Bengaluru’s Education Profile

A Report Card 2009-2010
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Authors
K Vaijayanti
Tara Gonsalves

Research and Evaluation Akshara Foundation

Editors
Ashok Kamath
Namrata Savoor

Design and Layout
Sangamesh Hiremath

Valuable inputs from Akshara Foundation’s field staff and team members from Operation, Balwadi, Nagu Nagutha Ganitha, English and Library.

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Prologue

Schools are the building blocks of our society. They have the capacity to “create the foundations for a life of expanded opportunity – or [to] lock children into a future of deprivation and marginalization.” Education is seen as a human right.

Bengaluru is a metropolis of amazing diversity. The city boasts a population of over seven million people. 60% of this group represents migrants from other parts of India. The city is also home to immigrants from other countries. Drawn to a growing economy, people have been moving to Bengaluru in increasing numbers in search of brighter job prospects. The heterogeneous population includes people who speak different languages, such as Kannada, Urdu, Telugu, Tamil, Marathi, Konkani, Gujarathi, Nepali, Sindhi, Oriya, Bengali and English, with the majority speaking one of the first four languages. Religious diversity is reflected in Bengaluru’s population, which comprises Hindus (79.4%), Muslims (13.4%), Christians (1.05%), Jains (5.8%), Buddhists and Sikhs, among others. Scheduled Castes and Scheduled Tribes account for 14.1% of the city’s population.

The city's extraordinary diversity is reflected in the school system. In addition to government schools, there are private schools, aided schools and informal schools. The medium of instruction used to teach children in schools in the Bengaluru urban education district includes Kannada, Urdu, Tamil, Telugu and English.

Historical experience shows that mass literacy and, hence, enlightenment is better achieved when mother tongue is used as a medium of education and it has in fact ‘quantitative as well as qualitative outcomes’. Children who speak different languages in their homes are able to learn in their mother tongue, which research shows is more effective than teaching in a second language.

According to World Bank estimates, 27% of children attend private schools in India. Private schools are an option for many families that see the government system as failing, but not for those that cannot afford the tuition costs. Also, private schools do not have the infrastructure required to reach as many children as government schools are able to do. Government pre-school centres, also known as Anganwadis, and government primary schools are entrusted with reaching all children within the 3-14 year age group who do not attend private or private-aided schools. Anganwadis do not have a specific medium of instruction – children are often taught in more than one language depending upon the child's mother tongue.

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3http://www.globalenvision.org/library/8/767
4In places with 100% Urdu-speaking children, the Anganwadi is taught in Urdu.
Saraswathi ekes a living as a domestic help and single-handedly takes care of her family. Her two children, Manjula and Umesh, attend a government school. Saraswathi’s ambition for her son: he should learn some English at school, which will help him get a job in a security agency. Eight-year old Latha attends a government school, since her father, an auto driver, and mother, a garment factory worker, could not afford a private school. Latha’s parents send her to a ‘tuition aunty’ in the evenings. Latha’s younger brother, Kishore, attends the nearby Anganwadi, which is a trifle cramped since the kids share the space with provisions stored in the corner.

Established in the year 2000, Akshara Foundation is working in government-run schools and Anganwadi’s to improve the learning environment and produce better learning outcomes for students like Manjula, Umesh, Latha and Kishore and numerous other children in Bengaluru. And indeed, Karnataka.

Bengaluru’s Education Profile by Akshara Foundation is about the countless other parents who are educating their children in Bengaluru, India’s Silicon Valley.

The report card offers a glimpse into the demography and the learning outcomes of children attending government pre-schools and primary schools in Bengaluru in the academic year 2009-2010. The results presented in the report are based on data collected by Akshara Foundation in government pre-schools and primary schools. The data covers learning outcomes in all major domains for ECE (Early Childhood Education) as well as Mathematics and English in primary schools.

The first section, Household Demographics, discusses the socio-economic characteristics of the primary stakeholders of government-run primary schools in Bengaluru, namely parents and communities. Akshara’s household survey covered more than 45,000 households across all education administrative blocks in Bengaluru. The survey seeks to demonstrate how a child’s home environment can affect his/her learning outcome. Other factors, such as household income-level, assets and parental occupations can influence not only the number of years a child will stay in school, but also how parents contribute to the process of education.

The second section, Early Childhood Education, describes the status of pre-school education in Bengaluru. While the number of private pre-schools continues to grow, a significant number of children in the pre-school age group in Bengaluru attend government Anganwadis. In the academic year 2009-2010, leveraging on it’s nearly ten years’ experience in pre-school education, Akshara developed a programme that was implemented across all Anganwadis and independent Balwadis, which are run by entrepreneurs trained by Akshara. Akshara’s pre-school methodology is supplemented by an Akshara-designed Teaching/Learning Material (TLM) kit that corresponds with the government-designated curriculum for early childhood education. The results show that students’ overall learning outcomes improved by about 24 percentage points.
The third section, **Government Primary Schools**, describes the government primary school structure in Bengaluru and initiatives undertaken by Akshara Foundation to help children reach grade-level proficiency in Mathematics and Language. The Annual Status of Education Report, a rural survey of learning outcomes across India, shows that the quality of government schools needs to be improved – student learning outcomes in Mathematics and English are nowhere near grade-level.⁵ In 2009-2010 Akshara implemented Mathematics and English programmes as in-school initiatives. The results from the pre- and post-test are presented in this section. Children’s learning outcomes improved by 19 and 24 percentage points in Mathematics and English, respectively, at the end of the post-test.

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Household Demographics

- The Context
- Socio-Economic Profile
- Education and Employment
- Household Assets
- Parental Feedback
The Context

Socio-economic characteristics have a salient and sometimes deterministic relationship with education. The income-level, assets and parental occupations in a household can affect not only the number of years a child will stay in school, but also the child’s learning environment outside of school.

**Communities** have the power – utilized or not – to encourage effective policies in schools. Community participation, linked to household socio-economic status, has an important effect on the quality of a school in a locality. Government schools are directed by the government to have a School Development and Monitoring Committee (SDMC) composed of teachers, the Head Master and a local government representative, while the president and the majority of members are made up of parents.

Akshara’s **Household Demographics** survey was conducted from September 2008 to March 2009 and covered **48,816 households and 1,162 schools** across all educational blocks in Bengaluru. Akshara Foundation maintains the child database of children studying in stds. 2-7 in government schools in the Bengaluru urban district.⁶ For the purposes of the survey, households were selected from this database on a Stratified Random Sample basis that reflected all nine educational blocks in Bengaluru.

