



# Reinventing Education

## Programme in India

Final Report  
November 2009

IBM India Pvt. Ltd



# **Reinventing Education**

## **Programme in India**

**Evaluation Report**  
**November 2009**

**Presented to**  
**IBM India Pvt. Ltd**

*By*  
**New Concept Information Systems Pvt. Ltd.**



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# List of Abbreviations

ABL	:	Activity-based Learning
ALM	:	Active Learning Methodology
AP	:	Andhra Pradesh
APREIS	:	Andhra Pradesh Residential Educational Institutions Society
CoC	:	Corporation of Chennai
CSR	:	Corporate Social Responsibility
EO	:	Education Officer
HM	:	Headmaster
ICT	:	Information and Communication Technology
KGBVs	:	Kasturba Gandhi Balika Vidyalayas
MDGs	:	Millennium Development Goals
MHRD	:	Ministry of Human Resource Development
NCERT	:	National Council of Educational Research and Training
NCF	:	National Curriculum Framework
NGOs	:	Non-governmental Organisations
ODC	:	On Demand Community
RE	:	Reinventing Education
SSA	:	Sarva Shiksha Abhiyan
TN	:	Tamil Nadu

# Executive Summary

The Reinventing Education (RE) programme, an initiative of IBM, is driven with the motivation to improve and enhance the quality of schooling in partnership with the local governments in various countries. Launched in 1994, this programme is now available in 25 cities throughout the United States as well as in Australia, Italy, Ireland, Japan, Singapore, the United Kingdom, Vietnam, Mexico, Brazil, China and India.

The RE programme in India was initiated in 2006 and draws from the Australian programme where the primary focus is on the continuous and on-going professional development of teachers, integrating ICT and classroom transformation.

In India, the programme is being implemented in partnership with the Andhra Pradesh Residential Educational Society (APREIS) in Andhra Pradesh and Corporation of Chennai (CoC), Tamil Nadu. The RE programme has resulted in the continuous professional development of 80 teachers and 20 principals across 20 selected schools in Andhra Pradesh (AP) and Chennai. It directly benefits about 320 students in AP and 620 children in Chennai.

In India, the IBM RE programme is aligned with the National Curriculum Framework that has seen a major turnabout in the last few years in the perception of a school climate, its goals and transaction procedures.

After initiating the RE programme in India, the IBM-RE team commissioned a study to

document the process and the progress to enable them to review, share the experience and move to the next phase of its mission, with a clear focus of developing a model that would work in India.

The third party evaluation of RE in India, studied and reviewed the following:

- the concept of RE;
- its application within the context of the education system in India;
- role of implementing partners in the two states of Andhra Pradesh and Tamil Nadu;
- the practice of RE in the selected government schools;
- challenges in implementation of RE; and
- future steps.

## Key Findings

In a short period of six months since implementation started at the school level, a positive relationship has been developed between the government and the implementing partners; a working relationship between the schools, the teachers and the trainers; some work has been done in the classroom for the students to appreciate that there is a change in their classrooms; and others not directly involved are keen to learn more about the RE tools.

- Interactions with teachers, principals as well as students indicates that the programme is making a positive change in teaching-learning processes as well as the teacher's professional development.

- The teachers have found the RE methodology attractive and the programme has appealed to them. Many of them were able to recall what was introduced to them and have applied it to specific subjects and topics.
  - The school Heads corroborated that there has been a positive change in the way the teachers, who are part of the RE programme, perceive their role in the classrooms.
  - The RE programme has made the teachers realize that they are not the only source of information and that there is a need for creating a multiple learning environment by introducing and using information from various sources.
  - Leadership of the school headmasters/ headmistress seemed to play an important role in the way teachers practice RE in the classroom. Wherever they are enthusiastic about RE, there is a significant difference in the implementation, internalization of RE philosophy, and the general environment of the school.
  - Both in AP, as well as in Chennai, the students are able to articulate what they have done, they are now able to talk rather fearlessly in front of the teachers and are able to explain ideas that they have worked through in the RE programme. In APREIS schools where the children have limited interaction with the outside world, the programme is also improving the social skills of the students. The programme has helped in improving the children's communication skills and confidence levels by enabling them to interact with each other as well as the teachers.
  - Government partners are looking at IBM to assist them in their endeavour to improve the schools under their care and have now arrived at a comprehensive agreement that covers many aspects of the common shared goals of RE at the state- and national-levels.
  - At the programme management level, a positive and efficient working relationship has been developed between IBM and the implementing partners – APREIS and COC. The project management has played a crucial role in enabling the programme to be implemented in the schools.
  - While there are differences in approach and training methodology among the implementing training partners, both the organisations have developed a sound rapport with the teachers as well as with the government departments.
  - The RE programme is leveraging support from other Corporate Citizenship activities of IBM in the education sector. IBM's other community activities such as the KidSmart programme, On Demand Community (ODC) and the development of an open source RE portal, are a source of support for the RE programme.
- The critical lacuna in the teacher's understanding in both AP and Chennai seems to be the lack of an overarching framework for the tools that are being taught and the link between the practices advocated, children's learning, understanding, performance in examinations and other achievements gained.
- The teachers' perceptions seem to have changed to the extent that they are trying to bring about a change that is in their

hands and within their ambit. The concept of a classroom transformation and a child-friendly classroom, with the teacher playing the role of a facilitator has seeped into the principals, teachers as well as students.

