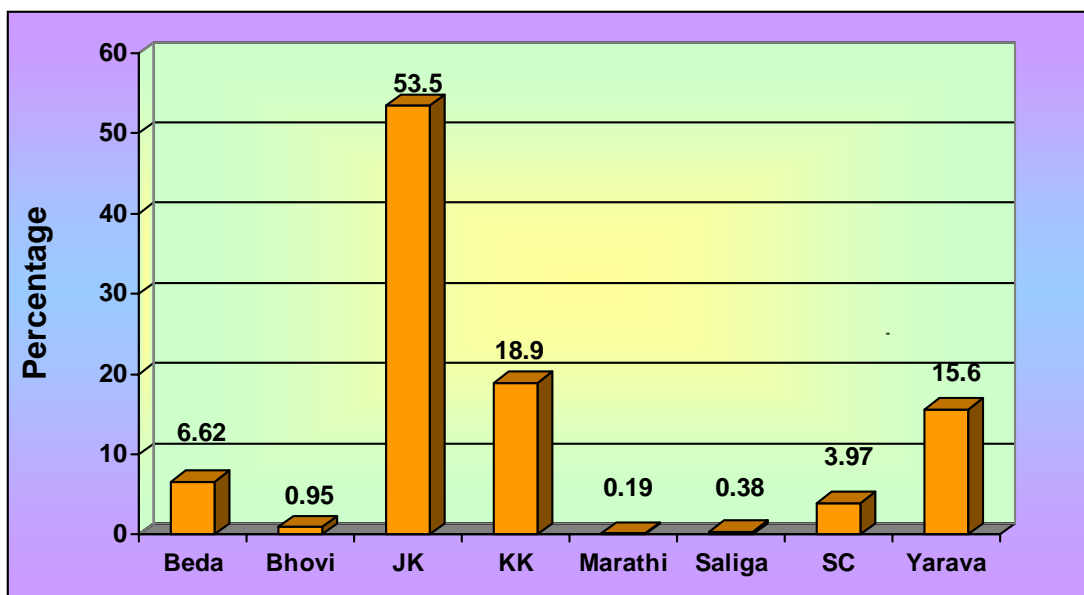
Staying in	Number	Percentage
House	335	63.33
Hostel / school	194	36.67
Total	529	100.0



As seen in the table of the total sample 63.33% of children go back to their houses after school, where as 36.67% of children stay back in the School / Hostel. Though Ashrama Schools are residential schools, it is seen that large number of children go back to their homes than stay back in the hostel / school. Usually young children and those whose families who stay close to the schools go home for the nights.

Table 4 : The frequency distribution by caste in percentages.

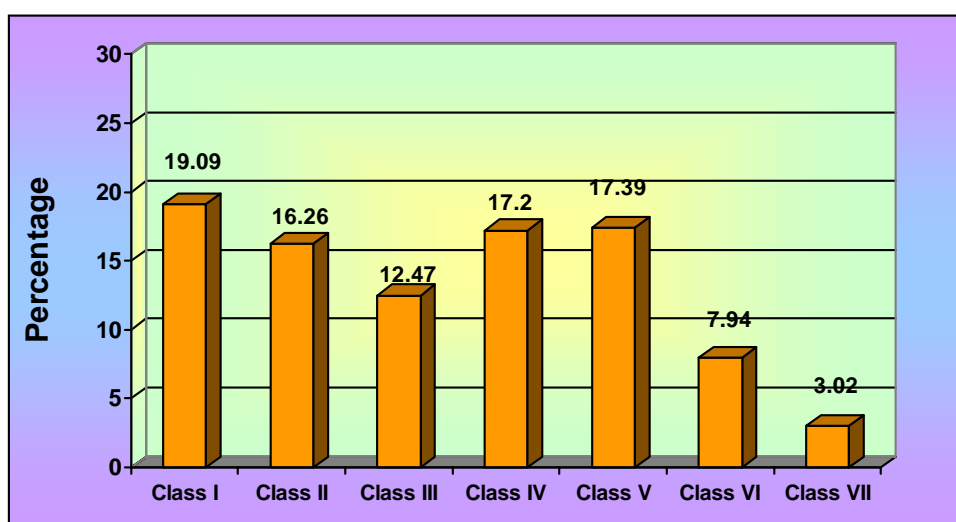
Caste	Number	Percentage
Beda	35	6.62
Bhovi	5	0.95
Jenu Kuruba (JK)	283	53.50
Kadu Kuruba(KK)	100	18.90
Marathi	1	0.19
Soliga	2	0.38
SC	21	3.97
Yarava	82	15.60
Total	529	100.0



As seen in the table around 53.50% of the sample belong to Jenu Kuruba (JK), indicating that among tribes, Jenu Kuruba's are the highest in number in these tribal schools. This is followed by Kadu Kuruba and Yadava's forming 18.9% and 15.60% respectively. The lowest number of individuals belong to Marathi, Soliga and Bhovi group respectively forming less than 1% of the sample.

Table 5 : Frequency of class distribution in percentages.

Class	Number	Percentage
Class I	101	19.09
Class II	86	16.26
Class III	66	12.47
Class IV	91	17.20
Class V	92	17.39
Class VI	42	7.94
Class VII	16	3.02
Absent	35	6.61
Total	529	100.0



The above table shows the frequency of class distribution in percentages. It is seen that around 19.09 % of the sample belong to 1st standard. This forms the largest group / class of the sample, followed by V standard, IV standard and II standard with 17.39 % 17.20 % and 16.26 % respectively. The percentages indicate that children are concentrated more in I, II, IV & V standard, where as only 7.94% and 3.02% of children belong to VI & VII standard indicating that as the grade of the class increases, the number of students get reduces.

2. Impact of Intervention

Effect of Intervention (Age / Class Trend)

The effect of Intervention for classes 1 & 2 combined will be discussed first and 3 to 7 combined will be discussed later. On the following section the effect of intervention will be discussed across the following variables.