The list of households to be surveyed was prepared per school based on the following criteria:

- All the children from stds. 2-7 were considered for the household survey from schools with a minimum strength of 50 students;
- Gender parity was taken into consideration during the selection of households;
- Care was taken to avoid two children from the same household.

Akshara’s survey represented children across mother tongue, caste and religion in Bengaluru’s government schools. Every “type” of government primary school was included – lower primary school, higher primary school and model higher primary school. The results of the survey were compared to the results from The Census of India 2001 (COI).⁷ Data taken from this source corresponds to all-Karnataka, except when specified as rural/urban or Bengaluru-specific.

⁶http://www.karnatakalearningpartnership.org/
⁷Census of India 2001.
Your father and I only studied up to primary school. We both work as manual labourers.

Our family has five members!

We own our house, which has an asbestos roof, but we don't own any land or mode of transport.

78% of households in Bengaluru own a T.V.

My name is Kavitha. I speak Kannada at home. I attend a Kannada-medium school.
The socio-economic status of households in Bengaluru as well as community characteristics, such as culture, caste and religion, and perceptions on education and government schools can impact a child’s accessibility to quality education. Akshara’s household survey findings:

- 77% of households were Hindu, which is similar to Census of India’s estimation for Bengaluru at 79%;
- 15% of households were Muslim compared to Census estimates of 13%;
- 2% of households were Christian. Census estimates stood at 6%;
- 4% of households reported practising other religions;
- 2% did not respond.

Of the households surveyed, 55% spoke Kannada, 15% spoke Urdu, 15% spoke Telugu, 10% spoke Tamil and 5% spoke other languages. According to Akshara’s survey:

- 74% of households were made up of 4-6 members;
- 18% had between 1-3 members;
- 7% had 7-8 members;
- 1% had more than 8 members.

The Census of India's data was relatively similar to Akshara's results. It showed that about 22% of households had between 1-3 members, 68% had 4-8 members and 9% had more than 9 family members. Akshara's survey showed that 13% belonged to Other Backward Castes (OBC), 29% belonged to Scheduled Castes (SC), 12% belonged to Scheduled Tribes (ST) and 43% to other castes. In comparison, the Census of India 2001 reported that SCs and STs made up 14% of the population.
Education and Employment
(n=48,816)

17% of adults surveyed by Akshara were unable to read and write. The COI 2001 estimate states that Bengaluru has the second highest city-specific literacy rate at 83%. In other results:

- Among adults who have attended some school, 37% had completed primary school, 26% had some secondary schooling and 4% of adults had attended some sort of college;

- 42% of adults worked as coolies or casual labourers;

- 17% represented homemakers. Around 8% of adults worked in the garment industry. 7% were domestic workers and about 4% were unemployed. Less than 2% worked in the Government sector;

- 52% of those surveyed owned their homes while 48% lived in rented accommodations. Household data from the Census of India for urban Karnataka was similar – 54% owned and 42% rented their homes;

- More than half the households (59%) lived under asbestos roofs. This is significantly higher than the 11% reported by the Census of India. 23% of families surveyed by Akshara lived in huts or *kaccha* (temporary) houses. 20% of households in Karnataka surveyed by COI 2001 lived in temporary structures;

- About 15% of households responded that they lived in concrete structures. COI data reported that only 4% lived within concrete walls.
Household Assets (n=48,816)

Information on assets owned by a family gives a sense of the family's economic status and its exposure to the outside world through television, other media and non-public transportation. Television has become an integral part of household assets in Bengaluru. Akshara's survey showed that:

- 78% of households owned a television, compared to 67% of urban households in Karnataka as surveyed by COI 2001.

- More than 50% of households surveyed owned a vehicle – 21% owned two-wheelers, 30% owned cycles and 3% owned autorickshaws. COI 2001 noted that in Karnataka, 14% of households owned two-wheelers, 30% owned cycles and 3% owned automobiles;

- More than 60% of households surveyed by Akshara did not own land in their villages. About 20% of households owned less than an acre and about 2% owned more than five acres of land.
Parental Feedback

- 62% of parents felt that private schools were of a high quality, 27% said they were average and 6% thought private schools were bad;

- 54% of parents visited their child's school in the same month that the survey was completed, 32% in the previous month, 8% in the previous academic year and 6% never visited the school;

- 42% of children took extra tuition outside of school;

- 74% of parents felt comfortable with their child's school;

- 62% of parents said that they were members of the School Development Monitoring Committee in their child's school;

- 93% of children are on the mid-day-meal scheme—they are provided a free lunch at school.
Early Childhood Education

- The Context
- Infrastructure
- Enrolment
- Learning Domains:
  - General Awareness
  - Gross Motor Development
  - Fine Motor Coordination
  - Language Development
  - Intellectual Development
  - Social and Emotional Development
  - Pre-Academic Skills
- Parental Feedback
Research has long shown that the years before a child enters primary school are crucial to his/her future socio-emotional and academic development. However, UNESCO data from 2007 shows that gross enrolment rates in pre-primary schools remain at around 49%.
Non-enrolled children are disproportionately located in lower-income households.

Children from the poorest households potentially have the most to gain from good early childhood care and education. Yet, they are the least likely to have access to such facilities. A number of initiatives have been introduced to meet the growing demand for early childhood education, some of which cater to children from high-income households. Bengaluru has several elite pre-schools, but these centres are not an option for most of the city's children. However, there are several organizations that are working to educate children from lower-income households, such as Maya, Sumangali Seva Ashram, the Karnataka State Council for Child Welfare (KSCCW) and Akshara Foundation.

In the academic year 2009-2010, Akshara developed a programme that was implemented across all Anganwadis and several independent Balwadis in Bengaluru. Akshara's pre-school methodology is supplemented by an Akshara-designed TLM kit that corresponds with the government-designated curriculum for early childhood education.

Since its inception, Akshara Foundation has partnered with members from the community to start hundreds of Balwadis in Bengaluru. Case studies show that many erstwhile teacher-volunteers from Balwadis are now well-respected entrepreneurs in their communities. Under this model, supported by Akshara, any interested qualified individual is trained to open a pre-school and develop the centre as a business unit. In addition, Akshara still runs seven Balwadis to serve as laboratories for pre-school experiments.

In 2005, Akshara saw an opportunity to reach more children within the Integrated Child Development Scheme (ICDS), a Central government scheme implemented by the State government, and began working with existing government Anganwadi centres. Akshara saw this as a way

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9EFA 2010 Global Monitoring Report
Sumangali Seva Ashram provides education and board for children who have been abandoned by their parents. http://www.ssaindia.in/.
Karnataka State Council for Child Welfare is a Bengaluru- based NGO that works to empower women and children through education. www.ksccw.org
to reach the largest number of children possible and an opportunity to improve the pedagogy and learning in hundreds of pre-schools across Bengaluru.