The RE programme is definitely making a difference to children from APREIS and CoC schools, the majority of whom are first-generation learners coming from families in very difficult situations. The students find the classrooms interesting, attractive and engaging. There is a fundamental enhancement of their self-esteem and the confidence levels of the children seem to have been unleashed.

## Towards Strengthening RE

- **Support from the Government Partners**  
An understanding with the government partners needs to be established to enable the teachers to integrate the methods in the regular classroom transaction and make it a normal part of the daily class with clear links to the state education priorities.
- **Classroom Practice**  
The RE programme in Chennai, has to an extent, been able to achieve teacher transformation which is visible in the changed attitudes, teacher's understanding of their role in the classroom and improved teacher student relationship and classroom transaction. The requirement here seems to be to implement the RE programme on a regular, continuous basis..

In APREIS schools the overall RE philosophy as a 'transforming process' is not getting reflected in the teacher's

attitudes and actions. The AP teachers need some support in incorporating the RE philosophy in the class structure, instead of restricting themselves to using a few of the methods.

- **Classroom Demonstrations**

The teachers require some hand-holding exercises to enable them to transmit the RE philosophy and the new teaching-learning methodologies in the classroom. Classroom demonstrations can be an important component of the training programme.

- **Effective Use of ICT**

There are several constraints in using ICT in the Indian school system. The use of ICT is still at a nascent stage in schools. The ICT programme as of now needs to be examined as to what could be expected within the set timeframes, infrastructure facilities and class strength of the schools. It has to also explore the non-traditional approaches to the use of ICT in the classrooms.

With the interest developed in teachers in learning new technologies it is an opportune time to introduce the e-learning platform within the RE schools of Andhra Pradesh and Chennai. This will have to be done in conjunction with improvement in infrastructure.

To enable the RE process to continue beyond classrooms and enable collaboration and sharing of information, learnings and best practices, a RE portal using open source tools and developing it on the "BlueSky e-Learning Platform<sup>1</sup>, which has been initiated recently could be built into the schedule of schools.

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<sup>1</sup> Bluesky is an Open e Learning resource sharing platform for education developed by IBM and Xi'an Jiao Tong University, China

- **Support from IBM**

IBM-RE India needs to have a continuing dialogue and network with the relevant departments in government to ensure their support of the programme. This is rather critical for continuity because the turnover and transfers of the officers is quite high in most of the government agencies.

To advocate for the IBM-RE programme's implementation in AP and TN, there is also a need to initiate knowledge sharing exercises about the RE experience across the globe to the government departments in both the states. Resources by way of case studies, best practices can be shared with the government officials and implementing partners across all levels.

## Conclusion

For the programme and methods to have an impact on the students and become an intrinsic part of their construction of knowledge and learning skills, it would take

a longer time with a full blown effort with all the elements in place.

The RE programme has been able to bring about positive changes in the short time it has been operational, but transformation of the classroom will require more support and structured interventions. The stage has been set with motivated teachers and committed partners (APREIS and CoC) using this platform for improving the teaching-learning process. Teachers are also looking forward to move into the next phase of their work in bringing about changes in the classroom along with the students.

What would make IBM RE India attain a pinnacle is for it engage teachers, children, school management and educators in a long-term partnership, committed to sustained collaboration to improve the school climate and the working environment for teachers, which would enable a significant enhancement of the lives of children.

# Programme Overview

## 1.1 Reinventing Education Programme

The Reinventing Education (RE) Programme is a global intervention initiated by IBM that is committed towards supporting school education systems throughout the world and improving student achievement through the use of new and innovative technologies. The programme was first launched in the USA in 1994 and now IBM works in 13 countries in collaboration with Ministries, Departments and Boards of Education to spur and support school improvement. The RE programmes are country-specific with each project aiming to overcome specific barriers to school reform. The overall objective of the RE programme is to improve the state-managed public school education worldwide.

### RE Programme across the globe:

- Home-school-community links (Japan, Ireland, USA)
- Data management and analysis (USA)
- Classroom instruction and management (Singapore, Vietnam, USA)
- Student assessment (USA)
- Teacher professional development and continuous improvement (USA, Italy, Australia, India)

IBM India Pvt. Ltd initiated the Reinventing Education programme in India in 2006. The RE program in India is based on the Australian model that aims to provide the opportunity to enhance both teacher and

student learning through the introduction of innovative teaching and learning strategies with a primary focus on continuous and on-going professional development of teachers with the integration of ICT to bring about classroom transformation.

Besides RE, the other additions to IBM's intervention in education have been the BlueSky portal for students and teachers in China and the Smarter Planet programme launched recently for streamlining inputs for the two critical participants in school education – the student and the teacher.

## 1.2 Education Reforms in India

Since independence, India has made great strides in improving her education system especially in reaching the objective of having a school within walking distance of every village and enrolment of children in primary school. Despite this, it is recognized that much remains to be achieved in terms of student retention, student achievement, teacher development, on-site support for the educator and the quality of learning.

With education being a concurrent subject between the central and the state government, the states in India play a major role in the development and delivery of education, particularly in the primary, middle and secondary school sectors. The national or central government takes the lead and is a senior partner at the higher,

tertiary level of education. The syllabi and the curriculum of the schools vary from state to state and from one examination board to another.

