

Learning from Children

What to Teach Them



Malavika Kapur



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Dedicated To

*All the school children of Badiga Matkere and the ashram
schools of Heggada Devana Kote for
showing us the way*

and

*Ravi Kapur, my husband for cutting a path through the jungle
of my experiential account so that
you can walk on it*

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Malavika Kapur

Part-I
Background

Introduction

The untouchables are unteachable. This attitude shared by teachers, politicians and the lay public alike has goaded me to write this book. I want to share my experience and joy of working with children in government-run schools, especially those from the Scheduled Castes (SC) and Scheduled Tribes (ST). From 1976 onwards I have been working in urban schools, working mainly with teachers, sensitizing them to the mental health needs of the children (Kapur 1997). Deciding to do the same for rural children, a decade ago, I discovered that they could not be reached through the teachers. The first-hand experience of the poor infrastructure of the single-teacher schools in the remote villages and lack of interest in the teachers and pupils alike, prompted me to develop alternate models of reaching out to these children. I also discovered that promotion of normal child development in these ‘bad lands of education’ was as important as the mental health concerns. What needed to be done had to be carried out without further burdening the teachers. In the village school of Doddamalur, I had a ‘eureka’ experience.

I found that children, if given the opportunity, can themselves vastly improve their learning skills and environment. All we needed was faith and conviction in the enormous creative potential of the children, no matter how impoverished their backgrounds were. The present book is an account of the experiments that proved me right.

My work at the grassroots level needs to be examined in the context of education at the national level. Chapter 1 deals with the journey towards understanding the national educational scenario at a macro level. The second chapter attempts to bridge the

gap between education and developmental psychology. The actual work at the micro level, adopting quantitative and qualitative approaches, finds its moorings in the third chapter. The process and outcome evaluation of interventions based on the perspective of developmental psychology amongst rural and tribal school children are described in the fourth and the fifth chapters. Efforts are made to integrate the disability and mental health components into the programme. On a larger canvas going beyond the rural and tribal schools, attempts are made to reach pre-school children through the Integrated Child Development Services (ICDS) and primary health care systems to liaison with schools at the *taluka* level, in the seventh chapter.

Part II deals with the insights achieved during the course of the work which will enable the reader to understand the experiential aspects of the work.

A BRIEF HISTORY OF SCHOOL EDUCATION IN INDIA

The history of education in India has been one of non-interference in the 18th century and one of vested interests in the 19th century on the part of British Government. With the advent of the Nationalist Movement and the struggle for independence, it became a matter of concern and challenge for the nationalist leaders (Baliga 1999).

Stalwarts like Gandhi, Tilak and Phule had decades ago attempted to include the Right to Education as a fundamental right in the Indian Constitution. But it was not accepted and instead the states were *advised* to provide *free* and *compulsory primary education* upto the age of 14 years. The implementation was attempted but has not succeeded in many of the larger states. Till 1921, education was a Central Subject. After 1935, under the Government of India Act, it was transferred to the provinces. The Kothari Commission on Education, 1964–66 observed— ‘Education should be given a statutory basis everywhere and in all the sectors and Education Acts should be passed in all the states and Union Territories’. Kerala was the first State to introduce the Education Act. Subsequently, Andhra Pradesh (1972), Bihar (1972/1996), Delhi (1973), Maharashtra (1965), Madhya Pradesh (1973), Madras/Tamil Nadu (1953/1973), Uttar Pradesh (1982/1992) and Karnataka

(1983/1993) introduced the Education Act, as reported by Baliga (1999). However under the Directive Principles of the State Policy, the states can get away without implementation.

Some of the data by Anagol (2003) below points to us a rather dark picture, yet with some silver lining:

The gross school enrolment in the country was 2.23 crores in 1951 and it rose to 15.08 crores in 1995—a seven-fold increase. Gross enrolment of girls in the same period rose from 59 lakhs to 6.3 crores—an eleven-fold increase. More specifically, between the years 1951 to 1995, the gains were in the lower primary, rising from 42.6 per cent to 104.3 per cent, in the upper primary from 12.7 per cent to 67.6 per cent and the gross primary from 32.1 per cent to 90.9 per cent.

In fact, the access to schools is not a problem. 100 per cent of the urban areas have primary and upper primary schools. 94 per cent of the rural areas have a primary school within five kilometres.

However, the number of illiterates in the country which was 29.39 crores in 1951 rose to 49.18 crores in 1995! According to K.R. Narayanan, the former President of India, 'India has the disgraceful distinction of having the largest number of illiterates of any country in the world' (ibid.).

Even within Asia, India stands very low regarding the number of years spent in school. The average years of schooling achieved across the Asian countries are—India: 2.4 years, China: 5.0 years, Sri Lanka: 7.2 years and Korea: 9.3 years.

Within India, there exist wide disparities among the various states. The larger states have abysmally low literacy rates. For example, the literary rate in Bihar is 38.48 per cent, in Madhya Pradesh 44.20 per cent, in Andhra Pradesh 44.09 per cent, in Rajasthan 38.55 per cent and in Uttar Pradesh it stands at 41.20 per cent.

In India, education is particularly compromised for females, scheduled caste and scheduled tribe children, especially in the rural areas. In contrast, there in states with high literacy such as Kerala, the gender ratio for literacy is similar.

Why does India lag behind despite stalwarts like Gandhi, Tilak and Phule championing the cause of primary education for decades?

National Policy Perspectives—Do we Lack the Right Kind of National Policies?

The last two decades in India has seen the emergence of concern for children at the policy-making level. The Indian Constitution between 1947 and 1974 made several provisions for welfare of children in the successive Five Year Plans in an ad hoc manner. Though these provisions dealt with welfare measures, education, nutrition, maternal and child health, they lacked long-term planning and an integrated policy. Here are some policy initiatives.

Integrated Child Development Services (1972)

Integrated Child Development Services (ICDS) was a special programme by the welfare sector to improve nutrition and health status and promotion of physical, psychological and social development of children below the age of six in urban and rural areas. The programme offers day-care centres called *Anganwadis* for every 1,000 pre-school population.

National Policy for Children (1974)

This was one of the initiatives to deal with the welfare of children in a systematic and integrated manner. The document has nine statements that deal with provisions for all children.

(a) comprehensive health care, (b) adequate nutrition, (c) healthcare, nutrition and education of expectant and nursing mothers, (d) free and compulsory education for all children up to the age of 14, with special provisions for girls, pre-school children and weaker sections of the society, (e) informal education to those children who are not able to avail formal education, (f) promotion of physical education, scientific and cultural activities in schools and the community, (g) affirmative action to ensure equality to Schedule Caste, Schedule Tribes and the weaker sections to provide equal opportunity in urban and rural areas, (h) socially marginalized to be provided with facilities for education, training and rehabilitation and (i) protection from neglect, cruelty and exploitation.

National Policy on Education (1986)

The National Policy on Education (1986) was an important milestone in formulating new policy on education. This policy declared

that Early Childhood Care and Education (ECCE) would receive high priority as it recognizes the holistic nature of child development, including nutrition, health, social, mental, physical, moral and emotional development. Day-care services will be provided as a support service for providing universal primary education. The programmes will be child-oriented and will focus on play and the individuality of the child. It has a strong community participation element. Integrated childcare and pre-primary education will be integrated to strengthen the primary education. Elementary education will aim at universal enrolment of children below the age of 14 years and improving the quality of education. It also emphasizes the improvement of school facilities. In its programme known as 'Operation Blackboard', it was recommended that every primary school should have a *pucca* building with two large classrooms and a minimum of two teachers, one of whom must be a woman. The school must also be equipped with black boards, maps, charts, toys and other teaching aids. In the modified policy adopted in 1992, the scope of the 'Operation Blackboard' was enlarged to provide three large rooms with three teachers and a library. These policy declarations have tried to correct the imbalance between primary and other levels of education to a certain extent.

Under the above policy, non-formal education will be launched for school dropouts and for children from areas without schools. The policy aims at free as well as compulsory education up to 14 years of age. Secondary school education and vocationalisation are aimed for higher levels of education.

National Mental Health Programme for India (1982) and National Health Policy (1983)

These adopt an integrated approach to health as well as mental health. Decentralized healthcare including school health and the involvement of teachers in the promotion of mental health have been highlighted in these documents.

Child Labour (Prohibition and Regulation) Act (1986)

The Act prohibits child labour below 14 years of age. If the goal of universal primary education is achieved in the country, the Act will become redundant. Till such time, this is an essential provision to protect children from exploitation.

Integrated Education for Disabled Children (1988)

It aims at integrating mentally and physically disabled children into the community and providing them opportunities for education and training.

It is evident that despite the *enlightened* and *progressive* policy documents on children by the Government of India, mass education has not had the desired impetus. There have been *failures in budget allocation* and *centralized attempts at implementation, with very little understanding of ground realities at the grassroots level*. There is a need for creation of *awareness* about the *uses* of education amongst the politicians, educationists, economists and the lay public alike. Conventionally, Gross National Product (GNP) is seen as the measurement of development of a country, along with the savings. However, a broader definition of the GNP apart from income *must* include enlarging people's choices in *education, health, political freedom, women's empowerment and environmental security*.

Education needs to be viewed from different perspectives. For example:

- (a) Education as an end in itself is one's own intellectual pursuit.
- (b) Empowerment of weaker sections (women, SC and ST).
- (c) Promotion of multi-linguistic, multi-religious, multi-ethnic harmony in the secular polity of India.
- (d) *Universal education automatically leads to elimination of child labour.*
- (e) Economic benefits of primary education outweigh that of higher education.
- (f) Health and social benefits to women especially such as late marriage, better maternal health, lowered infant mortality and longevity leading to population control.
- (g) Enhanced agricultural products due to the use of advanced technologies and methods.

In spite of the enlightened policies mentioned above, the literacy rates as well as the quality of education in the Indian schools are disappointing.

From the above, it can be seen that fairly enlightened policies are in place. If we have to find reasons for poor literacy rates and poor quality of education, we have to look elsewhere.

Right to Education Bill 2005 (draft 25 August 2005)

The bill deals with the child's right to free and compulsory education of equitable quality and the right of transition till completion of elementary education, the general responsibility of the state towards non-enrolled child, provision of facilities to pre-school child and to the youth to complete elementary education. It delineates the responsibilities of the central and state governments, of the local authorities and that of the parents. Schools as well as teachers share the responsibility to provide free and compulsory education. Several other important issues are also dealt with. The content and process of education form important components of the Bill. It also accommodates the needs of the disabled and disadvantaged groups. The 86th Constitutional Amendment Act goes beyond Article 45 of Directive Principles of the Constitution of 1960. The bill states that the schools shall function in a child-friendly and child-centred manner to promote the physical and mental development of the full potential of the child. It also delineates several other such progressive guidelines which are to be followed. Teacher training and innovation is mandated. The National Commission of Elementary Education will be the agency to monitor the implementation of the Act to monitor that the norms laid down are followed.

The central government has also initiated centrally-sponsored schemes of 'Operation Blackboard', non-formal education, established District Institutes of Education and Training in 1987–88 and launched a National Programme of Nutritional Support to Primary Education in 1995–96 for provision of mid-day meals.

CURRENT STATUS OF ELEMENTARY EDUCATION IN THE COUNTRY

People who are engaged in elementary education have been attempting to examine the indicators such as teachers, schools and facilities as well as the actual outcome in terms of learning. The different surveys conducted by governmental and non-governmen-

tal agencies have shed light on the indicators and the outcomes based on national, state and district-level data. The general trend has been to gather statistics on the indicators and the outcome in terms of assessment of the children on academic skills, such as reading and mathematics.

THE BROAD CANVAS AT THE NATIONAL LEVEL

Under the Educational Management Information System (EMIS), a large number of government and semi-government agencies are involved in gathering information through the District Primary Education Programme (DPEP) and the Sarva Shiksha Abhiyan (SSA). National Institute of Educational Planning and Administration (NIEPA) was assigned the task of developing a computerized information system at the national level by the Ministry of Human Resource Development (MHRD). The National Council for Educational Research and Training (NCERT) has been actively involved in the assessment surveys. The District Information System for Education (DISE) in addition to gathering of information through NIEPA, provides technical and professional support to DPEP districts since 1995 and to non-DPEP districts since 2001. At present the DISE covers 581 districts in 29 states and Union Territories (Mehta 2006).

There are four indicators. These are—school related, facilities in schools, enrolment related and teacher-related indicators. The data is provided from 1.04 million schools in 2004–05.

School Related Indicators

Nearly 86.90 per cent of schools and 91 per cent of primary schools are in the rural areas. About 85 per cent of the total of 10,37,813 schools are government-run schools. More than half of them are located beyond 10 kilometres from the Block Headquarters, 2,50,718 new schools have opened since 1994, with 84 per cent in the rural and 12 per cent in the urban areas. These are mostly primary schools. As many as 41,079 (4.37 per cent) do not have school buildings. About 70 per cent of the rural and 74.30 per cent of the urban schools have *pucca* buildings. Elementary schools in urban areas, on an average, have 6.6 rooms and in the rural areas it is 3.3 rooms. It is sad to note that 10.90 per cent of the primary schools

on an average are still without a classroom, 14.60 per cent have only one classroom, 35.25 per cent with two and three or more rooms in 39.96 per cent. 94.73 per cent of the total of 1,07,842 single classroom schools are located in the rural areas. All the schools together have an average of 43 children in a class in the rural and 37 in the urban areas.

Enrolment Indicators

All the schools have an average enrolment of 150, with urban schools having a higher average of 239 compared to 140 in the rural areas. Schedule caste (SC) enrolment is 20.58 per cent and schedule tribe (ST) is 10.18 per cent. This enrolment matches the distribution in the general population. The Government has been the main provider of education to the two groups. Disabled children form 1 per cent of the enrolment.

Teacher Indicators

Schools without teachers in the urban areas are 2.64 per cent and in the rural areas it is 1.49 per cent. Of the total of 1,37,704 single-teacher schools, 96.02 per cent are in the rural areas. There are 4.17 million teachers in the elementary schools and 84 per cent are in the rural areas. In the rural areas, the teacher availability as on average is 3.61 per cent while in the urban areas it is 7.25 per cent. 39.78 per cent of the teachers are women but 64.70 per cent work in urban areas. The teacher–pupil ratio in 2004–05 has improved a great deal.

Three lakh seventy-nine thousand ‘para teachers’ were appointed in 2005 which is 9.09 per cent of the 4.17 million teachers. Ninety-two per cent of the ‘para teachers’ are in the rural areas and in the primary schools. They are better qualified and are without teacher training. The global monitoring report of the UNESCO (2007) indicts the teachers in India of absenteeism of 25–30 per cent, which offsets the benefits of implementation on other indicators.

School Facilities

As far as facilities are concerned, 16.42 per cent government schools have pre-primary sections, 80 per cent of schools have

drinking water, 47 per cent have common toilets and 28.37 per cent have electricity. However, 7.07 per cent do not have blackboards. During 2003–05, 8.89 per cent of the elementary schools have been given computers. Five lakh fifty-eight thousand nine hundred and sixty-five schools had medical check-ups.

The Sarva Shiksha Abhiyan (SSA 2005–2006) reports opening of 35,306 new schools, 34,262 new buildings, 1,41,886 new classrooms, provision of drinking water in 40,760 schools and of toilets in 65,771 schools. 1,80,116 new teachers have been appointed. The supply of books has cost rupees 6.12 crores; in service training of teachers, rupees 32,52,785. Of the total outlay of rupees 13,37,861.65, two-thirds of the amount is provided by the Government of India and rest by the states.

The Public Report on Basic Education in India (PROBE 1999) and *Pratichi* (2002) at the State levels have gathered information on school participation, teacher availability and learning. Annual Status of Education Report (ASER 2005) is a *Pratham* initiative. It is a very extensive effort of 20,000 volunteers in 485 districts in 4,918 primary and 3,528 upper primary schools across the country. It provides data on households, status of government schools and testing of children in reading and mathematics skills.

The report estimates that 1.4 crore children are out of school (13.55 per cent in Bihar, 10.4 per cent in Rajasthan, 9.8 per cent in Jharkand and 7.4 per cent in Andhra Pradesh). 8.3 per cent of primary and 7.5 per cent of upper primary schools had no teachers. This is in spite of the DPEP and SSA efforts.

The ratio of boys to girls is 6:4 in the north of Narmada regions, while in the southern states it is more equitable.

ASER 2005 reports 93.4 per cent enrolment in 6–14 age groups, with 75.1 per cent in the government schools, 16.4 per cent in private schools and 1 per cent each in Madrasas and Education Guarantee Schemes. In states like Haryana, Uttar Pradesh, Karnataka and Rajasthan, one-third to one-fifth of children go to private schools, especially in the urban areas. In 80 per cent of the schools in lower and upper primary schools, children have textbooks. At present 70–75 per cent schools provide the midday meals. However, the ASER report highlights the abysmally poor academic performance across the country. In terms of reading and mathematics when actually tested, of the 7–14 year old children, 5.35 per cent could not read at grade one level and 60 per cent could not read

at grade two level. The situation with respect to mathematics is equally poor.

Karnataka has 27 districts and Mysore district is one of them. The state and the district reflect the national trends and ranks somewhere in the middle with respect to various indicators of educational system. The state is closer to achieving universal primary enrolment. However, this does not bring it any closer to the goal of providing quality education especially in the government schools in urban and rural areas. The District Elementary Education Report Card 2003–04 describes the district as having eight blocks (*talukas*), a population of 26,41,000. About 12.3 per cent of the population consist of children below the age of six years. The gender distribution is somewhat similar. There is 63.5 per cent literacy and 15 per cent of SC and 17.7 per cent ST population. The number of government schools is 1,010. These are mostly located in rural areas; majority of the schools have Kannada as the medium of instruction. The total number of children in lower primary in government schools is 54,088 and upper primary is 2,01,515. The enrolment of SC or ST and girls is a representative of the population samples. Midday meals are operational in majority of the schools through governmental and non-governmental efforts. Facilities such as classrooms, toilets and drinking water have increased substantially.

REASONS FOR POOR LITERACY AND POOR QUALITY OF EDUCATION IN INDIAN SCHOOLS

Historical Factors

An important historical factor is the *caste system* which is deeply rooted in the national ethos. The caste system in the past and to certain extent in the present too, promotes an *elitist* approach to education. The upper caste men, traditionally the Brahmins and to certain extent Kshatriyas, had opportunities for education in the past, while it was denied to women and people belonging to the Scheduled Caste and Tribes.

To add to this bias, Brahmins used Sanskrit which further alienated people who did not know Sanskrit. The language factor operated in the traditional Muslim education system also. Mullahs

used Arabic for teaching. This came in the way of *mass education* to a large segment of the population in India. Buddhism, in contrast, adopted the language of the people and promoted *mass education* in Myanmar and Sri Lanka.

Another historical factor is that, under the colonial rule, the British in India supported the expansion of higher education at the cost of mass education. Amartya Sen talks of ‘...appalling neglect of mass education at the altar of higher education’ (Anagol 2003). Unfortunately even after independence, the momentum in favour of higher education continued to operate. The neglect of mass education in terms of quality has in fact has increased in terms of quantity.

Community Response

It is generally believed that illiterate parents do not want their children to be educated. This is a misconception, as most illiterate parents do want their children to have education and a chance to better their lives, an opportunity which they themselves did not have. However, other factors also enter into a poor community response. For example, girl children are kept out of school due to reasons such as—the need to attend to household chores, not having female teachers, absence of toilets in the schools and the belief that a girl need not be educated as she is not going to be a bread winner and will go to another home; hence not worth the investment. But studies (Kullar 2000) also show that the mothers do want their daughters to study.

School System

Deep fault lines run in the school system—these are *high dropout rates* and *absenteeism*. The high dropout rates are related to—exaggerated enrolment rates reported by teachers, high absenteeism amongst teachers and children, regional needs of farming communities where extra hands are needed at certain times of the year.

Local festivals and village shanties also take their toll as the children accompany their parents on these occasions.

The above problems are not irremediable. In Kerala, for example, 100 per cent of the children complete five years of

schooling. In contrast, it is only 38 per cent in Bihar. Among the Schedule Caste and tribal children, it is even lower.

School Management

The schools are managed by a single teacher or by a headmaster who is poorly qualified or inadequately trained.

Economic Factors

Conditions of the schools continue to be very poor even after decades of Operation Blackboard. The cost of primary education seems to be one of the causes. Yet Himachal Pradesh has set a model of high achievement for the entire country because of political will to do so. In fact at present, there is increasing funding for education by the Government of India, UNICEF and the World Bank.

Poor Teacher Motivation and Poor Teaching Methods

The attendance of the teachers is low. Teachers often reach late and leave early. They often do not hold classes. This reflects poor motivation on the part of the teachers. Motivation is further compromised by the government asking the teachers to do other non-teaching duties. About 150 days of 200–250 days, the teachers are being given additional unrelated duties such as elections, census, collection of food rations for school, collection of uniforms, books and their distribution.

Teaching methods are archaic. Children are asked to copy from the board or books. Use of the stick is rampant in spite of government orders against it. Education is often in a language other than the mother tongue. There is emphasis on rote learning. Despite the time and money spent on training of teachers, change of attitude in teachers is yet to become a reality.

CHALLENGES OF IMPROVING THE QUALITY OF EDUCATION

Improving the quality of education is possible and can be done if the following steps are taken, appropriate to the local contexts of

the schools, the children and the community. Teachers' involvement can be increased by increasing the working days, releasing the teachers from other work and adopting regional holidays to accommodate the rural communities (flexi-hours and days), involvement of parents, panchayats and non-governmental organizations working in the area in the recruitment or firing of the teachers and monitoring the quality of instruction. Infrastructural support for the daily requirements of teachers and pupils such as stationery, teaching aids, space and other requirements will go a long way in improving the quality of education.

If education is carried out in the mother tongue or at least the children are spoken to in their mother tongue, it would increase the interest shown by children. It would also help if more female teachers are recruited, especially in the rural areas, as younger children are more comfortable with them. Female teachers are also likely to be less brutal. The mothers would find it easy to send older girl children if there are female teachers. The attitude of most of the teachers to the children is one of indifference. This needs to be changed to improve the quality of education imparted to the children.

The special needs of SC or ST groups needs to be examined, remembering that they have a set of unique problems of their own. It should be noted that literacy rates of SC groups are 37.41 per cent as against 57.40 per cent for the other caste groups. Among the tribals, it is 29.60 per cent, the lowest of all. In the case of tribals, it should be noted that they thrive in their natural habitat and are accustomed to a free and joyous life despite poverty and other disadvantages. The school system needs to accommodate freedom in the classrooms. The tribal children are considered most resistant to schooling and have higher dropout rates.

SOME INNOVATIVE APPROACHES ACROSS THE COUNTRY

Some large-scale innovative approaches to improve the quality of education have been attempted across the country. To name a few comprehensive pioneering works in the field of education:

- i. Education Guarantee Scheme of Madhya Pradesh, and conducted with foreign aid,

- ii. Back to School programme of Andhra Pradesh,
- iii. Non-formal education with NGO initiatives such as *Eklavya* (emerging out of the earlier programme of Kishore Bharati),
- iv. District Primary Education Project (DPEP) across India in the low literacy districts.
- v. *Pratham* with focus on pre-primary education in the State of Maharashtra, currently spreading to other states.

There have been research reports on approaches to provide primary education to the children at risk from marginalized communities in Uttarkhand, Tamil Nadu, Madhya Pradesh, Andhra Pradesh, Rajasthan and Karnataka (NIAS Reports 2002).

There have been several pioneering experiments by individuals in pockets across the country since the 1960s and to name a few—*Neelabagh* by David Horsburgh, *Sita Shreni* by Jane Sahi, *Vikasana* by Malathi around Bangalore, and *Pragati Vidyalaya* by the Trust Human and Community Development in Mysore are some of the examples from Karnataka. *Suma Vanam* is run by Usha and Narasimhan in Andhra Pradesh and *Satya Vanam* by Shankar and Sharada in Pondicherry. These groups of schools have worked with disadvantaged groups of children.

While most of the efforts have been small to medium initiatives by the government and non-governmental players, at present Karnataka has seen large-scale contributions of the corporate sector exemplified by the new wealthy and socially committed groups such as the Azim Premji Foundation and Akshara Foundation. The need to providing quality primary education to all the children is such an enormous task that I would endorse the Chinese proverb and say 'Let a million flowers bloom'.

In her review of innovative efforts, Ramachandran (2003) points out that these, though laudable, have not been evaluated and have not been incorporated into mainstream education.

Kumar and Sarangapani (2005) in their edited book *Improving Government Schools* provide an excellent backdrop of the various small and large educational initiatives across the nation meant to improve the quality of education. These focus on—specific subjects in the school curricula, specific unconventional areas such as health and environmental education, whole school approaches such as the entire curriculum, teacher training and inclusive

education, interventions in the primary schools especially in languages and maths and community mobilization. It may be seen that there are hardly any attempts at the evaluation of the outcomes of the interventions and these are curriculum-driven with heavy reliance on the training of the teachers.

I am inclined to say that all these efforts are aimed at improving the academic achievement in specific curricular subjects. These are segmental as they focus only on academic achievement and not on the overall healthy development of the children.

All the above innovative programmes, however, have provided us with better models to choose from. The focus is obviously on improving infrastructure and teachers' contributions to joyful learning.

Evaluation of the outcome of these efforts is essential and has been carried out to some extent at least with reference to performance in examinations, teacher training and the infrastructure. There have been several efforts at evaluation. These are:

National level NCERT surveys in 1970s started with Kulkarni's report on mathematical skills (working paper reports). This was followed by an evaluation of educational achievement in the Hindi-speaking states. In 1988, a study by Dave and others on achievement in primary classes and a project on Primary Curriculum Renewal (PECR) reported poor acquisition of basic skills at primary levels. There were however noticeable differences in the various states. DPEP has been conducting baseline, mid-term and terminal surveys. More recently, the NCERT has conducted surveys with World Bank support under the Sarva Shiksha Abhiyan (SSA) at elementary school level. *Pratham* has conducted the Annual Status Education Report (ASER) 2005.

It may, however, be seen that evaluation of the outcome as always is on academic achievement with some major revisions in the format of assessment. Until the concept of joyful learning percolates into the grassroots level in a top-down fashion or a bottom-up approach of children creating their own learning environment comes into force on countrywide scale, the results are likely to be below our expectations.

Policy development and implementation falls under government initiative; the actual curricular development has been primarily taken care of by the apex body—The National Council for Educational Research and Training (NCERT) in collaboration with

several related institutions and individuals. This is evidenced in the document '*Learning without Burden: A Report of the National Advisory Committee appointed by the Ministry of Human Resource Development*' (Yash Pal 1993). The report focuses on the curriculum load, especially in urban schools. To quote Professor Yash Pal, education is characterized by 'joyless learning, examination system, textbook as the truth'. The language used in the textbook is viewed as a poor vehicle for communication; discovering, observation, the structure of syllabus, dense syllabus covering everything, starting formal teaching too early, etc—are some of the problems highlighted in the report.

In 2004, the NCERT established 21 focus groups dealing with the entire spectrum of issues of curriculum and of those of national concern that need to be examined extensively and in depth. (*NCERT News*, January 2005). It needs to be pointed out that despite the commendable and forward-looking efforts of NCERT, the cause of the urban and the rural poor has been, except in theory, paid scant attention. It is evident that primary education in India suffers from a quality deprivation. There is 'too much' of it in the so-called elitist institutions of education; there is too little of it in the disadvantaged population. The NCERT documents over a period of time on the curriculum development also reflect the political compulsions of the time. A document of 2000–04 for example, reflects strong Right wing ideological learning, which was not present in the documents before or after the period. There is a need to 'firewall' the educational policies and practices of the nation from political whims and fancies. However, all the well-meaning efforts at the national level are paved with good intentions, idealism and elitist educational approaches to quality education. Yet they are flawed in the following respects:

- (a) Little effort is made to evaluate and validate theories and practices at the grassroots (rural or tribal schools in distant India).
- (b) The methods of instruction are laid down in a 'top-down' manner from the centres of excellence than being put together at the grassroots level.
- (c) The teachers may be well versed in the theories of good teaching practices, for example, 'joyful learning' but do not follow it in their day-to-day teaching practices.

- (d) The burden of teaching rests entirely on the already overburdened teachers.
- (e) The barrier between the teachers and the taught and the community remains strong and un-yielding.
- (f) Understanding correct concepts of child development across physical, intellectual, language, emotional, social, sexual and moral development is totally lacking amongst the teachers. Their firm commitment is to teach in the traditional way with only the teaching aid of a *stick*—Teachers indiscriminately beating the children is a common sight in government schools. They believe that children need to be disciplined and corporal punishment is the only way to do it.
- (g) Child-centred and developmentally appropriate teaching or learning aspects are alien to most of the teachers.
- (h) The fact that promotion of the psycho-social development of disadvantaged children is possible has not been convincingly demonstrated to the teachers so they are convinced to adopt them.
- (i) Special needs of the SC or ST groups have not been acknowledged by them. This prevents them from capitalizing on the inherent potential of children.
- (j) The need to relate and empathize with children and to understand their families is not thought as necessary.

PREAMBLE TO THE PRESENT WORK

At the national level, the various indicators of the school system are better than before. Yet a very large number of children do not learn enough to realize their full potential. While the Right to Education Bill may succeed in providing free and compulsory education by 2010, provision of equitable or quality education remains of a distant dream. Provision of quality education requires a radical paradigm shift in the translation of policies into reality at the grassroots level. Micro level studies focusing on the learner potential and characteristics and child-friendly practices to reach a large majority of the children need to be carried out. These need to be developed in the natural settings, especially in rural primary schools and tribal schools representing the majority of government schools, particularly for disadvantaged groups such as SC, ST, girls,

the disabled and children with mental health problems. These strategies need to be carried out at a small scale and evaluated in terms of the process and the outcome.

Introducing the Present Work

Teachers and the school system have been traditionally viewed as the ‘reservoir’ of learning. The purpose of this book is to draw the attention that the child is the ‘learning capital’ or ‘the scientist in the crib’. The child is capable of enormous learning if given the opportunity. This book proposes a teaching or learning approach that capitalizes on the understanding gained from the latest research in developmental psychology of the creative potential of children. Indian schools traditionally have favoured the inflexible teacher-centred instructional methods. The present work attempts to *evolve and evaluate* innovative approaches for the promotion of psycho-social development of school children especially in the rural areas where *there are few teachers*.

Bridging the Gap between Education and Child Developmental Psychology

Children and their learning have been viewed from different vantage points by educationists and developmental psychologists. Only when both the approaches complement each other can we get a holistic picture of the child. Developmental psychologists and those engaged in education have a common interest in children. Developmental psychologists focus on the overall domains of development such as motor, cognitive, language, emotional, social, moral and sexual domains adopting a life span approach (Hurlock 1988).

The theories and research deal with normal behaviour or otherwise, adopting observational techniques in the natural and experimental settings. Normative data is derived from psychological assessments. Those in the field of education are interested in child development at conceptual, methodological and in the applied aspects.

How the psychologists and educators have differed in their thinking may be exemplified with an illustration. Piaget and Vygotsky are two of the most influential thinkers whose theories of cognitive development have enriched both psychology and education. They developed a method that involved close and detailed observation of babies and young children over a long period of time in the natural settings. This method can be an empirical tool for a teacher or a psychologist. To quote Gopnik, Meltzoff and Kuhl (1999)—‘Looking at babies attentively make us

treat them differently'. Child development is an individual process, a product of heredity and environment and their interaction, changes and the development that occurs over time, in the age span from birth to 11–13 years of age. Most of the research carried out by the educators on the cognitive development focus on Piagetian observations as a methodology to promote cognitive development. Piaget built the theory of cognitive development by simply observing his three children in action in a natural setting. He did not instruct, guide or ask them to copy him. Similar interested observation is needed on the part of the teachers, very little else. Had Piaget followed the technology adopted by our teachers, there would have been no theory of cognitive development.

The four major theories of development are—(a) Organismic—reflecting Piagetian framework; holds the child as the active constructor of knowledge, (b) Mechanistic view of qualitative changes in the child due to environmental forces, (c) Contextual—reflecting the interaction between child and the environment which is bi-directional, as suggested by Vygotsky and (d) Psychometric approach which adopts a position of empirical study of characteristics such as intelligence.

All the theories are complimentary and add completely to our understanding of the child. But none of these individually, fully, explain children. Though theories are important, the segmental nature of individual theories must not be lost sight of. For example, Piaget's theory cannot explain all the domains of development and even in the areas of cognitive and language development, the theory provides valuable though partial insights.

INDIAN SCENARIO FROM EDUCATIONAL AND PSYCHOLOGICAL PERSPECTIVES

The Indian research as reported by the Sixth Survey of Educational Research from 1993–2000, volume I, NCERT (2006) reflects some of the trends in the research in educational field. It lists out 2,500 studies. The teaching models examined are—concept attainment model, information processing model, inductive thinking model and inquiry training model. In order to be applicable in the rural primary schools these need to be carried out and evaluated at the grassroots level.

The methods examined are educational technology, multimedia, UGC classroom, audio, video and computer assisted and programmed instruction. How many of these can work in the rural schools needs to be examined.

It is obvious that though the point of beginning is the same, educationists have moved towards instructional practices to promote academic skills. While psychologists have been interested in all the domains of development, in addition to cognitive development of children, their academic achievement is incidental. But when the child becomes an active learner, academic skills are automatically imbibed.

In addition, much of the research focuses almost entirely with teaching or learning of syllabus subjects such as languages, mathematics and science subjects. It may be a provocative statement, but the child as an active agent of his own holistic development seems to have been lost sight of somewhere along the way as the teacher gains the status of the prime mover of education.

The author attempts to bring the child into the foreground. Cognitive and language development alone is not enough. All the domains of development need to be focused upon and enhanced.