**Government Anganwadi Structure:**

The government created the ICDS in 1975 through its Department of Women and Child Welfare. The resulting Anganwadi Centres that were established serve not only young children, but also new mothers and infants.

The centres officially provide childcare from 9:30 a.m. to 2:30 p.m. through six working days across 300 working days in a year. During working hours, Anganwadi employees are required to provide a few hours of pre-school instruction to children between the ages of 3-6 years in an informal method.

In Bengaluru there are six Projects implementing the ICDS across 1,548 Anganwadi Centres.

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12 The ICDS programme in Bengaluru is implemented by projects -the administrative and geographical structure below the District level. Each project provides similar services but different types of food to the children. Each Anganwadi Centre reports to a Circle. Each Circle constitutes about 25-30 Anganwadi Centres under its jurisdiction.
Come, visit our Anganwadi

A small group of children sits in a circle around a basket of fruits and vegetables from Akshara’s Teaching/Learning Material at an Anganwadi in Razakpalya. Sajjida Begum, the Anganwadi worker at the center, picks up each item, identifies it, and the children repeat after her in Hindi. The girls are bright, sharp and outgoing. Four-year old Fatima, dressed in her uniform of blue shirt and dark blue skirt, leans forward, completely absorbed, her voice ringing as she identifies cabbage, apple, tomato and brinjal in Hindi. Once the session is over, she systematically sorts the vegetables and fruits and places them in their respective baskets.

Razakpalya is an isolated village at the edge of bare fields and is home to a small, predominantly Muslim community of about 1,500 people. The roads leading to the village are bumpy, unmetalled and muddy. Buses lumber in intermittently. The nearest outpost is Bagalur, which is about seven kilometres away.

The village has a government Urdu school and three Anganwadis, which are bustling with activity. The Razakpalya Centre in the Bagalur Circle in ICDS North Project is located at the end of an alley across an open, slime-filled drain. It is a large, windowless room with deeply pitted walls. The Anganwadi has no electricity, no running water, but has an adjoining toilet, a recent and welcome addition, which is kept locked. ICDS is partnering with the village panchayat to construct a permanent building for the Anganwadi and has sanctioned Rs. 2,90,000 for it, says Ushalatha, the joint Anganwadi worker.

Sajjida has cheerfully battled physical disability for five years to do what she likes doing best—teaching and caring for children at the Anganwadi. The Anganwadi has 17 children in the 3-6 year age group. Parents are not indifferent to education, says Sajjida, but they do not take it seriously enough. Parents see education as a future prospect and are more concerned about the present and more pressing problems that they face. While some parents send their children to regular school, others are sent to work in the silk cocoon industry and the fish farms that proliferate around Razakpalya.

Razia Begum has been the secretary of the Bal Vikas Samithi in Razakpalya for eight years. The Bal Vikas Samithi is a government-mandated support group of prominent community members and parents that aims to strengthen and widen the scope of pre-school education. On her regular visits to the Anganwadi, Razia sits with the children, assessing their progress and marking out areas for improvement. Razia’s main responsibilities include persuading parents to send their children to the three Anganwadis in Razakpalya. Razia tells the parents that education is linked to progress and that children need to be educated to get ahead in life.

The Bal Vikas Samithi in Razakpalya has 20 women members. Among them are mothers, members of the Stree Shakthi self-help group and women of the community. Razia admits that her Samithi is a resource-poor organization, which weakens its power to change. The Samithi helps with the small needs of the Anganwadi, but most importantly it is a moral support, Sajjida says, motivating parents to send children to the Anganwadi and endorsing her efforts in educating them.
Infrastructure

In August 2009, Akshara conducted a study of the infrastructure and environment of all 1,548 Anganwadis in Bengaluru across six Projects and 56 circles. The results of the survey are presented below.

**Physical Condition:**
- 46% of Anganwadis did not have their own building;
- 30% of Anganwadis lacked adequate space to function effectively;
- 35% had damaged and leaking roofs, 24% had damaged floors and 32% had damaged walls;
- In 64% of Anganwadis, children either did not have or did not use a wastebasket;
- 52% of the centres did not have a hand-wash facility.

**Nutrition:**
- 43% of Anganwadis did not have sufficient space to store food;
- 98% of Anganwadis served meals on time.

**Toilet Hygiene:**
- 53% of Anganwadis had a toilet;
- Of these, 75% of Anganwadis had toilets that were not designed for children and 75% of Anganwadis had toilets without running water;
- 59% of Anganwadis had toilets without proper roofs.

**Children with Special Needs:**
- 20% of Anganwadis had a trained ‘special’ teacher;
- 4% had appropriate learning material;
- 4% were wheelchair-accessible;
- 30% of Anganwadis maintained records of special dietary needs.

**Pre-school Learning Records:**
- 31% maintained progress records for each child;
- 98% of Anganwadis found the Akshara kit useful in engaging and teaching children.

**Community Involvement:**
- 77% had a functioning Bal Vikas Samithi (see Appendix-1);
- 35% had an active “Friends of Anganwadi” group (see Appendix-1).
The results below show that age has a significant effect on children's learning levels. Swiss psychologist Jean Piaget's theory of early childhood development, which asserts that as a child matures (and increases in age) his/her ability to comprehend grows with specific capabilities developing at specific ages, is corroborated in this study of Anganwadis in Bengaluru. For example, while only 62% of three-year olds could distinguish objects by size, 73% of five-year olds and 74% of six-year olds could separate objects by size. Similarly, while only 33% of three-year olds knew the current year-2009, 46% of six-year olds knew the answer.

**Enrolment**

The age distribution in Anganwadis in Bengaluru ranges from 1-8 years of age. The majority of children are between the ages of 3-5 (80%). The government mandates that children who are 5 years and 10 months of age enter std. 1, but despite this rule, there are many six- and seven-year olds in Anganwadis (15% and 5%, respectively).

The age distribution shows that across all blocks, four-year olds comprised the largest proportion of children, followed by five-year olds.