To focus on quality at the elementary school level (Classes 1 to 8) the Centre initiated a programme called Sarva Shiksha Abhiyan (SSA, Education for All Movement) financed by the Ministry of Human Resource Development. This scheme has been developed in line with the Millennium Development Goals (MDGs) and other national and international commitments made by India (Ref Annexure 7). Some of the state governments are using this scheme to launch innovative methods, do refresher training for teachers in service and bring flexibility into the system.

**Millennium Development Goal:  
Relevant to Education**

**Achieve Universal Primary Education**

Target: Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling.

The National Council of Educational Research and Training (NCERT) an autonomous body under the central government which plays a major advisory and leadership role for the education sector developed a National Curriculum Framework (NCF) 2005 with unifying, progressive goals for the nation. The current NCF 2005 stresses on the primacy of children's experiences, their active involvement in the process of learning and application to the child's environment.

Learning experiences at school should pave the way for construction of knowledge and fostering creativity and become a source of joy, not stress. Curricular transactions seek hands-on experiences and project- based approaches.

- NCF 2005

In its report, the NCERT proposed five guiding principles for curriculum reform:

- 1) connecting knowledge to life outside the school;
- 2) ensuring that learning shifts away from rote method;
- 3) enriching the curriculum so that it goes beyond text books;
- 4) making examinations more flexible and integrating them with classroom life; and
- 5) nurturing an overriding identity informed by caring concerns within the democratic polity of the country.

Crucial to NCF reform is the professional preparation of teachers to assist them to become more sensitive to the emerging demands of the school system and engage them in innovative educational reforms of the curriculum and teaching practices. At the state levels too, both in Tamil Nadu (TN) and AP, education reforms have been led by the SSA directorate and their pedagogy units to make learning more meaningful to children in all the state-run schools.

The RE programme in India has been developed within this context and focuses on the professional development of teachers.

### **Role of teacher\***

#### **National Curriculum Framework**

- Be an encouraging, supportive and humane facilitator in teaching--learning situations.
- To enable learners (students) to discover their talents, to realize their physical and intellectual potentialities to the fullest.,
- To develop character and desirable social and human values to function as responsible citizens.
- Be an active member of a group of persons who make conscious efforts for curricular renewal so that it is relevant to changing social needs and the personal needs of learners.

## **1.3 Reinventing Education Programme in India**

After reviewing various possible government partners across the country, the IBM's Reinventing Education team initiated a public-private partnership programme in collaboration with Andhra Pradesh Residential Educational Institutions Society (APREIS), in AP and Corporation of Chennai (CoC) in Tamil Nadu. The key objective of the RE programme in India is to improve the quality of teaching and learning in the middle and secondary school

sector through the sharing and development of new teaching methodologies; thereby also help to improve the retention rates of students in the secondary sector. The overall assumption is that better teacher-learning methodologies would lead to higher achievement levels of the students, which would consequently enable more students to participate in the secondary school system. Once the teachers have mastered the new teaching methodologies, it is expected that they will train and support other teachers in their school and region to attain transformation of their classrooms and share their experiences and expertise within their local learning networks.

### **Goals of the RE programProgramme**

- Improve teacher classroom practice through targeted professional development
- Explore innovative teaching and learning approaches that integrate ICT and enhance student participation
- Encourage teachers to play a leadership role in their own schools and share experiences elsewhere
- Enable government schools to develop innovative models of teachers' professional development to meet 21st century challenges

# Reinventing Education in India

## 2.1 Reinventing Education Model

The RE programme initiated in 2006 in India, between IBM, and its two government partners, APREIS and CoC, focuses on continuous professional development and the integration of ICT into classroom programmes, to enhance student learning.

This model was developed from the experience gained in the Australian RE programme. The RE Australia programme integrated a model for professional development to improve teaching practices and enhanced professional communication among teachers. This model is known as the Continuous Practice Improvement model. The programme extended itself to enabling networks of teachers across schools, developing teachers as researchers, which helped teachers to observe and work with each other in classrooms and towards enhancing content knowledge. It also focused on effective integration of technology into the classroom.

The Continuous Practice Improvement model has become a blueprint for managing change and fostering improvement in classrooms and is currently considered as a benchmark program.

The RE programme in India draws from the program in Australia as it is seen to be relevant in the schools managed by the two government partners.

## 2.2 Beginnings in India

The RE programme in India commenced with a training programme conducted by the Australian team to orient the APREIS and CoC staff on the key aspects of the RE philosophy and approach to transformation and change in the classroom. The programme held in Hyderabad and Chennai, was just the beginning of a journey of continuous professional development for the teachers. This training oriented the principals as well as the teachers of APREIS and CoC on “the existing teaching learning practices”, how learning takes place, resources that can be used to improve learning and a range of new strategies and resources for teaching and learning. The training programme also oriented the principals and teachers to some of the RE tools.

This 3-day training programme oriented them to several concepts such as powerful learning, e-learning, 21<sup>st</sup> century skills, and many teaching and learning strategies, which were new to the teachers.

The training programme opened up a totally new approach towards teaching and learning to the APREIS and CoC teachers, many of whom were undergoing professional development training programme for the first time in their career span of more than twenty years of work experience.