- Age / Class trends
- Class and Test trends
- School trends
- Gender trends
- Caste trends

Age Trends

Table 6 : effect of Intervention for class 1 & 2 (age 6 to 8 years)

Parameter (n=190)	Pre-Score	Post-Score	P value	ES (d)	Effect Size
Attention1	25.78±6.72	28.36±3.26	0.000	0.49	Moderate
Attention2	45.20±14.66	51.67±9.22	0.000	0.53	Moderate
Memory	18.75±8.88	25.42±6.09	0.000	0.88	Large
SFB	151.58±61.94	116.14±42.48	0.000	0.67	Moderate
Vocabulary	4.64±2.71	6.79±1.29	0.000	1.01	Large
Arithmetic	6.69±5.52	14.15±4.43	0.000	1.49	Very Large

As the table indicated, total of 190 children constituted the sample of 1st and 2nd standard. On test of Attentional tasks (simple) the performance has improved significantly with mild effect size. On tests of Attentional task (complex) and Intellectual level of functioning the performance has improved significantly with moderate effect size, where as on tests of Memory, Vocabulary and Arithmetic the children have shown significant improvement with, large, very large and very large effect size, respectively.

This indicates that the maximum impact of the intervention is seen on tasks of Memory, Vocabulary and Arithmetic. Overall the children have benefited significantly on all the areas mentioned above.

Table 7 : Effect of Intervention for classes 3 to 7 (age 8 – 12 years)

Parameter (n=306)	Pre-Score	Post-Score	P value	ES (d)	Effect Size
Attention1	21.86 ± 9.82	29.68±13.92	0.000	0.65	Moderate
Attention2	32.49 ± 11.25	42.97±19.69	0.000	0.65	Moderate
Memory	80.95±20.65	95.86±16.45	0.000	0.79	Moderate
CPM	13.36±5.75	17.22±6.41	0.000	0.63	Moderate
Vocabulary	11.00±5.42	14.50±5.55	0.000	0.64	Moderate
Arithmetic	19.17±10.38	26.35±8.42	0.000	0.76	Moderate
Creativity	16.65±12.37	34.03±21.14	0.000 ^w	1.01	Large

As the table indicates, total of 306 children from class 3 to 7 have taken all the tests – pre and post intervention. On the tests of Attention tasks (simple and complex), Memory, Intellectual functioning, Arithmetic and Vocabulary, the performance has improved significantly with moderate effect size. On Creativity test, the performance has improved significantly with large effect size, indicating that intervention has the maximal impact on Creativity when the group is taken as a whole.

Table 8 : Effect of Intervention for 1st Standard

Parameter (n=103)	Pre-Score	Post-Score	P value	ES (d)	Effect Size
Attention1	24.66±8.21	27.84±3.95	0.000	0.49	Mild
Attention2	42.01±16.08	49.50±10.39	0.000	0.55	Moderate
Memory	14.22±7.79	23.36±6.29	0.000	1.29	Large
SFB	165.24±64.25	124.62±48.34	0.000	0.71	Moderate
Vocabulary	3.66±2.76	6.53±1.47	0.000	1.29	Large
Arithmetic	4.34±4.29	12.41±4.28	0.000	1.88	Very Large

It can be seen that total of 103 children have constituted the sample of 1st standard children. On test of Attentional task (single) the performance has improved significantly with mild effect size. On tests of Attentional task (complex) and test of Intellectual functioning the children have improved significantly with moderate effect size. On tests of Memory, Vocabulary and Arithmetic the children have greatly improved with very large effect size.

Overall the maximum improvement is seen on Memory, Vocabulary and Arithmetic. But on the whole the children have improved significantly in all the tests mentioned above.

Table 9 : Effect of Intervention for 2nd Standard.

Parameter (n=87)	Pre-Score	Post-Score	P value	ES (d)	Effect Size
Attention1	27.05±4.16	28.94±2.11	0.000	0.57	Moderate
Attention2	48.94±11.99	54.04±6.93	0.001	0.52	Moderate
Memory	23.56±7.25	27.79±5.06	0.000	0.68	Moderate
SFB	136.19±55.70	105.97±32.15	0.000	0.66	Moderate
Vocabulary	5.77±2.18	7.08±0.97	0.000	0.77	Moderate
Arithmetic	9.19±5.43	16.11±3.72	0.000	1.49	Very Large

The table indicates that total of 87 children constitute the sample of 2nd standard children. On tests of Attentional task (simple and complex) memory, Intellectual level of functioning and Vocabulary the children have improved significantly with moderate effect size. On Arithmetic the performance has improved greatly with very large effect size.

All these indicates that 2nd standard children have improved more on Arithmetic. On all the other tests too they have improved significantly.

Table 10 : Effect of Intervention for 3rd Standard

Parameter (n=66)	Pre-Score	Post-Score	P value	ES (d)	Effect Size
Attention1	17.50±7.36	25.64±16.02	0.000	0.65	Moderate
Attention2	27.06±8.33	40.01±23.84	0.000	0.73	Moderate
Memory	62.31±16.44	82.44±15.73	0.000	1.01	Large
CPM	11.23±3.81	14.24±4.97	0.000	0.68	Moderate
Vocabulary	7.50±3.41	11.32±3.62	0.000	1.09	Large
Arithmetic	12.78±8.08	19.39±7.93	0.000	0.82	Large
Creativity	7.71±8.34	25.12±13.16	0.000 ^w	1.58	Very Large

Table No. 10 shows the effect of intervention on 3rd standard children on different tasks. On Attentional task (simple and complex), and Intellectual level of functioning they have improved significantly with moderate effect size. On tests of Memory and Vocabulary and Arithmetic they have improved significantly with large effect size. Where as on Creativity they have shown great improvement with very large effect size. Overall 3rd standard children have shown significant improvement on all the tasks.