<table>
<thead>
<tr>
<th>Age</th>
<th>2 - 2.11</th>
<th>3 - 3.11</th>
<th>4 - 4.11</th>
<th>5 - 5.11</th>
<th>6 - 6.5</th>
<th>Above 6.6</th>
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<tbody>
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<td>1578</td>
<td>1614</td>
<td>802</td>
<td>132</td>
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<td>5</td>
<td>140</td>
<td>1178</td>
<td>672</td>
<td>235</td>
<td>166</td>
<td>77</td>
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<tr>
<td>Yelahanka</td>
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<td>2610</td>
<td>1306</td>
<td>503</td>
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<td>9732</td>
<td>8743</td>
<td>4146</td>
<td>1220</td>
<td>239</td>
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</tbody>
</table>

*Age calculated as of June 2010. N/A denotes information on age not available.*

Anganwadis in Bengaluru cater to children speaking different mother tongues in their homes. The medium of instruction in Anganwadis depends upon the children who attend the centre. In 100% Urdu-speaking areas, the Anganwadi functions in Urdu. The majority of Anganwadis use Kannada as a medium of instruction, along with a few Urdu, Tamil or Telugu words, if needed. Given the diversity among their students, Anganwadis are bilingual and multilingual and the Anganwadi teacher is in charge of young children who may speak more than one language at home.

The distribution of children by mother tongue shows that the majority of children - 57% - speak Kannada. The next largest group is Urdu-speakers, comprising 8% of the Anganwadi population. Tamil- and Telugu- speakers come next (7% and 5%, respectively), followed by speakers of other languages (6%), such as Hindi, Marathi and Konkani.
Measuring Learning Outcomes:

In 2009-2010, Akshara distributed the school preparedness kit to all 1,548 Anganwadis in Bengaluru and administered a pre-programme assessment to almost 30,000 children in Anganwadis across Bengaluru. Towards the end of the academic year, a post-programme assessment was administered to determine the effectiveness of the kit in raising children’s learning outcomes. The per child assessment consisted of 56 questions, divided into seven learning domains, which were General Awareness, Gross Motor Development, Fine Motor Coordination, Language Development, Intellectual Development, Social and Emotional Development and Pre-Academic Skills.

<table>
<thead>
<tr>
<th>Distribution of Children by Mother Tongue and Project</th>
<th>Kannada</th>
<th>Urdu</th>
<th>Tamil</th>
<th>Telugu</th>
<th>Others</th>
<th>NA</th>
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</thead>
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<tr>
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<td>323</td>
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<td>354</td>
<td>555</td>
<td>162</td>
<td>91</td>
<td>531</td>
</tr>
</tbody>
</table>

*There are 981 children in this group who have different or unknown mother tongues.

Nearly a third of children in Bengaluru Anganwadis live in the Yelahanka Project (31%). 18% of children live in the South Project. The four other Projects make up between 10%-15% of the Anganwadi's population.

Gender distribution across Projects is relatively equal across Blocks. There are consistently more girls than boys in Anganwadis (girls comprise between 51%-53% of the Anganwadi child population across districts).
Kaveri attends an Anganwadi in the Bengaluru North Project in the Kadugondanahalli circle.

Her assessment scores represent the average scores across all children in our programme.

See more detailed results in the next section!

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Learning Domains

1. General Awareness

General Awareness refers to a child's knowledge of his/her identity and the identity of the people around him. Children are assessed on their ability to answer five questions:

- Their name
- Their age
- Their mother’s name
- Their father’s name
- Name of their school

Children had the most difficulty answering the question about age: only 67% knew their age. However, on average, children improved their General Awareness scores from 75% to 91%.

Mother Tongue

Children speaking different mother tongues showed improvement at the time of the post-test. Significant differences were not noted in achievement across mother tongues, although Kannada-speaking and Telugu-speaking students had better General Awareness skills.

Projects

There was some variation across Projects. Children in Anekal Project averaged 93% on General Awareness skills, while children in State Project averaged 88%. Children in Yelahanka, South and SSA Projects averaged just above 90%.

Age

A child’s ability to answer General Awareness questions rises with age. Children just below the age of three averaged 86% (the population size is relatively small, n=52). Children just over the age of six averaged 92%.
2. Gross Motor Development

Gross Motor Development, or a child’s general physical ability, refers to the manner in which children use their hands and legs and have control over movement. Children were assessed according to their ability to complete four tasks:

- Walk in a straight line
- Throw a ball
- Catch a ball
- Jump

Children were able to complete these tasks easily. Across Learning Domains, children improved their Gross Motor skills by more than 11 percentage points, from 52% to 75%.

**Mother Tongue**


**Projects**

Children’s Gross Motor Development did not vary significantly across Projects.

**Age**

While there was no significant variation in children’s Gross Motor Development by age, the average scores rose as the child’s age increased. Children above four years of age averaged 74% while children aged three years and below averaged 57%.
3. Fine Motor Coordination

Fine Motor Coordination constitutes physical skills that require more concentration and dexterity than Gross Motor skills. Fine Motor Coordination is based on six different tasks to determine whether a child can:

- Lace a frame
- Button a shirt
- Unbutton a shirt
- Pour liquids without spilling
- Finger paint within the lines
- Build a tower with building blocks

Building blocks and the lace frame from the Akshara toolkit were used for the assessment.

**Mother Tongue**

Fine Motor Coordination did not vary significantly by mother tongue, although Telugu-speaking students performed slightly better than their peers.

**Projects**

There was some variation in Fine Motor Coordination when the results were broken down by the different Projects. Children in the Central and State Projects scored the lowest in the pre-test by a significant amount compared to the other Projects, but closed the gap slightly by the post-test.

**Age**

Fine Motor Coordination increased with age. However, children above six years of age had a slightly lower score compared to children aged six years and below. Younger students closed much of the gap on the post-test, underscoring that the Akshara toolkit is appropriate for younger as well as older students.
4. Language Development

Language Development is described as a child's ability to understand words and sentences that he/she hears. Language Development is based on 13 questions to determine oral language skills of the child:

- Make three-word sentences
- Follow three-word instructions
- Recite a rhyme
- Name primary colours
- Separate fruits and vegetables
- Articulate the initial sound of a word
- Identify verbs
- Identify body parts
- Show up/down
- Identify in/out
- Show front/back
- Show left/right
- Tell a story

Children improved their language skills by almost 25%, moving from 55% in the pre-test to 80% in the post-test.

Mother Tongue

There was some variation in Language Development among children fluent in different languages. Tamil-speaking children scored the lowest, while Telugu-speaking children averaged the highest score in the pre- and post-test.

Projects

Children in the Central Project scored very low in the pre-test (43%) along with children from the State Project (43%). However, children from both Projects closed the gap slightly on the post-test, especially children in State by 29 percentage points.