### Training Objectives

- To stimulate **research, rethinking, renewal, reflection and revision** of teaching and learning beliefs and practices.
- To develop **understandings** of the **teaching and learning process** and how **ICT** can contribute.
- To model and discuss a range of **new teaching and learning strategies** and resources for **teaching and learning**.
- To develop skills and confidence to **effectively integrate ICT** into the Indian curriculum.
- To **develop a range of resources** that can be used both in the **classroom** and for **training programmes**.
- To **develop action plans** for **classroom implementation** of innovative learning and the use of ICT.
- To explore **workshop strategies** to use in **future training programmes** led by mentors and leaders who will support other teachers to transform their curriculum and teaching practices.
- To **develop action plans** for preparing and implementing future **training programmes**.

## 2.3 Resource Agencies: Implementing Partners

Before the initial training programme imparted by the Australian team, IBM felt the need to identify local resource agencies, who are also well versed with school education and training of teachers to translate the RE philosophy into reality in the APREIS and CoC

schools. Qualified educational experts were then identified to facilitate and implement the RE programme in the two states. The implementing partners<sup>2</sup> were oriented on the philosophy, goals and objectives of the RE program by the RE India team again in early 2008. A framework for the RE in India was also developed at this workshop. (Annex 2)

## 2.4 Project Management Support

IBM appointed a dedicated Project Manager (PM) to spearhead this programme in the two states. The Project Manager liaised with the Government partners in both the states, made preliminary visits to the schools and initiated the program in each of the states. The PM provided the necessary support to the local implementing partners, and was responsible for overseeing and guiding the RE program in the two states.

### 2.4.1 Baseline Survey

The IBM team along with the resource agencies and government partners identified the need for a baseline survey of the ten schools in each of the two states to have a better understanding of the ground realities with respect to teachers' understanding of the RE programme, infrastructure facilities in the schools, existing teaching-learning practices and openness among the teachers to be part of the RE programme. The resource agencies, with support and guidance from the programme manager and partners, organized the school visits and conducted a baseline survey of the schools. The visits also helped the RE team to orient the teachers on the RE programme.

<sup>2</sup> Implementing Partners: Byrraju Foundation and EZ Vidya

# 2009

- **June**

- ◆ Release of Newsletter

- **July**

- ◆ On Demand Community (ODC) Event
- ◆ Classroom participation event
- ◆ Headmasters review meeting

- **August -November**

- ◆ On Demand Community (ODC) Event
- ◆ Workshop for RE teachers
- ◆ Sharing session (teachers train teachers)
- ◆ Classroom participation and facilitation
- ◆ Independent Impact evaluation of IBM RE commenced
- ◆ RE Portal (Bluesky) Orientation workshop at AP and Chennai
- ◆ Lesson plans development workshop using RE methodologies
- ◆ FGD sessions with students in Chennai on the RE from their Perspective

# 2008

- **Jan-Feb**

- ◆ RE Orientation Programme
- ◆ Field visits to all schools in AP and Chennai

- **May**

- ◆ Planning workshop with implementing partners to develop a framework, implementation strategy and action plan

- **June-August**

- ◆ Teacher Training Workshops in AP and Chennai
- ◆ Classroom Observation and facilitation

- **September**

- ◆ 1<sup>st</sup> Advisory Board meeting

- **November**

- ◆ Experience sharing workshops

- **December**

- ◆ ICT training workshop
- ◆ Reflection session
- ◆ Independent Impact evaluation of IBM RE commenced

## Program Milestones

# 2007

- **January:** Inaugural RE India Workshop in Hyderabad and Chennai by Australian experts
- **May:** IBM Reinventing Education Summit, Shanghai
- **May/June:** RE Portal
- **September:** Donation of 40 computers each to Chennai and AP – started
- **November:** Identifying 'implementation partners' to execute programme in AP and Chennai respectively

# Oct-Nov 2006

- Signing of MoU with APREIS and Chennai Municipal
- Official Launch of RE India Programme in Chennai

In AP, representatives of APREIS, the local implementing partner and RE program manager made a joint visit to the ten schools. The visits helped in orienting the teachers about the RE programme, understand the teaching-learning environment prevailing in the schools, establish a rapport with teachers and students, as well as study the technology platform available in the schools.

In Chennai, the local implementing partner, with support from CoC and RE Program Manager conducted a survey among the teachers. The RE team also asked school heads to identify teachers with leadership qualities who could be potential leaders to take this programme forward in the identified schools and also other schools.

The visits helped the RE team to understand the perceptions of the teachers with respect to teaching, the attributes of a good teacher, attributes of a good student and what an ideal classroom environment should be. The study also helped in identifying the difficulties faced by the teachers while teaching.

Some key aspects that surfaced were the poverty of students, illiteracy among the parents, low teacher-child ratio, and varying differences in the understanding capacity among the students. Importantly, what came out in the baseline survey is that the poor socio-economic background of the students is a major barrier to education that the system should strive to upgrade the teaching-learning process, and thereby retain the children in the school and get them interested in the learning process.

The baseline study gave a comprehensive picture of the education situation in the ten selected schools in both the states.