As rightly observed by Srivastava (1998), the challenge to child development in India lies in dealing effectively with the problems of birth and infant mortality, pre-school, girl, tribal and special children. However, if we were to achieve universal primary education, all the children will be in the safety net of the school system. Promotion of healthy development in all domains for all the children is essential in view of the paucity of manpower and financial resources across the nation. However, it can become a reality with the development of effective strategies which capitalize on child as the resource, especially as teacher as the sole resource has not succeeded very well at the national level. If we are to provide quality education, there should be a shift of *focus from teacher initiated instructional practices to improve academic skills to child initiated play-away methods, to promote development across all domains.*

ROLE OF TEACHING AIDS PREPARED BY TEACHERS

It is useful to have posters, maps, but not essential. Instead of readymade charts of animals where a mouse and an elephant have

the same size, children themselves could make better pictures of the animals known to them. I have seen most convoluted snakes and ladders prepared by experts to teach mathematics, while children themselves can put together the game fairly easily.

The experience in teaching materials available such as those for cursive writing and filling colours inside already drawn figures are examples of teaching technology which do not facilitate, in fact thwart the child's creativity. With a plain sheet of paper and crayons a child can draw and colour whatever he wishes. How can a Mickey Mouse or Indian version of Hanuman drawn by an adult promote creativity and imagination in children? Why do we believe that adults know better and do things better?

The author proposes to demonstrate this change of paradigm and its effective outcome adopting qualitative and quantitative approaches in the following chapters.

The approach is multi-pronged with children, with child-centred methods in the focus and at the same time working within the education, health and welfare systems in a coordinated manner. The approach reflects a mixed model of person—process and outcome. Psychological tests are used to assess attention, memory, intelligence, creativity and language (reflected in vocabulary and number work).

Play is supposed to enhance all domains such as motor, cognitive, language, emotional, social, moral and sexual development. As it is not possible to assess the impact of the intervention on all the domains, cognitive skills, creativity and basic academic skills of language and number work are focused upon. Motor and emotional development in the younger and social, moral and sexual development in the older children was incorporated in the activities, though not measured quantitatively.

Backdrop to the Present Work

The overall objective of the author's work was to evolve models to effectively reach out to the rural child population, to promote their psycho-social development and delivery of services for mental health and disabilities. These efforts could not be carried out through a single project. The programmes had to be comprehensive, including physical and psychological development. These should also examine feasibility of providing primary, secondary and tertiary intervention at school level. A tall order indeed, if not impossible. In order to be replicable elsewhere in the developing countries where there is similar paucity of financial and personnel resources, the programmes had to use the available infrastructure and resources. This available infrastructure includes the teachers in the education sector, *anganwadi* workers in social welfare sector and doctors and health workers in the Primary Health Centres (PHCs). Promotion of psycho-social development and educational goals of the nation in providing quality mass education, were the goals of the work.

Three studies were carried out by the author and her team from 2000–2005. An integration of these efforts was to provide a comprehensive holistic approach to promote of child development.

The field of work was Heggada Devana Kote or H.D. Kote as it is commonly known. H.D. Kote can boast of considerable antiquity. The gazetteer of Mysore '*Mysore, in General*', Volume 2 edited by B.L. Rice (1876) has the following description:

It is situated in a wild forest tract 36 miles west of Mysore on Sargur Hunsuar road. Sometimes Sargur was the headquarters, especially during monsoon (between 1870 and 1895, yearly

rainfall was 24.83 feet or almost 300 inches) In 1886, H. D. Kote became the headquarters. The population at that time was 1,295, consisting of mostly Hindus, with 101 Muslims and 28 Christians.

The *puranic* name of H.D. Kote was *Brihad bhanu pura*. First the Pandavas, then Janamejaya are said to have been there. Janamejaya was the founder of the city. Heggada Deva was supposed to have rebuilt and restored the fort. He represented a line of rulers from the 10th century. Later it was subdued by the Vijayanagara kings and only the town was offered to the chief. In 1624, it was conquered by Chamaraja Wodeyar of Mysore. As described by Wilks, Mysore army attacked the place when chief Chennaraja who was on a distant expedition was absent. A negotiator or a *vakil* went to the invaders and said,

The Master is absent with the troops. *Rani* is in labour and exceedingly alarmed at your approach. We have only 50 soldiers at the place and the late rains have made two breaches in the ramparts, one on southern and one on eastern face. To come at such time is very improper and ungenerous.

As an aside, when the various reports on assessment of children paint a bleak picture, I feel like the *vakil* and would say that to assess school children on their academic achievement when there are no roads or transport and the teachers do not arrive, the school buildings are dilapidated, with no pencils, books or blackboards and when the children come to the school hungry, 'is very improper and ungenerous' in the archaic language of the gazette.

H.D. Kote area was famous for the 'Khedda' operation of trapping elephants in the days of Maharajas of Mysore. Now fortunately, for the elephants and the wildlife enthusiasts, trapping and taming of elephants is banned. Unfortunately, poachers and smugglers with the connivance of politicians and businessmen, continue to kill the magnificent elephants and tigers for ivory and skin and smuggle precious sandalwood and rose-wood and other timber such as teak, which grow abundantly in the area. In fact, this area was a favourite hunting ground of the notorious bandit Veerappan, till he was recently killed in a police ambush. The forest department owns large acreage of the reserved forest. All the areas mentioned in our study lie within the fringes of the forests rich in exotic flora and fauna.

In 1998, the project area, Heggada Devana Kote (H.D. Kote), became a part of Mysore district. The eight educational blocks or the *talukas* (Census 1998) within it are: H.D. Kote, Hunsur, K.R. Nagar, Mysore city, Mysore *taluka*, Nanjanagud, Periapatna and T. Narasipur. Perhaps, it is worthwhile mentioning that these *talukas* in old Mysore have a long-standing tradition of using initials of the names in abbreviated forms, which can be confusing to outsiders unfamiliar with the tradition. It could be Heggada Devana Kote, termed H.D. Kote, or simply 'Kote'. The name means fort of Heggada Deva. The town has the ruins of ramparts of an old fort and an ancient *dattatreya* temple. Some of the names referred to in our work are Badiga and Matkere (Matkere is close to Badiga village). B. Matkere or N. Begur for North Begur and D.B. Kuppe stands for Dodda Bhyrana Kuppe).

The population description of H.D. Kote according to Primary Census Abstract 2001 (DCO, Karnataka, 2001) is—total households in H.D. Kote are 50,178 (population is 2,45,930). In the urban areas, the total number of households is 2,572 (12,045) and in the rural areas there are 47,606 households (population 2,33,885). Thus, H.D. Kote is predominantly rural. Children below the age of six are 34,086 (17,182 boys and 16,904 girls). Males and females are almost equally represented. Of the total population of 2,45,930, 66,372 belong to Schedule Castes and 51,482 belong to the Schedule Tribes. Approximately 30 per cent of SCs and 25 per cent of STs are represented in the population. Literate population is 1,11,926 while the illiterate population is 1,34,004; larger than the literate population, amongst whom more women are illiterate.

The language spoken in the area is Kannada. But the various Scheduled Castes and tribals speak their own languages. During the building of a large dam and reservoir across the Kabini River, a large number of tribals called Kadukurubas and Jenukurubas and other forest dwellers were displaced from their homes. They were deprived of their means of livelihood. The government did what it could and would, by giving them small pieces of land, small constructed houses and at times, contributed to the construction of their own houses. Suffice to say that there is a large population of economically and educationally backward people in this region.

Due to the above reasons, several innovative experiments have been carried out in the region by governmental and non-governmental organizations in developing outreach programmes for

health, education, development and welfare over the last almost two decades. Of the NGOs, MYRADA and SVYM (Swami Vivekananda Youth Movement) deserve a special mention in view of their long-standing commitment and efforts. They have carried out developmental work, women's empowerment and provision of health services in these remote areas. SVYM also runs a residential school for tribal children from Class 1 to 10 for about 450 children. The H.D. Kote experiment in education, two decades back, was the first one heralding the DPEP programmes. The model adopted at that time was that of Rishi Valley, founded by J. Krishnamurthy, a renowned philosopher and educator. The programme was carried out in 270 schools. In this approach children could learn using 1,500 charts prepared by teachers. The child could learn by himself or herself at his or her own pace guided by the teacher. There were no dropouts and parents were willing to contribute towards equipping the schools and midday meals.

Under the DPEP programme, H.D. Kote was selected for its initial experiments. The programme was termed *nali kali* or joyful learning. All the teachers were trained in child-friendly play-away methods. They were trained to prepare and display education charts and teaching aids. All the schools in H.D. Kote *taluka* came under the DPEP programme. The schools are organized as shown below:

- (a) Block Education Officer (BEO)
- (b) Block Resource Person (BRC)
- (c) Cluster Resource Persons (CRP)

One of our studies, for example, was conducted in B. Matkere cluster, one of the typical 19 clusters. There were 15 schools in this cluster. There was one government high school; and also a private high school nearby. The majority of the children in government schools belonged to the Scheduled Castes and Scheduled Tribes. There were 10 ashram schools in the area in the H.D. Kote *taluka* including the one in B. Matkere. 'Ashram schools' refer to the residential schools managed by the Social Welfare Board to promote education among the tribal children. In 1908, residential centres for rural children were introduced under a system called *Agrahara* system. Unfortunately, it was only the upper caste that was benefited by them. Ashram schools have been established all over India in the regions with tribal settlement for more than two decades.

SCHOOL TEACHERS

A great deal has already been said about school teachers in the earlier chapter. Government school teachers are paid about rupees 8,000 per month currently, far better than they used to be. However, temporary and untrained teachers, or the para teachers, are hired by the NGOs and are paid rupees 500 to rupees 800, which is too low even for basic subsistence. These teachers can be hired only for one academic year at a time or even for few months.

ANGANWADI WORKERS

Many of the schools have *anganwadis* in the same premises. *Anganwadi* workers who take care of pre-school children get paid only rupees 500 per month. They have to work long hours and carry out large number of tasks allotted by the Social Welfare Department and other governmental projects. The main tasks are child and maternal health care and care of pre-schoolers. For example, in H.D. Kote in 2001–02, there were nine circles covering 34 villages with 189 *anganwadis*. The number of pre-schoolers below the age of three attending the *anganwadis* was 4,689 and was 5,882 for who were between three to six years. Thus, about 51.3 per cent of the children below the age of six were attending *anganwadis*; the rest stayed home. The children spend half a day here and are given a meal and not much else. *Anganwadis* hold great potential for promotion of psycho-social development of children below the age of six years. But this has not been actualized.

The current census (2001) lists children below six years of age as 34,086, which is about 15 per cent of the adult population. Most of the *anganwadi* workers are local women. The majority of them have been working for about two decades since the inception of the programme by the Integration Child Development Services (ICDS).

They are trained for a duration of three months at first, the second time for 15 days and then for seven days through the CDPO (Community Development Project Office). The nine circles are supposed to have nine supervisors, but most of the posts lie vacant. *Anganwadi* workers are expected to run the *Anganwadis* in the space where it is available. It could be in a school, *panchayat* office,

community hall, temples or even a room in a private residence. They have to get the rations, find fuel and cook food, serve meals to the children and wash dishes! All of them complain of tardy arrival of the rations, poor salaries and poor accommodation. They find that their work on the other hand is ever increasing. They have to prepare weight and growth charts of the children, survey of population for various diseases, work with pregnant and nursing women, conduct meetings with mothers, and take the children and mothers with health problems, to hospitals and Primary Healthcare Centres (PHCs). They are also expected to report the children with various disabilities. They work 12 months a year and have only 10 days as holidays. They work with children in the mornings, feed them at noon and go for other duties in the afternoons.

PRIMARY HEALTH CENTRE DOCTORS

Workshops for Primary Healthcare (PHC) Doctors and Health Workers

There are 14 PHCs and five sub-centres in H.D. Kote *taluka*. One PHC generally caters to 9,000 children. Of eight of the PHCs, 19 doctors have been working in this region for past nine years; the others for less than a few years. Their morale is low. The reasons are poor housing, bad roads and inadequate transport facilities, no drinking water and presence of local political and community interference. They also face frequent transfers, poor drug supply, poor compliance by rural patients and no facilities for necessary investigations. There is also a general hospital with seven specialist doctors. However, the general hospital is facing several cases of corruption and malpractice among their cadres. On the whole, the doctors appeared to be the most disgruntled lot.

The doctors are supposed to maintain school health records. They report problems such as—teachers failing to report or bringing the children with illness to the doctors, parents not being available to give information or not following the instructions and doctors not being paid the fees due to them especially from SC or ST children.

All the above seemed to suggest that the linkage between the schools and the PHC left much to be desired.

PHC HEALTH WORKERS

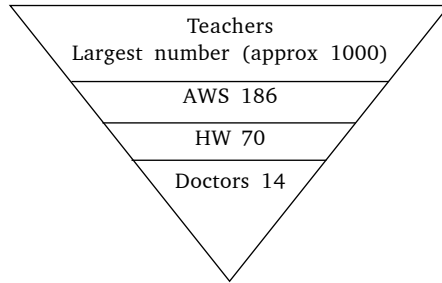
There were 70 health workers, with more female than male health workers. A health worker is expected to cater to 3,000–5,000 people and is expected to work from 9.00 a.m. to 6.30 p.m. Apart from managing PHCs, they work in the areas related to children's health, nutrition, personal hygiene, immunization, identification and treatment of iodine deficiency, survey of pregnant women, mother's health, family planning and report the incidence of communicable diseases. They too faced the problems of poor transport, water and housing shortage, travelling to inaccessible areas and caste bias hampering their work.

There was an interesting anecdote narrated by health workers about their predecessor who had since retired and was very committed to his work. He used to hold health camps in remote areas. He used to go on an elephant, carrying the rations along with him for providing the meals for the participants. He also organized health campus on market days.

It may be seen from the above account that there is already in place infrastructure in health, education and social welfare sectors to provide overall care to all the children, yet none of the agencies work at an optimal level. If the three sectors could network and work together for the comprehensive care of children, it would revolutionize the service delivery to the children in the country. Unfortunately, even the Right to Education Bill overlooks possibility of an integrated approach of the three sectors promotion of overall development of children.

As illustrated in figure 1, the largest number of workers are the teachers coming under the education sector, with more than 1,000 teachers in the *taluka*. The next group consists of *anganwadi* workers under ICDS programme of the Social Welfare sector. Health workers attached to the Primary Healthcare Centres are the next largest group. Doctors are the smallest group in the health sector. All three sectors should liaison towards effective health delivery to the child population.

Figure 1 The Pyramid of Providers of Care for Children in H.D. Kote



Source: Author

EVOLUTION OF THE VARIOUS EXPERIMENTS BY THE AUTHOR AND HER TEAM

Between August 2000 to August 2005, several experiments were conducted by the author and her team in the H.D. Kote region. The first one was a project on promotion of psycho-social development of rural school children in Badiga Matkere (B. Matkere) cluster (2003). There were about 1,200 children, from 15 schools, from classes 1 to 9. There were 41 teachers. The project was funded by National Council of Rural Institutes (under the HRD Ministry at National Institute of Mental Health and Neurosciences, NIMHANS, Bangalore). Details of the study are given in Chapter 4. The next was a project (2002) on Prevention and Intervention of Disabilities of rural children, funded by the Department of the Welfare of the Disabled and Women and Child Development of Karnataka. It was supported by NIMHANS. The project aimed at conducting multi-disability camps to identify and counsel the disabled and to help in providing identity cards aids and appliances to children with multiple disabilities, to train PHC doctors in child mental health and disabilities, to train PHC health workers in child mental health and disabilities and to train *anganwadi* workers in child development and child mental health and disabilities. A brief description of the work is given in Chapter 6.

The third programme (2005) was to evolve innovative approaches for the promotion of psycho-social development of ashram school children. The project covered nine ashram schools and 800 children in H.D. Kote *taluka*. The project was funded by World

Health Organization (South East Asia Regional Office, India) and institutional support was provided by the National Institute of Advanced Studies, the details of which are given in Chapter 5.

It may be seen that through the above three projects an effort has been made to reach out to the child population *directly* in the schools and *indirectly* through teachers, *anganwadi* workers, health workers and PHC doctors. The work allows one to speculate on possible methods of reaching out to the children across age, gender, social and caste divides in rural India. Such work needs to be carried out in an integrated manner with the health, education and social welfare sectors (see for details Chapter 6).

Low cost approaches using the available infrastructure are:

- (a) Direct approach long term—to all children and teachers; is possible only in the school setting.
- (b) Direct short term approach—through camps, but effective only for identification of problems and not follow up.
- (c) Indirect approach—through various cadres of workers in the health, education and welfare sectors.

It is essential in the initial phase to establish contact and seek cooperation of the heads of all three sectors, provide required material in the various settings and cover expenses to be incurred in the camps, training workshops, honorarium, travel and food expenses. In the absence of such networking and support, these programmes are likely to fail as participants simply refuse to attend. The logistics of starting and maintaining these programmes is much harder than what will appear in this account. For example, we had last-minute changes in the venues because of competing programmes thrice on the day of the workshop. The building allotted to us finally had to be swept and the furniture hired. Video demonstration had to be scheduled first thing in the morning when there was electricity. Another time, the CDPO office had forgotten to inform the *anganwadi* workers about the camp. Upon arrival from Bangalore, we had to personally go and pick up all the workers from various *Anganwadis*. However, at the end of the day, all hardships are forgotten and only joyful experiences remain in our hearts. This account simply highlights the difficulties which need to be anticipated and faced by NGOs, researchers and service providers in the rural areas.

Families of the Children of the Forests

We worked in ashram schools in Metikuppe, Bheemanahalli, Penjally, Jakkally, Kibbepura, Channagundi, Dodda Bhairana Kuppe (D.B. Kuppe), Udbhur and educational complex for girls in Udbhur. The ashram schools are located near various tribal settlements. The tribals are also called *girijans* (or forest people). Some of the settlements (or colonies) are government sponsored. Some are partially supported through money or materials like bricks and tiles. Some are not supported and only use of the land is permitted. Some houses are built in encroached land. The following is a brief description, which gives one the flavour of the background from which our children in ashram schools come from.

Much of the literature on tribal children available in the country focus on basic demographic data such as age, gender, years of schooling, socio-economic and occupational profiles of families. One fails to get much of the family, socio-cultural, health aspects of these communities.

The tribals of H.D. Kote were originally dwellers of the dense forests of the vast expanse of reserved forests straddling the states of Karnataka, Tamil Nadu and Kerala on the foothills of the Western Ghats and along the banks of the rivers, Kabini and Nugu. Building a dam across Kabini and shifting the tribals out of the forest, as part of forest protection because of poaching of animals and smuggling of valuable timber like sandalwood, rosewood and teak, caused the tribals to be uprooted from their homes. As a part of rehabilitation measure, they were allotted land, settlements to live in and ashram schools for their children. However, the tribals are mostly unsatisfied with rehabilitation efforts.

Between July 2004 and April 2005, Shri Ranga Naik, one of our field staff with a masters degree in anthropology, a local young man who was comfortable in the tribal communities, started visiting the settlements. He was, of course, helped by the local teachers, community leaders, health workers and village elders in gathering the information.

A STUDY OF JENU KURUBAS (HONEY GATHERERS)

Metikuppe—Most of the tribals who live in this *haadi* (settlement) are Jenu Kurubas. There are three small shops and a teashop in this settlement. All the houses are built close to each other in rows along a narrow road. There is a government *girijan* school and a *shishuvihar* (nursery school) run by DEED agency. A local woman, Tayamma, is in charge of the DEED school, as they call it. She is a smart woman and gave us lot of information about the village. She is paid rupees 500 per month.

There are about 104 families and these are mostly joint families. Two or three families live in each of these small houses. There are about 48 houses constructed with cement, 25 with tile roofs and another 25 thatched huts. The cement houses built more than 20 years back are in need of repairs; they have developed cracks on the walls and leak badly during the monsoons. Five such houses have been abandoned as they are not habitable any longer. The tile-roofed houses are habitable, though the floors are not plastered. There are small and big huts with stone and mud walls and with bamboo and thatched roofs.

There are three bore wells supplying water to the village. Though the village is electrified, houses are not provided electricity as bills are not paid. None of the houses have toilets and people generally use the open ground or the bushes around the village.

Healthcare is adequate. Once in a fortnight, a nurse attends the village. It is 12 kilometres to H.D. Kote where there is a government general hospital. There is bus service on the main road at two-and-half kilometres from the village. Occupations of the people vary a great deal. Some people own and farm on one to two acres of land. Some work on daily wages. Some collect forest produces such as gum, lichen, spices, honey and root vegetables. They sell forest produce and use root vegetables as a staple diet.

Some migrate to the coffee plantations in Coorg or Kerala as plantation labour for the entire season of coffee picking and other seasonal work. Most able-bodied men and women go to work and children and the elderly stay back. Selling forest produce and buying basic necessities is done on Tuesdays in a village shanty in H.D. Kote. There are NGOs working in this region to promote development. They have meetings with tribals to discuss micro-financing, women's empowerment and health issues.

A man nicknamed 'Elephant Dasappa' had earlier offered to tell us all about the village. When we arrived at the village, he was found drunk and elusive when we located him. Instead, the village elder, Kenchappa gave us the information we had sought.

One of the cement houses is used as a temple. A female deity *Venkatamma* is worshipped there. Tayamma's father-in-law Chinnappa gets possessed by the deity and delivers oracles. Once a year, during festival, he gets possessed and slashes himself with a sword kept next to the deity in the temple. Then he brandishes the sword and runs through the village. All the householders pay homage to the goddess with coconut, flowers and camphor. However, Chinnappa himself refuses to talk about it. People also worship other gods like *Nettakallappa* and *Aiappan*.

Marriage ceremony amongst the Jenu Kurubas is a very simple affair. A boy and a girl (usually in their teens) when they decide to get married, simply go into the forest. The boy decorates the girl's hair with flowers and they return as man and wife. They often live in their parental home as they are quite young. In the event a marriage is not a success, either of the partners is free to choose another partner.

The tribals speak their own language. Most of the adults in the settlement are illiterate. Boys generally study up to 5th class. This year for the first time, a boy has completed high school from this settlement. About 23 children study in the higher primary school at Metikuppe; not all the children go to school. Many of them accompany their parents to work or do household chores. When we asked the parents as to why their child does not go to school, they answer indifferently—'He does not want to!'—and they do not force them to go to school. They say—'We did not study, why should they study?' Tayamma comes every morning and collects 6–10 children and takes them to the nursery school. She is interested in running the school. The indifference among people of the village

is not commonly found in our surveys in other settlements. The lack of interest in the school in villagers is compounded by the fact that the primary school in Metikuppe is run indifferently.

When we first began our work in Metikuppe school, our team had to go to the village and persuade children to come to school. Teachers were irregular to school, cooks were indifferent and the meals provided off-and-on and of poor quality. Since there was neither teaching nor meals, both the children and the adults had no interest in the school. Children returned to the school in large numbers after our programme began. Our team, which was disheartened initially, perked up when it found that children came to school because they enjoyed our programmes.

Government benefits—No one in the village gets old age pension or a disability pension. They say they applied for it but did not get it. All pensions are tied up into knots in an enormous ‘red tape’. It is difficult for illiterate people to pursue the matters, deliberately derailed by bureaucratic tricks.

Entertainment—They have no television. Few people have radios. Occasionally they rent a television set and video record player and watch movies all through the night. Children too join in.

Social Concerns of Metikuppe

During our visit in the morning, we found a large number of men and women drunk in the village. We also found many men gambling and playing cards. Unfortunately, they encourage children too to play cards or marbles for money. They are known to get children to bring liquor and give some to the children to drink. One of the boys in our school was found drunk. The team managed to persuade him not to drink. When we visited the village one morning, we found several of the men drunk and gambling.

We observed that the village elders were very poor role models for the children. We found that reports of problems in the children were due to the fact that parents had neglected them totally and the children ran wild wherever they wanted. Our team spent a lot of time counselling parents and children alike about these problems.

We had, for instance, a girl of 5th standard dropping out of school. She had decided to get married to a 15-year-old boy. She

was a bright student. We could not do anything to get her back to school. She was only following her tradition.

When we initially spoke to the villagers we found them constantly complaining about the poor quality of houses built by the government, neglect of the government, poor employment opportunities, of being deprived of forest produce and livelihood, being harassed by policemen, of poverty and not having enough food and about the schools not functioning well. On the whole, their attitude towards life was negative. They said, 'We do not sing and dance like the other tribals,' in a disdainful manner.

The general impression was that sizable members of the settlement were socially dysfunctional. It was interesting to note how this in turn affected the children in the school. Since the settlement was next to the school, all the children came home to sleep after their dinner. The children were often dirty and ill-kempt in the school too.

BHEEMANAHALLI

Bheemanahalli settlement is on the H.D. Kote–Hunsur highway. The people appear to be more modernized in their manner of speaking and clothes.

Twenty eight houses were constructed by the government 20 years ago. Twenty are habitable but not in good condition. Most families are joint families. There are two bore wells. The three main streets are electrified; three or four houses have electrical connection. There are no toilets. Thirteen people have their own four acres of land each. The rest is used for forest-land, cattle and vegetables. As there is a pond, they grow paddy. Most people farm and the others rear and graze cattle. As they depend on farming, they rarely collect forest produces. Several families go for long periods as plantation labourers. For health requirements, they go to government hospital in H.D. Kote, Hunsur or Gurupur are within 15–20 kilometres distance by bus. The Swami Vivekananda Memorial Hospital sends a team of doctors for health check-up every Thursday. The team prescribes medicines, if required. While talking about health problems, a village elder made an interesting observation, 'In the olden days, we had diseases which responded to our traditional medicines of herbs and roots and prayers to our deities. But now

you have new diseases for which you need modern medicines!’ The new diseases are certainly related to fertilizers and chemical sprays. Though the village folk refuse to talk much about traditional medicines, they say that for common fevers, colds, coughs, abdominal pains and skin problems there are excellent remedies. They even have medicines for avoiding pregnancies and inducing abortions.

The original deity of the Jenukurubas in Bheemanahalli is called *Jama*. A young cheerful man in tattered clothes offered to take us to see the *Jama* stone. The village elder Obalayya was very old, almost blind and could hardly communicate. He said that they came to this village from the deep forests about 70 years ago, but could not remember any stories.

Choudayya, our young guide took us round through the entire settlement and introduced us to a large number of people across the hills and fields. The *Jama* stone was located at a distance on a hillock and was under a tree and visible from where we stood. It was very hot and we were exhausted and decided to cut our visit short and return. As we were walking back, it started drizzling—the first rain of the season—ending a severe drought in the region. A villager said aloud delightedly to no one in particular, ‘Oh! The rain gods have opened their eyes!’ Choudayya showed us a spotted deer and a peacock kept as pets by some people. The village has festivities for *Jama* and other Hindu gods, with processions, dances and singing. They do not have television, though some people have radios. Occasionally they rent television sets and watch movies. In fact, they said if we were to give them a day’s notice, they would sing and dance for us. Unlike the Jenukurubas of Metikuppe, here the people were proud of their cultural heritage

Childcare—Babies are given oil massage and bath twice a day, till the age of one and once in three days after that. The new mother is given oil massage and bath once in three days. Babies are breast-fed and supplementary cow’s milk is given, if required.

The boys in the village do not study beyond primary school. But the villagers were proud of one girl who has completed SSLC and has got admission into a nursing school in Mysore. Her sister who had no interest in studying is married at 15 years and already has a baby.

Social concerns—Despite poverty, this community seems psychologically healthier. They encourage children to go to school.

The few who drank and gamble did so away from their houses and kept the children away from these activities. They are a happy community.

The school in Bheemanahalli was run by Mary, a very dynamic and dedicated teacher. She was much appreciated for her commitment to the school and the community. Children got their meals regularly at fixed times, nutritious and varied. School attendance was good. Our team's work was much appreciated by her and she tried to keep up the programmes to the best of her ability.

In the meantime, the teacher and kitchen staff in Metikuppe school were suspended because of pilferage and neglect. Mary was given the additional charge. This caused certain upheavals in both the schools. We saw the changes in both the schools as she had to attend to both. In fact, over these few months, Mary had lost weight and appeared exhausted.

A STUDY OF DODDA BHAIRANA KUPPE (D.B. KUPPE)

Dodda Bhairavana Kuppe or D.B. Kuppe has different *haadies* (settlements) like Aanemale (elephant mountain), Thimmana Hosa Halli (new village of Thimma), Moleyur, Netkal hundi (planted stone) and Dodda Bhairavana Kuppe and Chikka bhairavana Kuppa (big and small *bhaira's* heaps).

When we went to Aanemale *haadi* near D.B. Kuppe, we found that Jenu Kurubas lived here in individual thatched huts, built the traditional way, over large areas of forest land. There were two schools near the road, one primary school and one DEED school. A teacher from the DEED school, a tribal himself, accompanied us. We found an old man fitting a hand-carved wooden handle into a shovel. He was called *kulla* (short one). He was taciturn; refused to speak or to be photographed. There were handmade brooms of some kind of twigs. Most people were out on work on daily wages. The forestry department employs the tribals for digging trenches, fire fighting and several forest development works. We found a man who was cooking in the open. He was mentally ill and probably had affective disorder from the description, had fought with his family and living out in the open. He seemed fairly normal now and said that he plans to go out somewhere else and work and build a house. He showed the ashes of a hut and said, 'I burnt it, I did

not want it. I was angry with my relatives!’ Even a psychotic in the community is allowed to have his independence.

Later we went to another *haadi*. Some of the D.B. Kuppe teachers accompanied us. Some of the children in the D.B. Kuppe residential school had not returned after a long weekend. The teachers wanted to bring them back. D.B. Kuppe school is newly constructed and is very large. The children were moved out of a dilapidated school earlier. But the new school was far away from their homes and not at a walking distance. We went to Hosa Thimmana Halli and a *beda* (hunter) colony and gathered six–eight children and brought them back to school.

Metikuppe, Bheemanahalli, Penjally, Kibbepura and Udbhur, predominantly have a Jenukuruba population.

A STUDY OF KADU KURUBAS

Jakkally has *kadu kuruba* (forest dwellers) population. Jakkally, for example, has six *haadis*. These are Malada *haadi*, Jagankote *haadi*, Kempana *haadi*, Donne Maadana *haadi*, Brahmagiri, Elachikatti *haadi* and Channana Gundi. Following is a description in general about the *haadis*:

They have houses built 10–15 years back and these are not in good condition. These are houses built by Army (9), by the State government (18) and by the people themselves (9). The *haadis* have either bore-wells or water tanks.

There is electricity, but only very few houses are electrified. There are no toilets. Most people in the *haadis* work for forest department. Some work on daily wages on road construction and maintenance. They have community halls where they follow their traditional occupation of making baskets, mats and winnows with bamboo strips or cane. One person prepares the bamboo and the other one makes the basket. These are sold either to middle-men or at the local weekly shanties. They eat root vegetable and greens that grow abundantly in the area.

Health facilities are available in general hospitals in H.D. Kote, Saragur and Beechanahalli primary healthcare centres and Vivekananda Hospital, where they have clinics, mobile dispensaries and ambulances. These hospitals cover large areas including Kibbepura and Channanagundi. The present generation of families

make use of these hospitals if they have any health concerns, during childbirth and family planning. The size of the younger families is two or three, while the older generation families had six to ten children.

The children are given raagi as a weaning food. Raagi is the staple diet which is rich in protein.

The Kaadu Kurubas believe in herbal and traditional treatments for common illnesses. There are two well-known healers. But the secret of the medicines is not divulged to outsiders. It is believed that the medicines lose their potency if the secret is given out. They believe that outsiders try to steal their knowledge. They also believe in possession by spirits. Oracles by spirits are heard with immense faith and their orders are completely obeyed.

Marriage among them is a social affair unlike the Jenu Kurubas. Marriage contract is decided by the family. The chieftain of the village and the boy's relatives go to the girl's parental house and give a saree, bead necklaces and money to settle the marriage. On the wedding day, they give betel leaves and areca nut to each family head. There are 'mage' or clans, which live separately. The relationship between the 'mage' (means children) is like kinship relationships, like father–mother, brother–sister and so on. They cannot inter-marry. For example, some of the mages are—Kalkar, Jirgal, Kanmin, Bailmajal, Bagler and Tirumangal.

Each *haadi* has a leader. No one is permitted to move away or into the *haadi* without his permission. A person moves into a *haadi* by planting a gourd in the garden which is symbolic of belonging to the *haadi*. So there are rules of endogamy and exogamy and marriages are family affairs unlike the Jenu Kurubas, with whom it is an individual decision, even for the very young.

Pattern of Worship

Each mage has its own deity deep inside forests. They have yearly festivities and rituals related to these deities or their original gods. These do not belong to the Hindu pantheon of gods. The Kadu Kuruba deities have their own legends and rituals. The older generations have visited these deities and know the stories and songs. The younger generations have had no access to the deities, which are deep inside the forest in Karnataka and Kerala, and far away from their settlement. The forestry department does not

permit people to enter this core area as part of forest protection. They also, in addition, worship the Hindu gods. Some of the tribals have also been converted to Christianity, in these areas.

Death ritual—The dead person is buried in his own property. But the chieftain of the *haadi* has to supervise the burial. He has to clear the place and indicate where the body should be buried. They believe that the dead person's spirit hovers around for ten to twelve days after death, before going to hell or heaven. It has to be decided whether the person had a natural death or he was killed. A 'spirit' is invoked through 'possession' to settle this matter. The person who died an unnatural death has to be cremated. The tribals truly believe in these oracles and the supernatural forces.

Kadu Kurubas want their children to be educated so that they can manage their own affairs and find better occupations. They are happy with the ashram schools. However, when they go for seasonal plantation labour, they take their children with them. This causes break in the schooling and at times, even dropping out of school. It can be seen that in the catchment areas of the nine ashram schools, the majority of them are Jenu Kurubas and the next group is Kadu Kurubas, with their distinct language and cultures. Along with them, small communities of Erava, Bovi, Lambanis and Bedas are found.