Table 11 : Effect of Intervention for 4th Standard

Parameter (n=91)	Pre-Score	Post-Score	P value	ES (d)	Effect Size
Attention1	18.90±8.34	26.47±11.03	0.000	0.77	Moderate
Attention2	29.45±11.15	40.31±18.90	0.000	0.69	Moderate
Memory	75.46±17.98	93.96±10.86	0.000	1.15	Large
CPM	11.90±5.08	16.46±5.42	0.000	0.87	Moderate
Vocabulary	9.35±3.97	13.33±4.23	0.000	0.97	Moderate
Arithmetic	17.58±8.06	25.70±7.33	0.000	1.05	Large
Creativity	15.84±11.54	35.99±33.53	0.000 ^w	0.80	Moderate

Table 11 shows the effect of intervention on 4th standard children, on different tasks. On tests of attentional tasks (simple & complex) and Creativity their has been significant improvement with moderate effect size. On tests of Memory, Intellectual level of functioning, Vocabulary and Arithmetic their has been significant improvement with large effect size. Overall 4th standard children have shown significant improvement on all the tests.

Table 12 : Effect of Intervention for 5th Standard

Parameter (n=92)	Pre-Score	Post-Score	P value	ES (d)	Effect Size
Attention1	23.51±10.77	30.66±11.27	0.000	0.65	Moderate
Attention2	34.37±11.25	45.27±18.78	0.000	0.70	Moderate
Memory	86.08±19.57	97.47±15.97	0.000	0.72	Moderate
CPM	14.00±6.20	18.71±6.56	0.000	0.74	Moderate
Vocabulary	12.05±5.17	14.54±4.20	0.000	0.53	Moderate
Arithmetic	20.56±9.95	27.84±6.36	0.000	0.87	Large
Creativity	19.02±12.75	35.03±11.79	0.000	1.30	Very Large

Table 12 shows the effect of intervention on 5th standard children, on different tests. On tests of Attentional tasks (simple and complex), Memory, Intellectual level of functioning and Vocabulary the performance has improved significantly with moderate effect size. On Arithmetic and Creativity tests their has been significant improvement with large and very large effect size respectively. Overall 5th standard children have shown significant improvement on all the tests.

Table 13 : Effect of Intervention for 6th Standard

Parameter (n=42)	Pre-Score	Post-Score	P value	ES (d)	Effect Size
Attention1	27.19±8.46	32.35±12.92	0.015	0.47	Mild
Attention2	39.21±9.78	42.83±15.19	0.112	0.28	Mild
Memory	93.39±13.53	110.81±8.26	0.000	1.56	Very Large
CPM	16.07±5.59	16.54±6.36	0.570	0.08	No Effect
Vocabulary	14.85±5.51	17.52±4.06	0.006	0.55	Moderate
Arithmetic	23.33±9.87	32.07±7.28	0.000	1.01	Large
Creativity	25.90±10.99	39.24±7.86	0.000	1.39	Very Large

Table 13 shows the effect of intervention on 6th standard children. On Intellectual level of functioning there has been negligible improvement. On Attentional tasks (simple and complex) there has been significant improvement with mild effect size. On Vocabulary it is with moderate effect size. On Arithmetic there is large effect size. On Memory and Creativity their has been significant improvement with very large effect size. In 6th standard it can be seen that the effect size has ranged from no effect to very large effect indicating a very large fluctuation of the impact of intervention on 6th standard children.

Table 14 : Effect of Intervention for 7th Standard

Parameter (n=16)	Pre-Score	Post-Score	P value	ES (d)	Effect Size
Attention1	33.60±6.71	51.53±14.19	0.000	1.61	Very Large
Attention2	44.27±5.64	58.07±14.16	0.001	1.28	Very Large
Memory	109.88±13.42	111.00±20.13	0.841	0.07	No Effect
CPM	19.27±5.70	27.40±4.55	0.000	1.58	Very Large
Vocabulary	18.00±4.86	26.93±9.22	0.001	1.21	Very Large
Arithmetic	34.53±9.99	35.20±7.78	0.848	0.07	No Effect
Creativity	20.40±7.83	40.40±11.04	0.000	2.09	Very Large

Table 14 shows the effect of intervention on 7th standard children. On Memory and Arithmetic the performance has not shown significant improvement. Where as on all the other tests of Attentional tasks (simple & complex), level of Intellectual functioning, Vocabulary and Creativity there has been significant improvement with very large effect size. No effect on Memory and Arithmetic can be seen because the baseline itself was high and the scope for improvement is consequently low.

Test Trends

Table 15 : Showing the Effect Size across different tests and classes.

	1 st Std	2 nd Std	3 rd Std	4 th Std	5 th Std	6 th Std	7 th Std
Attention1	Mild	Moderate	Moderate	Moderate	Moderate	Mild	Very Large
Attention2	Moderate	Moderate	Moderate	Moderate	Moderate	Mild	Very Large
Memory	Very Large	Moderate	Large	Large	Moderate	Very Large	No Effect
Intellectual Functioning	Moderate	Moderate	Moderate	Large	Moderate	No Effect	Very Large
Vocabulary	Very Large	Moderate	Large	Large	Moderate	Moderate	Very Large
Arithmetic	Very Large	Very Large	Large	Large	Large	Large	No Effect
Creativity	-	-	Very Large	Moderate	Very Large	Very Large	Very Large

Test of Attention

On Attentional tasks (simple) 2nd, 3rd, 4th & 5th standard children have shown significant improvement with moderate effect size, where as 6th standard children and 1st Standard Children though have improved significantly but have only mild effect size. The maximum impact is seen on 7th standard children who have shown highly significant improvement with very large effect size. Overall the intervention has shown impact between mild to very large effect size indicating that intervention has facilitated the children on attentional tasks (simple).

On Attentional task (complex) 1st, 2nd, 3rd and 4th standard children have shown significant improvement with moderate effect size. 5th and 6th standard children have also shown significant improvement but with mild effect size. Whereas 7th standard children have shown the maximum improvement with very large effect size.

Test of Memory

On Memory test 7th standard children have shown negligible improvement after intervention in terms of their performance. 2nd standard and 5th standard children have significantly improved with moderate effect size. 1st standard, 3rd and 4th standard students have improved significantly with large effect size. The 6th standard children have tremendous improvement with the effect size being very large. Overall the intervention has shown between moderate to very large effect except for 7th standard children. In their case one can see that their baseline itself was very high and they had very little scope for improvement.