## 2.5 Advisory Board

IBM has constituted an Advisory Board for the RE programme to guide the implementation of the RE programme in India. Experts in the field of education as well as senior officials from the government are members of the Advisory Board. Members of the Board, having vast experience in the education sector, share their experiences and knowledge to improve the teaching-learning process in the classrooms as well as using ICT for leveraging the inherent curiosity and creativity among children through several innovative initiatives. At the meetings, the Advisory Board takes stock of the situation on the ground, and provides the necessary guidance and support to spearhead the program.

The Board is looking at several aspects as to how to introduce the RE model and integrate it with the teachers' training curriculum in the academic institutions. Exposure visits for teachers and principals to observe 'good classroom practices' and integrating ICT in education were valuable suggestions made by the Board.

## 2.6 Infrastructure Support

One of the key objectives of the RE programme is to integrate ICT into the student's learning process. To facilitate this, IBM donated 40 computers (4 computers to each school) in the 10 CoC and APREIS schools. These computers have been donated primarily for the RE classes in the respective schools. Due to several logistical and infrastructure problems, the computers donated by IBM are not placed in the classroom in APREIS and Chennai Schools but elsewhere in the school.

In many APREIS schools, the classrooms double as dormitories. Hence there is no place to keep the computers. This is also the reason why there are no benches for the students to sit and the children sit on the floor. The same room serves as a classroom during the day and as a dormitory during the night. Secondly, there is no safety for the computers to be kept in the classrooms since the students use the classrooms even after class hours (evenings) and hence the rooms cannot be locked.

APREIS gave a sum of Rs. 20,000 – for implementing RE to every RE School – some schools purchased digital cameras and other material requirements for RE programme.

To provide access to computers to RE children, the computers (wherever there is room available) are being placed in a separate room. The teachers are now planning to develop the room where the computers are housed into a RE Hub on the lines of KidSmart. For example, in Kalwakurthy school in AP the RE teachers have got broadband connection for the computers, have connected it all the computers using LAN and further planning to add, books, CDs and other RE resources. This room is under the care of RE teachers and they keep it open even after regular school hours so that teachers and students could use it at any time. In APRIES, Medak school the computers are kept in the “IBM RE learning centre” Similarly in Chennai MGR Nagar and Tiruvanmiyur schools, the RE teachers and students are using the computers at a time of their convenience.

## 2.7 Support from other CSR initiatives

IBM’s key CSR initiatives in India have been in the education sector. In collaboration

with governments, NGOs, and schools, IBM has been working towards integrating ICT into the education system in India. The KidSmart programme, launched in 2000, was one of the first of its kind. KidSmart was the only programme in India that aimed at introducing computer technology at the pre-school level in disadvantaged sections of society. The KidSmart initiative in India was implemented collaboratively with the help of state governments and not-for-profit organizations.

Exposure visits for the RE teachers to the KidSmart centres in AP and Chennai was organized by the RE team. These exposure visits helped the teachers in understanding how various learning environments can be used to engage the children in powerful learning methods.

On Demand Community is a volunteer program where IBM employees come together with the intent to make a more deep rooted impact in society. The ODC programme helps people to choose an appropriate volunteering scheme depending on their areas of interest. These groups are present in Bangalore, Pune, Hyderabad, Kolkata, Chennai and Gurgaon, and work together to contribute to the community.

The volunteers visit the KidSmart centres, RE schools, and organise games, quizzes, group discussions, extempore speech competitions, and thereby assist the programme in creating a child-friendly and multiple learning environment.

# Collaboration with Government Partners

The focus of IBM globally is to work with the state education systems to be able to make a difference to the children in government schools. The IBM RE programme in India was launched in November 2006 in 10 Andhra Pradesh Residential Educational Institutions Society (APREIS) schools and 10 Corporation of Chennai schools in AP and Chennai respectively. Partnering with these two government partners was a conscious decision made by IBM. By partnering with APREIS and CoC for the RE programme, IBM reaches out to children from both the rural and urban areas who come from difficult socio-economic backgrounds, and where the majority of children are first-generation learners.

A Memorandum of Understanding (MoU) has been signed between IBM and the two government partners separately, focusing on teachers' professional development to meet the state and national objectives of education reform. The following section gives an overview of the partners and describes the context under which the RE program operates in India.

## 3.1 Andhra Pradesh Residential Educational Institutions Society

The Government of Andhra Pradesh established APREIS as an autonomous institution in 1972 to provide education for the poor and talented children in rural areas of Andhra Pradesh. The Minister for Education, Andhra

### Salient Features of AP Residential Schools:

- a. The Class-strength of the section class is limited to 36.
- b. Teacher-pupil ratio is 1:20
- c. Personal attention to the individual needs of students such as slow learners and high achievers.
- d. Highly qualified teachers
- e. Instruction is through the mother-tongue/home in local language.
- f. Study of Sanskrit besides Hindi and Telugu is encouraged.
- g. Co-curricular activities and development of moral values.
- h. Admission based on academic tests.

Pradesh is the Chairman and the Secretary to Government, Education Department is the Vice-Chairman. At present the Society is managing 134 residential schools, 13 Junior Colleges, one Degree College and 220 Kasturba Gandhi Balika Vidyalayas (KGBVs).