Age

As with Fine Motor Development, Language Development improved with age, although children between 7-9 years of age scored lower than the six-year olds. Overall, children's Language skills were about five percentage points lower than their Fine Motor skills, which was consistent across all age groups.
5. Intellectual Development

Intellectual Development refers to a child's ability to differentiate and classify objects and quantities. Intellectual Development is based on five questions that assesses a child's ability to:

- Name shapes
- Separate pieces by colour
- Separate pieces by shape
- Separate pieces by sizes
- Segregate rings

Children had the lowest pre-test score (52%) in Intellectual Development compared to other Learning Domains. But, they improved their scores the most in the post-test, by more than 28 percentage points, although their average post-test score was still lower than any other Learning Domain.

Mother Tongue

Telugu-speaking children averaged the highest score in Intellectual Development in the pre-test (55%) as well as the post-test (81%). Kannada-speaking students improved their scores by 26%, while children speaking other languages improved their scores by about 30 percentage points.

Projects

There was significant variation in Intellectual Development among children in different Projects. Children in the State Project averaged 38% on the pre-test and improved their scores by an average of 38 percentage points. Their post-test scores were relatively lower than scores in other blocks, such as Anekal. Students in Anekal increased their scores by 27 percentage points.

Age

Intellectual Development followed a similar age pattern as Language Development and Fine Motor Coordination, but registered a larger range of average scores. Children below the age of three averaged 45% on the pre-test and 75% on the post-test, while six-year olds averaged 62% on the pre-test and 82% on the post-test.
6. Social and Emotional Development

While Social and Emotional Development is difficult to measure, it can provide valuable insights into the process of socialization in preschools across Bengaluru. Socio-Emotional Development is measured across four parameters based on a child's ability to:

- Share
- Take turns
- Make friends
- Express emotions

Children averaged 75% on the pre-test and 93% on the post-test, increasing their scores by an average of 18 percentage points.

Mother Tongue

There was no significant variation in Socio-Emotional Development between children speaking different mother tongues.

Projects

There was some variation in Socio-Emotional Development among different Projects. Children in Central Project averaged 67% on the pre-test, while children in State Project averaged 80% on the pre-test. However, children in Central closed the gap significantly on the post-test.

Age

Three-year olds had relatively low scores in Socio-Emotional Development (65%) at the time of pre-test. But, across the age groups children crossed 90% by the post-test period.
7. Pre-Academic Skills

Pre-Academic Skills are an indication of a child's readiness to enter primary school. Pre-Reading, Pre-Writing and Pre-Math skills were assessed through 19 questions to determine whether a child can:

- Find the odd one out
- Recognize alphabets A-Z
- Recognize a-aha in Kannada
- Trace patterns
- Copy patterns
- Trace alphabets
- Copy alphabets
- Trace numbers
- Copy numbers
- Use good pencil grasp
- Apply adequate pencil pressure
- Use good pencil control
- Distinguish more/less
- Count nine objects
- Recognize 1-9
- Do rote counting
- Name the days of week
- Name the months of the year
- Identify the current year

In the three domains of Pre-Academic Skills, children fared better in the Reading (80%) and Writing (56%) competencies than in Mathematics (49%) during the pre-test. However, there was an improvement of 15-24 percentage points across children speaking different mother tongues. (Reading-93%, Writing-82% and Mathematics-74%)
Parental Feedback

Anganwadi centres are stepping stones which prepare young children for primary school. They also provide important child-care services for young parents.

According to data from the Ministry of Women and Child Development, around 62% of children from six months-6 years benefit from Anganwadi centres in Karnataka (59% all-India).

In response to a question about early childhood education, 78% of households surveyed felt the need for a local pre-school centre.

75% of households in Bengaluru have an Anganwadi within a one-kilometre radius. 11% were unsure whether there was an Anganwadi close to their homes.
Government Primary Schools

- The Context
- Enrolment
- Mathematics
- Teaching English
- Parental Feedback
The Context

Primary education plays a key role in preparing a child to participate fully in society. Basic reading ability and math literacy are fundamental skills that enable individuals to fend for themselves, make their own decisions and engage in local and national developmental processes. Reading newspapers and road signs, counting money accurately and writing petitions and job applications are becoming increasingly important in modern society. When a person does not know how to read or count, he/she will be forced to rely on information from others and the opportunity for exploitation – direct or indirect – increases dramatically.

Recognizing the importance of literacy and numeracy for every citizen, Karnataka has been moving towards universalizing primary education. The Annual Status of Education Report states that 97% of primary school-age children in Karnataka are enrolled in school and attend many different types of schools.13

Government Primary School Structure

Government primary schools are governed by the Department of Primary and Secondary Education at the State level. The State government develops the curriculum that is taught in the State’s medium of instruction. Karnataka has 33 educational districts. Bengaluru comprises two districts - urban and rural. Within the Bengaluru urban district, there are nine educational blocks, which are further broken down into about 114 Clusters, containing 1,410 individual lower primary and upper primary schools. The Deputy Director for Public Instructions is in charge of the overall administration for the district. The Deputy Director is assisted by nine Block Education Officers for administration and nine Block Resource Co-ordinators for monitoring and supporting the quality of education in the district.

Initiatives in Primary Education:

An assessment of student outcomes in India has demonstrated that a large proportion of students in government schools are not at the grade-appropriate level in basic reading or math skills. As a result, several initiatives have emerged in the past few decades to address the quality of schools and teachers. Akshara Foundation has introduced intervention programmes in schools across Bengaluru to help children reach grade-level proficiency in Mathematics, Reading and English.

The data contextualizes primary schools within a Bengaluru-specific demographic framework. As per the 2009-2010 District Information System for Education (DISE) data, 21% of the children from the Bengaluru Urban district are enrolled in government primary schools. Annual Status of Education Report, a rural survey of learning outcomes across India, shows that the quality of government schools needs to be improved – student learning outcomes in Math, Reading and English are nowhere near grade-level.

Since 2005-2006, Akshara has been developing Language and Mathematics intervention programmes to help students who are far below age-appropriate grade-levels to catch up with their peers. In 2008-2009, Akshara’s Reading Programme - Oduve Nanu - was extended by the government of Karnataka to approximately 16,000 schools in 11 districts. In 2009-2010, Akshara focused on in-school Math and English interventions in Bengaluru.

Mathematics: According to the ASER 2009 survey, in Karnataka, 39.8% and 21.7% of std. 5 students were able to do subtraction and division, respectively. Akshara implemented an advanced Mathematics programme called Nagu Nagutha Ganitha-3, or Joyful Mathematics in Kannada (NNG-3), in 100 schools of Bengaluru, specifically addressing fractions, decimals and numeracy skills with numbers up to eight digits. NNG-3 was developed by Dr. T. Padmini to address Math deficiencies among students in primary and upper primary schools. It was implemented among 8,400 students studying in stds. 6 and 7. The Math assessment covered 4,983 children. Please see Appendix-2 for a full description of the Methodology used.