The main tribal groups of Jenu and Kadu Kurubas differ in the following:

- (a) Language
- (b) Occupation
 - (i) Traditional (different forest produce gathering, basket making)
 - (ii) Current (daily wages or plantation labour)
- (c) Marriage rituals—individual choice in the Jenu Kurubas; more family oriented and social in Kadu Kurubas.
- (d) Endogamy—Exogamy (marriage within or outside sub-group)—formal social rules are followed among the Kadu Kurubas.
- (e) Educational aspirations more in Kadu Kurubas.
- (f) Worshipping old forest deities is more common in Jenu Kurubas.
- (g) Health practices, more access to and use of modern medicine in Kadu Kurubas. But both Jenu Kurubas and Kadu Kurubas

believe in traditional methods of healing, both herbal medicine and ‘shamanism’—possession by the deities.

Both the Jenu Kurubas and Kadu Kurubas now are transitional societies. Despite not having an access to television, they rent television sets and watch movies whenever they can. NGO efforts in the area have had their impact on health practices, schooling of girls and developmental work.

Working with Rural School Children

The objective of the programme was to evolve and evaluate the promotion of psycho-social development of rural school children. The interventions carried out elsewhere in the country are mostly segmental in nature and attempt to enhance the performance in the curricular subjects. The programmes pay scant attention to evaluating the effectiveness of programmes. The present work adopts a comprehensive approach for the promotion of all the domains of development such as cognitive, language, emotional, social and creativity. It also aims at objective evaluation of the outcome of the intervention using psychological tests (For those interested in the statistical aspects, tables are given in Appendices I and II). As the programme covers all the children in target population, it is termed as universal intervention.

PROMOTION OF PSYCHO-SOCIAL DEVELOPMENT OF SCHOOL CHILDREN IN GENERAL AND COGNITIVE STIMULATION IN PARTICULAR

Promotion of psycho-social development consists of:

- (a) Promotion of healthy motor, cognitive, language, emotional, social, moral and sexual development of all the children in 15 rural schools.
- (b) Promotion was conducted through child-friendly approaches using free art, craft, play, games, sports, stories, songs and dances.

- (c) Enhancement of basic skills in reading, writing and mathematics is expected to occur as an outcome of the above two factors.
- (d) Different individual and group activities were provided appropriate for younger and older children.

The project was carried out between August 2000 and April 2003. It covered 15 schools in the B. Matkere cluster of the 19 school clusters in the H.D. Kote *taluka*, of Mysore district in Karnataka. It is one of the backward areas catering to the Schedule Caste and the tribal population in the dense forests of Western Ghats. The number of children covered was 1,200, studying in the first to the tenth standards. The number of teachers was 41.

Two aspects of the school population were studied. The first one was to evaluate the impact of an *intervention programme on the psycho-social development* of the children and the second was to *assess the mental health status* of the children.

Promotion of Psycho-Social Development of Children with Focus on Cognitive Stimulation

Working with children in small groups, for *an hour each day of the week*, the stimulation programme consisted of a package of activities which adopted a child-to-child approach. The programme made use of play, games, artwork, 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 and 'life skills' education with older children were carried out. The programme was carried out with the involvement of teachers, villagers and older children teaching young children. These activities have been documented on videotapes and manuals in Kannada, English and Hindi (Kapur and Uma, 2006) for future use in other schools elsewhere in India. The detailed description of the activities is given in Chapter 9.

Psychological Assessment of Children before and after the Intervention Programme

The children were assessed on the following tests, according to their ages:

- (a) Seguin Form Board (SFB) (Cattel 1945) to assess the *intellectual functioning* of younger children in class 1 and 2. The test consists of a Form Board, with nine shapes to be placed in the appropriate slots. Correct placement and speed of performance are given higher scores.
- (b) Colour Cancellation Test (CCT) (Kapur 1975) to assess *attention and concentration* for the younger children in class 1 and 2. A sheet of paper containing coloured round spots is given and the child has to mark one or two specified coloured spots within one minute.
- (c) Number cancellation (Kapoor 1974) to assess *attention and concentration* in the older children from class 3 to 9. In this test, a record sheet containing different numbers to be cancelled is given. The child has to cancel one or two numbers within a minute.
- (d) Raven's Progressive Matrices (standard and coloured versions for children and adults) (Raven 1956, 1965) to assess *intellectual functioning* of children from class 3 to 9. The test contains a booklet with 36 designs to be completed, with one missing piece. There is no time limit.
- (e) Vocabulary Test (WISC Modification, NIMHANS, 1991) to assess *language functions* of children from class 3 to 9. A vocabulary test standardized on children in class 1–7 in Kannada medium schools of Bangalore.
- (f) Arithmetic Test (Shoenell modified, NIMHANS SLD Battery, Kapur et al. 1991) to assess *arithmetic skills* of children from class 3 to 9, standardized for class 1 to 5 children in schools of Bangalore.
- (g) Test of Creativity of Kogan and Wallach (Indian adaptation by Mehdi 1972) to assess *nonverbal creativity* of children from class 3 to 9. It contains simple designs, such as a squiggle to be elaborated by the children.
- (h) Rutter's Child Behaviour Questionnaire—Proforma A and B (Rutter 1967) is a rating scale for teachers to assess *scholastic and behaviour problems* of the children from class 1 to 9. There were nine questions on scholastic and 26 on behaviour and emotional problems.

Of the above tests, only Seguin Form Board and Colour cancellation tests could be administered to the children in class 1

and 2, as they could not comprehend the instructions for the other tests.

As the children were first generation literates, for those children in first and second standards, other tests could not be administered. Their skills in reading and writing were exceedingly poor. They could not understand the instructions as they spoke a different dialect at home.

Raven's Progressive Matrices (coloured) was administered to children in classes 3 to 7 and Raven's Progressive Matrices (standard) to the children in class 8 and 9. The other tests administered to the children from classes 3 to 9 were vocabulary, arithmetic and creativity tests.

The inability of the younger children to comprehend even the tests meant for their age group was a problem leading to inadequate baseline assessment of the younger children in the study.

UNIVERSAL INTERVENTION

We worked with all the children and that is why it is called universal intervention. We will now describe how we began the programme and proceeded.

Our programme was successful because of the commitment of Kenchmairah, the Block Education Officer and some of his teachers dedicated to providing quality education to the children in their schools. Programmes such as ours often fail because of lack of interest amongst educational authorities. One of the 19 clusters of schools, namely the Badiga Matkere cluster was taken up at his behest for the project. H.D. Kote town is at 240 kilometres from Bangalore, the capital of Karnataka. B Matkere is at a distance of 26 kilometres from the *taluka* headquarters at H.D. Kote. The town and the villages around are connected by very few bus services. Each of the clusters of schools was monitored by a teacher, designated as the Cluster Resource Person (CRP). The project was co-ordinated with the help of the CRP of the cluster, the BEO and the headmasters of the 15 schools in the B. Matkere cluster. The schools had also adopted the DPEP programmes of the government and adopted a progressive methodology of learning termed *nali kali* or joyful learning. Our programme commenced in August 2000 and ended in April 2003, with stoppages over vacations and

holidays, including enforced holidays during the bandit Veerappan's kidnap episode.

Universal intervention was carried for about 1,200 children. 1,088 children were tested before and after our programme. The fact that the outcome data is available for 90 per cent of the sample is indeed a remarkable achievement in an intervention study.

DESCRIPTION OF THE FIFTEEN SCHOOLS IN MATKERE CLUSTER

Nine schools were single-teacher schools with only *lower primary* classes. The total number of children was 246. These were from—Kandalike, Hirehalli, Hosakote, SC Colony, Ashramashale (BM), Nimmanahalli, Bhavikere, Nadahadi and Koodige. There were four *upper primary* schools with four teachers each. The total number of children was 491. These were from Badiga, Bankavadi, Devalapura, Kadabegur and Moleyur. The B. Matkere High School had primary to high school classes, with five teachers in the high school and seven in the upper and lower primary sections. The total number of children was 351. However, currently the number of children in the high school section has doubled.

Most of the children belonging to the upper castes in the community opted for private schools, while the rest attended the government schools. Only B. Matkere School had high school section for the entire cluster. The rest were lower and higher primary schools. However, there was a private high school close-by.

Children were taken up for the programme from one school after the other in a staggered manner from each of the 15 government schools. Once the programme was completed in a school, they were followed up in a regular fashion whenever possible and when the team was in the vicinity.

PSYCHOLOGICAL ASSESSMENT

Assessment in the 15 schools was carried out in the following three segments:

- (a) Classes 1 and 2
- (b) Classes 3 to 7 and

- (c) Classes 8 and 9,

as each of the age groups required different tests.

Children were assessed *before* and *after* the intervention programme. The children were assessed on the following tests. These tests were mostly administered individually for the younger children and in small groups for the older children. A complete assessment took about three hours to complete for the older children.

Children in Classes 1 and 2 were Individually Administered

- (a) Seguin Form Board (SFB)—to assess the intellectual functioning and form perception. The forms have to be fitted on a Form Board as quickly and correctly.
- (b) Colour Cancellation Test (CCT)—once to assess Single Colour Cancellation to study the attention for a simple task and once again Double Colour Cancellation to study the attention and concentration for a more complex task of cancelling two colours. Many children could identify the colours as different, though they could not name them. Both the tests assess attention and concentration on simple and complex tasks, within the time limit of 60 seconds.

Classes 3 to 7

- (a) Number cancellation (Single and Double Number Cancellation)—to study attention and concentration for simple and complex tasks. The children had to cancel one or two numbers.
- (b) Raven's Progressive Matrices (Coloured)—the test has 36 designs to be completed and assesses intellectual functioning and reasoning, especially synthetic and analytic abilities. Higher scores indicate better performance.
- (c) Arithmetic test with single digit addition, subtraction, simple division and multiplication, double-digit addition, subtraction, division and multiplication, along with fractions (up to grade 1 level).
- (d) Vocabulary test with 10 designs.
- (e) Test of creativity with 10 designs.

Classes 8 and 9

- (a) Number cancellation.
- (b) Raven's Progressive Matrices (Standard) with 60 designs.
- (c) Arithmetic test.
- (d) Vocabulary test.
- (e) Test of creativity.

In view of the different age norms, three sets of tests had to be administered separately to the children, consequently, the data were analysed in the three categories separately. Children in class 1 and 2 could not be combined with the rest, as they were administered fewer and different tests.

The testing was repeated for all the three groups after approximately two months of universal intervention, in order to assess how *effective* the intervention was. Only those children who had both *the assessments before and after the interaction* were included for the analysis of the results. The total number of children who were given the intervention was 1,200. About 1088 Children who had (a) both, the pre and post assessments and (b) on the same tests; were included for the analysis.

The intervention programme is described briefly here as its details are provided in Chapter 7. The intervention was to promote psycho-social development of the children and had activities to enhance the following areas of development. As mentioned in Chapter 2, the methodology was holistic covering all the domains, was child-centred and mainly through play.

MOTOR DEVELOPMENT

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

LANGUAGE DEVELOPMENT

Activities for the promotion of speech and language skills, through word games, story telling and enactment, story building, singing and so on.

DEVELOPMENT OF NUMBER CONCEPTS

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

DEVELOPMENT OF INTELLIGENCE

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

DEVELOPMENT OF CREATIVITY

Child-initiated art and craft work, with inexpensive and locally available materials, painting and drawing, both for individual children and in groups. These followed free art education model rather than copying and following instructions as to how to do something.

PERSONALITY DEVELOPMENT

Personality development and life skill education (Hendren et al. 1994) (promoted by the WHO) were used for the high school children. The 10 life skills were—decision making, problem solving, creative and critical thinking, effective communication and interpersonal skills, empathy and self-awareness and coping with emotion and stress.

IN GENERAL THE APPROACHES USED FOR ALL THE DOMAINS WERE AS BELOW

- (a) They were flexible.
- (b) They were continuously examined through observational methods, responses of children and reactions of teachers and formal testing.

- (c) Changes and new activities were included as and when they were thought necessary.
- (d) Age appropriate tasks, with simple tasks, were given to younger children and tasks were more varied and complex for the older children.
- (e) All tasks were carried out through *play, games, art, craft* and *drama* and not through formal lessons.
- (f) Tasks were initiated and managed by children, while the team remained as enthusiastic catalysts.
- (g) Most of the materials consisted of natural, locally available and inexpensive ones. Sports equipment, games and stationery were donated to all schools, as the schools had hardly anything. The cost of the materials for each child worked out to be approximately rupees 100 to 120. This cannot be considered a large sum in view of the gains made by the children.
- (h) An attempt was made to promote physical, cognitive, language, arithmetic and creative skills, along with personal and social skills. The most important aspect was that the children enjoyed the activities and considered it 'fun time' as the activities were child friendly.
- (i) The final aim was to promote psycho-social development through the above mentioned methods.

The activities were carried out from Monday to Saturday, an hour a day. The time was allotted by teachers according to their convenience. It could be in the morning or in the afternoon. It was ensured that our programme in no way interfered with the regular classroom routine. The intervention was carried out for each of the classes in each of the school in a staggered manner. Each child was exposed 20 to 25 sessions, sometimes even more. The activities were carried out by field staff. Even when the teachers were busy or unavailable, some of the village adults who volunteered or older children were made to help out.

SAMPLE DESCRIPTION

The number of schools in the study was 15. The children were studying in standards first to ninth. Children in 10th standard were

not permitted to participate in the programme, as they were due to face the public examination, that is, SSLC. In these schools the medium of instruction was Kannada with English and Hindi as other languages in the higher classes.

There were 517 boys and 571 girls. The ratio of boys and girls was almost equal.

THE DISTRIBUTION BY CLASS IN PERCENTAGES

Class 1 7.44%

Class 2 9.83%

Classes 3 to 8 between 10% and 17%

Class 9 had only 3.22% of students.

OUTCOME OF INTERVENTION

The performance of children on the psychological tests before and after intervention was compared and statistically examined to find out whether the differences were significant. Both 't' statistics and 'effect size' which is specially recommended for intervention studies were used.

Comparison of Results 'Before' and 'After' Intervention

Results are being described separately for the three groups (see Appendix I for the tables).

- (a) Classes 1 and 2
- (b) Classes 3 to 7
- (c) Classes 8 and 9

Classes 1 and 2 (Age 6 to 8 Years)

The total number of children was 188.

The results (Appendix I, Table 2a) indicate that the programme has been successful in enhancing the accuracy of simple and complex attention and intellectual functioning.

Classes 3 to 7 (Age 8 to 12 Years)

Effect of intervention on pre and post assessment of children in classes 3 to 7 (Appendix I, Table 2b). The total number of children was 753.

The number of children for each of the tests ranged between 606 and 632, with the exception of creativity test where it was 355 (Appendix I, Table 2c).

On the tests of *attention*, *intellectual functioning*, *arithmetic*, *vocabulary* and *creativity*, their performance improved significantly.

Class 8 and 9 (Age 12 to 16 years)

The number of children was 147, with 112 in class 8 and only 35 in class 9.

The eighth standard children showed significant improvement in *attention*, *intellectual functioning*, *arithmetic*, *vocabulary* and *creativity*. Performance of class 9, with only 35 children, revealed that on the tests of intelligence and creativity, they showed significant improvement. They actually showed decline in attention (simple) which was due to reasons other than genuinely poor attention. This was substantiated by the fact that their attention (complex) improved significantly. The results show that the ninth graders had a somewhat casual attitude towards testing when compared to the eighth graders who showed significant gains.

Did the intervention have a real impact? This was answered with a definite 'Yes'.

A small sub-sample of 200 children, with children in class 1 to 8, was taken to examine:

- (a) Whether the improvement was due to the programme?
- (b) Whether it was due to the practice effect of taking the tests twice?
- (c) Whether it was due to the time lapse of two to three months?
- (d) Whether it was due to the normal teaching practices in these schools?

This was done by repeating the tests after three months *without* intervention. It was found that there was no difference in the test scores (Appendix I, Table 3). This clearly demonstrates that

the improvement in the children was entirely due to our intervention. *For ethical reasons*, these children were given the intervention and the third set of test scores showed improvement that was similar to the original sample.

This successfully countered the argument the teachers had offered that they were already familiar with the methods of joyful learning, as they were all trained under the DPEP programmes.

Age Trends

The children in class 1 showed more improvement than class 2 children (Appendix I, Table 4a).

Compared to the children from third to seventh standard, for the children in the eighth standard, the improvement occurred to a larger extent with the exception of arithmetic and vocabulary. This may be due to the fact that the tests were too easy for the eighth and ninth standard children (Appendix I, Table 4b). The age trends show that the baseline performance gradually improved as seen on the pre-assessment, on all the tests. This also supports the contention that the tests were sensitive to age-related changes. When each class was examined separately, class 5 showed less improvement on intellectual functioning than the others; and class 7 showed maximum improvement in vocabulary and creativity compared to the others.

Gender Trends

Girls in class 1 and 2 showed significant gains in the intellectual functioning but none in attention skills (Appendix I, Table 5a & 5b).

Boys and girls in classes 3 to 7 showed similar improvement, with the exception of creativity scores. Boys had higher baseline in creativity while girls showed greater improvement, indicating that girls were benefited more by the activities (Appendix I, Table 5c & 5d).

Boys in eighth standard improved on all the tests to a lesser extent on attention (complex), arithmetic and vocabulary, compared to creativity and simple attention tasks. However, girls showed significant improvement to a larger extent on intellectual functioning and attention (simple and complex). The older girls gained on intelligence, attention and creativity, but not on academic

skills. The analysis by gender was not carried out for the ninth standard as it was a very small group (Appendix I, Table 5e & 5f).

To sum up, the study indicates that the intervention was generally effective, though in varying degrees, across tests, age and gender. The improvement occurred in attention, intelligence, creativity, arithmetic and vocabulary in most of the children. The study demonstrates that promotion of psycho-social development and cognitive stimulation can be effectively carried out in rural schools. There is however, a scope to improve the programmes by attending to the specific needs of the very young and the adolescents and those in-between. Gender sensitivity in designing programmes, especially for the girls needs to be incorporated.

TESTS AND RURAL CHILDREN

We observed that children in class 1 and 2 could not comprehend much, except for the simplest of tests. Tests for assessing arithmetic and vocabulary had to be specially designed for them. In addition, conventional intelligence tests like Progressive Matrices were too difficult for them.

Are intellectual functions as measured by conventional tests of intelligence, developed in the West like the Raven's Progressive Matrices (RPM), applicable to the rural schools?

The baseline and post intervention percentile scores of the children in classes 3 to 7, were compared to the percentile norms developed by Barnabas et al. (1995) for the urban school children in the age range of 7 to 11 years. The children were studying in the English medium schools in Bangalore. The following profiles emerged:

- (a) Class 3—changed from 5th to 10th percentile
- (b) Class 4—changed from 5th to 10th percentile
- (c) Class 5—changed from 10th to 15th percentile
- (d) Class 6—changed from 30th to 40th percentile
- (e) Class 7—changed from 40th to 55th percentile

The above results indicated that the performance of the children on RPM (Raven's Progressive Matrices) before and after the intervention was far below the average. In class 5, it was marginally better. However, in the class 6 and 7, it was in the

average range. It is of course, not fair to compare the performance of English medium children of urban schools to that of children in rural ones.

If RPM is culture-free, no child with average milestones of development could fall in the defective range. If intelligence is stable, no intervention can produce positive changes over such a short period of time using simple child-friendly activities which move the performance to a higher percentile range. However, the fact remains that the performance changed for the better in the region of 5 to 15 percentiles, with the extent being largest for the oldest children in the group.

Though the level of intellectual functioning measured on Raven's Progressive Matrices was supposed to be *culture free* or *culture fair* and was expected to be stable, neither of the claims were borne out by the present study.

Use of Western tests and methodologies are very common in the fields of education and psychology. This study should be an eye opener.

Thus, when people use tests developed in the West for Indian children in the government schools, in the urban or rural areas, there is a great need to exercise caution in interpreting the results. Otherwise, one may end up labeling most of the children as intellectually disabled or retarded.

A CASE STUDY OF A SCHOOL

When we visited Nimmnanahalli School in the beginning of our study, we met the teacher Shri Krishnappa, a young man of great commitment and empathic way of dealing with children. There were two classrooms and only one teacher for about 70 children.

The children were doing very well. The school authorities and people of the village recognized his effort. He was a bachelor and lived in the village. As the results were good, more children came to the school from distant villages. The number of children doubled and the school became unwieldy despite another teacher being deputed to the school. Meanwhile, Krishnappa got married and lived somewhere else as his bride could not share the accommodation in the school premises in the little village. He also got transferred and soon enough, the school reverted to what it was

before Krishnappa took over. The system set up by us was not dependent solely on the teacher. It could be managed by the children themselves or the villagers and thus can be continued even when the teacher is absent or transferred. Of course, the next teacher should view the programmes favourably. The system could remain in place if all the teachers had an exposure to child-friendly approaches.

CHILDREN WITH MENTAL HEALTH AND LEARNING PROBLEMS

The class teachers were requested to rate the children in their classes on the Proforma A and B of Rutter's Child Behaviour Questionnaire (1967). Proforma A has questions about the child in schools with regard to academic and other related behaviour. Proforma B has 26 items which can be rated as conduct or neurotic if the child scores above nine points. In the present study, 1,088 children were rated on the Rutter Child Behaviour Questionnaire and 47 were found to have behaviour and emotional problems. This gave a prevalence rate of about 5 per cent, which though on the low side, was as per expectations. These children were examined in detail on the Developmental Psychopathology Check-List (DPCL), (Kapur 1995) (Appendix III) and counselled to the extent possible.

Remediation of Children with Learning Difficulties in a School

A case study of Nadahadi School illustrates some of the work we did. The lone teacher of Nadahadi School had complained that most of children were academically backward in that school. They were administered the NIMHANS Specific Learning Disability Battery—to examine the profile of academic skill deficits.

Of the 41 children in Nadahadi School, 26 were reported as academically poor. Among the 26 children, 10 children in classes 1 and 2 were functioning at less than class 1 level, four children in class 3 at less than class 2 level, six children in class 4 at less than class 3 level and six children in class 5 at less than class 4 level. Their poor performance ranged mostly between 75 per cent to 100 per cent in reading, comprehension, writing (copying), writing (dictation and spelling). However, with special remedial work, the group as a whole improved to a remarkable extent.

The above description indicates that the children were indeed very poor in their academic skills. Special programmes were conducted to carry out the remediation. It was observed that the pupils improved a great deal on all the skills. Poor performance was because of poor infrastructure and irregular attendance of the single teacher. Often, our programmes were conducted on the veranda and the courtyard of the school as the school stayed locked due to the teacher's absence. We had experimented with the 'top down' system of reading specially-prepared primers depicting a story based in the rural India and over few sessions, the children picked up the reading skills with great ease.

Sometimes the local villagers helped us in conducting programmes, especially when the teacher was absent. Sometimes the older and brighter children were put in charge of the younger ones in small groups. Villagers were always in attendance, observing the activities with keen interest either from a distance or outside the classrooms. They seemed to appreciate the fact that children were enjoying it. At the end of the special programme of remediation, the Nadahadi children showed enhanced academic skills and motivation to learn. The entire programme was conducted by two psychologists in the first half and one psychologist and two local field workers in the second part of the project. The headmasters and teachers reported that the children were more interested in learning after the programme.

CONCLUDING REMARKS

It is widely acknowledged that a significant proportion of children from under-privileged backgrounds either dropout from the school before they reach class 5 or learn very little even if they continue. Ramachandran (2003) has provided a comprehensive review of work carried out in India to address the problem by the governmental and non-governmental organizations (NGOs). According to her, the following are the main short-comings of these efforts.

Absence of documentation of these innovations in a quantitative manner and evaluation, though valuable insights through narratives and qualitative profiles have been provided. In short, the paucity of 'hard data' is a matter of concern. *In the present study, both qualitative (video documentaries) and quantitative data based*

on psychological assessment and evaluation of the outcome of interventions are provided.

Though there have been several successful pioneering experiments, their sustainability in the long run has been doubtful. *If the present methodology is incorporated into the regular school curriculum with one hour per day on all the days of the week through the academic year, it can be integrated into the school system in a sustainable manner, as it is a child-to-child programme.*

The innovative approaches have not been integrated in the national context of education. Thus, the mainstream education is unaffected by these pioneering efforts. *In the present study, efforts are made (a) to video-document and produce simple manuals which can be introduced into dysfunctional, mainstream schools if there is 'political will' do so (b) attempts are also made to liaison with educational, health and welfare sector to provide an integrated approach to child mental health and child development.*

During the course of our work we had observed that teachers had received extensive training in DPEP methodologies which were similar to that of ours to a large extent. But the fact that children in the primary schools fared very poorly was borne out by our own experience. Some comparison of approaches adopted by the teachers and adapted by us is given below.

We *refrained* from hurrying the children towards a goal, instructing, guiding, criticizing, censuring verbally or behaviourally, interrupting in what the child was engaged in and asking 'why have you drawn or done this?' We did not set any goals to be reached. We did not instruct or criticize either by how we spoke or behaved. We did not interrupt in the child's ongoing activity. We did not ask why have you drawn this or done this.

The key difference was that teachers looked down upon children and their potential for learning and creativity and believed that they could not be independent. The teachers firmly believed that only they had the knowledge and techniques and that only they could hand down to the children. It was always unidirectional—from the teacher to the child. We attempted to reverse the process. We believed that children were their own sources of creativity. The teachers should be observers and catalysts, not instructors.

Despite the improvement in most of the schools, the tribal schools did not fare well. Hence there was a need to examine the special needs of the tribal children in the residential schools.

Working with the Tribal Children in Ashram Schools

It has been described in previous chapter in our work with the rural school children that we had found that tribal children had failed to show the improvement demonstrated by the rest of the children. The earlier experience had also highlighted the need to have more suitable tests for younger children. We also decided to add a component of memory functioning to our array of tests. It was felt that one needed to work with tribal children in a way that *appealed to them*, taking into account *their background and culture*. It was observed by us earlier that they needed longer time to warm up to us and feel comfortable in a learning situation. They needed more encouragement for them to express their thoughts and feelings freely. They were yet to feel comfortable with the language or the medium of instruction, which in the present case was Kannada. The fact that the teachers routinely used the *stick* as a teaching aid did not help! The tribal children were not at all aggressive. They were in fact most friendly once they got to know you. Initially, they were anxious and fearful of strangers and their teachers. The teachers themselves acknowledged that they often punished the children because they were poor learners. Hence the present study.

The overall aim of this study was to create a comprehensive model for promotion of psycho-social development and strategies for meeting the mental health needs of primary school children in the ashram schools in Karnataka.

The specific aims were as follows—(a) Exploration of the reasons for poor learning environment for children in ashram

schools. Family interaction and the conscious as well as unconscious factors towards promotion and hindrance of the psycho-social development was to be studied. This part of the work was carried out using qualitative methods.

Development and evaluation of models for the promotion of psycho-social development of tribal children and testing of their efficacy using quantitative methods.

An ethnographic study was carried out with a few chosen tribal families in the H.D. Kote *taluka* of the Karnataka State to examine interaction patterns and the methods they employed for the psycho-social development of their children. The networking of these people with the health, welfare and education sectors was examined. Intervention strategies in the light of the above exercise were added to the programmes already developed for the promotion of psycho-social development with 1,200 children and these were carried out in the nine ashram schools in the area. The pre and post intervention assessment was conducted through psychological tests. Children were screened for academic and mental health problems based on ratings given by teachers on the Rutter's Child Behaviour Questionnaire (1967). Those found to be disturbed after a detailed examination by the team were offered appropriate help. The programme aimed at 'universal intervention' of approximately 800 children in these nine ashram schools and provision of special interventions for those who required it.

From June 2004 to April 2005, stimulation programmes were provided in the nine schools to promote their psycho-social development. Psychological assessment of 510 children was carried out before and after the programme. Children with mental health problems and disabilities were identified and managed. Networking with the health, education and welfare sector workers was carried out to facilitate the intervention. A three to five month follow-up was conducted in five of the schools in a staggered manner to evaluate the efficacy and sustainability of the programme.

In June 2004 when we went visiting the nine Ashram schools in H.D. Kote *taluka*, it took us three days. These schools were located in three different directions and 20–30 kilometres away from the *taluka* headquarters. We obtained permissions from the Director of the Social Welfare Board, Anand and the Block Education Officer, Maimunnisa Begum to start the project. The ashram schools are run jointly by the Social Welfare and Education

Departments. The main responsibility rested with the Social Welfare Board. Consequently, some of the funding towards programmes by Sarva Shiksha Abhiyan was not made available to the ashram schools. On the other hand, there are NGOs that deal with development and health and often work exclusively with the tribals. These were the positive and negative aspects in the collaboration between the two departments.

When we first began our programme, each of the ashram schools, no matter how many children were there in the school, had only two or at the most, three teachers. One was a permanent teacher appointed by the Social Welfare Board and the other was deputed from the education department, often a reluctant one. The ashram schools were expected to provide three meals a day namely, breakfast, lunch and dinner to all the children. They also had to take care of sleeping, bathing, dressing and health care arrangements of the children who stayed in hostel. In addition to health problems, home visits for the children too had to be arranged. The ashram schools teachers were mostly involved in getting the rations, getting meals ready and serving the children. At that time, in fact, the cooks outnumbered the teachers! The cooks were often local people, men or women of limited education. If they were educated, they often helped in running the classrooms. In the absence of the cooks, teachers had to take additional responsibility of cooking the meals. The quality of food varied depending on the interest of the teachers and cooks. As described earlier, poor running of the kitchen often led to absenteeism and dropouts. A good number of children came to the school only to get three square meals a day.

The Social Welfare Board spends the following amount of money for each child in the ashram schools:

- (a) Food and other incidentals expenses—rupees 350 for 10 months a year
- (b) Uniforms—rupees 250 per year
- (c) Books—rupees 40 per year

The total expense per child per year is—rupees 3,790.

Obviously rupees 40 for the entire year for stationery, pencils and notebooks is too meagre by any stretch of imagination, especially these days. Thus, when the demon of corruption enters, it cuts mainly into food supplies to the children.

Some schools were given part of the equipment for a school band; some were given books or some were given equipment by the social welfare and education departments or the NGOs. But often these were one-time donations. The teachers were expected to account for these consumable materials. Often materials either stayed unused, under lock and key, or unusable or not replenished either wholly or partly. In reality, in all the schools, children hardly had anything except the meals. Few schools had some display charts and black boards.

But things changed overnight in July 2004! The Social Welfare Board through some NGOs hired about 50 temporary untrained teachers (para teachers) on an ad hoc basis for the year 2004–05. Some of the young, spirited teachers turned out to be a boon to our programme. They were happy to learn new skills of working with children. Many of them were tribals, though not very expressive for us, turned out to be very good teachers for the young tribal children. Sometimes the Social Welfare Board was indiscriminate in the deployment of teachers to various schools. For example, they allotted eight teachers to a school with two classrooms and 55 children. There was neither space nor any work for such a large number of teachers in the school. Naturally they took leave by turns and stayed away! Such problems arise out of the fact that these schools are situated far out from the headquarters connected by very bad roads and poor transport service. Sometimes, even impassable during the heavy monsoons. None of the Social Welfare Board and education department members have visited some of these schools *even once!* For many of the administrators, these schools were only a reality on paper!

On the whole, in the ashram schools of H.D. Kote *taluka*, the teacher-pupil ratio had become satisfactory upon the employment of the temporary teachers. Yet the fact that they were appointed as temporary staff meant that their services would be terminated in April 2005 and none of them knew whether they would be reemployed in the next academic year. This obviously led to financial insecurity.

The intervention programme began in July 2004 and was completed in April 2005. Four teacher workshops too were held in the same period. The assessments and interventions were carried at somewhat the same way as described in the previous chapter, but with some differences:

- (a) The research team was given fairly extensive training in concepts of child development from the perspective of developmental psychology and practical aspects of child-centred methods. Their work was supervised formally and informally, both in the assessment procedures and intervention techniques. The rationale for the techniques was explained in great detail. It was as if the team had training workshops. The team consisted of four field staff, all of them *local people*—one young lady and three young men with Masters or B. Ed. degrees. One had to be replaced midway as he got a better job but another young man was recruited a month earlier so that the transition was smooth. There was a psychologist, a post-doctoral scholar in charge of the team. Geetha was the mainstay of the project, as she had been part team of the earlier projects and was as involved in the work as I was. Our earlier experience showed that often the researchers from the cities fail to function as effectively as the local people. The local young field workers did not mind walking or commuting long distances, erratic and bad meals and inclement weather as they were used to these problems. They were also used to the wild animals, especially elephants chasing the vehicles, snakes on road and resting in the car, breakdown of vehicles, torrential rains and muddy roads. In our earlier project we had the bitter experience of rapid turnover of city-based field workers!
- (b) The teachers had training workshops, viewing of video documentaries of work in B. Matkere and some of the recordings of the programme in their own schools and had a chance to have discussions and feedback. We had lectures and discussions on particular topics in the teachers' workshop. We also showed video documentaries on the programmes in their own schools and got feedback on our own inputs. Whenever they asked for additional help, it was given. For example, Ranganaiik worked for an extra two months in Penjally School, as the school had requested for it.
- (c) In addition, efforts were made to visit tribal colonies and establish a liaison so that we could understand the background of the children and provide linkages between their schools and their homes.

PROMOTION OF PSYCHOSOCIAL DEVELOPMENT OF CHILDREN THROUGH COGNITIVE STIMULATION

Working with children in small groups, for an hour each day of the week, the stimulation programme consisted of a package of activities, which adopted a child-to-child approach. The programme made use of play, games, artwork, 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 and 'life skills' education with older children were carried out. The programme was carried out with the involvement of teachers, villages and older children teaching young children. These activities have been documented on videotapes and manuals (Kapur and Uma 2006) for future use in other schools elsewhere in India.

ASSESSMENT OF MENTAL HEALTH AND ACADEMIC DIFFICULTIES THROUGH THE TEACHERS

For the Teachers to Screen the Children for Mental Health Problems

- (a) Children's Behaviour Questionnaire: Proforma A and B (Rutter 1967) for screening of children as rated by the teachers for the school-related and behaviour problems.
- (b) Developmental Psychopathology Checklist (Kapur et al. 1995) for detailed evaluation of the children identified as disturbed by the teacher or parents.

The first test was administered to the teachers to obtain their ratings for all the children. The second was administered to those who scored above the cut-off point 9 in Proforma B and was administered to the parents of the children identified in the first test.