Test of Intelligence

On the test of Intellectual level of functioning, 6th standard has shown negligible improvement, with negligible effect size. 1st, 2nd, 3rd and 5th standard children have shown significant improvement in this area with moderate effect size. Whereas 4th and 7th standard children have had the maximum impact of the intervention on their Intellectual level of functioning with large and very large effect size respectively. Overall 6th standard has very negligible improvement whereas 1st, 2nd, 3rd, 4th, 5th and 7th standard children have improved significantly on the Intellectual level of functioning indicating that the intervention has had positive impact on their Intellectual functioning.

Test of Arithmetic

On the test of Arithmetic 7th standard has shown negligible improvement, with negligible effect size. 3rd, 4th, 5th, 6th standard children have had significant

improvement on this test with large effect size. 1st and 2nd standard children have had significant improvement with very large effect size. Overall except for 7th standard, all other class have improved significantly on Arithmetic test indicating that the intervention has shown a major impact on their Arithmetic ability. It can be noticed that for 7th standard the average itself was high and hence intervention has not caused much difference to children.

Vocabulary Test

On the Vocabulary test 2nd, 5th and 6th standard has shown significant improvement with moderate effect size. 1st, 3rd and 4th standard have shown more improvement than 5th and 6th standard, having large effect size. Whereas the maximum significant improvement is seen for 7th standard students with very large effect size. Overall on this test the effect size range between moderate to very large effect size, also indicating that all the classes have had dramatic improvement on this test.

Test of Creativity

On test of Creativity 4th standard children have had significant improvement with large effect size. Where as 3rd, 5th, 6th and 7th standard children have significant improvement with very large effect size. Overall on this test the effect size ranges between large to very large indicating a tremendous impact of the intervention on children in the area of Creativity .

On the whole, when all the classes and all the tasks are considered, very low impact is seen in 6th standard children on Intellectual level of functioning, and 7th standard children on Arithmetic test and 7th standard children on the test of arithmetic. The maximum impact of intervention is obviously seen on the test of Creativity for all the classes.

School Trends

First, the results of Class 1 and 2 of the seven schools will be described followed by the results of Class 3 – 7 of the same schools.

Table 16 : Effect of Intervention on performance of children of Metikuppe school (1st and 2nd standard)

Parameter (n=19)	Pre-Score	Post-Score	P value	ES (d)	Effect Size
Attention1	26.58±5.35	28.84±2.19	0.074	0.55	Moderate
Attention2	50.42±15.41	52.37±7.54	0.624	0.16	No Effect
Memory	19.47±5.03	27.58±2.61	0.000	1.42	Very Large
SFB	149.95±62.28	146.21±25.64	0.796	0.08	No Effect
Vocabulary	6.60±1.51	7.55±1.05	0.011	0.73	Moderate
Arithmetic	7.26±6.45	17.26±2.10	0.000	2.08	Very Large

As it is indicated total of 19 children constituted the sample of 1st and 2nd standard of Metikuppe school. On Attentional task (complex) and Intellectual level of functioning the group though has shown mild improvement, has not significantly improved indicating that the intervention has no effect on them on the tests of complex Attentional task and Intellectual level of functioning. On tests of Attentional task (Simple) and Vocabulary the group's performance has improved significantly with moderate effect size. On tests of Memory and Arithmetic there has been a marked improvement, with very large effect size.

Overall it can be seen that there has been fluctuation in terms of impact of intervention on the different tests. The impact ranges between no effect at all to that of very large effects. The fluctuation in terms of peaks and drops can be interpreted by the pattern of intervention carried over. There were many drop outs, irregularity

attendance and follow up were not carried over adequately, though the team spent the maximum time of 2½ months time in this school.

Table 17 : Effect of intervention on performance of Bhimanahalli School (1st and 2nd standard)

Parameter (n=26)	Pre-Score	Post-Score	P value	ES (d)	Effect Size
Attention1	23.00±7.66	28.96±3.29	0.000	1.01	Large
Attention2	43.54±14.87	42.79±11.35	0.757	-0.06	Negative Effect
Memory	17.92±9.32	19.68±6.36	0.209	0.22	Mild
SFB	160.63±70.31	116.21±68.54	0.000	0.63	Moderate
Vocabulary	6.76±2.27	6.20±1.50	0.312	-0.29	Negative Effect
Arithmetic	6.13±4.66	10.46±4.88	0.000	0.90	Large

Total of 26 children formed the part of the sample for 1st and 2nd standard from Bhimanahalli school. On Attentional task (complex) and Vocabulary the performance has declined from the baseline after the intervention. On Memory test the performance of the children has improved significantly with mild effect size. On test of Intellectual level of functioning the performance has also improved significantly with moderate effect size. On the test of Attentional task (simple) and Arithmetic the children have greatly improved significantly with large effect size.

All these indicate that the intervention has improved the performance of children on almost all the tests. The maximum improvement is seen an Arithmetic test and Attentional task (simple), followed by Intellectual level of functioning and further followed by Memory test. The negative effect on Attentional task may be a chance factor or state of children while taking the test or by one or two extreme poor scores by one or two children. Otherwise it is unlikely that children who have improved in all the areas have negative impact in one area.

Table 18 : Effect of intervention on performance of Penjahalli School (1st and 2nd standard)

Parameter (n=34)	Pre-Score	Post-Score	P value	ES (d)	Effect Size
Attention1	25.44±9.11	27.85±4.72	0.176	0.33	Mild
Attention2	45.12±13.91	53.29±9.56	0.009	0.68	Moderate
Memory	22.53±8.68	28.24±4.70	0.000	0.82	Large
SFB	161.35±59.44	110.88±31.67	0.000	1.05	Very Large
Vocabulary	5.67±3.73	7.35±0.48	0.013	0.63	Moderate
Arithmetic	6.29±5.50	17.62±2.51	0.000	2.65	Very Large

From Penjahalli 1st and 2nd standard total of 34 children constituted part of the sample. On Attentional task (simple) the performance has improved significantly with mild effect size. On tests of Attentional task (complex) and Vocabulary the performance has improved significantly with moderate effect size. On tests of Memory and Intellectual functioning the children have improved greatly with large and very large effect size, respectively.