The APREIS schools are set in urban, semi-urban and rural locations and follow stringent rules and regulations in the selection of students. Catering to children from low-income groups, the focus of APREIS schools is to provide a good learning environment for the children to excel in life. Hence the teachers in the APREIS schools are well qualified and talented. Teachers with M.A./

M.Sc, B.Ed qualifications teach for the classes VIII to X and teachers with B.A/B.Sc, B.Ed teach classes V to VII. The class strength is limited to 36 students, thus enabling the teachers to give the required attention to each child. It enables the teacher to give personal attention to the individual needs of students such as comparatively slow learners as well as high achievers. Apart from focusing on academics, the residential schools also include moral education, co-curricular activities, sports and overall development of the children as important components of the curriculum.

Students are admitted in Class V through an entrance test held in February. Admissions are provided only to students whose parents' annual income does not exceed Rs 20,000 per annum. Admissions are made based on the marks and merit assessed during the entrance test.

APREIS schools are highly performance-driven. Being a residential school for children who do well in their studies, the institution gives importance to academics and the attainment of high scores in examinations and tests. After school hours, supervised study is conducted daily. The students spend most of their time either attending the regular classes or working on tasks given by teachers, revising, memorizing or preparing for tests during the study hours. The guidance of the teachers is limited to the minimum during the non-school hours and students mostly work independently.

Some time during the day is allotted for games, and other extracurricular activities. The students have limited exposure to the outside world since they spend most of their

time in the school premises, thereby limiting their sources of other knowledge. As one teacher remarked, "We are their world and they are our world". (Annex 6 describes the life of a student in an APREIS school.)

In such an environment, IBM is creating a multiple learning environment for the students, where the teachers are motivated to use different sources of information and expose the students to different ways of learning. The programme aims to also improving the social skills of the students, by increasing their communication skills and confidence levels by interacting internally and with outsiders. This has been a very important contribution as pointed out by APREIS.

### 3.2 Corporation of Chennai

Chennai, the capital city of Tamil Nadu, is the fourth largest metro in the country. It is also one of the 50 most populous urban settlements in the world. About 25 per cent of the urban poor population live in slums. Majority of the children who attend the city's Corporation schools come from this section.

The education department at the Chennai Municipal Corporation now known as the Corporation of Chennai (CoC) came into being in 1912. Spanning a period of 97 years it has come a long way to establish and incorporate approximately 285 schools, which include primary, middle, high and higher secondary institutions covering a total strength of 1,05,200 students with 3600 teachers. The education department is administered by the Joint Commissioner, Deputy Commissioner, an Educational Officer, five Assistant Educational Officers, 10 Zonal Supervisors and one Urdu Supervisor.

Ninety-five per cent of the children in the Corporation schools come from the slums and from some of the most deprived sections of the city and the state. For low income families, the Corporation schools are the only source of mainstream free education in the city. The parents, as well as the children's involvement in education depends on a host of personal factors like, availability of family funds, interest in studies, parents' economic and social situation and so on. The majority of children, including the girl children, supplement the family income by working in petty shops, or as vendors and or domestic workers after school hours.

With infrastructure and space being a huge problem in urban areas, the schools are overcrowded, especially the elementary schools. The teacher student ratio in these classes varies from 1:40 to 1:60. Absenteeism and discipline are major concerns in the CoC schools and a single teacher in a class of 50-60 students is unable to reach out to the entire class. (Annexure 7 provides a description of a CoC school and profiles children who study in these schools).

Another parallel phenomenon that the CoC is trying to address is the migration of children from these schools to private, so-called English medium schools, where it is perceived by parents that more attention is paid to children's education.

Tamil Nadu has been at the forefront in transforming classroom processes in the primary school, Classes 1 to 4, from 2003 onwards. This programme was initially incubated in the CoC starting with one school, moving quickly to thirteen schools, then ten schools in each of the ten zones and

### **Activity Based Learning (ABL) Classes 1 to 4**

- The state syllabus for each subject is divided into milestones that are put up as 'ladders' on a chart in the classroom. This has been worked through for: Tamil, mathematics, EVS and English.
- Each milestone has a series of activities from introductory to formative assessment
- The activities are on individual cards, with the necessary material available in the class
- The children sit in circles, according to the logo on the card depending on the nature of the activity and the kind of help required. For the introductory card, they would sit on the mat designated as 'Teacher Supported Activity'; for a reinforcement activity, they may sit in a 'Peer Supported' circle. For assessment they would go to the location, designated as 'Independent Work'
- Children work at their own pace and as they complete each milestone, move on to the next as planned on the 'ladder'.

then 260 – almost all the schools under its management. The ABL learning programme was developed based on the state syllabus, on the lines of the Multi-Grade Multi-Level system promoted by the Rishi Valley rural school curriculum and principles of Montessori practices. In 2007, the ABL as it came to be known was up scaled to the entire state of TN in 37,500 schools with printed card materials and teacher training in place. (See references for base year report).

With the success of ABL in the Corporation schools, a programme was developed for Classes 6 to 8, called the Active Learning Methodology, which has also been up scaled to about 10,000 schools after the initial trial in some of Corporation schools in 2007. Supervision of the schools at this stage of scaling-up is quite intensive.