ASSESSMENT OF EFFECT OF INTERVENTION FOR THE CHILDREN

The children were assessed on the following tests, according to their ages:

- (a) Seguin Form Board (SFB) (Cattell 1945)—to assess intellectual functioning (Intelligence).
- (b) Colour Cancellation Test (CCT) (Kapoor 1975)—to assess attention and concentration for the younger children (Attention).
- (c) Vocabulary Test (for younger children)—newly developed for the project using simple word to be administered orally.
- (d) Arithmetic Test (for younger children)—newly developed for the project using simple pictures of objects, for assessing simple addition and subtraction.
- (e) Number Cancellation (Kapoor 1974)—to assess attention, using numbers and concentration in the older children (Attention).
- (f) Tests of Memory (Barnabas 1992)—with 11 subtests to assess aspects of memory (Memory).
- (g) Raven's Progressive Matrices (coloured version for children, Raven 1965) (Intelligence).
- (h) Vocabulary Test (WISC Modification, NIMHANS 1991) (Language).
- (i) Arithmetic Test (Shoenell modified, NIMHANS SLD Battery, Kapoor et al. 1991) (Mathematics).
- (j) Test of Creativity of Kogan and Wallach (Indian adaptation by Mehdi 1972) (Creativity).

Of the above tests, only Seguin Form Board, Colour Cancellation Test, some easy sub tests of Memory Test, simple vocabulary test and arithmetic tests could be administered to children in classes 1 and 2. Raven's Progressive Matrices (coloured) was administered to children in classes 3 to 7. The rest of the tests were administered to the children from classes 3 to 7.

THE SAMPLE DESCRIPTION

The nine ashram schools were covered by the programme between July 2004 and April 2005. Of the nine schools, we were able to complete both assessment and intervention in seven schools. These were completed in three phases. In Metikuppe, Bhimanahalli and Penjally, the programme was carried out between July 2004 and September 2004 and the reassessment was carried out in January

2005. In Jakkally, Kebbapura and Channegundi the programme was conducted in a staggered manner in November 2004, December 2004 and January 2005 for a duration of ten months. In D.B. Kuppe, the programme was conducted in February 2005 and March 2005. The reassessment in the four schools was carried out in January, February and March of 2005. We were not able to carry out assessments in two schools at Udhbur, as the schools had examination and were due to close in April. The intervention was carried out in these two schools in February, March and the first week of April by two members of the team, while the other two members completed the reassessments in other schools. To sum up, reassessment was carried out after almost six months in three schools and within 1–2 months in four schools. So in the present work, evaluation was carried out 4–6 months after interaction unlike immediate reassessment with the rural children (Results are in Appendix II).

There were 277 (52.36 per cent) girls and 252 (47.63 per cent) boys. This was a heartening finding. This may be attributed to the developmental work and women’s empowerment work carried out by NGOs in the area for the past one decade (Appendix II, Table 1, Figure 1).

RESIDENTIAL FACILITIES

Where the Children Stay

The children of ashram schools are expected to stay in school hostels. We found that the number of children staying with their parents was 335 (63.33 per cent) and in hostels was 194 (36.67 per cent) (Appendix II, Table 2, Figure 2). This is due to two reasons— (a) generally those children who are in classes 1–4, prefer to sleep in their own houses, (b) those children whose houses were close-by also preferred to go home to sleep. But we find this to be an ideal situation in terms of reducing the burden of care on the limited number of teachers and for emotional security of the children, who otherwise have availed all the facilities of the ashram school. In ashram schools like D.B. Kuppe, since the settlements are at a distance, all children stayed there. The older children took care of the younger children. In fact, they looked better groomed than

the children who came to the school daily from their houses. But when these children went home for the weekends, they tended to stay on longer. But we did not find them to be unhappy, though somewhat homesick in the first month or two. The ashram school should have a flexible policy as it naturally operates, providing the best of both worlds, that is, home and school to the children.

CASTE DISTRIBUTION AMONG THE 529 CHILDREN (APPENDIX II, FIGURE 3)

- (a) Jenukuruba—283 (53.50 per cent)
- (b) Kadukuruba—100 (18.90 per cent)
- (c) Yarava—82 (15.60 per cent)
- (d) Beda—35 (06.62 per cent)
- (e) Schedule Caste—21 (03.97 per cent)
- (f) Bovi—5 (00.95 per cent)
- (g) Soliga—2 (00.38 per cent)
- (h) Marathi—1 (00.19 per cent)

The majority of them belonged to Jenukuruba community and next came Kadukurubas and Yaravas, the rest were in small numbers. Thus, the children predominantly belonged to the Jenukuruba and Kadukuruba communities.

CLASS DISTRIBUTION AMONG THE 529 CHILDREN (APPENDIX II, TABLE 4)

- (a) Class 1—100 (19.09 per cent)
- (b) Class 2—86 (16.26 per cent)
- (c) Class 3—66 (12.47 per cent)
- (d) Class 4—91 (17.20 per cent)
- (e) Class 5—92 (17.39 per cent)
- (f) Class 6—42 (07.94 per cent)
- (g) Class 7—16 (03.02 per cent)

Total—529, excluding absent 36 (6.80 per cent). Thus, almost 90 per cent of the children were classes 1 to 5.

IMPACT OF THE INTERVENTION

Performance of the children *before* and *after* the programme was compared on the following tests, on children in classes 1 and 2 and those in classes 3 to 7 separately.

The tests were:

- (a) Test of Attention
- (b) Test of Intelligence
- (c) Test of Memory
- (d) Test of Arithmetic
- (e) Test of Vocabulary
- (f) Test of Creativity

Classes 1 and 2

Results of the performance are given in Tables 5 to 16—across class, schools and gender.

There were 103 children in class 1 and 87 in class 2, with most of them being between six to eight years of age with a few younger and older children.

Attention

On both the *attentional tasks* (simple and complex) on colour cancellation tests, the performance *improved* significantly. On simple attention it was from 25.78 to 28.36 points and on complex task it was 45.20 to 51.67. There were variations across class, schools and gender.

Memory

The performance on the memory test showed the following trends—The baseline memory scores showed that the scores improved from 14 in class 1 to 110 in class 7. As the children got older, the memory performance improved. A dramatic jump occurred in class 3 (9–10 years of age)—from 14 to a score of 60! The pre and post performances measuring the effect of the intervention significantly improved for all the classes.

Intelligence

On the Seguin Form Board, the performance *improved significantly* as indicated by the reduced time to accomplish the task. The children in class 1 moved from a *mental age* of three-and-half years to five years and in class 2 from four-and-half years to six years. This was a dramatic increase considering they were exposed to around 25–30 sessions of the varied activities.

Arithmetic

On simple arithmetic tasks *significant improvement* occurred in arithmetic with scores increasing from 6.19 to 14.15 on simple addition and subtraction tasks, tested on concrete figure representations.

Vocabulary

On simple vocabulary tasks significant improvement occurred with scores increasing from 4.64 to 6.79. These were simple day-to-day words orally described by the children when a word was orally given.

Thus, the results showed *significant improvement in attention, intelligence, arithmetic and vocabulary in the 190 children in classes 1 and 2.*

Performance in Different Types of Tests in Classes 3 to 7 (Results of Performances given in Tables 17 to 31—Across Schools and Gender and Tests)

The scores of the children were compared before and after the intervention on attention, memory, intelligence, arithmetic, vocabulary and creativity. Their performance on the tests would be discussed separately under each of the tests, for the children from classes 3–7. Performance on attention, however, would be discussed for the entire group of children from classes 1 to 7, as it is a very simple test, more appropriate for use with younger children. The children in classes 1 and 2 had colour cancellation task for one-minute duration and children in classes 3–7 had number cancellation for the same duration.

Attention

There was significant improvement of performance in all the classes on both simple and complex number cancellations. The improvement was the largest in classes 1 and 2, with scores of correct cancellation between 16 and 21, while it was about 10 for the rest of the children in classes 3–7. This appears to suggest that attention-enhancing tasks benefited the youngest the most.

Memory

The increase in mean memory score was from 80 to 96, a total score of all the 11 sub tests of memory, which is very significant and very large. However, the increase ranged between 10 and 20 points, with the best performance by classes 3 and 4, with regard to the mean scores of different classes.

Intelligence

Intelligence was measured on Coloured Progressive Matrices. The *improvement was significant* for all the classes, with the *exception* of class 5 where it was not significant. The maximum improvement was in class 7. It is hard to explain why the improvement was not significant in class 5.

Arithmetic

Significant improvement occurred in all the classes, except class 7. This may be because the tests though of increasing difficulty levels, were rather simple and reached the upper limit of difficulty level for class 5. There was no further scope for testing higher level of achievement in arithmetic for the children in class 7.

Vocabulary

Vocabulary level improved significantly across all classes as seen by the number of words whose that children understood. The difference was in the range between 2 to 8, the largest being in class 5.

Creativity

On the tests of creativity, all the children showed dramatic and significant improvement. The increase was between 13 to 20 points.

It was indeed heartening to note such enhancement in creativity. The scoring focused on the 'originality' displayed than the actual number of responses.

SOME OBSERVATIONS ON FURTHER ATTEMPTS AT EVALUATIONS

- (a) In spite of the fact that most of the children in all the schools had improved, we wanted to further examine whether our intervention had any impact on the regular school performance. During the period of the study, the school system went in for a dramatic change in the system of examination. Earlier they were given marks during the three terms of the year. Now the system became a semester system, with a single textbook covering all the subjects of the semester; marks giving way to the grade system. But the teachers were yet to understand the system. We were unable to understand what the teachers had given as semester results. The children of class 1 to 4 had language, arithmetic and environmental studies. Children in classes 5 to 7 had Kannada, English, Arithmetic, Science and Social Studies. The grades, which were marks in fact, were 51 per cent! The schools had just been introduced to the semester and grading system instead of examinations and awarding of marks. Being unfamiliar with the system, the teachers had uniformly given the same grades to all the children. We obviously could not use their evaluation to validate our results. There is in addition, a rule that no child below class 4 should be failed. Thus we were in an impossible situation of having to evaluate a child's performance and at the same time not having to punish him by too strict an evaluation!
- (b) The other aspect of our evaluation was an evaluation of the follow-up of the method used by the teacher. The evaluation was carried out by our field staff. It seems to indicate that at least one-third of the teachers took interest in continuing the activities started by us. Of course, one would like it to be 100 per cent. It needs to be noted that we were working under extremely impoverished conditions. Even if the programme had simply set 800 children on a road to learning, it was no mean achievement!

Mental Health and Disabilities

The study of prevalence of mental health problems and disabilities, through the teachers' ratings revealed rather remarkable facts. Most of the children except in Metikuppe were rated by the teachers as not having any psychological disturbance. Metikuppe was considered by us as a dysfunctional community and four of the children were rated as being disturbed. One girl had visual problems related to sunlight and was referred to an ophthalmologist in H.D. Kote.

Compared to other Indian rural school-based studies by Jiloha and Murthy (1981), Parvatha Vardhini (1983), Mehta (1991), Ruckmini (1994), and Banerjee (1997), the prevalence rates were exceedingly low in our population. As suggested by Bhola and Kapur (2003), there is a need to examine methodological issues, psycho-social correlates of psycho-pathology and cross-cultural issues within India. There is a need to examine the above in different ethnic groups and subcultures, in view of our findings amongst tribals of H.D. Kote.

The four children in Metikuppe who were not supervised and taken care of by their families were running around totally out of control. We were able to bring down the behaviour disturbance by counselling the children and their families. The prevalence rate of behaviour disturbance was exceedingly low as reported and compared by the studies elsewhere in India. This seemed to suggest a fairly good psychological disposition in the tribal children. An unusual observation by us was that the absence (unlike in urban areas) of any hyperactivity or conduct disorder. Initially we found all of them to be shy. But they all warmed up in a friendly environment. We also discovered, much to our surprise, we found their level of school violence as evidenced by damage to school property, violence against children or violence against teachers is almost absent but the teachers were found to use the stick and showed violence against the children.

The possible reason for the remarkable pro-social behaviour amongst the Jenu Kurubas and Kadu Kurubas may be due to—cohesive family structure, expected behaviour being in group conformity, being isolated and not exposed to aggressive behaviours in reality, television and movies, having lot of space around,

leisurely pace of life despite of poverty and hardships, deep faith in gods and rituals and in general old ways of living.

All the above speculations however, need to be further examined as these are very positive aspects of this economically-deprived community.

CONCLUSIONS

- (a) The intervention programme has produced significant improvement as measured on the performance on tests of *attention, memory, intelligence, arithmetic, language and creativity—on objective assessment.*
- (b) There are variations in improvement across age, gender and caste.
- (c) The intervention consisted of 25–30 one-hour sessions per day, for six days a week.
- (d) The teacher and community involvement render the programme more effective.
- (e) Dysfunctional schools and homes may lead to poor academic performance and mental health.
- (f) The intervention can be replicated across schools in urban slums and rural India and across other developing nations.

An Integrated Approach to the Delivery of Child Mental Health Services

India has very progressive and forward-looking policies with regard to children encompassing the health, education and welfare sectors. Yet the translation of these policies into reality at the grassroot level has been unsatisfactory. This is due to poor implementation. Even the policy documents touch upon issues of child mental health only indirectly. Further, they do not set up any priorities in these sectors, particularly about child mental health.

One would have imagined that mental health professionals would have taken up the issue of priorities. In India, while the mental health professionals have fought valiant battles to safeguard the mental health of adults, they have done very little to further the cause of mental health of children. It is against this background that I would like to point out that the intense lobbying and generous funding has been given to the cause of the disabled children. In fact, the term 'mental handicap' has become a synonym with 'child mental health' in the minds of the government officials, NGOs and the lay people alike. One must note that in the West, the lobby for the cause of mental handicap rose out of the strong thrust for an extensive and broad based mental health service delivery for children. In contrast, in India there has been gross neglect of the issues related to overall development and mental health of children. One has no quarrel with the concern for mental handicap, but the effort seems to be unbalanced. One can only assume that if the mental health professionals had themselves taken part in this lobbying process, child mental health concerns could

have been projected with as much enthusiasm as that of mental handicap.

INDIAN SCENARIO OF MENTAL HEALTH SERVICES OF CHILDREN

The situation in India is very different. While the first Child Guidance Clinic was started in Mumbai at Tata Institute of Social Sciences, as early as in 1937, the spread of such clinics across the country has been sparse and patchy. One is told (NIPCCD undated) that there are 100 Child Guidance Clinics across the nation but if their locations were examined, one would find that they exist in Maharashtra and that too, mainly in Mumbai. There are a few in Delhi, Gujarat and Karnataka. The largest service is at NIMHANS, Bangalore, which has a 40 bedded in-patient unit and caters to 1,000 mentally retarded and 800 child psychiatric cases a year. It has four psychiatrists, three clinical psychologists, two psychiatric social workers and five nurses. It offers three months of training in Child Mental Health at the postgraduate level. The first D. M. course in Child Psychiatry was started just in 2002. The first Child Guidance programme in India was started in Mumbai as early as 1937 by the Tata Institute of Social Sciences. Yet there are only about a hundred child guidance clinics across India according to an undated NIPCCD Report. Most of these are in the states of Maharashtra, especially Mumbai and in Delhi. Elsewhere in the country, there is little commitment to the cause of child mental health. There is no available survey of the facilities offered in the so-called 100 or so child mental health services across the country, but the anecdotal information is that the services are poorly manned and more often than not headed by people who have little training in child psychiatry. There is an urgent need for a survey of the mental health or counselling services for children available in the country, as regards the availability of trained staff, as well as the nature of services provided.

EPIDEMIOLOGICAL SURVEYS

There have been a fair number of clinics and community-based epidemiological surveys in urban and rural areas in the past two

decades. In the 1970s, children were seen as part of the adult population and mostly cases of mental retardation were reported. With the advent of epidemiological surveys dealing exclusively with children, using tools with acceptable reliability and validity, a better picture has emerged regarding the prevalence of childhood mental health problems. From 1967 onwards, there have been 14 clinic-based studies, seven population surveys in rural areas and 10 surveys in urban areas. Unfortunately these are not comparable methodologically (Kapur, 1995). Let us take for instance, the multi-centre ICMR study with a common methodology in 1984 of 1,985 child psychiatric cases. In this study, 29 per cent suffered from neuroses, 23 per cent from psychoses, 23 per cent from hysteria, 14 per cent from epilepsy, 12 per cent from mental retardation, nine per cent from behaviour problems, five per cent from emotional problems and four per cent from scholastic backwardness. In an ICMR two-centre study, the Bangalore centre report is as follows— With a total sample of 2,064 children in the age range of 0–16 years, the study had three sub-samples from the community that is, urban middle-class, urban slum and rural child population. A two-stage screening was adopted. Prevalence rate for children below four years of age was 13.8 per cent. Among the 4–16 years of age, 12.0 per cent, with the overall rate of 12.5 per cent. There was no significant difference among the three sub-samples, the upper middle-class had the highest, urban slum the lowest and the rural children were placed in the middle. There were no gender differences.

Urban school studies show an entirely different distribution. Disorders of emotion and conduct range between 10 to 30 per cent. Several studies have highlighted the prevalence of scholastic difficulties as a major problem. These studies also reveal that multiple informants such as teachers, parents and self-report by adolescents offer a more comprehensive picture of child mental health problems as they tend to be situation-specific. Teacher bias is operative in externalizing problems that lead to exaggerated reporting, while internalizing problems go undetected unless they are assessed from the parent or self-reports. Girls tend to internalize more while boys externalize. These differences cause inflated rates for externalizing disorders in the boys and fail to detect the emotionally-disturbed children, especially girls. The clinic-based data reflects more serious disorders, while school data reveals

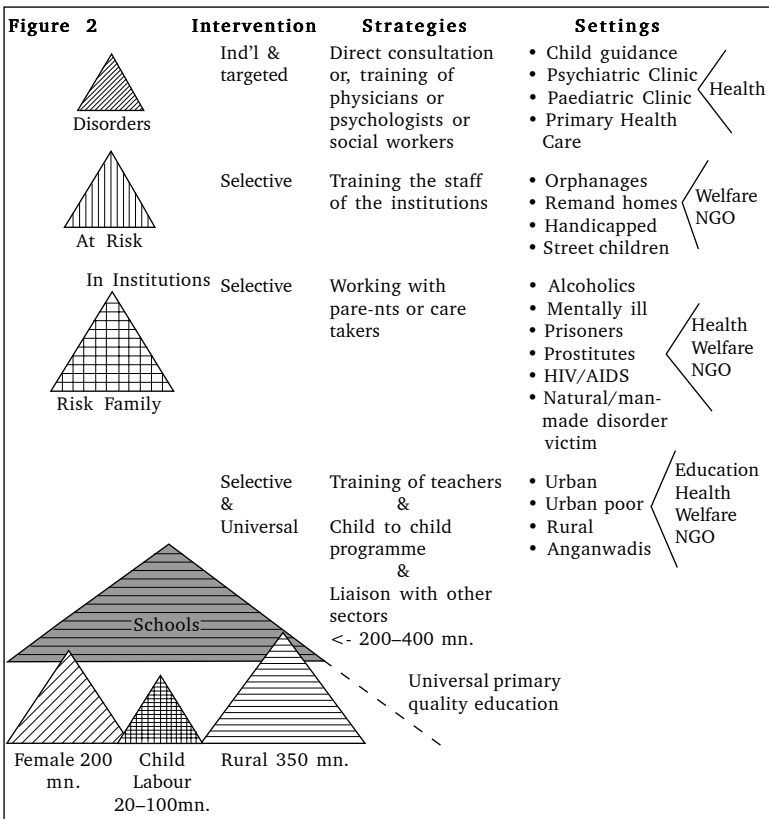
milder forms of mental health problems and of scholastic problems. The nature of disorders reported in schools being milder may not need clinic-based services. The differences in the nature of disorder picked up in the three types of studies, point to the need for different types of services required at different levels.

In a review of 55 epidemiological studies in India, (Bhola and Kapur 2003) highlight that despite the methodological advances, there is a need to focus more on psycho-social correlates of psychiatric morbidity through multi-centre, interdisciplinary and longitudinal studies. Research into patterns of service utilization is critical for a developing country.

As highlighted earlier, mental health services provided across the country is far too little to meet the needs of the child population which is almost half the population of the entire nation. Figure 2 shows how even in the distant future there will never be enough service for all the children. There are two options namely, one of providing integrated child health services through health education and welfare sectors using the available personnel and infrastructure and second of promotion of psycho-social development and mental health in the school setting through children themselves and the teachers. When the goal of universal primary education is achieved, all the children will be in the safety net of the schools and they can be reached far more easily than the other groups at risk. Each triangle in the Figure 2 shows different groups of children who require psychological support. These are—children with mental health problems, those who live in institutions, those who are at risk because of their families, those who are at risk as victims of natural or man-made disasters and those who are at risk because of gender and social disadvantages. All these groups need support from the health, education and welfare sectors. As all the children are likely to be in the school when we achieve universal education, all the triangles representing various groups will eventually merge into the large triangle representing the school.

The translation of the policies into child mental health service delivery poses a great challenge. Most of the programmes in health, welfare and education sectors are top-down programmes and often fail because of the absence of knowledge of ground realities.

For example, in the health sector, the primary healthcare services even for adults are beset with problems of the reluctance of the doctors to work in rural areas, frequent transfers, low



morale, poor interaction between the locals and the doctors and poor drug supply. In the welfare sector, the ICDS programmes have AW workers who are given very low pay but are expected to bear the burden of all government health and welfare programmes.

From 1976 onwards I have been working towards developing models of services which would be suitable in different contexts. I have worked in urban schools adopting innovative approaches to sensitize schoolteachers in the identification, referral and management of mental health problems in the school settings (Kapur 1997). However, as the majority of school children live in rural areas where service delivery is mostly absent, the need to develop programmes at the grassroots level, which are applicable to the underdeveloped areas of the country and in other developing

countries, is undeniably evident (WHO 1992, 1994). The programmes described here have been developed at grassroots level involving the education, health and welfare sectors over the past four years. The programmes are being carried out in the backward tribal belt in H.D. Kote *taluka*, 250 kilometres from Bangalore. Most of the schools are single-teacher primary schools, almost inaccessible, with poorly constructed buildings and lacking in basic facilities. In short, these represent the rural schools in India.

EDUCATION SECTOR: WORKING WITH TEACHERS

Training of Teachers in Child Development, Mental Health and Disabilities

The training workshops for the teachers were organized in consultation with the Block Education Officer. We suggested that teachers should be granted official leave to attend the workshops. The BEO suggested that the project should compensate the travel expenses and provide teachers with coffee, snacks or meals, as nothing was available in and around the areas where workshops were going to be held. The schools in H.D. Kote came under DPEP programmes of the government. They had 19 central resource persons in each of the 19 clusters of schools. CRPs were appointed from amongst the schoolteachers. All the schools were covered by a special programme called *nali kali*, an attempt at introducing joyful learning methods. In the last two years, schools had received maintenance grants, the high school was given computers and generally many positive changes were on the way. However, a court order had resulted in the termination of the services of many of the temporary teachers. This led to further deterioration in what already was a poor teacher–pupil ratio. We had assessed the teachers on their knowledge of child mental health and attitude towards important issues of childhood before starting the workshops. As the composition of groups of teachers changed due to the above-mentioned reasons, we could not reassess—as we had planned—teachers at the end of the series of workshops.

There were 41 teachers for about 1,200 children. Though the average number of children per teacher might be 30, the teacher–pupil ratio varied amongst the schools. For example, in B. Matkere

middle school, there were 204 children and five teachers. In the seven single-teacher schools, the number of children varied from 11 to 31. But the fact that each teacher had to teach four to five grades made it very hard for the teachers and pupils alike.

While conducting the workshops we discovered that the teachers were working under tremendous constraints of the following kinds:

- (a) Poor infrastructure and facilities in the schools.
- (b) Large number of children belonging to different classes being kept in the same classroom due to shortage of teachers or classrooms.
- (c) Teachers having to travel great distances to reach the schools (most of the teachers commuted and were not local residents, some even travelled from Mysore). Due to this, almost all teachers were men, reflecting the national trend, in contrast to what is found in urban schools in Bangalore. It is difficult for women teachers to travel great distances or stay in villages or close-by, where they can teach as men do.
- (d) Very poor transport system often with one bus plying up and down once a day created additional problems for teachers who had to commute everyday. This resulted in absence or late arrival and early departures of the teachers.
- (e) In many of the schools located near dense reserved forests, the elephants tended to stray into the villages and on to the roads and the schools had to be closed by 3 p.m.!

Workshops for Teachers

Five workshops and one identification camp for multiple disabilities were held for teachers of B. Matkere cluster between September 2000 and October 2001. Four workshops were conducted between July 2004 and February 2005 for primary schoolteachers with special focus on ashram schoolteachers. These workshops focused three major areas. These were—normal child development, child mental health and disabilities.

Details of the Workshops for Teachers in B. Matkere Cluster

First Workshop for Teachers: The first one-day workshop for the teachers was conducted on 8 September 2000 for 50 teachers,

including 10 central resource persons. The programme was inaugurated by the Block Education Officer. The teachers were administered teachers' attitude and knowledge questionnaire in Kannada (Kapur 1997). The data was used for planning the workshop. They were briefed about the proposed programme of universal intervention for the promotion of psycho-social development of approximately 1,000 children in the 15 schools of B. Matkere cluster. They were also told that the workshop would enable them to identify, refer and if necessary manage children with mental health problems, disabilities and academic problems.

Second Workshop for Teachers: The second one-day workshop was conducted on 4 November 2000. The number of teachers who attended was 30. The topic covered was—specific learning disability. The features, causes and management of specific learning disability were discussed.

The afternoon session was on conservation of the flora and fauna of the region by an expert (a retired range officer of international renown) with a slide show. This was to make the target group eco-friendly in view of the fact that the project area was surrounded by the Nagarahole Game Sanctuary.

Third Workshop for Teachers: The third one-day workshop was conducted on 2 December 2000. Fifty-six teachers attended the workshop including the Cluster Resource Persons (CRP) and some other interested teachers from nearby schools.

The teachers were told about the details of the programme being carried out with the children as part of the universal intervention. Importance of play in the promotion of psycho-social development was demonstrated. The topics covered under child mental health were—attention deficit, conduct, emotion and learning disorders. The features, causes and treatments were discussed. The sessions were highly interactive.

Fourth Workshop for Teachers: The workshop was conducted on 2 August 2001. Forty-six teachers including three CRPs attended the workshop. In the first session, feedback was given from the five schools where universal intervention was being conducted by the team. The negative aspects to emerge were:

- (a) Increased work for the teachers, hence the difficulty to continue sessions in the absence of the research team.

- (b) If there are large number of children and only one room, it is difficult to do the programmes.
- (c) Difficulty in supervision due to work pressure.
- (d) Children made too much noise and disturbed other children, while enjoying themselves!
- (e) Irregular attendance of the children—especially related to involvement in farm work.
- (f) Early admission to the school of under-age children.
- (g) Absence of sports equipment or play materials.
- (h) Pressure to do only academics to complete the syllabus.

The positive aspects noted by the teachers in their pupils were:

- (a) Reduced fearfulness and ‘laziness’ (as the teachers described the lack of initiative rising out of fear).
- (b) Children seemed happier, enthusiastic and lively.
- (c) Less inhibited and more communicative.
- (d) Improved behaviour.

In the next session, topics such as how to build stories, read stories and reading skills and carry out remedial work were discussed.

Fifth Workshop for Teachers: The workshop was conducted on 4 October 2001. Fifty-five teachers attended the programme. The manual on child mental health in Kannada was distributed to all teachers. The manual was prepared in the Child Guidance Clinic at NIMHANS, Bangalore.

The integration of the services offered to children by the primary health doctors, health workers and *anganwadi* workers with the school system was discussed. How the school health records could be maintained regularly with a liaison with Primary Health Care (PHC) personnel was discussed. In fact, at B. Matkere School, it was possible to complete 250 school health records.

The teachers were informed about the forthcoming disabilities camp (organized under sponsorship of Department of Welfare of the Disabled, Karnataka). The teachers volunteered to bring disabled children in the B. Matkere area to the camp and help out as volunteers during the camp. They also listed out the names of the children with various disabilities.

In addition, problems such as epilepsy, school phobia, bedwetting and soiling and speech problems were discussed. A

special session was devoted to self-concept and problems of adolescence and normal development, especially sexual development was discussed. This was followed by a very lively discussion.

A camp for multiple disabilities for the B. Matkere area was conducted (under sponsorship of Department of the Welfare of the Disabled, Karnataka) on 2 February 2002. Twenty teachers volunteered in the running of the day-long camp. The camp was conducted in classrooms and the Primary Health Centre (PHC). A PHC doctor, a refractionist, an eye surgeon, an orthopaedic from the *taluka* general hospital, five psychologists from NIMHANS, Bangalore and a team of six specialists from the All India Institute of Speech and Hearing, Mysore, participated in the camp. Eighty-two children were screened for mental retardation, orthopaedic, ENT and Ophthalmological problems. ID cards were issued to six orthopaedic, 19 mentally retarded and three visually handicapped children. Our team offered counselling to children with physical and mental disabilities, visual impairment and epilepsy. Aids and appliances were suggested or provided for three orthopaedic cases, three hard of hearing cases with hearing aids, two pairs of spectacles for the visually impaired and medication for two epileptics were provided or prescribed.

OBSERVATIONS

- (a) Motivation and interest of teachers can be enhanced by logistic supports such as provision of leave of absence from school, travel expenses and food.
- (b) Most of the teachers appreciate the fact that children can be helped, in different ways, with the right kind of inputs.
- (c) Teachers can identify children with disabilities, mental health and academic problems, but do not know what to do about them.
- (d) Training workshops go a long way in sensitizing the teachers to the problems of children and ways of alleviating distress.
- (e) Teachers themselves offer suggestions based on their experience of solving these problems.
- (f) Despite the best efforts, a small number of teachers fail to be motivated.

The aim of the above efforts was to provide an integrated approach to child development and healthcare. This is discussed in detail in Chapter 5.

WORKSHOPS FOR PRIMARY SCHOOLS AND ASHRAM SCHOOLS IN H.D. KOTE TALUKA:

- (a) Workshop—26 teachers—Orientation to the programme and child mental health.
- (b) Workshop—79 teachers—Child mental health and child development.
- (c) Workshop—38 teachers—Child mental health and child development.
- (d) Workshop—62 teachers—Review of the programme and video demonstration.

The first and the fourth workshops were exclusively for the ashram schoolteachers, while the second and the third workshops were attended by teachers of other government primary schools where we did not conduct the programme of intervention. There were in all 69 men and 36 women, unlike urban India where there are more women teachers. In fact, it has been suggested that more women teachers should be employed in rural schools to improve the quality of education.

Of the four workshops, the first and the fourth were exclusively for ashram schoolteachers and the other two were for teachers from other primary schools where we had not conducted the intervention programmes. However, during the first workshop, there were very few teachers in the ashram schools but by the time we conducted the fourth session, the number had substantially increased due to the hiring of temporary teachers. Both the groups were shown the video of our programmes and discussions were held on the impact of the programme on child development and academic skills. The other primary school teachers expressed the opinion that they were already trained in it and are knowledgeable about joyful learning method. When countered with the statement why the 200 children who were not exposed to our programme did not improve at all when compared to those 1,088 who had, they had no answer. Thus, there seems to be some denial in accepting

that they do not use the child-friendly methods, though they were clearly aware of them.

Very few ashram schoolteachers attended both the first and fourth workshops. For example, when we had the first workshop, there were only 26 teachers for 800 children, with nine of them being deputed from the education department. Fortunately, in July 2004 more than 50 para teachers were recruited on an ad-hoc basis—with a 10-month contract ending in April 2005. The permanent teachers had good salary and benefits and job security. The para teachers were paid fairly low salaries, about less than one fourth to one fifth of the regular salary with no benefits. All the para teachers were hoping to be re-employed in June 2005 or given a permanent contract. It was heartening to see many of them were tribals, young and educated, very enthusiastic and committed to teaching. These youngsters particularly were involved to a greater extent in our intervention programmes. The temporary teachers are untrained teachers with low wages hired temporarily for short periods.

Instead, the temporary teachers were paid lowly wages, had no job protection and could be hired and fired at will by the NGOs who hired them. Some of the NGOs were in fact paid by the Social Welfare Board to hire teachers! All that can be said is that it is better to have more teachers temporary or otherwise, than no teachers as far as the children are concerned. But good teachers need financial and job security to continue in the profession.

The workshops were at times conducted in a school in B. Matkere and sometimes in H.D. Kote. The logistics of providing meals at a reasonable cost and travel problems made us decide to have the workshops in H.D. Kote itself. However, to find a hall to hold the workshop was always problematic. The halls were given or taken away at a short notice and at times even on the spot. In our last workshop, the allotted venue was changed to a very small room with no chairs. Fortunately, someone suggested a larger hall somewhere else and we had to rent chairs and take them there. We always had to watch out for power stoppages and adjust our video presentations accordingly. Despite all the travails and tribulations, the workshops were generally very productive.

Initial feedback about the problems faced by ashram schoolteachers were:

- (a) Frequent transfers.
- (b) Too many tasks assigned to them which cut into teaching time.
- (c) Lack of interest among parents causing absenteeism and dropouts of the children.
- (d) Very young children much before the stipulated age of five years 10 months were being admitted as they got good meals. Refusing too is impossible considering the poverty of the family.
- (e) Inability of tribal children to learn and lack of interest in school.
- (f) They were vocal in their statements that they were familiar with child-friendly play-away methods, but did not really see the *link between play and learning and failed to see this approach as useful*. A good deal of training as advocated and practiced in DPEP is the child-friendly methods of joyful learning.

We tried to explore the teachers' attitude towards children and asked the following few questions, the answers we got were honest and sad.