English: In Karnataka, students formally begin to learn English in the fifth standard. Akshara implemented a remedial English programme for children of stds. 5 and 6 in 100 schools of Bengaluru in the academic year 2009-2010. The activities and materials corresponded with specific lessons within the government-created English Reader. Please see Appendix -2 for a full description of the Methodology used.

14 DISE 2009-2010, Department of Education, Bengaluru.
15 ASER 2009. <www.asercentre.org>
17 Dr. Padmini is Emeritus Professor of Education at the University of Mysore and also a Trustee at Pratham Mysore.
Enrolment

The past few years have seen a rise in enrolment rates in Karnataka. Areas with a population of 100 and more have been provided with access to primary schools within a distance of one kilometre and to upper primary schools within a distance of three kilometres from their homes. 7 out of every 8 children in the 6-14 year age group get their elementary education either in government-run schools or in government-aided schools in rural areas. It has been noted that there has been a rise in private schools in urban and semi-urban areas in Karnataka in recent years. As per the 2009-2010 DISE data, 79% of the children from the Bengaluru Urban district are enrolled in private primary schools. The data presented here in this section is based on the KLP database of Akshara Foundation.

Distribution of Children by Medium of Instruction and Mother Tongue

The KLP database shows that the majority of children in government primary schools in Bengaluru attend Kannada-medium schools (85%). 14% attend Urdu-medium schools, 1% attend Tamil schools and 0.5% attend Telugu schools. 0.01% of children attend the only English-medium primary school in Bengaluru. 15% of children have mother tongues other than Kannada, such as Hindi, Marathi and Konkani.

Akshara’s 2009 household survey shows that 77% of parents preferred Kannada-medium schools for their children, 18% favored English-medium, and 2% chose Urdu-medium schools. 3% did not respond. Compared to the actual distribution of children given above, it is clear that there are not enough English-medium schools to meet the demand.

19DISE 2009-2010, Department of Education, Bengaluru.
20The Karnataka Learning Partnership was formed as a framework for non-profits, corporations, academic institutions and citizens to get involved in improving government schools in Karnataka. Akshara Foundation collects data and updates it every year of children who are enrolled in Government Schools. Visit our website: www.klp.org.in
### Number of Schools and Children (by Class) across Mother Tongues.

<table>
<thead>
<tr>
<th></th>
<th>Kannada</th>
<th>Urdu</th>
<th>Tamil</th>
<th>Telugu</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Schools</strong></td>
<td>1202</td>
<td>180</td>
<td>29</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>Class 2 (children)</td>
<td>20,200</td>
<td>3,509</td>
<td>212</td>
<td>95</td>
<td>42</td>
</tr>
<tr>
<td>Class 3 (children)</td>
<td>20,163</td>
<td>3,415</td>
<td>251</td>
<td>104</td>
<td>44</td>
</tr>
<tr>
<td>Class 4 (children)</td>
<td>21,089</td>
<td>3,518</td>
<td>319</td>
<td>119</td>
<td>48</td>
</tr>
<tr>
<td>Class 5 (children)</td>
<td>23,651</td>
<td>3,689</td>
<td>287</td>
<td>121</td>
<td>38</td>
</tr>
<tr>
<td>Class 6 (children)</td>
<td>21,946</td>
<td>3,263</td>
<td>312</td>
<td>159</td>
<td>29</td>
</tr>
<tr>
<td>Class 7 (children)</td>
<td>22,448</td>
<td>3,294</td>
<td>312</td>
<td>102</td>
<td>22</td>
</tr>
<tr>
<td>All Children</td>
<td>129,497</td>
<td>20,688</td>
<td>1,693</td>
<td>700</td>
<td>223</td>
</tr>
</tbody>
</table>

*15% of children are not included in this table because they come from other minority languages (Hindi, Marathi, Konkani, Nepali, etc), or their mother tongue is unknown.

Most of the children who attended Kannada-medium government schools spoke Kannada as a first language (74%), followed by Urdu- and Telugu-speaking students (9% each) and Tamil-speaking students (7%). Other children who spoke Hindi, Marathi and Konkani, among other languages, accounted for less than 0.5% of the total population of students in Bengaluru's government schools.

### Age

The state government mandates that children should enter std. 1 at the age of 5 years and 10 months. But, the age distribution for 2009-2010 shows children of different ages in different standards. For instance, std. 6 had the same number of 9- and 10-year olds. Std. 2 had a significant number of students (more than 200) who were in the age range of 9-12 years.

The age distribution curves show that there were many older children who remained in lower standards. In std. 4, for example, there were 307 12-year old children although the prescribed age for std. 4 is 9 years. In std. 2, there were 172 children who were 11 years or older, even though the mandated age for std. 2 is 7 years. The high volume of older children in lower standards may suggest that slow-learners were retained in the same standard.

Std. 5 had the largest number of students, 27,876 followed by 26,179 in std. 7.
Impediments to Regular Schooling

Attendance and Dropout Rates

While enrolment indicates the proportion of children who are registered for school, high enrolment rates do not mean that all children of school-going age are actually in school and that those who are enrolled attend school regularly. Attendance rates present a bleaker picture of child participation in primary schools. When children stop going to school completely, they are considered dropouts.

Akshara conducted a pilot study of 140 children with low attendance rates (70% of the children attended less than 50% of the time). The study was conducted in September-October 2009 in five schools in Bengaluru. The teachers and children who were surveyed gave seven main reasons for absenteeism:

- Language mismatch: If the child's mother tongue is Tamil and the medium of instruction in the school in which the child studies is Kannada;
- Household labor: Children are engaged in household chores and sibling care;
- Other forms of child labour: Economic necessity forces children to earn an income outside the home;
- Negative peer pressure: Children are influenced to play cards, smoke, steal and do drugs;
- Children are not interested in studies;
- Migration: Farm, construction and other forms of temporary labour require families to move locations at various times of the year;
- Getting to school is dangerous: Children have to cross a main road or a railway track.

Overall, 39% of students were absent for more than 105 days out of the school year, which is made up of about 220 days. The study also showed that absenteeism increased as the school year progressed.
Is Math joyful now? What they have to say...