### Active Learning Methodology (ALM) Classes 6 to 8

- Children read the text and underline difficult words. individually
- Difficult These words are discussed and understood by the whole class.
- Text is read again with understanding.
- A mind map is drawn about the lesson individually in notebooks.
- Children discuss the lesson Discussion is done in pairs.
- The exercises at the end of the textbook are done individually.
- The lesson is summarised using different methods.

Both these programmes have revitalised the Corporation schools and have impacted the achievement results, the working pattern of the staff and enhanced the image of the schools.

Given this scenario, in both the states, working in cooperation with the education departments, which are making Herculean efforts to help strengthen the system in these schools is crucial in an environment where drop-out rates are high; and where the parents value schooling in terms of the student's future possibility and ability to contribute to the family's income and quality of life. The investments and efforts made

in making the teaching-learning process more relevant and attempting to retain the children in school is urgent and laudable.

## 3.3 Selection of Schools for the RE Programme

IBM has developed broad guidelines in consultation with APREIS and CoC for the selection of schools to be part of the RE programme. Based on the discussions and consultations and keeping in mind the broad goals and objectives of the RE programme, the following criteria were evolved for the selection of schools, both in AP and Chennai.

### Prerequisites for selection of schools for implementation of the RE Programme:

- Infrastructure that guarantees student access to the Internet.
- Ability and commitment to facilitate student-centred learning approach.
- Teachers already demonstrate a commitment to teaching and curriculum reform and have basic IT skills.
- Demonstrated interest and commitment to the use of Information and Communication Technology (ICT) as a tool to enhance student learning their own professional development.
- Support of the school principal and leadership team to engage in classroom reform with a view to achieve whole school change.

### 3.3.1 Selection of APREIS Schools

Ten residential schools - five girls' schools and five boys' schools - have been selected to be part of the Reinventing Education programme. Of the five boys' schools three are Telugu medium schools and two are Urdu medium schools.

While the selection of schools was based on the prerequisites mentioned above, the following aspects were also taken into consideration.

District-wise Distribution of Schools in AP	
District	No. of Schools
Hyderabad	2
Ranga Reddy	2
Medak	2
Mahabubnagar	3
Nalgonda	1
<b>Total</b>	<b>10</b>

- **Equal representation of girls and boys schools**
- **Outreach**
  - Ten schools were selected from Hyderabad and neighbouring districts to facilitate easy mobility for teachers to attend the initial capacity-building programmes, exposure visits as well as for the implementing partners to support the institutions. Further, since this is a pilot project, it requires more interactions with the teachers, which would not have been feasible if the schools were, selected from far away districts.
- **Representation of Urdu medium schools**
  - The Urdu medium schools lagged behind in several aspects such as student achievement levels, discipline and other matters, since the majority of the students in these schools were first-generation learners coming from a minority community. Hence, two Urdu medium schools were selected for the programme since they required more support and assistance.

### 3.3.2 Selection of Corporation of Chennai Schools

The CoC Education department selected the 10 schools in consultation with the Deputy Commissioner and the Education Officer. The criteria for the selection of schools were based on:

- infrastructure availability; and
- teacher positions filled-in for standards 6, 7, and 8.

Gendered-Distribution of Schools in Chennai	
	No. of Schools
Higher Secondary schools for girls	4
Co-educational High and Higher Secondary Schools	6

Of the 10 schools selected, four schools are higher secondary schools for girls. The remaining six are co-educational high and higher secondary schools. The schools cover different zones across Chennai city and also vary in terms of facilities offered and in rank positions held in terms of performance in State Board Examinations. They are located in urban slums catering to the educational needs of children from poor households. Majority of the children attending these schools belong to the Scheduled Castes and Backward Communities.

### 3.4 Selection of Grades

The RE programme is being implemented in Class VI, VII and VIII in the ten schools in Chennai and in Class VIII in AP. Three Grades were selected in Chennai as students from these classes are not subject to board exams; the teachers and students are less pressured and able to practice RE. Further, the teachers'

professional development was crucial at this stage as children in grades 6, 7, and 8 are in a transition stage, moving from middle school to high school. The teacher's attitude would largely influence the students' response to the subjects and performance in exams.

In AP on the other hand, only Class VIII was selected for the RE programme since the Society felt that students of Class VIII would be able to absorb the new teaching-learning methodologies better, they are not under any pressure such as board exams. Further, since the objective of RE is to improve the quality of teaching and learning in the middle and secondary school sector, Class VIII is a good choice, since it is the transition class into secondary schooling.

### 3.5 Support Provided by the Government Partners

The government departments in both the states, APREIS and CoC provided the space and infrastructural support for the training programmes. Ongoing support made it possible for teachers and school heads to attend training programmes. They left the actual training and implementation to the partners indicating their trust in the selection of partners.

APREIS has extended financial support to the extent of Rs.20, 000 to the 10 RE schools. Rs.10, 000 is for the purchase of teaching aids/materials and Rs.10, 000 has been sanctioned for internet connection. For the four computers provided by IBM, APREIS has provided infrastructure support to the schools (Rs.25, 000 for each school) to purchase computer tables, chairs, UPS and other electrical works.

	Andhra Pradesh	Chennai	Total
Coverage of schools	10	10	20
No. of Teachers trained	50	30	80

APREIS has purchased LCD projectors (KYAN) and loaded IL&FS developed lessons (more than 1100 lessons) up to grade 8 as per the state syllabus. In addition, the local RE facilitators had given them subject-wise CDs with audio video content downloaded from the net.