There are reports of school violence all over the world. These are of four kinds—violence against school property, violence against other children, violence against teachers and violence by the teachers against the *children*. Much to our surprise and happiness, the first three were denied as being non-existent in the tribal schools. However, the teachers sheepishly but honestly confessed that *they all beat the children* and believed that children would neither behave nor learn if they were not beaten! They were puzzled by the first three kinds of violence. To quote Anagol, the *stick* was indeed was a 'teaching aid' for these teachers. We had a long discussion on the effectiveness of positive reinforcement, dangers of anger as a basis of punishment to the child and teacher alike. But giving up the practice of beating will require a lot of soul searching amongst the teachers.

TEACHERS' FEEDBACK ON OUR PROGRAMME

We also requested teachers to give us in writing what they thought about our intervention and its impact on the children and on them.

The following is a content analysis of the accounts of seven teachers in Jakkally. Five in D.B. Kuppe, three in Kibbepura, three in Chennagundi and two in Penjally, making a total of 20 teachers that is, about one third of the teachers who were there. They reported that our team was characterized by friendly and cordial attitude towards the children and the teachers. They also had established good relationship with the teachers and children alike.

Achievements

- (a) Promotion of attention, intelligence, memory, creativity and language skills through stories, indoor and outdoor games.
- (b) Going beyond the textbooks and actually using play-away methods.
- (c) Discovering hidden talents of the children.
- (d) Activities were interesting and attractive for the children.
- (e) Activities ensured good participation and regular attendance in the schools.
- (f) Provision of materials to the school for art, craft, music, games and sports.
- (g) Health and cleanliness awareness—a First Aid box was given to one school as it had no access to the Primary Health Care Centre close-by.
- (h) Attitudes of the children changed from being shy to being bold.
- (i) The change in attitude helped them to win 16 prizes in a cultural programme at the *taluka* level and one school won the first prize for overall performance.
- (j) The fact that these methods were demonstrated to the teachers by the team was most helpful to the teachers to understand why these methods work.

Need for Continued Support

The teachers felt that the material support should be continued for the next few years to consolidate the gains of the programme.

Feedback on the Video Recording of Their Own Schools

The teachers enjoyed it thoroughly. They were all praise for our

team. One of them explicitly stated that so far they had paid only lip service to the play-away method though they knew it in theory:

We did not know how to go about until we saw it in action during your programme. We did not know whether it worked. We did not realize how bright and talented the tribal children were! It was such a pleasant surprise to us, especially now that they have won all these prizes. Earlier we had to force them to come to school and keep them in the classrooms forcibly, so that they do not run away when the school inspectors come. Even then the children were too fearful to do anything in front of them.

The teachers felt that video clippings of some of the teachers going to the tribal colonies inside the forest to bring them back to school, that too after a long weekend, showed the need to work with the families of the children. The teachers thought we should do liaison work, despite the fact that our project had ended. They also pointed to the fact the Sarva Shiksha Abhiyan programmes are not available in ashram schools. There is a need for ashram schools to be equal partners with education department as with the government schools.

It was decided that through some private charities we will support the materials to be supplied for the next three years on an assurance that they will continue with the programmes set up by us. They wanted a copy of the video to be shown to the children.

TRAINING OF WORKERS IN WELFARE AND HEALTH SECTORS

The aims were:

- (a) Prevention, early identification and intervention programme for children with disabilities and mental health problems.
- (b) Promotion of normal child development.

Welfare Sector Integrated Child Development Services (ICDS)

One hundred and eighty *anganwadi* workers (AWs) in the entire *taluka* were taken up for the project. They were covered in three batches. Each batch was trained in three sessions over three days.

The training aimed at promoting psycho-social development and identifying behaviour and emotional problems and disabilities in children below the age of five years 10 months. The AWs were trained in the following areas:

- (a) Promoting psycho-social development of the pre-schoolers under their care by observing the natural potential of the children for play and creative activity with the available material in their environment (not necessarily toys) and what adults can learn from them. They were told to observe the children and encourage them to learn rather than teach them.

This experiment was an eye opener for them. They narrated with great enthusiasm what all activities the children did on their own.

- (b) Other topics discussed were promotion of breast feeding and encouraging the traditional practice of oil massage and bath for the infant and the nursing mother. Discussions were held on the local health practices which were good and others which had adverse health effects.
- (c) They were asked to report various disabilities such as mental retardation, hearing impairment, visual and loco-motor disabilities.
- (d) Identification and simple management of strategies for enuresis, hyperactivity and speech problems and where to refer those cases.

The total number of children covered by the one third of the total AWs was about 1,200. The *anganwadi* workers of the first batch were able to identify 55 children with varying disabilities. The *anganwadi* workers took up promotion of psycho-social development without additional equipment or materials with great enthusiasm capitalizing on the innate creative potential of children. The children with disabilities were brought to the camps. The 189 AWs covered a population of 10,000 children below the age of five years and six months, which was 51.2 per cent of the entire child population in that age range.

Health Sector

(a) Primary Health Care (PHC) doctors:

Twenty-one Primary Health Care doctors and five general hospital physicians were covered by the training programme. Three training programmes of half-day duration were held. The first one was attended by 24, the next one by 21 and the third one by 14 doctors. By the time the third session was held, several of them were transferred. In addition to the sessions they were also given manuals for Primary Health Care physicians prepared by NIMHANS. The components of the training programmes were:

- (i) Identification and management of mental health problems and disabilities of children referred.
- (ii) Liaison with teachers in maintaining health records.
- (iii) Liaison with primary health workers in referral of children with mental health problems and disabilities.

However, most of the PHC physicians were least responsive of the groups we had covered in our programme because of low morale and commitment to their work.

(b) Primary Health Care (PHC) workers:

Out of the 70 health workers, 60 attended the first workshop and 56 attended the second one. PHC workers were trained in two batches in one-day workshops. They were trained in recognizing the maternal and child mental health problems, promotion of child development and identification of disabilities. These workers were interested in what was taught to them but were more concerned about the difficulties faced by them in their day-to-day work.

To summarize, orientation to the training of workers in health, education and welfare sectors to work in an integrated manner was attempted.

MULTIPLE DISABILITY CAMPS

In addition to training programmes to workers in the health, welfare and education sectors, multiple disability camps were

organized to provide support to the disabled in terms of financial, aids and appliances and counselling. These camps were conducted with the help of workers from the three sectors. This enabled them to have practical experience and to follow-up cases so that disability benefits could be reached to the disabled children. Four such camps were held in H.D. Kote, Sargur, and B. Matkere in one year. In the first camp, teachers brought the children. Out of them, 37 children were intellectually disabled, 42 had physical disabilities while 64 had speech and hearing problems. Eight children with poor eyesight were provided spectacles. The above three groups of the disabled were issued ID cards which would enable them to get disability benefits offered by the Directorate of the Welfare of the Disabled. Unfortunately the camp received very little support from the local hospital doctors. A team of experts came from National Institute of Mental Health and Neurosciences, Bangalore and All India Institute of Speech and Hearing, Mysore.

The second camp was held in Sargur with the help of AWs. They were already trained as they had done the initial screening of the cases. The team consisted of two PHC doctors from Sargur, eye specialist, a refractionist and an orthopaedic from a general hospital in H.D. Kote and a team of nine psychologists and a physiotherapist from NIMHANS Bangalore. 50 children were seen in the camp.

The third camp was conducted in B. Matkere with help of the teachers. The details are discussed in chapter 7. The fourth camp was conducted in H.D. Kote with the help of AWs (they were not sent the intimation about the camp and the team had to go and inform them personally). NIMHANS and AIISH team conducted the camp with help of AWs. The attendance at the abovementioned camps has been described briefly in the following table.

Summary of the Attendance in the Four Camps

<i>S No</i>	<i>Screened</i>	<i>ID cards issued</i>	<i>Counselled</i>	<i>Aids /appliances</i>	<i>Referral</i>
I	200	88	72	7	57
II	49	25	26	1=4 drugs	18
III	62	28	57	8+2 drugs	7
IV	35	20	22	7	6

The total number of cases identified was—115 orthopaedic, 117 mental retardation, 123 speech and hearing, 28 vision, 25 seizures, and seven specific learning problems.

The training programmes for the personnel in the education, health and welfare sectors were developed gradually and cautiously over several failures and successes. Some of the important insights are:

- (a) The various cadres of workers work under extremely poor and disadvantageous circumstances.
- (b) The training programmes should be interesting and simple. They are already exposed to too many training programmes of every conceivable government projects.
- (c) The programme should provide enough incentives in terms of transport expenses, token honorarium and decent snacks or meals.
- (d) The trainees should be officially given time-off to attend the training programmes.
- (e) The programmes have to be organized at convenient locations and times (to adjust to available bus services).
- (f) To have liaison with local groups (schools and community and central groups, general hospital, block education officers, community development officers and NGOs) is equally important.
- (g) Schoolteachers and *anganwadi* workers provide the ideal infrastructure for the identification and referral of disabilities and mental health problems. They also can be trained as facilitators to promote psycho-social development of the children under their care.
- (h) Organization of camps for disabilities is exceedingly complex and involves the following steps:
 - (i) When the camps are organized, the informants, children and their parents have to be reimbursed bus fares and provided meals or snacks.
 - (ii) These should be single-window camps.
 - (iii) All the forms and assessments should be completed in the camp itself by the different specialist professionals (for example, IQ assessment, testing for hearing and

visual impairments, accurate examination for loco motor deficits etc).

- (i) ID cards to be completed, including taking photographs affixing them on the cards and counter signing by the appropriate professionals. Photographs for orthopaedic cases should cover the entire body and not just the head so that the disability should be obvious in the photograph.
- (j) Those not eligible for the cards should be counselled regarding management of the reported problems.
- (k) The benefits to be availed with the ID cards should be made known to the teachers, *anganwadi* workers, health workers and the families of the children.
- (l) Networking between the health, education and welfare sectors is crucial for the success of any programme.

I would like to state explicitly that we, as professionals, need to work at the grassroots level to evolve models before imparting training to the various cadres of workers in the different contexts. Unfortunately, most of the programmes are carried out in a top-down manner leading to poor transfer of knowledge and practices at the grassroots level.

To conclude, to provide the best possible healthcare, promotion of healthy development and quality education to all the children, especially for the urban and the rural poor, there is a need for an integrated approach through the training of schoolteachers, primary healthcare personnel and *anganwadi* workers.

However, there is a need to recognize that the children themselves are a rich resource for promoting overall development and learning. This resource needs to be capitalized on, especially in the developing countries.

Part-II
Some Insights

Working with Children

‘If children should not play, who else should?’ I often ask parents and the teachers who bring children for consultation with complaint that they only wanted to play. In India there is a popular misconception that play is a waste of time and the time is better spent studying!

Play is the most powerful tool which enables a child to achieve overall normal development without the domineering pressure of adults. The fact that even a young child can create and learn from his or her environment through play has strong support from the current research in developmental psychology. Our study in the rural and tribal schools lends credence to the notion that children are capable of being the resource for their own learning.

Play is a universal phenomenon of childhood. Play promotes motor, cognitive, language, emotional, social and moral development. Play has been researched by psychologists, linguists, anthropologists, ecologists and child developmentalists. Research shows that play contributes to all the areas of development. To many educators, the value of play is beyond dispute but there are many teachers who believe that play serves very little purpose except to keep the children amused. The motor skills develop through running, jumping, and so on. Through play, children develop understanding about self, others, objects and events in the environment as they explore and experiment like scientists.

Children construct internal models of action through play. Play enables children to understand concepts such as time, class, space and quality. They observe relationships and understand cause and effect. They also learn to solve problems.

Language develops when children interact with others through play where they need to explain, describe, express feelings and understand what others say. Play allows them to express emotions and learn through imitation. Play is useful for learning to get along with others and developing social skills such as sharing, taking turns, sympathy, leadership and even develop moral values.

SOME INSIGHTS INTO PLAY AT GRASSROOTS LEVEL

We do not instruct or teach (We help provide the materials, time and space in schools).

The activities were initiated by us and unobtrusively supervised. We played the role of catalysts than instructors. The programmes were expanded and refined by the children themselves.

Find out What the Children already Know

These could be games, songs, dances or stories. They may have learnt these from other children, teachers, their families or their community.

Warming Up

Warming up activities to break the ice is absolutely essential. The rural children, even more so, the tribal children are shy and fearful of their teachers and strangers. Quite understandably so in schools where a *stick* is the main teaching aid! In each of the sections to follow, some warming-up activities are described.

Respond with Appreciation

Always applaud, praise and encourage and ask the children to do the same—no matter what the child creates, it is praiseworthy and never criticize!

DOMAINS OF DEVELOPMENT

The programme aims at enhancing development in the following areas to lesser to greater extent and the activities used are as follows:

- (a) Motor
- (b) Intellectual
- (c) Language
- (d) Emotional
- (e) Social
- (f) Moral
- (g) Sexual

The impact of the programme was easy to assess in attention, memory, creativity, arithmetic and language but not in emotional, personal and social or moral realms.

Description of the Activities

The activities carried out fall into the following categories with some overlaps amongst them. These will be described in detail in the following section. These were:

- (a) Art work
- (b) Craft work
- (c) Songs and dances
- (d) Language, games and dramas
- (e) Arithmetic exercises
- (f) Life skills and role play

BASIC KIT

The basic kits for the schools had different components namely, for an individual child, for a group of children and for the entire school.

- (a) For each child, a drawing book, a slate (for younger children), pencils, crayons, colour pencils or watercolours and stationery or craft material or newspapers.
- (b) Beads, blocks and foam beads of different colours, shapes and sizes.
- (c) For the groups, KG cardboards, paints and brushes, Kolata sticks and bronze anklets, tambourines and cymbals for dances.

Indoor games especially board games such as caroms, draughts, ludo, snakes and ladders and chess and some traditional board games made locally. Outdoor games such as tennycoit, badminton, cricket, football and volley ball.

Instructional material such as Chinese abacus and simple graded books depicting stories with themes familiar to the children were also used to enhance arithmetic and reading skills.

It is estimated that the basic kit containing the above could be provided at about approximately rupees 10, 000 per school and later on about rupees 2,000–3,000 per year to replenish the material each year. This is not a big investment considering the gains.

The five key phases are:

- (a) *Find out what they already know*
- (b) *Warm up exercises*
- (c) *Followed by activity*
- (d) *Applaud and display the product*
- (e) *Tidy up*

The following section gives a descriptive account of the activities and their possible contribution to the enhancement of various domains of development. It was possible to assess the gains in attention, memory, intelligence, creativity, language and arithmetic skills in an objective manner; it was not possible to do so in the areas of emotional, social, moral and sexual development.

ACTIVITIES

Songs and Dances

We start with what they already know. We encourage them to use the Kolata sticks, bronze anklets and tambourines. They love these accompaniments. These songs and dances are of different kinds. We request for volunteers first and others join in after some coaxing.

Some songs and dances are taught by the teachers. These are often moral tales. For example, there is a dance of a sparrow seeking refuge from the trees in a storm. The trees which refuse to give shelter are destroyed in the storm. It is the tree that gives shelter, which sways and bends but survives the storm. The trees

which refuse to shelter the sparrow, break and fall. Some songs and dances are from the movies. The children mimic these film sequences very well, including ‘break dance’ sequences—which are very popular. The songs and dances are also learnt from their own people. These are often sung in distinct languages and dialects of their own with unique dance steps. For example, the lambanis (Marathi speaking gypsy-like population) have graceful dances with songs welcoming outsiders by incorporating their names into the songs. There are songs and dances depicting the agricultural work of sowing, weeding, harvesting, winnowing the grains and so on.

In one of the schools, two children sang and danced on a romantic theme. The young man is trying to placate his beloved who is sulking. It goes like this—‘Come with me, I will give you flowers for your hair.’ She continues to sulk, he wipes her tears.

‘Come with me, I will give you silver anklets.’ ‘Come with me, I will give you earrings’. ‘Come with me, I will give you a new saree.’ Each time she rebuffs him saying she did not get anything from his earlier promises and she continues to weep. Finally, he says, ‘Okay, if that is how you feel, I will find a new girl!’ Immediately the girl coyly agrees for reconciliation. The theme depicts the reality. Till the last line, one gets an impression that she is an empowered woman and the last line depicts the stark reality.

Warming Up for Dance

We generally find the children stiff, fearful and quiet. We would choose one of the children, whoever volunteers first to show a daily activity. For example:

- (a) Washing face
- (b) Brushing teeth
- (c) combing hair
- (d) braiding hair
- (e) washing dishes
- (f) washing clothes
- (g) going to school and so on.

This goes on until all the children in the group show the various daily activities. Then we ask them to convert these into

dance actions. Then each activity is converted into a common dance action. Then they are asked to speed up the dance actions, one after the other. As a last step, each child in the group follows his original dance sequence in the group dance. This is a very popular warm-up exercise. In fact, one of the children was crying out of fear when we started the activity. We asked him and his friend to make it into an activity and incorporate it into a dance sequence. When the boy danced the crying action, all of them burst into laughter and so did he. Whenever we went around the schools videorecording, boys and girls, younger and older, would dance tirelessly unwilling to stop, so that their dances are recorded. Somehow, dancing and singing seem to be an antidote for shyness and fear.

Developmental Domains of Dance and Songs

- (a) Sense of music
- (b) Sense of rhythm
- (c) Body coordination
- (d) Communication
- (e) Emotional expression
- (f) Creativity
- (g) Aesthetics

Artwork

The aim of the artwork practised by us is *not* to promote *artistic* or *aesthetic* skills. It may incidentally happen along the way. We try to communicate to the children that *all of them* can *draw* and *paint* whatever they like and in the manner they wish to. There are no set rules or standards. At this stage the children are anxious. They hesitate to start. They try to copy designs on the watercolour or crayon box, or some picture around or draw *rangoli* or national flag which they are taught. Copying needs to be discouraged. The child is helped to relax with the following exercises:

Warming Up

Some simple exercises are given. These are:

- (a) Make a small squiggle on the blackboard or on a sheet of paper and ask the child to draw something from it and make

- it elaborate. For example, a ‘s’ squiggle can be made into a snake or a peacock by a child.
- (b) Colour a thread and place it on a paper and fold it. When the paper is opened there is design on it. The child can be asked to draw extra lines and make it elaborate.
 - (c) Take a flower or a leaf, colour it and press it on the paper. Even thumb impressions can be a starting point.
 - (d) Make a rubbing of a leaf or a flower, by keeping the paper on it and scratching with a pencil.
 - (e) Draw a theme such as yourself, your family, your school, and festivals, what you like best and so on.

The child becomes more relaxed and starts to explore lines and colours in a free manner. Usually children enjoy these activities in each other’s company and also learn from them.

We use different formats for art work:

- (a) Drawing Book: Each child is given a drawing book and a box of crayons. First his or her name is written on it. Then he is asked to start on the first page and draw whatever he or she likes. But the child is allowed one page, once a week, for the entire year! The children appreciated this personal possession so much that they used the single drawing book slowly, methodically and over several months. The crayon box too was intact, with the crayons being used carefully, not broken or lost like we find with children who have abundance of art supplies.
- (b) KG Cardboard: A KG cardboard sheet is given to a group of four children to work together on a theme. Younger children use crayons or pencils. Older ones can use watercolours or poster colours. This enables them to work cooperatively and explore themes such as draw or paint ‘your village’, ‘your school’ or ‘forest’ and so on. This can easily be used as a springboard for environmental studies if the discussion focuses on what is drawn by them.
- (c) Wall murals: Large sheets of papers are used as wall murals. We use *rangoli* powder, preferably vegetable dyes; which are inexpensive and can be bought in bulk. The powders are mixed separately in small containers with gum and water. Brushes can be brought or even made with locally-available

grass or coconut fronds. If you have a space of about four feet high and 10 feet long, 10 children can share the space and create a mural. Each child is allotted a one-foot space. We have witnessed most attractive, colourful murals depicting the grand display of flora and fauna of the area. We have also seen children expressing their emotions in their artwork. For example, a girl who had lost her father recently drew an unusual creature, which she called an ‘air’ or as spirits are called locally. Amongst the tribals, there is a belief that a dead person’s spirit hovers around for 12 days before going to heaven or hell.

But mostly the pictures are joyous and colourful. If there are no papers or colours, old newspapers too can be used instead. Colours can be prepared from clay, leave and flowers which are found around the school. Children are found to be exceedingly creative in preparing the colours and the brush. You simply have to say, ‘What are the colours you can make?’ or ‘Can you make a large or a small brush to use with the colours?’ One can even use the blackboard for some of the drawing exercises.

Developmental Domains in Artwork

- (a) Fine and gross motor skills.
- (b) Use of colours—understanding of primary and secondary colours and how to mix them to get new colours.
- (c) *Expression and communication* of emotions reality, fantasy, creativity and aesthetics.
- (d) Increase in dexterity depending on the medium used, that is, pencils, crayons or paints. Crayons are easier to use, and brush and colours are most difficult.

Always ask the children to discuss what they have drawn. Pick the art product and show them to other children. Get them to appreciate the artwork of other children. Gently dissuade them from being critical. Try and display as many art products as possible in the classroom. Allow the children to take some home to show to their parents and to keep with them. If the children are asked to copy a design as is usually practised by drawing masters, they all draw the same thing—a table, a bunch of grapes as they

see fit, they draw it out of their imagination. Actively discourage copying even when the copying is good or pleasing in a conventional sense. Hence no art product is alike in a free art session. Sometimes even recognizable forms may be drawn entirely differently by different children. Young children tend to draw themselves as bigger figures than the adults around! Children's drawing evolves slowly from simple to complex representations across age.

Craft Work

Making various objects with paper, leaves and other objects found in the environment is an activity that children enjoy a great deal. They are *not instructed* in how to make anything. Traditionally, craft instructions means that the instructor demonstrates how things are made like crepe paper flowers, or origami kind of designs with paper. We simply provide the children with papers. Coloured papers or even newspapers along with scissors—we ask children to cut the papers into any shapes as they are or when they are folded. Each child could cut and make his or her own designs. Then they would experiment with more complex designs—fold the papers in anyway they like and make different objects. For example, invariably one child would know how to make a boat or a cap. In one of the groups of 12-year olds, they were able to make forty different objects in about 30 minutes. These were aeroplane, arrow, hat, boat, ship, canoe, inkpot, sunglasses, shirt, dress, many children holding hands, windmill and so on.

Similarly, coconut palm leaves were proved to be a versatile medium, children on their own made snakes, watches, sunglasses and even parrots. They would use broomsticks to join the pieces together into even more elaborate objects.

They would cut or fold KG cardboards to make flags, ships, crowns and so on. One can even make moving vehicles and other objects.

They would make collages using grains, berries, sticks and flowers and colours. They would make objects which work as whistles, flutes, drums and string instruments and telephones using two tins.

Objects can be made with clay and newspaper strips glued together or soaked and ground together into shapes and dried and painted.

Appreciation of their efforts was the key to the success of the programmes. *It was important that after these activities to tidying up the workspace and putting away the things neatly was an important aspect of these activities.*

Domains of Activity Provided by Craft Work

- (a) Fine motor and gross motor skills
- (b) Visual-spatial perceptual skills
- (c) Visual-motor coordination skills
- (d) Understanding of textures, thickness, flexibility of materials and the appropriate uses
- (e) Creativity
- (f) Ability to imitate activities and learn from others

Language Games

Since we had earlier discovered that children were very reluctant to speak in the classroom and the teachers believed that their vocabulary was very limited, we had a large number of activities to enhance speech and language including reading, writing and comprehension functions. We also saw a clear relationship between language functions, intelligence, memory and creativity.

The activities ranged from very simple to very elaborate games using language in many different ways.

Warming up

- (a) Word games: Initially, very simple exercises are used such as—name an animal, a bird, a flower, a colour. Then to name a group of certain objects under a particular category, food or furniture. For example, table, bench, chair. Similarities and dissimilarities between two objects. For example, orange and banana, or potato and stone.

Following these exercises, when children became relaxed, we started slightly more complex word games. Picture and word matching and looking at maps, pictures of animals, plants were used to enhance vocabulary—name an object starting with letter ‘Aa’ or ‘e’. Name animals or flowers starting with the letter ‘Aa’ or

'Eee'. Name an object which begins with the last syllable of the word given by a child. The common game of *antakshari* was thus introduced. Then we would have two competing teams. Two children who had good handwriting would enter the responses of the A and B teams. Words are to be provided by each team according to specific instructions. At times, the winning team would come up quickly with 20–30 words in a very short time. When the games became easy, children made them more difficult by introducing difficult words and new rules. Children not only enjoyed these games, but their vocabulary improved at a very rapid pace by listening to others play, even while not participating themselves.

(b) Sentence Games:

- (i) Given a word, the child should make a sentence using it.
- (ii) Describe objects in the environment, animals, trees and their uses.
- (iii) These were converted into team games where elaborate and complex sentences are given higher scores.
- (iv) Description of an event followed by the sounds. For example, the rain falls—tap, tap, tap. The coconut falls... the thunder sounds...
- (v) What is big? What is small?—Cow or calf?

(c) Tongue Twisters and Memory Games: Sentences to promote clear speech such as sentences with syllable repetition. One needs to look for local versions of tongue twisters such as 'She sells sea shells on the seashore' in English. Two examples in Kannada are—one about the tank bund in 'Tarikere'—in which 'tari' and 'kere' gets repeated continuously—in a tongue-twister sequence. The next one goes like this—the old man from Tarikere comes to the market on the shady day. His wife, wife's uncle, uncle's daughter, daughter's husband, husband's sister, sister's dog, dog's tail and the tip of the tail come to the market—The children are expected to repeat it with the right sequence without stopping, at a high speed. These kinds of games were already known to the children.

(d) Story Telling: The stories were of different kinds:

- (i) Stories from *Panchatantra*, *Jataka* or from the epics of *Ramayana* or *Mahabharata*.

- (ii) Stories which are a take-off on a popular story given above.
- (iii) Stories about animals and forest deities and folk tales—told by their elders.
- (iv) Newly made-up stories using their own imagination.

These stories could be what they had heard from teachers, other children or their families. Some children could make-up stories which were very elaborate and these children were admired a great deal by the others. Children are asked to make-up stories where one child begins a story. After the first sentence, another child provides the next sentence. Initially the children are hesitant and the stories have tame beginnings, middles and ends. But as the time goes on, they are able to build interesting and complicated stories.

Riddles and Proverbs

Riddles and proverbs typically have odd language formats and do not lend themselves to proper translation into English. These are veritable storehouses of children's language skills and abstraction. Children simply love them and learnt the new ones very fast, as the discussion went on about the meanings and the answers. As many of the riddles were on 'dirty' topics such as snot, children were amused to no end. But these proverbs and riddles cover almost every object in their environment and are very culture-specific. A content analysis of the riddles and proverbs would be an interesting exercise. The following is the literal translations of some of the riddles and proverbs we have collected.

Riddles

1. The rice that cannot be washed or the mat that cannot be folded (stars and sky) (there are several variations).
2. Ploughed field has a snake on it (rope) and there are several variations.
3. On a tree several leaves speak (harmonium).
4. Floats, sinks, melts (pan, beetle nut and slaked lime).
5. Orphan child but cannot be caught (water).
6. Lamp is lit on the mountain (nose ring).
7. Short guy weaves the fence (needle and thread).
8. Roars in the corner (Raagi grinding stone).

9. Jeep goes in a dish (snot).
10. Green outside, white inside (radish).
11. It is in the field, it has nine doorways (anthill).
12. Green doctor, red patients, black tablets (watermelon) (there are several variations to this).
13. Inside the red box, anklets making ‘gili-gili’ sounds (red chillies).
14. *Linganna*, *Ninganna*, remove the clothes and swallow. O brothers! (banana).
15. A bud when inside, blooms when outside (umbrella).
16. Around the well silver sticks (radish).
17. One hit—and a house full of children! (garlic).
18. All around coconut trees—in between lies water (eye lashes).
19. On the mountain—tree, on the tree—flowers, on the flowers—the berry (chilli).
20. One-eyed man has one eye, the baby has three eyes (coconut).
21. If you pluck, it does not dry up, if you plant, it does not grow (hair).
22. The pond is full of hoof prints of the sheep (stars). There are several variations to this.
23. Above the well, parrot, above the parrot, a *maidan*, above the *maidan*, above it a forest (face, mouth, nose, forehead and hair).
24. Born in water, grows in water and dies in water (salt).
25. House full of flowers (dew drops).
26. Moon has only one sister (bunch of banana).
27. The house has only one pillar (umbrella).
28. White cow above with black cow (Urad seed).
29. Tiny girl has long braid (needle and thread).
30. White man has a black cap (match stick).
31. Younger sister can go into elder sister’s house but the elder sister cannot go into younger sister’s house (*seru* and *paavu*—grain measures).
32. Over the roof, the *mandi*, above it temple of Mahadeshwara, on the top sits Ayyappa (honey in the beehive).
33. There is water in the well and there is silver in the water (lamp).
34. *Appajappa*’s garden, locked with 70 rupees worth lock. No one can open it (death).
35. Surrounded by white washed wall. No doorway (egg).

36. One jar has two kinds of oil (egg).
37. It is green, but it is not a parrot; it has a top knot (*shikha*) but not Narada, but has three eyes, but not Shiva, has water, but not a well (tender coconut).

Proverbs

1. One who has no worry can sleep in the market place.
2. Sing and sing you have a *raaga*, groan and groan you have *roga* (disease).
3. After Tugar, the crops decline, after birth of the babies, mother's strength declines.
4. One who lives in harmony with others has heavenly happiness.
5. Where there is a mind, there is a way.
6. Do not feed the one who had a meal, do not oil the head which has no hair.
7. Stretch your legs as far as the mattress.
8. One who eats without work, even a large pot of gold will not last.
9. Snake does not die, stick does not break.
10. Hand in soil (mud), curds in mouth.
11. Good people's company is sweet as honey.
12. Daughter is like the mother, thread is like the saree.
13. One who bears, may last.
14. King to the land, but son to the mother.
15. Ruby in monkey's hand.
16. Truth is immortal, lie is endless.
17. Nothing is tastier than salt, no chosen relative than mother.
18. If the plant does not bend, will it bend as a tree?
19. Full water pot does not spill.

From the above, the following observations can be made. The riddles employ common place objects and events. Description of rural environment which consists of farm land, crops, plants and trees are commonly found. The agricultural focus cannot be missed in the description, as they are simple and not very sophisticated. Some of them even appear more recent in origin. The proverbs, on the other hand, appear to have a larger common prevalence in rest of the country. These are sayings which have been in existence probably in all the regions for a very long time.

It is interesting to examine the local contexts in the riddles and common contexts in the proverbs from an anthropological perspective. What is of interest to us is the abundance of both riddles and proverbs in children in their day-to-day communication, indicating a rich language heritage.

In a similar manner, we have rich collection of their stories and songs. It was noted that initially children were very stiff and formal. They were encouraged to *speak, narrate and describe using gestures and action*. Gradually they learned to relax and use speech and gesture as normal communication. They were even encouraged to *enact* the stories, which they did in a most creative manner.

Reading

Most of the children had very poor reading skills. The conventional teaching of reading consisted of the following steps, especially for Kannada, which was the medium of instruction. All the Indian languages, including Kannada are phonetic languages. It is required that the child learns the script first—before learning to read.

As the child has to learn to read and write a very large number of letters, that is, vowels and consonants that consist of $13 \times 5 \times 10 = 650$ individual letters. In addition, there are accents and half letters. Kannada shares an elaborate and complex system with other phonetic languages. No teacher recognizes the fact that phonetic scripts are the hardest to read and write for a young child. Copying these elaborate letter structures require:

- (a) Fine motor skills
- (b) Visual-spatial perception and discrimination between the letters
- (c) Recognizing the shape and linking the sound of the syllables

Teachers believe that reading and writing the script will have to be mastered before the child can read. The above tasks are obviously very difficult and at the *same time* meaningless, tedious and boring. *Our approach to reading is entirely opposed to the traditional approach*. We believe that children love to hear stories. If they are to read stories too—they enjoy it equally. If there are pictures, they enjoy it even more. The child understands that the entry into the world of stories can also be through *books* instead of a *person*. It is a great revelation. The transition between enjoying

listening to a story and reading a story is a smooth one and comes in an *enjoyable effortless* manner. The entry into the world of books is a joyous one.

So we adopted a different approach to reading. We used a ‘top-down’ approach to reading—adopted for adult literacy programmes of the UNESCO in Mysore in the early 1950s by Shivarama Karanth, a noted author in Kannada. He had prepared primers in Kannada, with illustration with simple stories, with words of graded difficulty level. There were two books about a village suffering from drought and how a wandering ascetic influenced the villagers to change it into a prosperous village. There were also simple stories from the *Ramayana*.

We photocopied these books into large copies, which could be seen from a distance of 10 feet by all the children in a class. The steps in promoting reading were:

- (a) The researcher (teacher) read the entire story aloud—word by word, sentence by sentence, page by page, running the finger below each word while reading and also pointing to the picture.
- (b) After one reading, the reader would ask the children to repeat after him as he read the story, following the same sequence as before.
- (c) After three or four readings, questions were asked to find out whether children had understood the events and sequences in the story.
- (d) This would go on for several sessions until all the children could read the story by rote. It is very natural for children to enjoy a story however number of times they are repeated. Unlike adults they do not tire of listening to the same stories.
- (e) Now comes a stage, rather imperceptibly, when the child starts recognizing keywords and later the rest of them through the differences in the shapes and formation of the letters. Gradually the child becomes a reader. This is when he or she asks for more books to read.
- (f) When you have a child who is already a reader or has become a reader during this exercise, you can ask him to read to the other children. If you do not believe that children become skilled readers when they learn in this manner, try it yourself with a group of non-readers!

We have had many groups of children where an older child or a good reader goes over the repeated exercises of reading this primer called *jogi kanda ooru* or ‘the village that the ascetic saw’.

All our children have become good readers by adopting this method. We believe that *once* reading skills are acquired and the fine motor and gross motor skills are acquired through play and craft activities around the age of 8–10, copying letters becomes an easy task. *Reading should come first. Writing may be introduced much later.*

Continuing with language skills, we move on to another activity.