Mr. Shivkumar, a Math teacher at GHPS Vajarahalli, a school in the South 1 educational Block of Bengaluru, says that the NNG-3 programme implemented by Akshara Foundation has been of great help to his students. Mr. Shivkumar adds that NNG-3 has a simple teaching methodology, especially for addressing hard spots, such as fractions and decimal concepts. The school implemented NNG-3 during 2009-2010. About 50 children participated in the programme. The school has about 232 students, of which there are 27 students in std. 6 and 23 students in std. 7.

Ranjeetha, the daughter of a factory worker, studies in std. 6. Mr. Shivkumar says that she was finding it difficult to follow some concepts like fractions and decimals. Mr. Shivkumar says that Ranjeetha scored 55% in the pre-test and 78% in the post-test. He also says that the number flash cards, fraction assembly pieces and fraction/decimal grids of the NNG-3 kit greatly helped Ranjeetha gain clarity in mathematical concepts. "I like this NNG programme and because of NNG I got (the) confidence to do sums. Now I can solve the fraction problems easily," says Ranjeetha.

Basava Raju is in std. 6 at GKHPS, Hosahalli. His father works as a watchman, and his mother is a homemaker. Before NNG-3 was introduced, Basava felt despondent about the subject and wanted to stop attending Math class. Basava disliked coming to school. But the NNG-3 programme made Math easier to understand and now Basava is interested in learning. At the end of the programme, he was able to read and write numbers up to 8 digits and understand comparisons between fractions and decimals.
NNG-3 is a remedial math programme with a variety of activities focusing on fraction/decimal cognitions and numeracy skills with numbers up to eight digits. It was developed by Dr. T. Padmini to address math deficiencies among students in primary and upper primary schools. NNG-3 is designed to help children studying in stds. 6 and 7 who have difficulty with basic mathematical concepts. See Appendix-2 for more details. It was implemented in 100 schools in Bengaluru (South) in 2009-2010.

The NNG-3 toolkit contains several learning materials. These are:

- Fraction Bars (One Set = 50 strips)
- Fraction Assembly Pieces (One set = 25 strips)
- Number Flash Cards (One set = 30 cards)
- Workbook - NNG Level 3 with two number grids

The pre- and post- assessment covered four main areas in stds. 6 and 7, namely:

- Numbers
- Fractions
- Decimals and Percentages
- Mental Mathematics.
NNG-3 was implemented in stds. 6 and 7 among 7,300 students in 100 Kannada-medium schools. Of these students, 4,893 children participated in the pre- and post-assessments. (2,332 children from std. 6 and 2,561 children from std. 7).

Overall results showed that there was an increase of 17 percentage points between pre- and post-test across 4,893 children.

**Mother Tongue**

Tamil-speaking students in stds. 6 and 7 did the best on the Mathematics assessment scoring 80% on average in the post-test compared to 57% on the pre-test. Compared to Kannada-speaking children, the remaining students scored more than 18 percentage points between the pre- and the post-test.

**Standard**

Students in std. 6 scored the lowest standard average (59%) compared to an average of 63% scored by students in std. 7 (both standards took the same assessment). Class 7 students had marginally higher gains compared to std. 6 students.

**Competencies**

Numbers and Fractions recorded the highest gains compared to Decimals, Percentages and Mental Maths, despite the intervention.

**Positive Shift in Learning Gains**

Data shows that there was a positive shift in the children who had a low score in the pre-test. As many as 1,232 children moved from a quantile of 81% to 90% in the post-test indicating definite gains from NNG-3.
I am learning another language...

Mamatha, a std. 6 student at GHPS in Kubarahalli, Bengaluru, attended Akshara’s English Programme in 2009-2010. Mamatha says that she enjoyed the experience. Her father is a construction worker and her mother rolls incense sticks for a living. Mamatha studies English on her own without guidance at home as her parents do not speak the language. “I like to read, write and talk in English,” Mamatha says. She adds that she likes to write in the workbook with the help of the teacher. Mamatha says that she would like to become an English teacher when she grows up. She is curious and eager to learn English. When Mamatha doesn’t understand a word, she refers to a dictionary for clarification. She is now capable of reading, writing and speaking basic English.

Frazer Town, Bengaluru

Another std. 6 student, Afreen Fathima, studying at GUHPBS at Frazer Town, Bengaluru, says that she enjoys using the Akshara workbook to improve her writing skills. After attending Akshara’s English Programme, Afreen is now capable of reading, writing and speaking a little English.

After using Akshara’s material, children’s reading levels have improved. Also, children started using dictionaries to seek the meanings of words that they did not understand. Children also started conversing in English with their friends.
Teaching English
(n=1,894)

The Context
English is increasingly becoming an important tool to succeed in Bengaluru's cosmopolitan, global workforce. In Karnataka, students begin learning English formally in std. 5. In 2007, the government issued a mandate requiring students to learn English starting from std. 1.

Akshara implemented an English programme called Pygmalion with children in stds. 5 and 6 in 100 schools spread across three blocks of Bengaluru North to enable students to learn English more effectively. The Pygmalion curriculum was developed by Ilid, a not-for-profit organization, and further adapted by Akshara. See Appendix-2 for Methodology

The Pygmalion Pilot was implemented in the second semester and lasted five days a week corresponding to lessons in the textbook. About 7,000 children participated in the programme. But the assessment was carried out for 2,162 children from 38 randomly selected schools representing one per cluster and all the blocks. The analysis was carried out for 1,894 children who attended the pre- and the post-test.

<table>
<thead>
<tr>
<th>Overall Results – Composite Average (n=1894)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Score</td>
</tr>
</tbody>
</table>

Results
Overall results showed that students in stds. 5 and 6 were extremely poor in English. Students averaged a score of 41% on the pre-test or 20.8 points out of 50. The majority of students - 76% - scored less than 60% on the pre-test. Students gained an average of 25 percentage points on the post-test. The scores indicated that while the level of English learning remains poor in Bengaluru's government schools, Pygmalion helped children improve their performance.

21Ilid is a not-for-profit organization that caters to the leadership and institutional development needs of social organizations; it is an umbrella organization that helps social entrepreneurs improve and innovate to deliver the best results possible to the poor and the disadvantaged. <http://ilid.org/>

22Please note that when +number% is used, it denotes an increase in percentage points, not percent. It is used to maintain concise notations.
The analysis of results by mother tongue shows that children speaking Urdu at home were the largest beneficiaries, gaining 32 percentage points during the post-test.

Results by Block
N3 children performed better compared to children from N1 and N4. The average scores went up by 29 percentage points in N3 compared to 20 percentage points in N1 and 26 percentage points in N4 block.