Overall the children of Penjahalli have improved significantly on all the tests. The maximum improvement is seen on Intellectual functioning and Memory. This followed by other areas of Attentional task (complex), and Vocabulary and further followed by Attentional task (simple).

Table 19 : Effect of intervention on performance of Kebbepura School (1st and 2nd standard)

Parameter (n=20)	Pre-Score	Post-Score	P value	ES (d)	Effect Size
Attention1	26.60±3.31	27.25±4.14	0.588	0.17	No effect
Attention2	40.55±15.28	51.35±11.73	0.007	0.79	Moderate
Memory	14.00±6.97	18.80±7.61	0.014	0.66	Moderate
SFB	143.80±26.32	134.20±35.34	0.385	0.31	Mild
Vocabulary	3.05±2.25	6.00±1.03	0.000	1.69	Very Large
Arithmetic	1.95±2.03	11.45±2.91	0.000	3.78	Very Large

Total of 20 children constituted the sample from Kebbepura school. As the table indicates there is no effect on the performance of children on Attentional task (simple). On the test of Intellectual level of functioning there has been significant improvement with mild effect size. On tests of Attentional task (complex) and Memory the performance has improved significantly with moderate effect size. On tests of Vocabulary and Arithmetic they have improved tremendously with very large effect size. All these indicating that except on Attentional task (simple) on all the tests the group has improved significantly. The maximum impact is seen on Vocabulary and Arithmetic, followed by Attentional test (complex), Memory and further followed by Intellectual level of functioning. It can be seen that on Attentional tasks, on one area that is complex they have improved significantly where as on simple tasks they have not. This might be due to the fact they might have taken the task carelessly and hence the poor impact.

Table 20 : Effect of intervention on performance of Channagundi School (1st and 2nd standard)

Parameter (n=30)	Pre-Score	Post-Score	P value	ES (d)	Effect Size
Attention1	26.43±7.52	28.03±2.67	0.246	0.28	Mild
Attention2	46.43±16.89	52.70±6.39	0.045	0.49	Moderate
Memory	15.60±10.46	27.80±5.39	0.000	1.47	Very Large
SFB	153.87±49.45	99.03±23.39	0.000	1.41	Very Large
Vocabulary	3.07±2.13	6.63±1.03	0.000	2.13	Mild
Arithmetic	6.00±4.38	14.97±3.76	0.000	2.19	Mild

Total of 30 children form the sample from Channagundi, who belong to 1st and 2nd standard. On tests of Attentional task (simple), Vocabulary and Arithmetic the performance of the group has significantly improved with mild effect size. On test of attentional task (complex) there has been significant improved with moderate effect size. On tests of Memory and Intellectual level of functioning the group has

improved significantly with very large effect size. On the whole, children of Channagundi have improved significantly on all the tests. Maximum improvement is seen on Memory, and Intellectual level of functioning, followed by Attentional task (complex), and further followed by Attentional task (simple), Vocabulary and Arithmetic.

Table 21: Effect of intervention on performance of Jakkahalli School (1st and 2nd standard)

Parameter (n=28)	Pre-Score	Post-Score	P value	ES (d)	Effect Size
Attention1	25.77±6.32	29.12±2.14	0.016	0.69	Moderate
Attention2	44.40±12.25	55.27±5.13	0.000	1.16	Very Large
Memory	24.14±6.27	26.25±4.11	0.096	0.39	Mild
SFB	136.56±39.92	116.56±24.33	0.033	0.61	Moderate
Vocabulary	4.11±1.50	7.41±1.34	0.000	2.27	Very Large
Arithmetic	9.93±6.58	13.33±5.27	0.006	0.57	Moderate

As the table indicates, total of 28 children from 1st and 2nd standard have taken the tests - pre and post intervention, from Jakkahalli School. On Memory test the performance has improved significantly with mild effect size. On tests of Attentional task (simple), Intellectual level of functioning and Arithmetic the performance has improved significantly with moderate effect size. On test of Attentional task (complex) and Vocabulary they have greatly improved with very large effect size. Overall children of this school have significantly improved on all tests. Maximum improvement is seen on attentional task (complex) and Vocabulary, followed by other tests of Attentional task (simple), Intellectual level of functioning and Arithmetic, and further followed by Memory.

Table 22 : Effect of intervention on performance of D.B. Kuppe School (1st and 2nd standard)

Parameter (n=33)	Pre-Score	Post-Score	P value	ES (d)	Effect Size
Attention1	26.48±4.64	28.52±2.49	0.060	0.55	Moderate
Attention2	45.61±14.40	52.24±7.78	0.020	0.57	Moderate
Memory	16.24±8.55	26.74±3.89	0.000	1.58	Moderate
SFB	152.97±92.51	108.97±54.22	0.007	0.58	Moderate
Vocabulary	3.61±1.64	6.27±1.48	0.000	1.70	Very Large
Arithmetic	7.60±4.78	12.91±3.40	0.000	1.28	Very Large

From D.B. Kuppe school total of 33 children belonged to 1st and 2nd standards. On tests of Attentional task (simple and complex), Memory and Intellectual level of functioning the group has improved significantly with moderate effect size. On tests of Vocabulary and Arithmetic the group has improved significantly with very large effect size.

Overall when all the tests are considered the effect size range between moderate to very large, indicating that the children have benefited enormously through the intervention.

Table 23 : Effect of Intervention on performance of children of Metikuppe school (3rd to 7th standard)

Parameter (n=27)	Pre-Score	Post-Score	P value	ES (d)	Effect Size
Attention1	22.77±8.72	21.96±6.29	0.636	-0.11	Negative Effect
Attention2	34.85±13.56	35.00±8.55	0.961	0.01	No Effect
Memory	59.56±13.91	76.80±12.71	0.000	1.29	Very Large
CPM	11.48±2.99	13.26±4.81	0.079	0.44	Mild
Vocabulary	9.44±4.87	11.52±2.35	0.046	0.54	Moderate
Arithmetic	20.11±10.37	19.93±4.46	0.921	-0.02	Negative Effect
Creativity	8.19±7.45	26.41±10.26	0.000 ^W	2.03	Very Large

Metikuppe children, on Attentional task (simple) and Arithmetic test have shown negative effect, implying that even with the intervention, their scores have reduced significantly in post test. On Attentional task(complex) the intervention has shown no significant impact in terms of performance on this test. On Creativity and Intellectual functioning significant improvement is noticed with mild effect size. Where as on Vocabulary a significant improvement with moderate effect size is noticed. On Memory test the intervention has shown a major impact as effect size is very large. Overall negative impact is seen on Attentional (simple) task and Arithmetic task, no impact is seen on Attentional (complex) task. Significant impact is seen on Intellectual level of functioning & Creativity. Greater impact is noticed on Vocabulary test and Memory test.