Drama and Skits

We started with a simple warming-up story and drama. This is a story about a boy who was very dirty. He was called *hesi* (dirty) *gundanna*. He did not like to wash his face, brush his teeth, bathe or change clothes. He did not even like to go to school. One morning he went out to play instead of going to school. He met the other children going to school. He called out, ‘come and play with me.’ They said, ‘you are dirty we will not play—and we are going to school.’ He went further on and found a cat, then a dog, then a cow and so on and all the animals refuse to play with him. Finally he meets a pig playing in a filthy ditch and it calls him and says, ‘*gundanna*, come and play with me.’ Totally ashamed of himself, he rushes home, gets ready to go to school. Now everyone wants his company. We ask the children to play various roles in the story. Slowly they start dramatizing and enjoying the story. This is particularly suited for younger children. Initially they may take time to warm-up and require some prompting and encouragement. This is an excellent story to drive home the fact about personal hygiene, especially as most tribal children who come from their homes were unwashed and unkempt. In another school, we saw a very elaborate enactment of ‘*jogi kanda ooru*’ using the entire playground as a village, as they did not have the conventional idea of a stage.

In another school, they enacted a story of bandit Veerappan—impromptu. A boy simply touched the blackboard with his finger to gather chalk dust and drew a swirling huge moustache above his lips and on the cheeks, the trademark of the bandit.

In another school, two boys parodied an episode of ‘possession state’ which is a common practice among the villagers. One boy acted as the priest and the other as the one possessed by a female deity giving oracles and seeking sacrifices as a comic spoof. The teachers were astounded by the slickness of the production! We told the teachers—you do not need to teach children to put up a play. This is the proof that they can do it on their own. Our greatest reward was at the end of the year, many children in several of the ashram schools won prizes in competitions at the *taluka* level for songs, dances and skits. An unheard of thing in all these years in Penjally and Jakkally!

Domains of Development Enhanced by Language and Dramatic Activities

- (a) Enhancement of vocabulary and speech (oral).
- (b) Abstract thinking related to similarities, size, textures, colours, objects.
- (c) Problem solving and abstraction through riddles and proverbs.
- (d) Verbal facility and quick reaction time.
- (e) Exercises in speed and clear articulation.
- (f) Creativity and imagination through story telling, enactment, extempore speaking.
- (g) Reading skills through the ‘top-down’ method.
- (h) Memory.

Sports, Games and Play

Materials for sports, indoor and outdoor games were provided to all the schools, in addition to stationery, pencils and crayons. The supply of the materials made us very popular and was appreciated by children, parents and teachers alike. Most schools were poorly supplied with sports and games materials and these were not replenished when they were old or damaged or parts got lost. In general, teachers did not allow children to play, even when they could not attend to them. As a rule, they did not want the children to be boisterous and noisy. They wanted them to sit quietly and learn thing by rote or copy from blackboards or books. If the children played on their own, it was acceptable at lunch breaks, but whenever they became noisy, the teacher would come with a stick and hit them.

In one of our earliest experience in one of the schools in the Matkere area, we learnt our lesson about how *not to teach* children how to play! We had gone to a school at noontime. It was the lunch break. We had unloaded the sports and games materials and had handed over the tennycoit rings to the children when the bell rang. So we told the children, ‘We will come and teach you how to play the tennycoit ring game,’ and went off to have our picnic lunch under a tree offering us shade.

When we came back after an hour, the children were already playing with the rings. When we said, ‘We will teach you the rules’, —they said, ‘We already know them!’ much to our surprise. Then they demonstrated to us ten different ways in which tennycoit rings can be used—each being an equally interesting method and as good as the original rules. If the equipment can be used in different ways, why not? After all, a ball too can be used in so many different ways. It is worthwhile remembering *some basic equipment can be used for a wide range of games*. For example, a small soft ball, a small hard ball, a large football can be used for different games. Often children can think of new ways of using these materials. Multiple uses of objects should be encouraged as it promotes creativity. The simpler the object is, the more can be its creative interpretations.

Following this experience, the team became more flexible in their instructions, often letting children lead the way and explain their games and the rules. The children were very quick to grasp the rules of the game. In fact, in one of the schools, not only were fifth graders playing chess, but were even teaching their teachers how to play the game! In addition to the formal games, we also attempted to observe and record details of the games children already knew and played. To our surprise, we had gathered a huge list of games! We found that some games were common all over India. We also found that tribal children had the maximum number of games and their variations compared to other rural children.

Some Common Games

1. *Lagori*: Two teams of five children each play this game. One group builds a tower-like structure using stones or wooden pieces. The other group throws a ball to topple it from a stipulated distance. If the opponents hit the players instead of the towers they are considered defeated and have to play again.

2. Marbles: Children may play the game in twos and seeing that the marble reaches a previously marked spot, in least number of shots. The winner gets the marbles and the loser loses them. It requires great finger dexterity and precision to win.
3. Cap Game: One child plays the cap seller and others sit in a circle facing each other. The cap seller shouts, 'Who wants to buy caps?' They ask, 'What cap?' He says, 'Gold cap.' They ask, 'How much does it cost?' He says, 'Thousand rupees!' Then they bend and pretend they are paying the money. At that time, the capseller quietly keeps the cap behind one of the children. If the child catches him in the act, he loses and has to become a seller again. If the child is caught unawares, he loses and become the capseller. The game goes on like this.
4. The Lake and the Bank: This has several variations like ocean and beach, river and bank and so on. A large circle is drawn. About 20 to 30 children stand outside it. One child announces either 'lake' or 'bank' and when the word 'bank' is heard, they have to be outside the circle and when it is 'lake' they have to be inside. They have to keep jumping in and out quickly. The announcer mixes up and repeats the sequences. The child who makes a mistake is out of the game. The winner is the one who makes no mistake when the game ends.
5. Tiger and the Cow Game: Thirty to forty children hold hands and make a protective circle. A child who is a good runner is the tiger and is outside the circle. The child, who is the cow, is inside the circle and is protected by the rest of the children. The tiger has to isolate the cow away from the protectors and catch it. The tiger asks the children whether the cow is there and they say, 'No!' The tiger is not allowed into the circle, the tiger wins the game when he captures the cow.
6. Train Game: One child becomes an engine and rest of the children become the bogies. The engine moves and the rest have to follow making 'chug chug' noises without a break.
7. Hide and Seek: There are variations in the sing song manner in which the one who seeks, calls out. Many local versions of the calls are created. The word 'I spy' has been converted

- into strange sounding words in various Indian languages. For example, 'ice spice' or 'ice mess' instead of 'I spy'!
8. Blind man's Bluff: There are again local variations of the game.
 9. Hopscotch: Different types of this game are popular among the village children.
 10. Musical Chair and its local variations.
 11. There are popular team games which promote colour and number concepts.
 12. Games with two teams—these are cricket, football, volley-ball, badminton and two of the Indian games, *kho kho* for the girls and *kabaddi* for the boys which are very popular.
 13. There are games of getting an object that is being guarded, without being caught.
 14. There are also seasonal games such as spinning tops and kite flying. Tops can be made with wood, clay or even small pine cones can be used as tops. Kite-making of course is a joyous experience.
 15. Many of them attempt to facilitate quick reaction and response time to instructions for two sets of activities, only one of which is to be obeyed. The variations for example—'drink coffee or look at the mirror', 'pick the nut or remove the weed', 'gourd or pumpkin', 'change or exchange'. An increase in the difficulty levels is introduced when you have to show the opposite action, when you hear the word 'Eat *vada*, drink *payasa*'.
 16. There are games where a handicap is introduced—when one has to hop, race, catch all on one leg or blind folded, or frog-like movements.

The tribal children in our sample gave us a description of 57 games which they play! There are large number amongst them which are the variations of the major games described above.

Domains of Development Enhanced through Games and Play

- (a) Reaction time speeded up
- (b) Response time speeded up
- (c) Quick response to compere instruction
- (d) Fine motor and gross motor skill enhancement

- (e) Visio-motor coordination
- (f) Physical agility and coordination
- (g) Kinaesthetic skill enhancement
- (h) Team games involving following rules—social codes and even ethical codes
- (i) Games as chess and draughts involve complicated planning and problem solving
- (j) Relaxation and energy deployment

Number and Colour Games

1. Number games involve imitating or clapping hands according to instructions, forming into small groups to the exact number called out, and so on.
2. The numbers can be taught concretely using matchsticks, broomsticks (separately and in bundles), cowries, beads or pods to be counted and grouped.
3. Shopkeeper and customers—transacting paper money.
4. Rhymes describing numbers.
5. Reading a clock.
6. Bringing specified number of objects from around.
7. Match numbers on the cards and sticks.
8. Mental sum games and games like—‘10 yellow *laddoos* in a dish—Ambuja ate one—how many are left?’
9. Naming and identifying colours in and around or picking up beads of a particular colour.
10. Our main tool of teaching addition, subtraction, division and multiplication in ‘ones’, ‘tens’, ‘hundreds’ and ‘thousands’ was the Chinese abacus. The children learn basic arithmetic skills very quickly on the abacus. The Chinese abacus has thirteen columns with a middle line. Below are columns of five beads and above two beads. We got the toy makers of the Channapatna (famous for lacquer work toys) to manufacture abacuses for us. We gave two-three abacuses to each school.

Interpersonal Games

We have successfully used the following techniques especially with high school children in B. Matkere and with 6th and 7th graders in the ashram schools.

- (a) Role play: The children enact conflict situation and play key participants. Once again everybody discusses how it could have been done better. For example, —when refused a school trip, while boys fight, the girls sulk and go off food. Girls fail to negotiate with the family to go for further studies. We get the children to role-play how they would negotiate with teachers and parents and get across their points of view.
- (b) *Story or a situation and a discussion about it:* For example, an ancient traditional story is told. Here, a married young woman is left behind by her husband with her mother-in-law and sister-in-law. The woman develops a relationship with a young man. She swims to meet him holding on to an earthen pot everyday. One day her mother-in-law who finds out about her affair, replaces the baked pot with an unbaked one. There is a storm and flooding. As the woman starts to swim, the pot melts away and she is swept away by the strong currents.

We ask the boys and girls, ‘Who is responsible for the girl’s death? Who is right or wrong?’ The story gives us subtle ways of handling sexuality concerns.

Boys and girls slowly take clearly opposite positions first and gradually understand the complexity of the situation. They discuss whether the in-laws, husband and the boy-friend are at fault or the girl herself. Then they begin to see that each person has his or her own justifications and compulsions. They also see the subtle sexual connotations of the tragedy and how it could have been avoided with a better understanding of the entire situation. We arrive at the solution—blame the situation and not the persons—which is a good point to counsel adolescents.

For example, future career choices also can be discussed in groups and the pros and cons of each prospect can be discussed.

- (c) Life Skills: Life skills have been described extensively in the WHO documents (World Health Organization). Life skills and role-play activities were used especially with the older children to promote the following life skills:
 - (i) Critical thinking
 - (ii) Creative thinking
 - (iii) Decision making

- (iv) Problem solving
- (v) Empathy
- (vi) Effective communication
- (vii) Inter-personal skills
- (viii) Self awareness
- (ix) Coping with emotions
- (x) Coping with stress

We have often used a single situation to cover many of the life skills for example, negotiating for a place in the boat which is already full.

Method: We get a group of 10–12 children to enact a situation common in their area. There is one *koraikal* (a local circular canoe made of cane and buffalo skin) boat which can take only 10 people. The boatman or the other passengers will have to be persuaded to take an extra person. Here, each person responds in a different way. The children interchange the roles. We get the children to discuss what they have learnt from the situation. At the end, the best way of conflict resolution and negotiation is highlighted.

When speaking to adolescent boys and girls separately, we discovered them to be unable to communicate and negotiate with peers or adults for conflict resolution. Thus, we combine life skills approach using one situation to depict several conflict resolutions through negotiating and effective communication. Typically, we use several methods or situations.

By the above three methods, we have been able to convey the children to discuss different points of view by different people:

- (i) Empathise with the situation the other person is in.
- (ii) Communicating clearly to resolve the situation.
- (iii) Understand that everyone has their own difficulties.

Developmental domains which are dealt with are the concerns of adolescents in the realms such as *school performance and examinations, interpersonal difficulties with teachers, parents and peers, fears and anxieties about themselves and moral and sexual concerns.*

Thinking back, I find it strange they mostly express the above concerns. Scant attention is paid to what they are going to do after school, like going for further studies, jobs, marriage and so on.

I believe these too should become part of life skills education. But these concerns should be addressed in a positive way so that the discussion does not lead to despondence by the limited choice in the rural settings.

However, we have not been able to objectively evaluate the effectiveness of our programme. We believe that children found it useful. The teachers also found children to be more interactive.

Exercises

Do not instruct—always encourage and applaud

Step 1— Warming up exercises

- (a) Drawing (art work)
- (b) Craft work
- (c) Singing
- (d) Dancing
- (e) Drama
- (f) Storytelling
- (g) Language games
- (h) Number games
- (i) Colour games
- (j) Play

Step 2—Find out what they already know

Step 3—Allow them *time, space, materials*

Step 4—*Note* what you have discovered

Step 5—Tidy up.

Orientation Programmes with Teachers

ORIENTATION TO SCHOOLTEACHERS ON CHILD DEVELOPMENT, MENTAL HEALTH AND DISABILITIES

Introduction

Teachers in India, especially in the government schools in urban and rural areas are expected to perform several tasks other than teaching. These tasks include:

1. Collecting statistics of enrolment, attendance and dropouts to be submitted to the Block Education Officers
2. Census enumeration
3. Election duties
4. Collecting textbooks and uniforms for the children
5. Collecting rations to be given to the families once a month
6. Collecting rations and preparing and supplying mid day meals in the government schools and in the ashram schools
7. Preparing and serving breakfast, lunch and dinner in the ashram schools
8. Supervising washing, bathing, grooming and dressing of the inmates in residential facilities
9. Feeding all children on a daily basis puts an enormous burden in terms of time spent by the teachers
10. Attending teachers' meeting
11. Attending teachers training workshops organized by the education department
12. Preparing teaching aids
13. Maintaining health records of all the children and liaison with the PHC personnel

14. Arranging community out-reach programmes with the community

Above all, the teachers are supposed to teach, conduct examinations and announce the results.

Understandably, attending to a large number of children in the classrooms with very poor infrastructure in the urban areas and in the single-teacher multi-class primary schools in the rural areas is not an easy task for a teacher. The schools generally lack:

- (a) Classrooms (in the rural area) or playground space (in the urban areas)
- (b) Furniture
- (c) Stationery and books
- (d) Drinking water
- (e) Toilets
- (f) Electricity
- (g) Games and sports material
- (h) Library and laboratory facilities

The only resource we have in schools is children. In view of the burden of work on the teachers and lack of infrastructure and facilities, there are other major problems. The children and teachers share alike poor motivation, lack of interest and commitment.

This section aims at overcoming these problems by sensitizing the teachers to some of the *important aspects of teaching and learning*.

The areas covered are:

- (a) *Normal child development.*
- (b) *Psychological (mental health) problems which interfere with learning and adjustment.*
- (c) *Disabilities in children and mainstreaming in classrooms.*

Normal Child Development

Normal development occurs from infancy through childhood to adolescence in the following areas:

- (a) Motor
- (b) Intellectual

- (c) Language
- (d) Emotional
- (e) Social
- (f) Moral
- (g) Sexual

All the above areas are of concern to the children, parents and teachers. In the earlier decades of understanding of the child's mind, it was believed that children are born with minds like 'clean slates' and that they learn everything from us. The current understanding based on research in child development demonstrates that babies are born with enormous capacities of the brain and the mind to acquire skills soon after birth. We should not underestimate the ability of a baby to learn about oneself and others. Even a week-old baby can track objects with eyes, distinguish between the mother's face and a mask and even imitate some movements! They get bored with sameness in what they hear or see and shift their attention to something new. They come equipped to acquire the following skills:

- (a) Acquire motor skills (fine motor and gross motor)
- (b) Understand the world (attention, observation, meaning, intelligence, including problem solving, analysis and synthesis and abstraction)
- (c) Learn language and produce speech (language).
- (d) Feel emotions (emotional)
- (e) Relate to people (social)
- (f) Develop conscience (moral)
- (g) Sexual awareness (sexual)

Of course, all these develop at a faster rate if the right kind of environment is provided. The classic epic story of Abhimanyu tells us that he learnt the secret of *chakravyuha* in his mother's womb. Most babies are born equipped to start learning soon after. It is worthwhile remembering that children can create their own world of learning, observing and picking cues from the environment. They observe carefully and imitate quickly whatever interests them. The development in all the seven areas mentioned above takes place very rapidly in infancy, childhood and adolescence—and then slows down.

Childhood is the best time for learning. If the statement supported by research is true, *why do our children fail to learn?* Or is it that they fail to learn in school, but otherwise learn a lot from their environment, from observing, listening to stories and so on? Do the teachers try to find out what the children already know?

Most teachers believe that children can only learn when they are taught by their teachers. Often children are compared to lumps of clay or empty vessels which the teacher shapes or fills up. Teachers believe that they are the ‘reservoir of knowledge’ and the children are clean slates! Unfortunately this attitude and belief is quite common amongst teachers and other adults. It is reflected in the statement—‘The untouchables are unteachable’—especially in rural schools. In this section on child development, we hope to persuade teachers that all children come well-equipped to learn about the world, if given a chance. If given a chance, they can be skilled, creative, imaginative and communicative and can demonstrate a new world of experience to the teachers. Children also come equipped with a temperament (*swabhava* or basic nature) like being shy, irritable, friendly, happy, active or dull. Some are very sensitive and some are not. Teachers often fail to note that children are different in their temperaments. The teaching and punishment methods used by teachers are always the same. Punishment, for example, may be viewed differently by different children. But praise makes them all happy (as in adults!). How does one create the right kind of environment for a child in the school to make him or her a good learner? The teacher has to reexamine his or her method of teaching. For example, the teacher draws on the blackboard a jug or a fruit, and asks the children to copy it. There is nothing creative in it. The children are simply reproducing the teacher’s lack of creativity. Instead why do not you try a different method? Give the children paper, pencil and colours (crayons or colour pencils) and tell them to draw upon their imagination and create whatever they like. For example:

- (a) Draw whatever you like
- (b) Could be a flower, tree, person
- (c) School, village, market
- (d) Yourself, friends, family members

In a class of 20 children you would get 20 different drawings. These may be different in colour, content, size, beauty and expression of feelings or thoughts. What is created independently by the child is a product of child's own skills, thoughts, imagination, creativity and feelings. While the traditional approach permits you to find out only how well the child copies, the new approach permits you to explore the inner world of the child. You must understand that these drawings may not always be realistic, skillful or artistic. But it does not matter. It is a product of the child's inner world. It will improve with time and experience. In addition, you will note that the child enjoys this activity and does not get bored. It will take a great deal of *inner discipline for a teacher not to tell* what the child should do. This applies equally to play, speech and to any creative activity. The approach in which the child discovers the joys of learning himself or herself is not permitted in the standard teaching practices. For example, we teach by the method of instruction, which encourages imitation and rote learning (learning by heart). Children are made to copy elaborate scripts or alphabets endlessly for hours together. How can a child enjoy it? The task of writing requires adequate development of fine and gross motor skills that a child of five or six is yet to achieve. Copying the letters in a repetitive manner is indeed truly an *imposition*.

Instead, if you examine a letter of any script, you will note different shapes are incorporated in it. For example, circles, lines, dots, triangles, strokes and so on. A child can easily use these lines in a drawing drawn freely. For example, a sunrise behind the mountains with a tree and river in the front has all the strokes and lines to develop the child's gross motor and fine motor skills. Each drawing increases the skills of holding a crayon, a pencil or a brush. The child will joyfully learn the basic skills before starting to actually write.

Teachers often complain that children do not speak or answer questions. Sometimes the child may even have a mother tongue different from the medium of instruction. When the teacher expects an exact answer, the children are afraid that they do not know it. But when they play a word game like *antakshari*, they relax and are able to communicate—for example, one can start with the following:

- (a) Names of objects in the environment or pictures

- (b) Names of fruits, vegetables, animals
- (c) Names of objects starting with a particular letter

One can then go on to encourage the children to tell stories, to enact stories, to sing and to dance.

Children can and will do these activities on their own, without being taught by the teacher. You will be surprised by their creativity if you give them a chance to experiment and be creative. We have, through our research, discovered that children can attain all the academic skills through art, craft, play, story telling and so on. Conventional teaching contributes very little to the overall development of the child, while play-away and child-friendly methods promote overall development. Though all the teachers claim that they are familiar with 'joyful learning' methods in theory, in fact they have no idea how it works—as they have not really witnessed it. If you could actually use these methods you will be surprised by the creativity and learning skills of the children from disadvantaged population such as slum children, Scheduled Caste and tribal children. From the theories and practices of child development in the West and our own research with children in government schools in urban and rural India, *we have no doubt that child-friendly methods and using children as their own resource can work wonders with our children in enhancing their overall development.*

Common Psychological Problems in Children

How do You Identify: All children face some problems or the other as they grow up. These problems are to be considered disorder—which need to be attended to only when the following commonsensical guidelines are used:

- (a) The problem has gone on *too long*.
- (b) It is *too severe* and *cannot be tolerated*.
- (c) It is *distressing* to the *child* or *those around* or *both*.
- (d) It *affects school performance*.

What are the Causes of Psychological Problems in Childhood?: The problems may arise because of the *child*, the problems in the *child's environment* or *both*.

The characteristics of the child are as follows:

- (a) Child's temperament (too timid, aggressive, passive, restless, and so on) that he or she is born with
- (b) Level of intelligence
- (c) Sensory deficits (poor hearing, vision)
- (d) Mild or severe delays in development (motor and language)
- (e) Chronic physical illnesses

The environmental contributors are:

- (a) Family—
 - (i) parents who fight or are difficult.
 - (ii) anxious, ambitious, over protective.
 - (iii) indifferent or neglecting.
 - (iv) excessively strict or punishing.
 - (v) sibling rivalry or jealousy.
- (b) Social—
 - (i) financial (poverty) and social problems (social class of caste or religion related)
 - (ii) neighbours of different social strata.
 - (iii) gang of friends who are anti-social.
 - (iv) children who do not mix socially.
- (c) School—
 - (i) Problems may arise out of the poor school system.
 - (ii) Teachers who like parents may be neglecting, punishing or being indifferent
 - (iii) Teachers who do not teach and blame the infrastructure, children or due to personal problems.
- (d) Children—
 - (i) Bully weaker and younger children or tease the girls.
 - (ii) Align with teachers and punish the other children.
 - (iii) Exclude children because they are of lower caste, poorer, girls or have disabilities.

There are, not one but, many causes. For example, a child from a poor background being neglected at home, with no friends in the school or neighbourhood because of her shy nature may not do well in school, though she has an average intelligence. The teacher may consider her stupid and make fun of her. There are *many* causes for her poor school performance, that is within the child, at home and in the school. Another illustration is that of a poor home where

the father drinks and beats the mother. The mother works as a coolie and supports the family. The family has three children. The elder boy is aggressive in school, fights a lot with others and does not study; the second boy has friends in school, studies well and is very popular among his classmates. The third one is a girl who is very quiet, worrying, anxious and preoccupied with the problems at home. She is not doing well in studies. All of them share the heredity and home and school environments. Yet they are so different, why?

- (a) The elder boy has inherited a difficult temperament and has learnt to imitate his father's behaviour.
- (b) The youngest girl has inherited her mother's passivity and behaves in a similar fashion.
- (c) The second boy has got good or resilient temperament, which has protected him from being influenced by a psychologically unhealthy home environment.

Common Psychological Problems of Childhood

These can be described as follows—Disorders in children may be seen as externally-directed or internally-directed problems, that is, it may be disturbing to the child or to the others or both.

Externalizing or conduct disorder (behaviours which are disturbing to others and are considered as disciplinary problems): In very young children one may find these as:

- (a) Over activity
- (b) Impulsivity
- (c) Poor attention and distractibility

In older children it may be manifested in:

- (a) Stubbornness
- (b) Temper tantrums
- (c) Fighting
- (d) Bullying
- (e) Lying
- (f) Stealing
- (g) Destructive
- (h) Disruptive
- (i) Missing school deliberately

Internalizing or emotion disorder (problems which are distressing to the child) are as follows:

- (a) Shyness
- (b) Fearfulness
- (c) Anxiety
- (d) Extreme sensitivity
- (e) Not having friends
- (f) Quiet
- (g) Withdrawn
- (h) School refusal

Physical symptoms related to stress (when upset may have physical symptoms) such as:

- (a) Stomach pain
- (b) Headache
- (c) Vomiting
- (d) Asthma (wheezing attacks)
- (e) Other body symptoms without physical basis.

Developmental delays

- (a) Delayed or poor speech and language development
- (b) Stammering and stuttering or articulation difficulties

It is important to observe whether the child understands the spoken language. Children differ in acquiring speech and language skills. Some attain them by one year. Another may speak clearly only in the 5th year. It is important that the child understands when he is spoken to. Poor speech or pronunciation is common in children below the age of six.

Stammering is due to faulty learning and can be treated. When any of the above persists, they should be referred to a speech pathologist.

Wetting and soiling in school or at home is common for children when:

- (a) They are young
- (b) Frightened
- (c) Have weaker bladder control (runs in the family)

Teachers should not punish them but allow them to go to the toilet. One should not make fun or punish when a child wets or soils himself or herself. It is not an illness. With some training and age, as he or she gets older, she or he will outgrow it.

Poor school performance may be due to:

- (a) Poor school system and faulty teaching practices
- (b) Child having difficulties with the medium of instruction, having a different mother tongue
- (c) Sensory motor handicaps
- (d) Low intelligence
- (e) Poor attention
- (f) Home demands leading to irregular attendance
- (g) Psychological problems described earlier
- (h) Specific learning difficulties

Specific learning difficulties need a special mention. When the child has any of the above problems and appears to have average intelligence, the child has only difficulties in *reading, writing and mathematics alone or in combination*. These children require remedial teaching, which involves preparing lessons of classes at a lower level, at least three years below and building up the basic skills. The above problems are minor psychological problems of childhood.

In the state of Karnataka and several other states, after being certified by a government recognized psychologist, schools under State or Central Boards can request for exemption in languages, mathematics or ask for a scribe to write the examination or use a computer at the time of school finals. This is similar to the facility offered to disabled children.

WHAT TO DO?

With the Child

- (a) Listen to the child
- (b) Establish a relationship when the child feels free to relate to you
- (c) Take interest in the child's activities and feelings

- (d) Find out what problems the child faces at home and school
- (e) Focus on the child's special talents and achievements

In the School

If the problem lies within the school, teacher, other children or the studies (teachers, headmaster or other children):

- (a) Negotiate with the others on behalf of the child
- (b) Find out if the problem can be solved by talking to parents

Classroom Management of Difficult Behaviours

- (a) If the child is over-active with a poor attention span, provide a quiet place, give simple tasks to improve attention like stringing beads or sorting grains by colour, shape or size. Praise him or her each time he or she completes the task.
- (b) If the behaviour is destructive, explain that the behaviour is unacceptable to teachers as well as other children. If punishment is unavoidable:
 - (i) discuss first with the child and the other children and ask them their advice as how this bad behaviour could be controlled. This always brings out suggestions and confirming to good behaviour by the children.
 - (ii) Ignore and not pay attention to the disruptive behaviour.
 - (iii) 'Time out'—send the child to a place where he does not get attention, a corner or a room. But it should be a minute per year of the age of the child. Not too long and not in dangerous places.
- (c) Do not punish but praise generously when good behaviour is shown.

Problems of adolescence can be very difficult and need to be handled differently. Some serious problems such as mental illness, depression and suicidal threats, addictions and sexually-transmitted diseases may be the cause for concern in this group. However, masturbation, homosexuality and heterosexual interests *may not be* viewed as abnormal. These may be talked about as normal manifestations. Concerns of adolescents may be taken up in

separate groups for the boys and girls. We have used life-skills education, role-play and an open and non-threatening discussion of sensitive topics in rural high schools. Sexuality should be discussed in the context of human feelings, relationships, values and societal expectations. Protected sex should receive *attention*.

Epilepsy

Epilepsy or ‘fit’ occurs in children of all ages. A typical fit may produce unconsciousness and intense shaking of limbs. Fits always occur in the same fashion and last for a very short time. These are produced by abnormal discharges in the brain. This consequently causes poor memory and difficulty in learning new material, if untreated. If the child has more than one or two fits, he or she should be kept on antiepileptic medication for five years without fail. Then the child can lead a normal life. Fits are not contagious as is commonly believed. If the child has a fit in the school place, take the child to an open and safe place and do not restrain or stuff anything hard in the mouth. Take the child to a nearby PHC or a neurologist.

Multiple Disabilities in Children and Mainstreaming

Children with disabilities could belong to any of the following categories:

- (a) Intellectual retardation.
- (b) Visual impairment.
- (c) Hearing impairment.
- (d) Orthopedic impairment.

Disabled children are issued identity cards (ID) if the disability crosses 50 per cent. The ID cards enable them to obtain pension, travel concession, aids and appliances and job reservations later. It is good if the teachers are familiar with the procedure of obtaining an ID card if there are children with disabilities in the class.

A government ruling stipulates that the disabled should be mainstreamed in schools. This is especially so in the rural areas where the disabled do not have the opportunity to attend special schools.

How can teachers help the disabled to integrate in the normal schools?

Teachers and children should understand the problems faced by the disabled in the school setting. They could play games where they can put themselves in a situation of not being able to see, hear or walk and understand what are the difficulties in learning in the classrooms or playing with other children.

Make teachers and children appreciate the other skills the disabled have to develop to survive.

Cultivate empathy by talking to the disabled children about their lives.

Include them in all activities as far as possible in the school and help them.

Have a classroom discussion on what it is to be different through stories, roleplay and dramas. For example, a child belonging to a specific group such as a girl child or a disabled child and experiences unique to him or her, may be discussed in the classroom in an emphatic manner:

- (a) Girl
- (b) Scheduled Caste
- (c) Scheduled Tribe
- (d) Disabled

Give a chance to the rest of the children to understand how discrimination of any sort hurts. However, it must be remembered that teachers and children can be unkind and cruel, unknowingly or deliberately. These issues need to be resolved through open discussions with a sense of *justice* and *compassion*.

Reflections

FROM THE PERSPECTIVE OF DEVELOPMENTAL PSYCHOLOGY

Some revelations in developmental psychology—In the book *How babies think: the science of childhood*, Gopnik, Meltzoff and Kuhl (1999) demonstrate how babies think in a scientific manner even in infancy and through the childhood. There are 100 billion cells in the brain at birth and as many as stars in the Milky Way! At three months, the brain areas are involved in seeing, hearing and touching—burning up increasing amounts of glucose. The brain's energy consumption levels reaches full adult levels at about two years of age. By three, it achieves twice the level of an adult till 9–10 years. Then it declines and reaches the adult level at 18. At birth, each neuron has 2,500 synapses, peaking at two–three years of age with 15,000 synapses. This may be more than what is in the adult brain. This has important implications for our understanding of young children.

Pre-school children have more active, more connected and more flexible brain than us. They are alien geniuses. A process of pruning occurs when synapses are not needed. Childhood is a critical period for learning, children can learn a second language between the age of three and seven and perform like natural speakers. After puberty, there is no correlation between age and language skills. Similarly, in a variety of situations the extraordinary potential of young children for learning is demonstrated in this book. This raises the question: how much is young children's learning dependent on formal teaching by adults? Apparently not much—provided they are not thwarted by the adults around!

FROM THE PERSPECTIVE OF CHILD CLINICAL PSYCHOLOGY

Having worked in Child Guidance Clinic (CGC) at National Institute of Mental Health and Neurosciences, Bangalore from 1982 onwards, essentially I was a clinician working in the rural and tribal schools. I was pleasantly surprised by the resilience and creativity of these children in the rural areas. I also discovered the kind of disorders we saw in the urban CGC settings were seen infrequently, even when similar methods of identification were used. It indeed came as a surprise that very few young children were over-active or had attention deficit disorder. The majority of the children, especially tribal children, demonstrated a high degree of pro-social behaviour. Were the so-called hyperkinetic syndrome (attention deficit disorder) and conduct disorders culture-bound? Current research shows that behavioural management works best with hyperkinetic syndrome. If you turn the notion around, does the behaviour *mismanagement* or *pathology* in the family initiate and maintain these disorders? I would love to explore these differences in the presentation of psychopathology in the different cultures and subcultures. In addition to attention deficits, urban schools also report prevalence of Special Learning Disabilities. In rural areas, learning difficulties are more a result of the poor school system than any other contributing cause.

Rural children on remediation pick up academic skills rapidly. If the maturational age of the child, which varies from one child to another is taken into account and if extra time and help are offered, will the incidence of Specific Learning Disabilities in urban children go down? By reducing the pressure by parents and teachers on academic achievement on children in the lower classes, will there be reduction in the incidence? These are some tentative speculations worth exploring.

FROM THE PERSPECTIVE OF COMMUNITY MENTAL HEALTH

The WHO publication *Mental Health Programmes for School Children* by Hendren, Weisen and Orley (1994) offers some excellent recommendations. The WHO has carried out some pioneering work to promote life skills education but these efforts have mostly focused on adolescents. Apart from the task of sensitizing children about adult mental health, programmes to cater to the promotion

of mental health and child development in general and rural children in the developing countries in particular, have largely been neglected. Even the national mental health programmes fail to look beyond adolescence. Is the neglect entirely due to ignorance of the importance of child development and mental health? How can anyone afford to overlook the welfare of half the nation's population?

I have myself devoted numerous hours since 1976 sensitizing teachers to the mental health needs of children in the urban areas (Kapur 1997). In the course of these efforts, I discovered that my horizon was broadening, going beyond the vantage point of a clinical psychologist or mental health specialist. The following are some of the observations I made:

- (a) Teachers are an excellent resource for helping children in dealing with their mental health needs. Unfortunately, the constraints are too many for most of the teachers to be effective counsellors. However, even one interested teacher in a school can provide the required mental health care with some training. Every teacher in the schools can be sensitized for identification and referral of children with psychological problems, but one teacher in each school can effectively counsel a sizable number of children in the school setting.
- (b) In the rural and urban slum settings, it is often unrealistic to expect teachers to perform extra duties beyond what they were already burdened with. Yet in my experience many such teachers do perform miracles in counselling the children.
- (c) In my preoccupation with mental health in the earlier years, I had neglected disabilities on one hand and normal child development on the other. My experience in H.D. Kote in the last decade has considerably broadened my horizon.
- (d) I was fortunate to carry out the kind of research I wanted, that is to *evolve* and *evaluate comprehensive* and *integrated* healthcare to children that included promotion of psycho-social development, mental health and management of disabilities. This could very well be a model across the nation and the developing nations. The programmes for the promotion of psycho-social development of children need to be comprehensive and not specialise in dealing with only ones that are academic subjects. By adopting broad-based and

comprehensive programmes, we would be making optimal use of the limited manpower and financial resources.