Results by Standard
On average, children in std. 6 scored higher than children in std. 5. Std. 6 students scored 63% in the pre-test and 80% in the post-test. Std. 5 students scored 59% in the pre-test and 75% in the post-test. There was a gain of about 16 percentage points across these two standards.
Parental Feedback

- 69% of adults responded that their children brought home reading material from school.

- A majority of parents believed that their children were good readers (69%), 20% thought that their children were poor in reading and 11% did not respond.

- 72% of parents felt that their children were good in Mathematics while 15% felt that they were poor in Math. 13% did not respond.

- 74% of parents said that the School Development and Monitoring Committee existed in their child's school.

- 25% of respondents said that they were members of the SDMC, 62% said they were not members and 13% said they were unsure of their membership.

- Interestingly, 81% of parents said that the quality of government schools was good while 16% said it was average. 3% said that the quality was bad.
Maya attends a primary school in Bengaluru. She has been working on improving her skills in Mathematics and English. She has benefited from attending various Akshara Programmes in these subject areas. See below for more Results!

### Learning Outcomes

- **Math - Fractions**: Pre-Test 53% | Post-Test 75%
- **Math - Decimals**: Pre-Test 71% | Post-Test 79%
- **English - Overall**: Pre-Test 41% | Post-Test 65%
- **English - Scores of Urdu-Speaking Children**: Pre-Test 40% | Post-Test 72%
- **English - Scores of Kannada-Speaking Children**: Pre-Test 43% | Post-Test 65%
Overall Observations

The results clearly indicate that with effective intervention programmes, there can be marked improvements in students' academic performance.

- In Akshara's Anganwadi Programme, children improved their learning outcomes in all seven Learning Domains, across mother tongue, gender and age. Children especially improved their scores in Intellectual Development (+32 percentage points) and Pre-Academic Skills (+29 percentage points).

- The English Programme helped students improve their scores in English by 24 percentage points overall. The programme also enabled 24% of children to read a simple sentence in English, which they were unable to do at the beginning of the school year.

- Students in stds. 6 and 7 showed some improvement in their scores on the Mathematics assessment. Students averaged 53% before attending the programme, but increased their composite average to 72% (+19 percentage points) at the end of the intervention programme.
Appendix-1  Anganwadi Programme

Akshara’s involvement with Anganwadis focuses on the educational instruction that children receive in pre-school centres. Akshara developed a pre-school kit that corresponded with the learning goals prescribed by ICDS.

Akshara’s teaching methodology is well grounded in child development theory. Teaching/Learning Materials are designed to enable children to learn developmentally appropriate skills and get ready for school.

Teaching/Learning Material:
In consultation with the Karnataka State Council for Child Welfare, NIPCCD (National Institute of Public Cooperation and Child Development) and ICDS, Akshara developed an innovative and cost-effective kit that has been distributed to Anganwadis across Bengaluru. The kit employs a child-centric, activity-based learning model that allows children to work individually and in small groups. Children are able to interact with the TLMs directly as they explore basic numerical and language concepts and develop their motor skills.

The kit contains several pre-reading learning materials, including flash cards, alphabet cubes and simple story cards. The pre-math materials, includes number cubes, a manigala set and number strips. Each child receives a set of crayons, chalk, a notebook and a small slate to practice writing letters and numbers. To work on motor skills, the kit includes a tree lace frame, a ring-building pyramid and a bouncing ball. Finally, children can learn the names of common fruits and vegetables from the brightly coloured plastic replicates. The teaching materials include a teacher's manual and a few colourful posters, which contain built-in lessons and include conversation charts on religious festivals and describing marketplaces.

Bal Vikas Samithi: Bal Vikas Samithis are committees at the Anganwadi level consisting of parents, village elders, educationalists and the head teacher of the nearby school along with the Anganwadi worker. The committee is set up to plan and monitor the activities around the Anganwadi centre. Therefore, it becomes a space for democratic discussions at the lowest level to work towards the improvement of the Anganwadi centre.

Friends of Anganwadi: Akshara Foundation introduced the concept called Friends of Anganwadi in each Anganwadi centre to actively involve parents in pre-school activities. The members of the Friends of Anganwadi are the primary stakeholders of the Anganwadi, namely the parents.

Appendix-2 In-School Programmes

Mathematics – Nagu Nagutha Ganitha
NNG-3 is a programme designed for students in stds. 6 and 7. NNG-3 builds on basic mathematical concepts and teaches fractions, decimals and percentages.

Methodology: NNG-3 emphasizes student-centered learning with activity-based lessons. The integrated approach combines quantitative reasoning with real-life activities. The programme builds upon basic Math skills. Using tangible representations of mathematical concepts, children are able to understand abstract principles by seeing and feeling them. NNG-3 is based on sequential thinking strategies – Concrete, Representational and Abstract.

Assessment: The assessment was designed as a diagnostic test and covered a narrow range of competencies, which were considered essential to learning higher order concepts. Diagnostic testing analyses the problems and deficiencies in student learning, thereby helping the teacher to choose the appropriate content and thinking strategies for future sessions.

English Programme - Pygmalion Pilot
The Pygmalion Pilot was implemented five days a week in the second semester and corresponded to lessons in the textbook. The Pygmalion curriculum was developed by Ilid and further adapted by Akshara.

Methodology: The pedagogy promotes activity-based learning through interactive teaching and group activities. The curriculum is developed around the state-mandated developmentally appropriate levels of English as a second language. Teachers use both Kannada and English to help children learn English, enabling students of different learning levels to follow. Students expand their vocabulary by acting out skits and learn to speak English with confidence. The three main components of Pygmalion are everyday usability, spoken English and co-curriculum. Each lesson corresponds with a lesson within the government-mandated textbook.

Each teacher was given a teacher’s manual for English, corresponding to an English workbook that is given to each child. In addition, each standard was provided with an audio cassette to enable children to listen to their lessons with correct pronunciation and engaging reading styles.

For more information on Akshara’s Mathematics Programme, please see “An Analytical Report on Nagu Nagutha Ganitha, a remedial math programme, June 2008.” Research: Research Reports. www.aksharafoundation.org
**Assessment:** To measure the success of the programme and to gauge how children are learning, the English teacher conducts an assessment at the beginning and at the end of the programme. An assessment was conducted in 38 schools, which were randomly selected, representing at least one school from each cluster. Over 2,000 children were given an assessment and of this group assessments for 1,894 children were completed.

The assessment included oral questions, where children identified objects in English and formed sentences describing a picture. The next part of the assessment was the reading portion – children were first asked to read 3-, 4-, 5-, and 6-letter words and then read a passage. The final part of the assessment tested students’ comprehension of a passage that was read aloud to them.