Table 24 : Effect of Intervention on performance of children of Bhimanahalli School (3rd to 7th standard)

Parameter (n=52)	Pre-Score	Post-Score	P value	ES (d)	Effect Size
Attention1	19.13±8.21	24.44±10.33	0.002	0.57	Moderate
Attention2	28.78±11.67	35.13±13.77	0.009	0.49	Mild
Memory	79.85±18.44	98.02±18.25	0.000	0.99	Large
CPM	12.63±4.98	14.88±5.60	0.000	0.41	Mild
Vocabulary	12.29±6.09	14.26 ± 5.77	0.003	0.33	Mild
Arithmetic	19.56±8.85	21.50±10.33	0.115	0.20	No Effect
Creativity	19.78±14.54	24.81±12.92	0.025 ^w	0.37	Mild

The children of Bhimanahalli, on Arithmetic test have not shown significant improvement. They have shown significant improvement with mild effect size on Attentional (complex) tasks, Memory, Intellectual level of functioning, Vocabulary and Creativity. The children have shown significant improvement with moderate effect size on Attention (sample) task. On Memory test the group has significantly improved with large effect size. Overall children of Bhimanahalli on the whole have shown significant improvement on all the tests except on Arithmetic test. The maximum impact is seen on Memory test.

Table 25 : Effect of Intervention on performance of children of Penjahalli School (3rd to 7th standard)

Parameter (n=44)	Pre-Score	Post-Score	P value	ES (d)	Effect Size
Attention1	17.75±6.97	25.16±11.45	0.000	0.78	Moderate
Attention2	28.70±9.19	33.41±15.82	0.058	0.36	Mild
Memory	79.95±16.84	95.31±10.52	0.000	1.09	Very Large
CPM	12.82±3.68	15.52±6.25	0.014	0.52	Mild
Vocabulary	12.14±5.35	13.39±3.39	0.123	0.28	Mild
Arithmetic	14.95±8.86	23.79±6.33	0.000	1.15	Very Large
Creativity	4.05±5.46	33.57±9.33	0.000 ^w	4.56	Very Large

Children of Penjahalli have shown significant improvement with mild effect size on Attentional task (complex) and Vocabulary. On Attentional task (simple), Intellectual functioning and Creativity the children have shown significant improvement with moderate effect size indicating that when compared to Vocabulary and complex Attentional tasks, they have obvious improvement on Vocabulary, Creativity and Attentional task (simple). The maximum improvement of these children are seen on test of Arithmetic, Memory and Creativity with very large effect sizes. Overall improvement is seen on Attentional (complex) task, and Vocabulary and Intellectual level of functioning. Greater improvement is seen on Attentional (simple) task. Obvious impact of the intervention is seen on Arithmetic, Memory and Creativity.

Table 26 : Effect of Intervention on performance of children of Channagundi School (3rd to 7th standard)

Parameter (n=25)	Pre-Score	Post-Score	P value	ES (d)	Effect Size
Attention1	18.44±6.08	34.44±9.99	0.000	1.93	Very Large
Attention2	28.28±9.35	77.16±23.01	0.000	2.78	Very Large
Memory	81.15±19.76	91.48±13.95	0.001	0.60	Moderate
CPM	11.40±2.84	19.68±4.66	0.000	2.15	Very Large
Vocabulary	8.72±4.60	12.00±2.65	0.007	0.87	Large
Arithmetic	18.48±7.37	24.48±5.25	0.00	0.94	Large
Creativity	16.56±12.91	27.36±11.15	0.000	0.89	Large

In Channagundi school when all the tests, significance level and effect size are considered, the effect size ranges between moderate to very large. Moderate effect size is seen on memory and large effect size for Arithmetic, Vocabulary and Creativity. Where as very large effect size is seen for Attentional tasks (simple and complex), and test of Intellectual level of functioning. Overall indicating that there is a tremendous impact of the intervention on the children that can be seen through the performance of all the tests.

Table 27 : Effect of Intervention on performance of children of Kebbepura School (3rd to 7th standard)

Parameter (n=36)	Pre-Score	Post-Score	P value	ES (d)	Effect Size
Attention1	19.94±11.27	33.69±15.07	0.000	1.03	Large
Attention2	34.20±12.64	56.54±17.75	0.000	1.44	Very Large
Memory	75.54±20.76	87.06±16.32	0.010	0.62	Moderate
CPM	14.86±4.29	19.46±4.66	0.000	1.02	Large
Vocabulary	8.31 ± 2.44	13.03±3.29	0.000	1.62	Very Large
Arithmetic	12.88±10.16	23.77±5.54	0.000	1.33	Very Large
Creativity	15.40±5.27	26.20±9.96	0.000	1.36	Very Large

In this school the scores of the children on different test indicate, that there is a significant improvement on all the tests with very large effect size on all the tests, except for Memory where in of course there is a significant improvement but with moderate effect size. The children of this school have shown the maximum improvement when compared to other schools.

But one may observe that the baseline scores are not very high when compared to other schools. This might also indicate that children with lower scores on the tests (or children with poorly stimulated environment) improve significantly when adequate stimulation is provided to them.