- (e) The greatest reward for my work in the rural schools was the proof that children can be their own resource in promoting their psycho-social development.
- (f) One needs to opt for applied research instead of pure research, for example, interventive epidemiology, even as one collects the data one can intervene to help so that it benefits the subjects. A fact-finding research benefits none except the researcher! Research on service delivery is absolutely essential.

FROM A PERSONAL PERSPECTIVE

An additional impetus to this work was my own personal experience. My father Shivarama Karanth, a novelist, was interested in everything around but was especially disillusioned about the teaching methods in our schools way back in the 1950s. He set up a school for rural children, prepared materials to make reading enjoyable and capitalized on the children's creativity to make them good learners. He was way ahead of his time in progressive ideas by decades, to be acceptable in the field of education at that point of time. I did not go to school till I was 10. All I remember is that he told me stories every night for one hour, year after year till I told him to stop as I could read them myself. Learning to read and write came so easily to me that I do not even recall being taught formally. I have used his primers to teach our children to read. This gives me the conviction that children have great creative potential, which is over-looked by adults, teachers and parents alike. All I remember about my childhood was that I played and drew pictures or simply did nothing except wander around in the forest land that surrounded my home, observing the trees, birds and small animals, most of the time till the age of 10. I went to school only when I thought it would be nice to have company!

Now, I come to my present. I have the conviction that children can create their own world of learning if time and space is provided. I have been deeply concerned about the low quality of education made available in our government schools to majority of the children in our country. Universal primary education is our slogan.

It is the thrust area of the Government of India. Even as we achieve the goal, the quality of education provided is a cause for concern. We have so few teachers and even less motivated, committed and good teachers. It stands to logic if children have *such tremendous creative potential—and all we have in the schools are children, why can we not tap this natural resource?*

The present book attempts to demonstrate that in theory and in practice this can be done and we have done it and provided description of our work.

SOME LINKAGES IN OUR WORK

- (a) Psychologically, healthy communities despite poverty, support education for their children, especially in the ashram schools. However, dysfunctional families exert influence on the children which keeps them away from school.
- (b) In a similar manner, a well-run school attracts children and the families take pride in their children in the school. Dysfunctional schools promote absenteeism and dropouts. Thus, how well the families and schools function is an important issue.
- (c) How to facilitate the schools to function better? Teachers have a number of genuine grievances and these have to be examined and resolved. They need to understand not the theory of play-away, child-friendly method but an actual demonstration and proof that these work.
- (d) The family and community concerns such as flexi-time and vacations accommodating farm work needs and that of migrant labour needs to be accommodated.
- (e) Understanding of socio-cultural background and appreciating them, instead of denigrating it is essential. Creativity can flourish when there is a healthy self-concept.
- (f) There is a need to have networking with the primary health-care personnel and *anganwadi* teachers.
- (g) The teacher who is in close touch with the community becomes a more effective teacher.

To conclude, *no child is untouchable or unteachable*. But the teachers make them so.

Implications

The present work has several implications. The first is that children can be the resource for promotion of their own psychological development and is mediated by age, gender and social class. Approaches to development should be inclusive of intervention of mental health and disabilities. However an integrated approach involving the health, education and welfare sectors is equally important in reaching out to children.

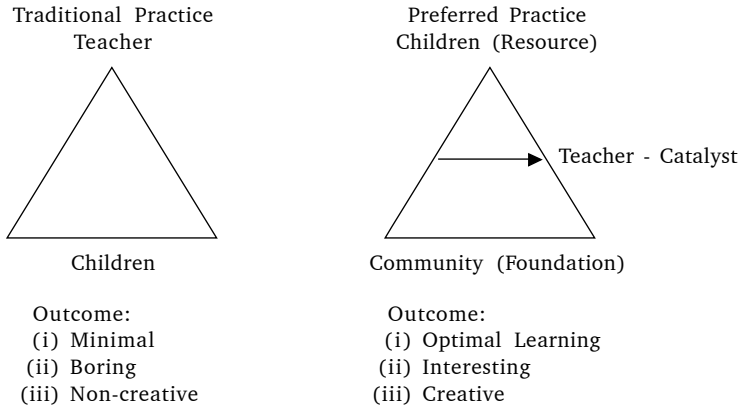
CHILDREN AS THE RESOURCE

(a) Promotion of child development in the contemporary context of developmental psychology emphasizes approaches which are creative, flexible and child-centred.

In developed nations especially for schools catering to the middle and upper strata of society, such approaches are widely practised. But these are expensive in terms of the toys and equipment and are manpower-intensive. In developing countries and in the disadvantaged populations across the world, such schooling remains beyond their dreams. The rural and urban government schools in India are unlikely to ever provide such educational facilities to their children in the near or far future.

In India, teachers are expected to use child-friendly methods in teaching while very few teachers are themselves child-friendly. They choose to follow traditional instructional methods, where teaching is unilateral, from the teacher to the child. It is essential to make them aware of the following:

Figure 3 Comparison of the *traditional* and the *preferred* methods:



Child-friendly methods are interactive and teacher-friendly. When these methods are used contrary to their expectations, teachers need *to teach less, prepare less and punish less!*

Teachers can learn more from the children, as children think for themselves, work on their own and are more creative and imaginative than adults. But the teacher needs to develop a healthy respect for the child's individuality and creativity.

(b) The Pyramid of Learning

The programme was evolved and evaluated objectively through psychological tests in terms of the outcome of the intervention. During the analysis of the *process*, we discovered that in the process of learning, *children are at the top*, teachers are in the *middle* and the community is at the *base* (Figure 3).

(c) Contexts and Intervention Linkages

Some of the variables that need to be taken into account for the preferred practices to succeed are—age, gender, schools and caste.

(i) Age and maturational age—

The activities or games that children get involved in should be appropriate to the age and the maturational age. For example, for young children who are unfamiliar with a pencil or slate stick, crayons are the best option; while children of the same age who are familiar with the use of brush and colours can use them

effectively. It is to be noted that age alone is a rough guide. Maturational age is when the previous experience of the child is taken into account as the main contributor to better performance. We find that pre-academic skills improve along with attention, memory, intelligence and creativity as a function of age and normal schooling. This is demonstrated by the baseline score on all the tests before the intervention (chapters 4 and 5). What is surprising is the leap that occurs in most children with intervention that consists of only 25 to 30 sessions of 90 minutes duration. It is as if they have caught up with the skills which normally take two years to catch up! An important point to make is that the pre-requisites for acquisition of pre-academic skills have already been put in motion. This gain cannot be lost unless the child drops out of school. Even if the intervention does not continue due to unavoidable reasons, the gains are substantial enough to give the child a head start. Skills such as simple colour and number concepts can be achieved very rapidly over a few hours. The gains in attention, memory, intelligence, creativity, arithmetic and vocabulary take longer time. But the time taken for the improvement is considerably shorter, being 20 to 25 hours, compared to the several months it takes as part of routine school hours. Even then the improvement may only be marginal as conventional methods of instruction are used.

Older children when they are given simple jigsaw puzzles initially find them very hard but soon enough want to be given difficult ones when they succeed with simple ones. The tasks have to be made more difficult as well as challenging. New games have to be introduced. Even when these are not provided, they would themselves introduce new and intricate steps to make the task more complex. Abstract activities such as life skills programmes are much appreciated and improvised by the children. With the older children there is much scope of innovations even in activities initiated by others.

(ii) Gender—

Younger girls in class one and two had better attention, vocabulary and arithmetic skills than the younger boys. However, the improvement was similar following intervention. The baseline performance of the boys was better than the girls. And the improvement with

intervention was somewhat similar. Better baseline performance in this age group could be due to advanced maturity levels or better opportunities offered by the environment. It may be speculated that in rural homes as the girls are required to attend more to the verbal instructions from adults and do the allotted chores, the boys may be exposed to more opportunities to explore the environment. With older children in classes three to seven, the attention functions remain better. The baseline intelligence which was higher in the earlier stages is not maintained in the higher classes. In Chapter 5, it was noted that girls do not gain as much as boys on academic skills. On the whole, it appears that in the domains of cognitive functioning and academics, girls start with an advantage but lose them during adolescence. This is somewhat similar to what is found in child psychiatric disorders. The rate for most disorders except emotional disorders are higher for boys when young and the girls lose the advantage as they reach adolescence. These changes are a product of biological, psychological and social differences and disparities. These developmental trajectories needs to be researched. However, these indicators help us to plan the interventions better.

(iii) School—

Schools which lack teacher commitment in general have impeded the improvement of children by not appreciating them or by being indifferent. In spite of these problems, children have shown substantial gains through our interventions. In contrast, in schools with better infrastructure and teacher motivation the baselines were better and improvements obviously not as much. Our impression is that no matter what the school is like, our programme works well because of the fact that the child is the resource. But there has to be an interested adult or an older child who can carry out the programmes and act as catalysts. The skill required is to provide the *time*, *space* and the *materials*. The person is a catalyst and does not need to be even a literate or skilled person. All that the children need is some encouragement and supervision.

(iv) Caste—

The teachers and the NGOs working in the areas believe that compared to the Kadu Kurubas, the Jenu Kurubas are more resistant

to formal schooling. Our data does not show any difference between the two groups. They are equally shy with strangers and very warm and friendly at the same time once you get to know them. The shyness and fear predominantly occurs in a traditional classroom setting with a strict teacher. Often the understanding that they have their own unique language, songs, dances and stories and gods helps them to see themselves as persons of merit when appreciated for it.

The high prevalence of pro-social behaviour and low aggressive behaviour among the tribals needs to be further examined. This exploration is timely and relevant in the background of increased aggression and violence in schools in most of the developed countries.

(d) Mental health and educational practices—

- (i) Management of disruptive and emotional difficulties of children in the classroom setting is possible.
- (ii) Aggression by the teachers needs to be managed to a greater extent than that in children.
- (iii) Hostility and frustration of the teachers mar educational practices and hence need to be resolved.
- (iv) Conflict resolution amongst children, their families and teachers needs to be focused on.

In summary, our approach promotes healthy and overall psychosocial development of the children leading to better academic performance and healthier interpersonal relationships in the school setting.

CRITICAL EVALUATION

Short-term benefits, however substantial, do not ensure long-term sustainability.

Successful innovative programmes all over the world have been questioned and discarded on the question of sustainability and applicability when tried on a nationwide scale. The present methodology is no exception. The following steps may ensure sustainability to some extent:

- (a) Two of the most important aspects are—*Practical exposure* (to helpers, parents, older children and teachers) and *hands on training* for teachers. This is essential for continued use of this methodology.
- (b) An agency to monitor and follow-up the programme and resolve short-term or long-term defaulting and put the programme back on the track.
- (c) Continued and assured supply of minimum materials required, preferably directly to the schools or arranging for payments (not reimbursements) when directly bought by the schools.
- (d) Study of the trajectory which the present batch of children take in the coming years, at least for ten years, to enable one to plan better use of the innovative methodology and compare the achievements of a group who have not been exposed to it.
- (e) It must however be noted that in the realm of developmental psychology, early gains are likely to provide a strong foundation.
- (f) For a large-scale transfer, the technology should be simple. What needs to be done with teachers is to bring about an attitudinal change to believing the child to be the centre of all the efforts. Elaborate training packages if given to them would only further strengthen the old style of instructional mode.

SOME RECOMMENDATIONS

National organizations like NCERT and international ones like UNICEF and the WHO can provide this simple methodology to reach out to larger sections of school population.

The recommendations broadly cover:

- (a) School children
- (b) Schoolteachers
- (c) Primary Health Centres (PHC)
- (d) Social welfare agencies, and
- (e) The Community

School Children

The methods to promote psycho-social development are child-centred.

The methods are based on principles validated in the current context of developmental psychology.

The methods are child-friendly such as free art and play.

- (a) The child initiates the learning process.
- (b) The child's perception of the world is explored.
- (c) The teacher is only a catalyst who provides time, space and appreciation.
- (d) The materials used are inexpensive and indigenously available.
- (e) While holistic development in the domains of intelligence, language, emotional, social and moral realms is promoted—the natural outcome is the enhancement of attention, memory, intellectual, creative, language and mathematics skills.
- (f) The activities have to be age or class appropriate, that is, developmentally appropriate, neither too easy nor too difficult.
- (g) Gender sensitivity needs to be incorporated to compensate for inequality in child rearing practices in the Indian context.
- (h) Ethnic sensitivity to the promotion of indigenous cultures needs to be incorporated.
- (i) The shift of focus of teachers from teaching, for the convenience of the adults to that of interest to the children.

School Teachers

- (a) Teachers need to be sensitized to crucial issues in normal child development.
- (b) Teachers need to have some orientation to mental health and disabilities among children to serve them better. For example, child mental health in terms of identification, referral and management and disabilities in terms of sensitivity, mainstreaming, follow-up and management
- (c) Establishing networks with PHC personnel and *anganwadi* workers.
- (d) Provision of support to disabled children by networking with the Social Welfare Board.

Primary Health Centre

Training of doctors and health workers to provide:

- (a) Integrated healthcare in the social setting
- (b) Identify children with mental health problems
- (c) Referral
- (d) Management and follow-up

Social Welfare Agencies

- (a) Special focus on ashram schools (especially since the Sarva Shiksha Abhiyana programme does not cover them).
- (b) Special focus on *anganwadis* for:
 - (i) Promotion of psycho-social development of pre-schoolers.
 - (ii) Identification, referral and follow-up of children with mental health problems.
 - (iii) Identification, referral and provision of ID Cards, aids or appliances for disabled children, by networking with the Department of the Welfare of the Disabled.

Community

Reaching out to the community to support the programmes in schools, to children, teachers and *anganwadi* workers. They should evince interest and provide all possible support to the schools. Contributions from all the segments can provide the best world for the children.

The integrated functioning of the five segments is the key to the success of any programme. Every cog in the wheel is important for the smooth forward movement of the wheel.

WHAT NEEDS TO BE DONE AT VARIOUS LEVELS?

National Level

- (a) Workshops for school teachers on child development, health in general, disabilities and mental health in particular to give a better understanding of children.

- (b) Introduction of a holistic and integrated approach at the level of training of the teachers.

International Level

The model developed is equally applicable to developed and developing nations, where there are poor educational infrastructures, *where there are few teachers; the child is the resource.*

In conclusion, I would like to express the sentiment by Professor Yash Pal who asks us to *learn from children what to teach them* (2005).

Appendix-I

Impact of intervention on the performance of rural school children means score difference of all test parameters between pre and post observed scores, across the class and schools. The Wilcoxon Signed Rank has been used as a non-parametric analogous to student tests, wherever the scores are deviating from normal distribution. The effect size due to Cohen has been computed to find the effect of treatment of each educational test parameters.

A statistical software namely, SPSS 11.0 and Systat 8.0 were used for the analysis of the data and Microsoft Word and Excel have been used to generate graphs, tables and so on.

EFFECT SIZE DUE TO COHEN (D)

- (a) <0.2 No effect
- (b) 0.2-0.5 Mild level Effect
- (c) 0.5-0.8 Moderate level Effect
- (d) >0.8 Large Effect
- (e) >1.2 Very Large Effect

Table 1: Frequency Distribution by Class

<i>Class</i>	<i>Number</i>	<i>Percentage</i>
I standard	81	7.44
II standard	107	9.83
III standard	136	12.50
IV standard	142	13.05
V standard	168	15.44
VI standard	190	17.46

VII standard	117	10.75
VIII standard	112	10.29
IX standard	35	3.22
Total	1,088	100.00

Table 2a: Effect of Intervention on the Performance of Children of First and Second Standard

<i>Tests</i>	<i>N</i>	<i>Pre- M SD</i>	<i>Post- M SD</i>	<i>Significance T</i>	<i>Effect Size</i>
SFB	161	144.47 ± 57.79	133.34 ± 48.53	<i>P</i> < .01**	0.21†
Attention 1	166	22.54 ± 7.74	25.39 ± 8.26	<i>P</i> < .01**	0.36†
Attention 2	166	30.37 ± 14.04	32.32 ± 13.43	<i>P</i> < .01**	0.14

Table 2b: Effect of Intervention on the Performance of Children of Third to Seventh Standard

<i>Tests</i>	<i>N</i>	<i>Pre- M SD</i>	<i>Post- M SD</i>	<i>Significance t</i>	<i>Effect Size</i>
CPM	637	14.78 ± 5.84	16.48 ± 6.83	<i>p</i> < .01**	0.27 †
Attention 1	642	23.60 ± 12.16	31.26 ± 13.86	<i>p</i> < .01**	0.59 ††
Attention 2	636	34.74 ± 13.86	47.64 ± 27.22	<i>p</i> < .01**	0.60 ††
Arithmetic	645	18.88 ± 11.44	22.33 ± 10.84	<i>p</i> < .01**	0.31 †
Vocabulary	619	10.49 ± 5.75	13.44 ± 8.14	<i>p</i> < .01**	0.42 †
Creativity	355	16.29 ± 7.50	17.58 ± 7.20	<i>p</i> < .01**	0.18

Table 2c: Effect of Intervention on the Performance of Children of Eighth and Ninth Standard

<i>Tests</i>	<i>N</i>	<i>Pre- M SD</i>	<i>Post- M SD</i>	<i>Significance t</i>	<i>Effect Size</i>
SPM	101	24.48 ± 9.87	29.36 ± 9.75	<i>p</i> < .01**	0.46††
Attention 1	103	45.90 ± 11.24	54.45 ± 15.48	<i>p</i> < .01**	0.65†††
Attention 2	104	59.79 ± 25.88	131.43 ± 55.02	<i>p</i> < .01**	1.67†††
Arithmetic	101	34.51 ± 10.16	36.27 ± 9.41	<i>p</i> < .05*	0.18
Vocabulary	103	20.31 ± 7.26	23.12 ± 7.57	<i>p</i> < .05*	0.38†
Creativity	90	16.87 ± 7.72	19.35 ± 6.47	<i>p</i> < .01**	0.35†

Table 3: Two Assessments with Three Months Gap without Intervention

	Intelligence	Attention 1	Attention 2	Vocabulary	Arithmetic	Creativity
Class I	175.25	12.80	12.90	—	—	—
	176.05	12.75	12.00	—	—	—
	p>.05 N=4	p>.05 N=4	p>.05 N=4	—	—	—
Class II	98.75	27.13	34.50	—	—	—
	98.44	27.94	35.11	—	—	—
	p>.05 N=18	p>.05 N=18	p>.05 N=18	—	—	—
Class III	13.40	22.45	27.40	9.82	7.20	18.45
	13.56	27.40	27.60	9.00	8.30	18.00
	p>.05 N=10	p>.05 N=10	p>.05 N=10	p>.05 N=10	p>.05 N=10	p>.05 N=10
Class IV	13.04	21.04	30.17	11.63	13.00	20.09
	12.09	22.91	35.76	10.45	16.75	19.80
	p>.05 N=22	p>.05 N=23	p>.05 N=23	p>.05 N=23	p>.05 N=23	p>.05 N=22
Class V	14.78	29.37	32.32	12.00	14.79	20.79
	14.92	30.53	32.65	11.17	15.71	22.60
	p>.05 N=18	p>.05 N=19	p>.05 N=18	p>.05 N=19	p>.05 N=18	p>.05 N=18

(Continued)

(Continued)

	Intelligence SFB I-II CPM III-VII SPM VIII	Attention 1	Attention 2	Vocabulary	Arithmetic	Creativity
Class VI	16.54 16.49 p>.05 N=92	28.90 28.28 p>.05 N=63	38.92 37.14 p>.05 N=58	12.49 14.17 p>.05 N=67	29.16 28.89 p>.05 N=76	17.97 20.09 p>.05 N=76
Class VII	23.05 23.11 p>.05 N=19	28.40 28.00 p>.05 N=19	44.80 44.89 p>.05 N=19	18.55 18.00 p>.05 N=19	28.00 29.17 p>.05 N=18	21.20 21.32 p>.05 N=19
Class VIII	24.21 22.20 p>.05 N=78	42.18 43.16 p>.05 N=124	57.72 54.41 p>.05 N=121	19.72 19.80 p>.05 N=64	32.86 34.21 p>.05 N=138	15.46 18.82 p<.05* N=94

AGE TRENDS

Table 4a: Pre and Post-performance of Children in Class 1 and Class 2

	<i>Class I</i>		<i>Class II</i>	
	<i>N</i>	<i>M</i>	<i>N</i>	<i>M</i>
SFB*	66	172.25 152.93	95	125.16 119.73
Attention 1	70	19.97 22.85	96	24.41 27.23
Attention 2	70	24.87 27.09	96	34.38 36.14

* Speed of performance. Quicker the time, higher the score and hence, better the performance.

Table 4b: Pre- and Post-assessment of the Individual Classes from Third to Ninth Standard

	III		IV		V		VI		VII		VIII		IX	
	N	M	N	M	N	M	N	M	N	M	N	M	N	M
RPM	119	13.44	125	14.38	144	15.89	139	17.68	110	20.63	52	29.40	25	31.72
Attention 1	117	21.09	119	27.26	144	30.31	153	36.54	108	38.79	53	54.56	31	38.39*
Attention 2	112	29.98	123	43.97	139	48.49	154	53.94	108	58.09	54	137.30	29	69.14
Arithmetic	116	12.75	119	17.36	145	20.88	153	28.78	109	28.89	53	37.75	31	38.23
Vocabulary	113	8.40	124	11.15	133	11.72	150	14.24	99	22.32	53	22.26	34	28.53
Creativity	50	14.76	68	16.54	90	18.16	72	18.57	75	18.21	46	21.00	31	21.48

GENDER TRENDS

Table 5a: Effect of Intervention on the Performance of Male Children of First and Second Standard

Tests	N	Pre-		Post-		Significance t	Effect Size
		M	SD	M	SD		
SFB	68	145.74	± 61.59	135.79	± 50.88	p<.05*	0.18
Attention 1	68	22.34	± 7.71	25.53	± 8.29	p<.01**	0.40†
Attention 2	68	28.98	± 12.58	31.86	± 12.88	p<.01**	0.23†

Table 5b: Effect of Intervention on the Performance of Female Children of First and Second Standard

Tests	N	Pre-		Post-		Significance t	Effect Size
		M	SD	M	SD		
SFB	93	143.54	± 55.15	131.55	± 46.68	p<.01**	0.23†
Attention 1	98	22.67	± 7.80	25.30	± 8.28	p<.01**	0.33†
Attention 2	98	31.33	± 14.96	32.63	± 13.85	p<.01**	0.09

Table 5c: Effect of Intervention on the Performance of Male Children of Third To Seventh Standard

Tests	N	Pre-		Post-		Significance t	Effect Size
		M	SD	M	SD		
CPM	308	15.12	± 6.14	16.90	± 7.41	p<.01**	0.26†
Attention 1	309	22.90	± 19.92	30.35	± 13.80	p<.01**	0.60††
Attention 2	304	34.23	± 14.11	47.36	± 30.30	p<.01**	0.56††
Arithmetic	309	19.80	± 11.71	23.56	± 12.12	p<.01**	0.32†
Vocabulary	295	10.91	± 5.66	13.64	± 8.44	p<.01**	0.38†
Creativity	172	17.78	± 7.64	18.34	± 7.65	p<.05*	0.07

Table 5d: Effect of Intervention on the Performance of Female Children of Third To Seventh Standard

<i>Tests</i>	<i>N</i>	<i>Pre-</i>		<i>Post-</i>		<i>Significance</i> <i>t</i>	<i>Effect</i> <i>Size</i>
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
CPM	329	14.48 ± 5.60		16.06 ± 6.42		p<.01**	0.27†
Attention 1	334	24.07 ± 12.90		31.63 ± 13.84		p<.01**	0.55††
Attention 2	332	35.35 ± 15.23		47.16 ± 25.25		p<.01**	0.57††
Arithmetic	335	17.56 ± 10.85		20.52 ± 10.74		p<.01**	0.27†
Vocabulary	324	11.11 ± 5.63		13.83 ± 7.93		p<.01**	0.42†
Creativity	182	14.49 ± 6.74		17.08 ± 6.88		p<.01**	0.32†

Table 5e: Effect of Intervention on the Performance of Male Children of Eighth Standard

<i>Tests</i>	<i>N</i>	<i>Pre-</i>		<i>Post-</i>		<i>Significance</i> <i>t</i>	<i>Effect</i> <i>Size</i>
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
SPM	52	27.13 ± 8.95		29.40 ± 9.34		p<.05*	0.25†
Attention 1	53	41.55 ± 10.14		54.66 ± 18.11		p<.01**	0.89†††
Attention 2	54	61.83 ± 36.19		137.30 ± 65.00		p<.01**	0.43†
Arithmetic	53	34.32 ± 11.39		37.75 ± 8.79		p<.01**	0.34†
Vocabulary	53	20.00 ± 7.35		22.26 ± 7.95		p<.05*	0.29†
Creativity	46	16.19 ± 7.89		21.00 ± 7.21		p<.01**	0.64††

Table 5f: Effect of Intervention on the Performance of Female Children of Eighth Standard

<i>Tests</i>	<i>N</i>	<i>Pre-</i>		<i>Post-</i>		<i>Significance</i> <i>t</i>	<i>Effect</i> <i>size</i>
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
SPM	49	21.98 ± 8.96		28.12 ± 8.06		p<.01**	0.72†††
Attention 1	50	23.78 ± 13.04		64.00 ± 11.08		p<.01**	1.67†††
Attention 2	50	55.40 ± 16.53		160.66 ± 54.45		p<.01**	2.61†††
Arithmetic	48	32.50 ± 9.81		33.38 ± 9.60		p<.05*	0.09
Vocabulary	50	19.28 ± 7.24		20.34 ± 7.81		p<.05*	0.14
Creativity	44	14.95 ± 7.83		16.14 ± 5.39		p<.05*	0.17

Appendix-II

IMPACT OF INTERVENTION ON THE PERFORMANCE OF CHILDREN IN ASHRAM SCHOOLS

Sample Description: Basic Characteristics

Table 1: Sex Distribution

<i>Sex</i>	<i>Presentation</i>		<i>Absent</i>	
	<i>Number</i>	<i>Percentage</i>	<i>Number</i>	<i>Percentage</i>
Boys	252	47.63	14	5.55
Girls	277	52.36	21	7.58
Total	529	100.00	35	6.62

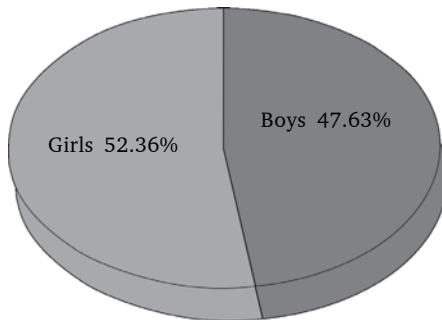


Table 2: Distribution of Staying

<i>Staying in</i>	<i>Number</i>	<i>Percentage</i>
House	335	63.33
Hostel/School	194	36.67
Total	529	100.00

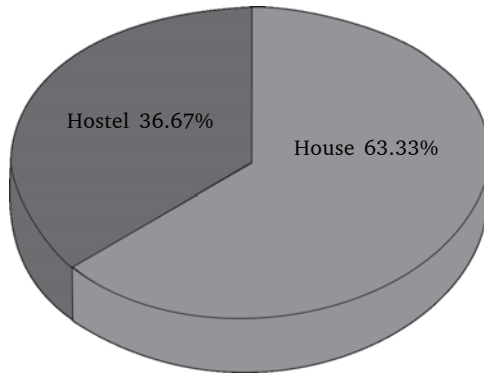


Table 3: Caste Distribution

<i>Caste</i>	<i>Number</i>	<i>Percentage</i>
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	100.00

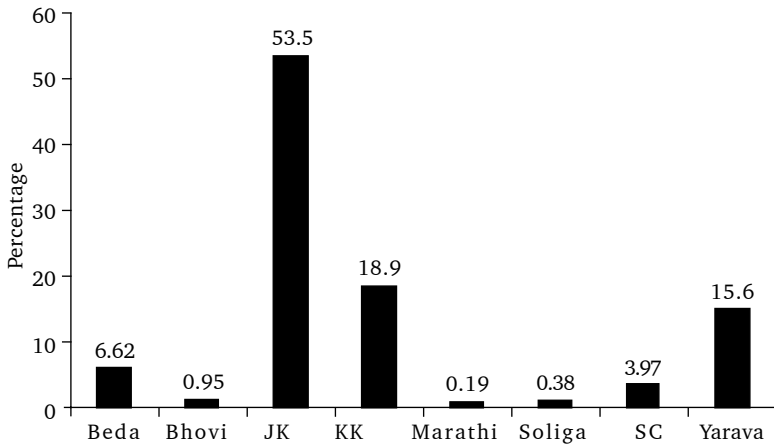
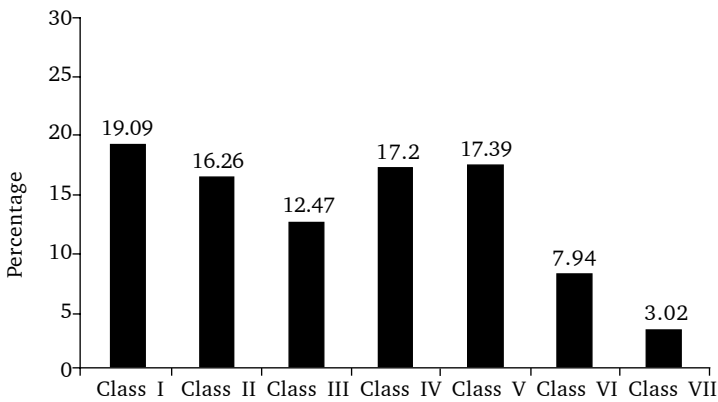


Table 4: Class Distribution (Excluding Absent)

<i>Class</i>	<i>Number</i>	<i>Percentage</i>
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	100.00

**Table 5: First Standard**

<i>Parameter</i> (<i>n=103</i>)	<i>Pre-Score</i>	<i>Post-Score</i>	<i>P value</i>	<i>ES (d)</i>
Attention 1	24.66 ± 8.21	27.84 ± 3.95	0.000	0.49
Attention 2	42.01 ± 16.08	49.50 ± 10.39	0.000	0.55
Memory	14.22 ± 7.79	23.36 ± 6.29	0.000	1.29
SFB	165.24 ± 64.25	124.62 ± 48.34	0.000	0.71
Vocabulary	3.66 ± 2.76	6.53 ± 1.47	0.000	1.29
Arithmetic	4.34 ± 4.29	12.41 ± 4.28	0.000	1.88

Table 6: Second Standard

<i>Parameter</i> (<i>n=87</i>)	<i>Pre-Score</i>	<i>Post-Score</i>	<i>P Value</i>	<i>ES (d)</i>
Attention 1	27.05 ± 4.16	28.94 ± 2.11	0.000	0.57
Attention 2	48.94 ± 11.99	54.04 ± 6.93	0.001	0.52
Memory	23.56 ± 7.25	27.79 ± 5.06	0.000	0.68
SFB	136.19 ± 55.70	105.97 ± 32.15	0.000	0.66
Vocabulary	5.77 ± 2.18	7.08 ± 0.97	0.000	0.77
Arithmetic	9.19 ± 5.43	16.11 ± 3.72	0.000	1.49

Table 7: Kibbepura (First and Second Standard Combined)

<i>Parameter</i> (<i>n=20</i>)	<i>Pre-Score</i>	<i>Post-Score</i>	<i>P Value</i>	<i>ES (d)</i>
Attention 1	26.60 ± 3.31	27.25 ± 4.14	0.588	0.17
Attention 2	40.55 ± 15.28	51.35 ± 11.73	0.007	0.79
Memory	14.00 ± 6.97	18.80 ± 7.61	0.014	0.66
SFB	143.80 ± 26.32	134.20 ± 35.34	0.385	0.31
Vocabulary	3.05 ± 2.25	6.00 ± 1.03	0.000	1.69
Arithmetic	1.95 ± 2.03	11.45 ± 2.91	0.000	3.78

Table 8: Channanagundi (First and Second Standard Combined)

<i>Parameter</i> (<i>n=30</i>)	<i>Pre-Score</i>	<i>Post-Score</i>	<i>P Value</i>	<i>ES (d)</i>
Attention 1	26.43 ± 7.52	28.03 ± 2.67	0.246	0.28
Attention 2	46.43 ± 16.89	52.70 ± 6.39	0.045	0.49
Memory	15.60 ± 10.46	27.80 ± 5.39	0.000	1.47
SFB	153.87 ± 49.45	99.03 ± 23.39	0.000	1.41
Vocabulary	3.07 ± 2.13	6.63 ± 1.03	0.000	2.13
Arithmetic	6.00 ± 4.38	14.97 ± 3.76	0.000	2.19

Table 9: Penjally (First and Second Standard Combined)

<i>Parameter</i> (n=34)	<i>Pre-Score</i>	<i>Post-Score</i>	<i>P Value</i>	<i>ES (d)</i>
Attention 1	25.44 ± 9.11	27.85 ± 4.72	0.176	0.33
Attention 2	45.12 ± 13.91	53.29 ± 9.56	0.009	0.68
Memory	22.53 ± 8.68	28.24 ± 4.70	0.000	0.82
SFB	161.35 ± 59.44	110.88 ± 31.67	0.000	1.05
Vocabulary	5.67 ± 3.73	7.35 ± 0.48	0.013	0.63
Arithmetic	6.29 ± 5.50	17.62 ± 2.51	0.000	2.65

Table 10: Bhimanahally (First and Second Standard Combined)