Table 28 : Effect of Intervention on performance of children of Jakkahalli School (3rd to 7th standard)

Parameter (n=66)	Pre-Score	Post-Score	P value	ES (d)	Effect Size
Attention1	28.77±8.78	37.77±17.29	0.000	0.67	Moderate
Attention2	37.89±10.04	46.22±16.67	0.000	0.61	Moderate
Memory	99.54±16.17	105.62±13.82	0.003	0.40	Mild
CPM	17.58±7.21	20.85±7.51	0.001	0.44	Mild
Vocabulary	13.88±5.90	19.39±6.84	0.000	0.86	Large
Arithmetic	27.21±11.57	32.85±7.43	0.000	0.58	Moderate
Creativity	22.65±10.11	42.52±9.26	0.000	2.05	Very Large

Children of Jakkahalli have shown significant improvement with mild effect size on test of Intellectual level of functioning and Memory. They have shown significant improvement with moderate effect size on Attentional tasks (simple and complex) and Arithmetic. They have improved significantly with large and very large effect size on Vocabulary and Creativity. Hence the children of this school have shown maximum impact of intervention on Vocabulary and Creativity.

Table 29 : Effect of Intervention on performance of children of D.B. Kuppe School (3rd to 7th standard)

Parameter (n=57)	Pre-Score	Post-Score	P value	ES (d)	Effect Size
Attention1	21.65±11.12	27.57±11.70	0.006	0.52	Moderate
Attention2	32.16±9.63	34.15±9.28	0.164	0.21	Mild
Memory	74.89±16.94	99.22±13.63	0.000	1.58	Very Large
CPM	10.40±5.68	15.86±5.29	0.000	0.99	Large
Vocabulary	8.95±3.92	13.24±4.72	0.000	0.98	Large
Arithmetic	16.35±6.18	30.54±5.78	0.000	2.37	Very Large
Creativity	21.26±12.29	38.92±10.46	0.000	1.55	Very Large

In D.B. Kuppe children have shown significant improvement with mild effect size on Attentional task (complex) and Arithmetic, moderate effect size on Attentional task (simple) and large effect size on test of Intellectual level of functioning, and Vocabulary. A very large effect size is seen on the test of Creativity and Memory. Overall major impact is seen on Intellectual functioning, Vocabulary, Creativity and Memory .

Gender Trends

Table 30 : Male (1st and 2nd Standard combined)

Parameter (n=94)	Pre-Score	Post-Score	P value	ES (d)	Effect Size
Attention1	25.70±6.44	28.19±3.90	0.001	0.47	Mild
Attention2	44.88±14.65	51.53±9.81	0.000	0.53	Moderate
Memory	18.20±8.34	25.36±6.11	0.000	0.97	Large
SFB	160.01±72.50	121.95±47.33	0.000	0.62	Moderate
Vocabulary	4.26±2.64	6.71±1.37	0.000	1.16	Very Large
Arithmetic	6.43±5.78	13.95±4.61	0.000	1.44	Very Large

Table 31 : Female (1st and 2nd Standard combined)

Parameter (n=96)	Pre-Score	Post-Score	P value	ES (d)	Effect Size
Attention1	25.85±7.01	28.52±2.53	0.000	0.51	Moderate
Attention2	45.51±14.75	51.81±8.67	0.000	0.52	Moderate
Memory	18.80±9.35	25.43±6.23	0.000	0.83	Large
SFB	143.50±48.71	110.58±36.65	0.000	0.76	Moderate
Vocabulary	5.01±2.75	6.86±1.21	0.000	0.87	Large
Arithmetic	6.93±5.28	14.35±4.25	0.000	1.55	Very Large

Table 30 and 31 show the effect of intervention on performance of males and females belonging to 1st and 2nd standard. It can be noticed that on baseline assessment of different tests males and females don't differ much on all the tests except on Intellectual level of functioning, where in females are better in this area than males. After intervention both the groups i.e. males and females have improved significantly on all the tests. Effect size is moderate for both males and females on tests of Attentional task (complex) and Intellectual level of functioning. Effect size is large for both males and females on tests of memory. And the effect size is very large for both males and females on the test of Arithmetic. This indicates that though there was difference on the baseline levels both males and females have improved significantly and also matching on the level of improvement as indicated by the effect size.

On test of Attentional task though both the group i.e. males and females have improved significantly but they vary in terms of effect size. For males on this test the effect size is mild where as for females effect size is moderate indicating that females have benefited more than males through the intervention.

On Vocabulary test though again both males and females have improved significantly, they vary in terms of effect size. For males and females, the effect size is very large and large respectively, indicating that males have benefited more than that of females from the intervention. But it is also to be noticed that baseline was quite high for females on pre test and they have mean score which is higher than males on post test. Hence it can be inferred that the improvement in terms of effect size was limited as the baseline itself was high with less scope of out growing.

Table 32 : Male 3 -7th standard

Parameter (n=143)	Pre-Score	Post-Score	P value	ES (d)	Effect Size
Attention1	20.26±10.31	28.64±13.61	0.000	0.45	Mild
Attention2	29.55±11.49	40.01±17.62	0.000	0.74	Moderate
Memory	81.20±20.44	95.69±14.84	0.000	0.81	Large
CPM	13.15±6.33	17.29±6.78	0.000	0.63	Moderate
Vocabulary	10.95±5.66	14.71±5.73	0.000	0.66	Moderate
Arithmetic	18.83±10.68	26.06±8.21	0.00	0.75	Moderate
Creativity	16.65±11.98	36.73±27.84	0.000 ^w	0.94	Large

Table 33 : Female 3 -7th standard

Parameter (n=164)	Pre-Score	Post-Score	P value	ES (d)	Effect Size
Attention1	23.25±9.19	30.60±14.17	0.000	0.62	Moderate
Attention2	35.07±10.41	45.56±21.05	0.000	0.63	Moderate
Memory	80.75±20.88	95.95±17.88	0.000	0.78	Moderate
CPM	13.35±5.18	17.15±6.07	0.000	0.64	Moderate
Vocabulary	11.04±5.21	14.32±5.41	0.000	0.62	Moderate
Arithmetic	19.46±10.12	26.59±8.61	0.000	0.76	Moderate
Creativity	16.64±12.73	31.67±12.32	0.000	1.21	Very Large

The above tables show the effect of intervention on males of females belonging to 3rd to 7th standard. Comparison of the tables indicate that both males and females have improved significantly on all the tests, with effect size ranging from mild to very large. Though there are fluctuations in level of improvement, both groups have improved significant and the effect of intervention can be seen obviously.

To compare to level of improvement between the groups in terms of level of effect size, it can be seen that effect size is moderate for both males and females on

attentional task (complex), level of Intellectual functioning, Vocabulary and Arithmetic. On test of Attentional task (simple) the males have mild effect size where as females have moderate effect size. On Memory, the males have large effect size and females have moderate effect size. On Creativity the effect size is large for males and very large for the females. Hence they differ in terms of level of Intellectual functioning, on Attentional task, memory and Creativity. Males have benefited more on memory than females. Females have benefited more on attentional task (simple) and Creativity.

Caste Trends

The comparison of baseline scores do not indicate much difference. The schools that cater to Jenukurubas are Metikuppe, Bhimanahalli and D.B. Kuppe, while Kebbepura, Jakkahalli and Channagundi cater to Kadukuruba.

Phase 5

Teachers Workshops and Teachers Feed Back

Table 33 : Showing the number of teachers covered on different Teachers Training Workshop.

Sl. No.	Date	Topics Covered	No. of Teachers
1.	27/6/2004	Orientation & Child Mental Health	26
2.	1/10/2004	Child Development & Child Mental Health	79
3.	18/1/2005	Child Development & Child Mental Health	38
4	17/3/2005	Video of the project and feed back from teacher	62
		Male	169
		Female	36
		TOTAL	205

Total of four workshops were conducted for Primary school teachers. The 1st and the last one was conducted for the Ashrama School teachers. While 2nd and 3rd workshops was conducted for school teachers who come under the supervision of

education department. All four workshops were conducted at H.D. Kote. Of the four, first three was conducted at 'Guru Bhavan' and the last one was conducted at Fedina Vikasa Kendra. The teachers were given tea, lunch and honorarium of 30 rupees for the day. Thus it worked out Rs.50 for a teacher.

It is to be noted while the 1st workshop had only 26 teachers representing Ashrama schools, during the year large number of temporary teacher were recruited. The temporary teachers were untrained and were hired on a short term basis. Of the 26 teachers who participated in the 1st workshop, only 12 participated in the last workshop. Hence on the whole 12 teachers participated both in the 1st and last workshop.

As may be seen there were very few women teachers (only one fifth of the teachers). The reasons being that, they had to travel long distance from their own houses, not being able to live in the village and other difficulties.

Workshop consisted of video shows, case illustrations and the discussions. The teachers enjoyed it and appreciated it. They also were candid in their apprehensions. Some of the key themes were :

1. Frequent transfers
2. Too many tasks assigned to them (Eg. census, election duty, etc.) which cut into the time spent in teaching very severely.
3. Lack of interest among the parents causing absentism and dropouts.
4. Very young children being admitted to schools, as school is seen as a crèche and for the meals.
5. Lack of interest in tribal children.
6. Teachers were vocal in their statements that they were familiar in the play away methods, but did not really see the link between play and learning. They also did not see it in practice. A good deal of training as the part of DPEP programme is about child friendly methods. However to quote Anagol, the main teaching aid was a STICK. The government has already banned its use on paper ! All the teachers agreed that they used the stick a lot.

7. They also stated that the SC, ST children were backward and they had to put in lot of effort to teach them.

Content analysis of teachers reports about the programme.

The feedback was voluntarily given in writing by 7 teachers in Jakkalli, 5 in D.B. Kuppe, 3 in Kebbepura, 3 in Channagundi and 2 in Penjahalli, making it a total of regular and temporary teachers of 20, which is about 1/3rd of the teachers.

According to them, the intervention facilitated in the following manner.

- Promotion of attention, intelligence, memory, language skills through play, art work, story telling, creative work, etc.
- Going beyond the text book – using play away methods
- Enhancement of hidden talents of the children.
- Was interesting and attractive.
- Children were drawn to it.
- Ensured good participation and interest in school.
- Changed them from shy to bold attitude. It could be noted that I & II prizes at the taluk level competitions in cultural programmes were won by 16 children in D.B. Kuppe after intervention and the best school award was given to Penjahalli school.
- Provision of materials, stationery, sports / game equipments, etc.
- Health and cleanliness awareness and a first-aid box was requested.
- Request from teachers to continue the material support and team support for few more years.
- Notion that few more years with our team, can work wonders with the tribal children.

In the oral feedback at the last session after watching video

- The teachers were all praise for the team, and their work.
- One of them appreciated stating that they were trained in the play away method in theory but did not know how to go about till they saw it in action during the programme.
- They expressed that they did not know whether it worked, now they saw it did work.
- They also expressed that they had not realized how talented and bright the tribal children were.
- They shared that they were surprised to see children participating in the taluk level talent competitions and they winning prizes.
- The teachers requested the team to continue with the work or at least provide the materials as there was no agency to do that. It was decided that small contribution towards purchasing of materials will be done for next 3 years. They will of course be monitored as to whether they have been effectively utilized.

Implications

1. It is possible to use 'Children as the Resource' to promote their own psychosocial development, thus reducing the burden on the teachers.
2. The methods need to be child friendly such as art, craft, play story telling, dancing for songs, dramas, etc. And these have been proven effectively to enhance the children's attention, memory, intelligence, arithmetic, language skills and creativity.
3. Dysfunctional schools and families cause poor performance, irregularity in attendance , and drop outs from the school.
4. The performance of the children vary across age, gender and tests. These need to be accommodated while planning the intervention programme.
5. The intervention programmes being low cost and utilize the available infrastructure, these can be integrated into mainstream schools across the nation and developing countries.
6. Even if the child friendly methods can't replace the traditional teaching in the classroom, an hour a day, through the week will play the desired impact if carried out in a sustained manner.

Recommendations

1. The intervention package can easily be incorporated into the current and traditional instructional practices, even for one to two hours a day on a regular basis.
2. The teachers can be trained in the methodology, either in their own schools or through week long workshops and review workshops using the teaching materials and video documentation.
3. International agencies such as WHO / UNICEF and National agencies like NCERT can play a pivotal roles in promoting the methodology.

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