<i>Parameter</i> (n=26)	<i>Pre-Score</i>	<i>Post-Score</i>	<i>P Value</i>	<i>ES (d)</i>
Attention 1	23.00 ± 7.66	28.96 ± 3.29	0.000	1.01
Attention 2	43.54 ± 14.87	42.79 ± 11.35	0.757	-0.06
Memory	17.92 ± 9.32	19.68 ± 6.36	0.209	0.22
SFB	160.63 ± 70.31	116.21 ± 68.54	0.000	0.63
Vocabulary	6.76 ± 2.27	6.20 ± 1.50	0.312	-0.29
Arithmetic	6.13 ± 4.66	10.46 ± 4.88	0.000	0.90

Table 11: D.B. Kuppe (First and Second Standard Combined)

<i>Parameter</i> (n=33)	<i>Pre-Score</i>	<i>Post-Score</i>	<i>P Value</i>	<i>ES (d)</i>
Attention 1	26.48 ± 4.64	28.52 ± 2.49	0.060	0.55
Attention 2	45.61 ± 14.40	52.24 ± 7.78	0.020	0.57
Memory	16.24 ± 8.55	26.74 ± 3.89	0.000	1.58
SFB	152.97 ± 92.51	108.97 ± 54.22	0.007	0.58
Vocabulary	3.61 ± 1.64	6.27 ± 1.48	0.000	1.70
Arithmetic	7.60 ± 4.78	12.91 ± 3.40	0.000	1.28

Table 12: Jakkally (First and Second Standard Combined)

<i>Parameter</i> (n=28)	<i>Pre-Score</i>	<i>Post-Score</i>	<i>P Value</i>	<i>ES (d)</i>
Attention 1	25.77 ± 6.32	29.12 ± 2.14	0.016	0.69
Attention 2	44.40 ± 12.25	55.27 ± 5.13	0.000	1.16
Memory	24.14 ± 6.27	26.25 ± 4.11	0.096	0.39
SFB	136.56 ± 39.92	116.56 ± 24.33	0.033	0.61
Vocabulary	4.11 ± 1.50	7.41 ± 1.34	0.000	2.27
Arithmetic	9.93 ± 6.58	13.33 ± 5.27	0.006	0.57

Table 13: Metikuppe (First and Second Standard Combined)

<i>Parameter (n=19)</i>	<i>Pre-Score</i>	<i>Post-Score</i>	<i>P Value</i>	<i>ES (d)</i>
Attention 1	26.58 ± 5.35	28.84 ± 2.19	0.074	0.55
Attention 2	50.42 ± 15.41	52.37 ± 7.54	0.624	0.16
Memory	19.47 ± 5.03	27.58 ± 2.61	0.000	1.42
SFB	149.95 ± 62.28	146.21 ± 25.64	0.796	0.08
Vocabulary	6.60 ± 1.51	7.55 ± 1.05	0.011	0.73
Arithmetic	7.26 ± 6.45	17.26 ± 2.10	0.000	2.08

Table 14: Females (First and Second Standard Combined)

<i>Parameter (n=94)</i>	<i>Pre-Score</i>	<i>Post-Score</i>	<i>P Value</i>	<i>ES (d)</i>
Attention 1	25.70 ± 6.44	28.19 ± 3.90	0.001	0.47
Attention 2	44.88 ± 14.65	51.53 ± 9.81	0.000	0.53
Memory	18.20 ± 8.34	25.36 ± 6.11	0.000	0.97
SFB	160.01 ± 72.50	121.95 ± 47.33	0.000	0.62
Vocabulary	4.26 ± 2.64	6.71 ± 1.37	0.000	1.16
Arithmetic	6.43 ± 5.78	13.95 ± 4.61	0.000	1.44

Table 15: Males (First and Second Standard Combined)

<i>Parameter (n=96)</i>	<i>Pre-Score</i>	<i>Post-Score</i>	<i>P Value</i>	<i>ES (d)</i>
Attention 1	25.85 ± 7.01	28.52 ± 2.53	0.000	0.51
Attention 2	45.51 ± 14.75	51.81 ± 8.67	0.000	0.52
Memory	18.80 ± 9.35	25.43 ± 6.23	0.000	0.83
SFB	143.50 ± 48.71	110.58 ± 36.65	0.000	0.76
Vocabulary	5.01 ± 2.75	6.86 ± 1.21	0.000	0.87
Arithmetic	6.93 ± 5.28	14.35 ± 4.25	0.000	1.55

Table 16: Overall (First and Second Standard Combined)

<i>Parameter (n=190)</i>	<i>Pre-Score</i>	<i>Post-Score</i>	<i>P Value</i>	<i>ES (d)</i>
Attention 1	25.78 ± 6.72	28.36 ± 3.26	0.000	0.49
Attention 2	45.20 ± 14.66	51.67 ± 9.22	0.000	0.53
Memory	18.75 ± 8.88	25.42 ± 6.09	0.000	0.88
SFB	151.58 ± 61.94	116.14 ± 42.48	0.000	0.67
Vocabulary	4.64 ± 2.71	6.79 ± 1.29	0.000	1.01
Arithmetic	6.69 ± 5.52	14.15 ± 4.43	0.000	1.49

ANALYSIS FOR THIRD TO SEVENTH STANDARD

Table 17: Kibbepura

<i>Parameter (n=36)</i>	<i>Pre-Score</i>	<i>Post-Score</i>	<i>P Value</i>	<i>ES (d)</i>
Attention 1	19.94 ± 11.27	33.69 ± 15.07	0.000	1.03
Attention 2	34.20 ± 12.64	56.54 ± 17.75	0.000	1.44
Memory	75.54 ± 20.76	87.06 ± 16.32	0.010	0.62
CPM	14.86 ± 4.29	19.46 ± 4.66	0.000	1.02
Vocabulary	8.31 ± 2.44	13.03 ± 3.29	0.000	1.62
Arithmetic	12.88 ± 10.16	23.77 ± 5.54	0.000	1.33
Creativity	15.40 ± 5.27	26.20 ± 9.96	0.000	1.36

Table 18: Channanagundi

<i>Parameter (n=25)</i>	<i>Pre-Score</i>	<i>Post-Score</i>	<i>P Value</i>	<i>ES (d)</i>
Attention 1	18.44 ± 6.08	34.44 ± 9.99	0.000	1.93
Attention 2	28.28 ± 9.35	77.16 ± 23.01	0.000	2.78
Memory	81.15 ± 19.76	91.48 ± 13.95	0.001	0.60
CPM	11.40 ± 2.84	19.68 ± 4.66	0.000	2.15
Vocabulary	8.72 ± 4.60	12.00 ± 2.65	0.007	0.87
Arithmetic	18.48 ± 7.37	24.48 ± 5.25	0.000	0.94
Creativity	16.56 ± 12.91	27.36 ± 11.15	0.000	0.89

Table 19: Penjally

<i>Parameter (n=44)</i>	<i>Pre-Score</i>	<i>Post-Score</i>	<i>P Value</i>	<i>ES (d)</i>
Attention 1	17.75 ± 6.97	25.16 ± 11.45	0.000	0.78
Attention 2	28.70 ± 9.19	33.41 ± 15.82	0.058	0.36
Memory	79.95 ± 16.84	95.31 ± 10.52	0.000	1.09
CPM	12.82 ± 3.68	15.52 ± 6.25	0.014	0.52
Vocabulary	12.14 ± 5.35	13.39 ± 3.39	0.123	0.28
Arithmetic	14.95 ± 8.86	23.79 ± 6.33	0.000	1.15
Creativity	4.05 ± 5.46	33.57 ± 9.33	0.000 ^w	4.56

Table 20: Bhimanahally

<i>Parameter (n=52)</i>	<i>Pre-Score</i>	<i>Post-Score</i>	<i>P Value</i>	<i>ES (d)</i>
Attention 1	19.13 ± 8.21	24.44 ± 10.33	0.002	0.57
Attention 2	28.78 ± 11.67	35.13 ± 13.77	0.009	0.49
Memory	79.85 ± 18.44	98.02 ± 18.25	0.000	0.99
CPM	12.63 ± 4.98	14.88 ± 5.60	0.000	0.41
Vocabulary	12.29 ± 6.09	14.26 ± 5.77	0.003	0.33
Arithmetic	19.56 ± 8.85	21.50 ± 10.33	0.115	0.20
Creativity	19.78 ± 14.54	24.81 ± 12.92	0.025 ^w	0.37

Table 21: D.B. Kuppe

<i>Parameter (n=57)</i>	<i>Pre-Score</i>	<i>Post-Score</i>	<i>P Value</i>	<i>ES (d)</i>
Attention 1	21.65 ± 11.12	27.57 ± 11.70	0.006	0.52
Attention 2	32.16 ± 9.63	34.15 ± 9.28	0.164	0.21
Memory	74.89 ± 16.94	99.22 ± 13.63	0.000	1.58
CPM	10.40 ± 5.68	15.86 ± 5.29	0.000	0.99
Vocabulary	8.95 ± 3.92	13.24 ± 4.72	0.000	0.98
Arithmetic	16.35 ± 6.18	30.54 ± 5.78	0.000	2.37
Creativity	21.26 ± 12.29	38.92 ± 10.46	0.000	1.55

Table 22: Jakkally

<i>Parameter (n=66)</i>	<i>Pre-Score</i>	<i>Post-Score</i>	<i>P Value</i>	<i>ES (d)</i>
Attention 1	28.77 ± 8.78	37.77 ± 17.29	0.000	0.67
Attention 2	37.89 ± 10.04	46.22 ± 16.67	0.000	0.61
Memory	99.54 ± 16.17	105.62 ± 13.82	0.003	0.40
CPM	17.58 ± 7.21	20.85 ± 7.51	0.001	0.44
Vocabulary	13.88 ± 5.90	19.39 ± 6.84	0.000	0.86
Arithmetic	27.21 ± 11.57	32.85 ± 7.43	0.000	0.58
Creativity	22.65 ± 10.11	42.52 ± 9.26	0.000	2.05

PERFORMANCE ACROSS AGE (CLASS)

Table 23: Metikuppe

<i>Parameter (n=27)</i>	<i>Pre-Score</i>	<i>Post-Score</i>	<i>P Value</i>	<i>ES (d)</i>
Attention 1	22.77 ± 8.72	21.96 ± 6.29	0.636	-0.11
Attention 2	34.85 ± 13.56	35.00 ± 8.55	0.961	0.01
Memory	59.56 ± 13.91	76.80 ± 12.71	0.000	1.29
CPM	11.48 ± 2.99	13.26 ± 4.81	0.079	0.44
Vocabulary	9.44 ± 4.87	11.52 ± 2.35	0.046	0.54
Arithmetic	20.11 ± 10.37	19.93 ± 4.46	0.921	-0.02
Creativity	8.19 ± 7.45	26.41 ± 10.26	0.000 ^w	2.03

Table 24: Females (Third to Seventh Standard Combined)

<i>Parameter (n=164)</i>	<i>Pre-Score</i>	<i>Post-Score</i>	<i>P Value</i>	<i>ES (d)</i>
Attention 1	23.25 ± 9.19	30.60 ± 14.17	0.000	0.62
Attention 2	35.07 ± 10.41	45.56 ± 21.05	0.000	0.63
Memory	80.75 ± 20.88	95.95 ± 17.88	0.000	0.78
CPM	13.35 ± 5.18	17.15 ± 6.07	0.000	0.64
Vocabulary	11.04 ± 5.21	14.32 ± 5.41	0.000	0.62
Arithmetic	19.46 ± 10.12	26.59 ± 8.61	0.000	0.76
Creativity	16.64 ± 12.73	31.67 ± 12.32	0.000	1.21

Table 25: Males (Third to Seventh Standard Combined)

<i>Parameter (n=143)</i>	<i>Pre-Score</i>	<i>Post-Score</i>	<i>P Value</i>	<i>ES (d)</i>
Attention 1	20.26 ± 10.31	28.64 ± 13.61	0.000	0.45
Attention 2	29.55 ± 11.49	40.01 ± 17.62	0.000	0.74
Memory	81.20 ± 20.44	95.69 ± 14.84	0.000	0.81
CPM	13.15 ± 6.33	17.29 ± 6.78	0.000	0.63
Vocabulary	10.95 ± 5.66	14.71 ± 5.73	0.000	0.66
Arithmetic	18.83 ± 10.68	26.06 ± 8.21	0.000	0.75
Creativity	16.65 ± 11.98	36.73 ± 27.84	0.000 ^w	0.94

Table 26: Third Standard

<i>Parameter (n=66)</i>	<i>Pre-Score</i>	<i>Post-Score</i>	<i>P Value</i>	<i>ES (d)</i>
Attention 1	17.50 ± 7.36	25.64 ± 16.02	0.000	0.65
Attention 2	27.06 ± 8.33	40.01 ± 23.84	0.000	0.73
Memory	62.31 ± 16.44	82.44 ± 15.73	0.000	1.01
CPM	11.23 ± 3.81	14.24 ± 4.97	0.000	0.68
Vocabulary	7.50 ± 3.41	11.32 ± 3.62	0.000	1.09
Arithmetic	12.78 ± 8.08	19.39 ± 7.93	0.000	0.82
Creativity	7.71 ± 8.34	25.12 ± 13.16	0.000 ^w	1.58

Table 27: Fourth Standard

<i>Parameter (n=91)</i>	<i>Pre-Score</i>	<i>Post-Score</i>	<i>P Value</i>	<i>ES (d)</i>
Attention 1	18.90 ± 8.34	26.47 ± 11.03	0.000	0.77
Attention 2	29.45 ± 11.15	40.31 ± 18.90	0.000	0.69
Memory	75.46 ± 17.98	93.96 ± 10.86	0.000	1.15
CPM	11.90 ± 5.08	16.46 ± 5.42	0.000	0.87
Vocabulary	9.35 ± 3.97	13.33 ± 4.23	0.000	0.97
Arithmetic	17.58 ± 8.06	25.70 ± 7.33	0.000	1.05
Creativity	15.84 ± 11.54	35.99 ± 33.53	0.000 ^w	0.80

Table 28: Fifth Standard

<i>Parameter (n=92)</i>	<i>Pre-Score</i>	<i>Post-Score</i>	<i>P Value</i>	<i>ES (d)</i>
Attention 1	23.51 ± 10.77	30.66 ± 11.27	0.000	0.65
Attention 2	34.37 ± 11.25	45.27 ± 18.78	0.000	0.70
Memory	86.08 ± 19.57	97.47 ± 15.97	0.000	0.72
CPM	14.00 ± 6.20	18.71 ± 6.56	0.000	0.74
Vocabulary	12.05 ± 5.17	14.54 ± 4.20	0.000	0.53
Arithmetic	20.56 ± 9.95	27.84 ± 6.36	0.000	0.87
Creativity	19.02 ± 12.75	35.03 ± 11.79	0.000	1.30

Table 29: Sixth Standard

<i>Parameter</i> (<i>n=42</i>)	<i>Pre-Score</i>	<i>Post-Score</i>	<i>P Value</i>	<i>ES (d)</i>
Attention 1	27.19 ± 8.46	32.35 ± 12.92	0.015	0.47
Attention 2	39.21 ± 9.78	42.83 ± 15.19	0.112	0.28
Memory	93.39 ± 13.53	110.81 ± 8.26	0.000	1.56
CPM	16.07 ± 5.59	16.54 ± 6.36	0.570	0.08
Vocabulary	14.85 ± 5.51	17.52 ± 4.06	0.006	0.55
Arithmetic	23.33 ± 9.87	32.07 ± 7.28	0.000	1.01
Creativity	25.90 ± 10.99	39.24 ± 7.86	0.000	1.39

Table 30: Seventh Standard

<i>Parameter</i> (<i>n=16</i>)	<i>Pre-Score</i>	<i>Post-Score</i>	<i>P Value</i>	<i>ES (d)</i>
Attention 1	33.60 ± 6.71	51.53 ± 14.19	0.000	1.61
Attention 2	44.27 ± 5.64	58.07 ± 14.16	0.001	1.28
Memory	109.88 ± 13.42	111.00 ± 20.13	0.841	0.07
CPM	19.27 ± 5.70	27.40 ± 4.55	0.000	1.58
Vocabulary	18.00 ± 4.86	26.93 ± 9.22	0.001	1.21
Arithmetic	34.53 ± 9.99	35.20 ± 7.78	0.848	0.07
Creativity	20.40 ± 7.83	40.40 ± 11.04	0.000	2.09

Table 31: Overall

<i>Parameter</i> (<i>n=306</i>)	<i>Pre-Score</i>	<i>Post-Score</i>	<i>P Value</i>	<i>ES (d)</i>
Attention 1	21.86 ± 9.82	29.68 ± 13.92	0.000	0.65
Attention 2	32.49 ± 11.25	42.97 ± 19.69	0.000	0.65
Memory	80.95 ± 20.65	95.86 ± 16.45	0.000	0.79
CPM	13.36 ± 5.75	17.22 ± 6.41	0.000	0.63
Vocabulary	11.00 ± 5.42	14.50 ± 5.55	0.000	0.64
Arithmetic	19.17 ± 10.38	26.35 ± 8.42	0.000	0.76
Creativity	16.65 ± 12.37	34.03 ± 21.14	0.000 ^w	1.01

PERFORMANCE ACROSS TESTS

Table 32: Attention Test (Simple and Complex) from Class 1 to 7

<i>Class</i>	<i>Sample Size</i>	<i>Before</i>	<i>After</i>	<i>P Value</i>	<i>Effect Size</i>
Class 1	100	24.66 42.01	27.84 49.50	0.000	0.71 0.55
Class 2	87	27.05 48.94	28.94 54.04	0.000	0.57 0.52
Class 3	66	17.50 27.06	25.64 40.01	0.000	0.65 0.73
Class 4	91	18.90 29.45	26.47 40.31	0.000	0.87 0.77
Class 5	92	23.51 34.37	30.66 45.27	0.000	0.65 0.70
Class 6	42	27.19 39.21	32.35 42.83	0.015 0.012	0.47 0.28
Class 7	16	33.60 44.27	51.53 58.07	0.000 0.001	1.61 1.28

Note: Complex Attention Scores is Given in Bold Letters.

Table 33: Memory Test from Class 1 to 7

<i>Class</i>	<i>Before</i>	<i>After</i>	<i>P Value</i>	<i>Effect Size</i>
Class 1	18.20 (8.34)	25.36 (6.11)	0.000	1.29
Class 2	23.56 (7.25)	27.79 (5.06)	0.000	0.68
Class 3	62.31 (16.44)	82.44 (15.73)	0.000	1.01
Class 4	75.46 (17.98)	93.96 (10.86)	0.000	1.15
Class 5	86.08 (19.57)	97.47 (15.97)	0.000	0.72
Class 6	93.39 (13.53)	110.81 (8.26)	0.000	1.56
Class 7	109.88 (13.42)	111.00 (20.13)	0.841	0.07

Table 34: Intelligence Test Performance on Seguin Form Board of Class 1 and 2

<i>Class</i>	<i>Sample Size</i>	<i>Time Taken</i>		<i>P Value</i>	<i>Effect Size</i>
		<i>Before</i>	<i>After</i>		
Class 1	100	165.24	124.62	0.000	0.71
Class 2	87	136.19	105.97	0.000	0.66
Classes 1&2	187	151.58	116.14	0.000	0.49

Table 35: Arithmetic Test Performance of Class 1 and 2

Class	Sample Size	Scores		P Value	Effect Size
		Before	After		
Class 1	100	4.34	12.41	0.000	1.88
Class 2	87	9.19	16.11	0.000	1.49
Classes 1&2	187	6.69	14.15	0.000	1.47

Table 36: Vocabulary Test Performance of Class 1 and 2

Class	Sample Size	Scores		P Value	Effect Size
		Before	After		
Class 1	100	3.66	6.53	0.000	1.88
Class 2	87	5.77	7.08	0.000	0.77
Classes 1&2	187	4.64	6.79	0.000	1.01

Table 37: Intelligence Test Performance on Coloured Progressive Matrices of Classes 3 to 7

Class	Sample Size	Before	After	Difference	P Value	Effect Size
Class 3	66	11.23	14.24	2.01	0.000	0.68
Class 4	91	11.90	16.46	4.56	0.000	0.87
Class 5	92	14.00	18.71	4.71	0.000	0.74
Class 6	42	16.07	16.54	0.47	0.570	0.08
Class 7	16	19.27	27.40	6.13	0.000	1.58

Table 38: Arithmetic Test Performance of Classes 3 to 7

Class	Sample Size	Before	After	Difference	P Value	Effect Size
Class 3	66	12.78	19.39	6.41	0.000	0.82
Class 4	91	17.58	20.70	8.12	0.000	1.05
Class 5	92	20.56	27.84	7.28	0.000	0.87
Class 6	42	23.33	32.07	8.74	0.000	1.01
Class 7	16	34.53	35.20	0.67	0.848	0.07

Table 39: Vocabulary Test Performance of Classes 3 to 7

<i>Class</i>	<i>Sample Size</i>	<i>Before</i>	<i>After</i>	<i>Difference</i>	<i>P Value</i>	<i>Effect Size</i>
Class 3	66	9.50	11.32	1.82	0.000	1.09
Class 4	91	9.95	13.33	3.38	0.000	0.97
Class 5	92	12.05	14.54	2.49	0.000	0.53
Class 6	42	14.85	17.52	2.67	0.006	0.07
Class 7	16	18.00	26.93	8.00	1.001	1.21

Table 40: Creativity Test Performance of Classes 3 to 7

<i>Class</i>	<i>Sample Size</i>	<i>Before</i>	<i>After</i>	<i>Difference</i>	<i>P Value</i>	<i>Effect Size</i>
Class 3	66	7.71	25.12	17.71	0.000	1.58
Class 4	91	15.84	35.99	20.15	0.000	0.80
Class 5	92	19.02	35.03	16.01	0.000	1.30
Class 6	42	25.90	39.24	13.34	0.000	1.39
Class 7	16	20.40	40.40	20.00	0.000	2.09

Appendix-III

DEVELOPMENTAL PSYCHOPATHOLOGY CHECKLIST FOR CHILDREN (DPCL) —MALAVIKA KAPUR, 1995

(A) Developmental History

Please *encircle 0* if the problem is *absent* and *encircle 1* if the problem is *present*.

1. Did the mother, before, during, or just after child-birth, suffer from any problem like illness or difficult labour? 0 1
2. Did the child have any serious illness soon after birth? (If yes, specify) 0 1
3. Has the child had epilepsy, head injury, infections or any other serious illness? (If yes, specify) 0 1
4. Has the child any problems in seeing? (If yes, describe) 0 1
5. Has the child any problems in hearing? (If yes, describe) 0 1
6. Between the ages of 1 and 3, could the child walk, climb, throw a ball? (If not, mark as present) 0 1
7. Could the child by the age of 3 cut paper, thread, beads? (If not, mark as present) 0 1
8. Between the ages of 1 and 3, could the child speak in small sentences? (If not, mark as present) 0 1

- | | | |
|---|---|---|
| 9. Could the child between the age of 1 and 3 years show appropriate emotional expressions in relation to parents and others and did he or she enjoy playing with other children? (If not, mark as present) | 0 | 1 |
| 10. Could the child between the age 3 and 5 years, feed, wash and dress him or herself? (If not, mark as present) | 0 | 1 |

(B) Developmental Problems

Currently or in the past, has there been a problem:

- | | | |
|--|---|---|
| 11. Of dropping things, falling or tripping frequently? | 0 | 1 |
| 12. For brief periods when the child cried continuously to the extent of holding breath, becoming stiff? | 0 | 1 |
| 13. Of making odd or funny, repeated movements of the face, body, arms and legs? | 0 | 1 |
| 14. In pronouncing words clearly (for example, 'labbit' for 'rabbit')? | 0 | 1 |
| 15. Of stammering or stuttering? | 0 | 1 |

Currently, does the child have the problems of:

- | | | |
|--|---|---|
| 16. Not talking at all and remaining mute, despite knowing how to speak, in some situations and to some people? | 0 | 1 |
| 17. Repeating the words spoken by others exactly in the manner it was heard, without appearing to understand the meaning? | 0 | 1 |
| 18. Appearing to understand what is being said but seemingly not being able to answer? | 0 | 1 |
| 19. Not able to understand what is being spoken? | 0 | 1 |
| 20. Appearing to understand and knowing how to speak, but speaking in a manner which other people find difficult to understand, and refusing to use gestures to convey his or her needs? | 0 | 1 |
| 21. Not being able to relate to people? | 0 | 1 |
| 22. Not being able to play with other children? | 0 | 1 |
| 23. Feeding, such as over-eating, under-eating, food fads or fussy eating habits, and eating non-edible | | |

- | | | |
|--|---|---|
| things such as mud? (if present, specify)? | 0 | 1 |
| 24. Wetting clothes or bed from a very early age? | 0 | 1 |
| 25. Resuming wetting of the clothes or bed, after being dry earlier on? | 0 | 1 |
| 26. Soiling of the clothes or constipation? (if present, specify)? | 0 | 1 |
| 27. Sleeping, such as sleepwalking, sleep-talking, teeth grinding, nightmares, and so on? (If present, specify)? | 0 | 1 |
| 28. Masturbating or any other sexual problems (which is indulged in public)? | 0 | 1 |

(C) Psychopathology

(The items below are marked as being present only when they occur often or most of the time but not when they occur sometimes.) Does the child have problems of:

- | | | |
|---|---|---|
| 29. Poor attention? | 0 | 1 |
| 30. Distractibility—if the child is doing a task and someone enters the room, or he hears a sound, does he easily get distracted by this? | 0 | 1 |
| 31. Inability to sit in a place and always moving around? | 0 | 1 |
| 32. Acting without thinking, like while crossing the road not looking out for the traffic? | 0 | 1 |
| 33. Stubbornness? | 0 | 1 |
| 34. Disobedience? | 0 | 1 |
| 35. Often interrupting others' games, talk, being disruptive while playing, or breaking or throwing things frequently? | 0 | 1 |
| 36. Quarrelsomeness and fighting? | 0 | 1 |
| 37. Aggression as seen by hitting, biting and pinching others (with or without provocation)? | 0 | 1 |
| 38. Getting very angry, crying a lot, rolling on the ground and continuing to be so for a long time, when his or her demands are not met? | 0 | 1 |
| 39. Going to school and coming back on time, but actually does not attend the school? | 0 | 1 |
| 40. Indulging in lying and cheating? | 0 | 1 |

- | | | |
|--|---|---|
| 41. Refusing to go to school and staying back home for a duration of weeks or months? | 0 | 1 |
| 42. Poor school performance? | 0 | 1 |
| 43. Reading difficulty? | 0 | 1 |
| 44. Difficulty in writing? | 0 | 1 |
| 45. Difficulty in arithmetic? | 0 | 1 |
| 46. Forgetfulness or poor memory? | 0 | 1 |
| 47. Daydreaming? | 0 | 1 |
| 48. Being very quiet and reserved (withdrawn)? | 0 | 1 |
| 49. Talking very little even with family members? | 0 | 1 |
| 50. Worrying? | 0 | 1 |
| 51. Anxiousness and nervousness? | 0 | 1 |
| 52. Shyness and timidity? | 0 | 1 |
| 53. Fearful of animals or people or situations? | 0 | 1 |
| 54. Clinging? | 0 | 1 |
| 55. Crying easily? | 0 | 1 |
| 56. Doing a particular thing over and over again, such as washing hands, or repeatedly saying certain numbers, or expressing certain thoughts that come to his or her mind repeatedly to the extent that it interferes with his or her daily activities? | 0 | 1 |
| 57. Complaining of dizziness or giddiness? | 0 | 1 |
| 58. Complaining of aches and pains? | 0 | 1 |
| 59. Complaining of or appearing to be always tired? | 0 | 1 |
| 60. Complaining of stomach ache? | 0 | 1 |
| 61. Fainting spells? | 0 | 1 |
| 62. Attacks of jerky movements and unconsciousness (fits or convulsions to be differentiated from epilepsy by a clinician)? | 0 | 1 |
| 63. Complaining of pulling sensation of the limbs? | 0 | 1 |
| 64. Chronic physical illness? (specify, if present) | 0 | 1 |
| 65. Physical handicaps? (specify, if present) | | |

(The following items refer to serious mental illness and should be scored by a specialist)

- | | | |
|---|---|---|
| 66. Hearing voices and seeing things when no one was around? | 0 | 1 |
| 67. Maintaining postures, being stiff over long periods? (if present, describe) | 0 | 1 |

- | | | |
|--|---|---|
| 68. Saying that he or she was a great person, or a bad person, or that he or she was being harmed by other people without real basis for such beliefs? | 0 | 1 |
| 69. Talking and laughing to self? | 0 | 1 |
| 70. Very poor appetite, sometimes leading to loss of weight? | 0 | 1 |
| 71. Poor sleep or disturbed sleep? | 0 | 1 |
| 72. Wetting and soiling during illness and being unaware of it? | 0 | 1 |
| 73. Loss of interest in play and daily activities? | 0 | 1 |
| 74. Moving and responding unusually slowly? | 0 | 1 |
| 75. Being depressed, sad and dull? | 0 | 1 |
| 76. Talking much more or faster than he or she normally used to? | 0 | 1 |
| 77. Being irritable? | 0 | 1 |
| 75. Being unusually cheerful and happy? (others, if any) | 0 | 1 |

(D) Psycho-social Factors

(The items to be marked as present, whether in the past or in the present)

Family history of:

- | | | |
|--|---|---|
| 79. Anyone having mental illness? | 0 | 1 |
| 80. Anyone taking alcohol excessively? | 0 | 1 |
| 81. Anyone having epilepsy? | 0 | 1 |
| 82. Anyone having problems in reading, writing or arithmetic? | 0 | 1 |
| 83. Anyone with a problem of bed-wetting? | 0 | 1 |
| 84. Anyone having speech problems? | 0 | 1 |
| 85. Anyone being very dull or mentally retarded? | 0 | 1 |
| 86. Have there been any precipitating events at the time of onset of the problems? (specify, if present) | 0 | 1 |

Interaction in the Family

Is there any evidence of—

87. Problems with parents? (if present, describe)	0	1
88. Sibling rivalry (jealous of brothers and sisters)?	0	1
89. Marital disharmony (parents fight a lot)?	0	1
90. Punitiveness (parents frequently resort to hitting, beating or punishing the child)?	0	1
91. Over-expectations (parents expect from the child beyond his abilities, especially in school performance)?	0	1
92. Over-involvement (parents are involved with all the child's activities to the extent that he or she does not do anything on his or her own)?	0	1
93. Over-indulgence (parents meet all the demands of the child, whether reasonable or not)?	0	1
94. Indifference (parents are not bothered about the child's physical or psychological needs)?	0	1
95. Inconsistent disciplining (parents do not agree about the way to discipline the child)?	0	1
96. Multiple care-taking (child is brought up by a number of adults in the family)?	0	1
97. Single parent (child has been cared for by a single parent)?	0	1
98. Any change of school, medium or specific subjects or teachers?	0	1
99. The child complaining of problems with teachers?	0	1
100. The child having problems in playing, mixing or socializing with other children?	0	1
101. The child having problems such as poverty and other stressors, not covered in the above section (if present, specify)?	0	1

(E) Temperamental Profile

Descriptions of some aspects of the child's nature or temperament are given and for each description there are three options to choose from. Encircle the options which fit the child best—'s' or 'r' or 't'. If the description is not applicable, it may be mentioned, especially for younger children, as NA.

(a) Psycho-social

102. Easy to manage mostly S somewhat R not at all T
 103. Independent

	(can manage himself or herself)?	mostly S	somewhat R	not at all T
104.	Dependable	mostly S	somewhat R	not at all T
105.	Sensitive (to other people needs, emotions)	mostly S	somewhat R	not at all T
106.	Sensitive (only about oneself)	mostly S	somewhat R	not at all T
107.	Trusting	mostly S	somewhat R	not at all T
108.	Trustworthy	mostly S	somewhat R	not at all T
109.	Moral (discriminates between good and bad. Knows it is bad to hit others, steal, and so on.)	mostly S	somewhat R	not at all T

(b) Biosocial

110.	Sleep pattern	moderate S	too little R	too much T
111.	Appetite	moderate S	too little R	too much T
112.	Activity	moderate S	too little R	too much T
113.	Emotionality	cheerful S (stable)	angry/tense R (intense & variable)	dull T (non-reactive)
114.	Persistence	good S	variable R	too little T
115.	Sociability with family members	mostly S	variable R	not at all T
116.	Sociability with non-family members	mostly S	variable R	not at all T
117.	Aggressive (verbal)	not at all S	mostly R	somewhat T
118.	Aggressive (physical)	not at all S	mostly R	somewhat T

(F) Helpful Factors for Management

Encircle 1 for a positive score and 0 for a negative score:

119. Does the child have any helpful person at home or

	outside. Somebody whom the child is attached to, who helps the child, takes him or her out, buys the child gifts? (If yes, describe)	0	1
120.	Does the child have friends in the neighbourhood or school? (If yes, describe)	0	1
121.	Does the child have interest in drawing, painting, games, music, and so on? (If yes, describe)	0	1
122.	Does the child have any special talents? (If yes, describe)	0	1
123.	Is the child good at sports? (If present, describe)	0	1
124.	Is the child creative, can put together common place objects in a new fashion, or make objects with hands? (If present, describe)	0	1

Other observations, if any:

SUMMARY

	Items	
(a)	Developmental history	1-9
(b)	Developmental problems (including autism)	10-27
(c)	Psychopathology	
	(i) Hyper kinesis	28-30
	(ii) Conduct disorder	31-39
	(iii) Learning problems	40-45
	(iv) Emotion disorder	46-54
	(v) Obsessive-compulsive neurosis	55
	(vi) Somatic symptoms (including hysteria)	56-64
	(vii) Psychoses (mania, depression and schizophrenia)	65-77
(d)	Psycho-social stressors	70-101
(e)	Temperament profiles	102-118
(f)	Helpful for management	119-124

Note: The details of scoring and standardization and the translated versions in Kannada, Tamil, Telugu, Malayalam, Marathi and Gujarati are available with the author.

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