Many APREIS RE schools have purchased digital cameras, broadband connection, dial-up connections (where broadband is not available), furniture etc using the Rs. 20,000 sanctioned.

The RE teachers responsible for Class 8 in APREIS have been given flexible targets with respect to the marks for each subject. This is to encourage them to take the RE programme forward and not worry about meeting the set rigid targets.

APREIS also plans to have a review of RE programme in the different schools being implemented where in APREIS team visits the school and takes stock of progress at the filed level.

Chennai Corporation sponsored the printing of RE Newsletters and also circulated each issue to about 300 schools.

RE teachers in Chennai have been given a 'blanket sanction' to attend the RE training programmes anytime without waiting for

permissions for every training session. Only the school HM needs to be consulted.

The present Deputy Commissioner, Education of the CoC, in discussion said that the teachers in government schools carried the entire burden of the parent, the child and the teacher; where as in private schools, they had only one-third of the responsibility. Teachers had reported to him that the tools are quite different and innovative. A few of them had remarked that

attendance and punctuality had improved. “The tools could help the students to be interested, concentrate on the task and gain marks in academic performance”, he added.

Importantly the government partners are looking at IBM as a partner in their endeavour to improve the schools under their care and have arrived at a comprehensive agreement, touching many aspects of the common shared goals of RE, of the state and the nation.

# Effectiveness of the RE Programme

## 4.1 Approach to Evaluation

For the assessment of the RE programme, the understanding the teachers had of the RE principles, whether these were internalised and if this understanding was reflected in the classroom was reviewed.

In the short duration available to the training partners to implement the programme and the difficult circumstances of the government schools, what one could look for in a tangible form were the teaching-learning methods to gauge the teachers' broader understanding and assimilation.

It was felt that it is also easier for the practitioners to articulate something if they have been practicing it. From this articulation, the basis and the philosophy could then be culled out. This seemed to be a more effective way of reaching out to the frontline stakeholders, the teachers.

Observing classrooms helped to estimate the levels of the underlying philosophy imbibed by the classroom practitioners. Beyond doubt the RE class stood apart from a regular classroom with more interaction and activity that was child-centric, which helped to create a conducive environment for learning.

To assess the effectiveness of the RE program in the APREIS and CoC schools, a purposive sampling was done. Three schools were selected for the study based on the discussions with APREIS and COC officials. An important criterion for selection of a

school was better implementation of the RE programme.

In-depth interviews using structured questionnaires were used to understand the perceptions of the RE programme, among teachers and principals. Students were interviewed separately to gather the benefits they are receiving from the RE programme. Thus in each school, the study team interviewed the teachers, principal, non-RE Teachers and students. The methodology is given in more detail in annexure 7.

## Study Coverage

	Andhra Pradesh	Chennai
No. of schools covered	3	3
No. of RE teachers interviewed	10	7
No. of principals	3	3
No. of non RE-teachers	5	3
No. of students	15	17
Teachers, FGD	2	2

## 4.2 Professional Development Support

To implement the RE programme in India, IBM chose to work in the two states of Tamil Nadu and Andhra Pradesh after informal surveys, discussions and interactions with a variety of persons both in the government and in the education field. In each of the states, it also chose a training organisation that would partner with IBM in taking the programme to the teachers.

The training partners were exposed to the RE programme conducted by the team from Australia. They also had discussions with IBM-RE India to formulate an approach, taking into account their past experiences and expertise and to plan the processes in the context of the APREIS and the CoC schools.

As a resource agency, the implementing partners focused on professional development of the teachers through a series of training programs, exposure visits and on-site support. The training content and methodology was directed towards the RE philosophy, its objectives, and at making the teaching-learning process child centric. Teachers learnt different methods such as Self-Portrait, Metaphor, Collaborative Learning and others. The training programme also oriented teachers to the use of computers. They were introduced to computers, the use of Word document, Power Point presentation and Internet. They learned to make an e-mail address for themselves.

Both the training partners have established a good working relationship with the respective government departments, the APREIS in Andhra Pradesh and CoC in Tamil Nadu. This has enabled them to visit the schools whenever required, arrange and coordinate reviews, meetings and workshops even at a short notice and make IBM program known to the department and its personnel.

#### **4.2.1 Training Support in Chennai**

The implementing partner in Chennai made use of both Tamil and English as the medium of instruction during the training sessions. They also provided training material on RE Methodology by way of printed handouts in English. The approach to teacher training has been to expose the teachers to skills and

programs that would empower them and enable them to derive the key elements of the session. Leading from here, the team members of the implementing partner of the RE programme, consisting of two facilitators and a team leader, along with its director shared that they do not feel it is their role to be didactic or tell teachers what they should do in a field where the teachers themselves are the professionals.

The training programmes were followed by school visits to support the teachers in implementing the programme in the classroom. During visits, the team interacted with the principal and teachers in each of the schools.

The challenge faced by the training partner in Chennai was mainly the logistics of taking the RE strategies to the classroom as a normative practice. Since the SSA driven Active Learning Methodology (ALM), that is being implemented in all the CoC schools does not allow for much time or energy for the teachers to apply the RE methods in the class with the children, the teachers, the training partner and the CoC official in charge of education looked for possible ways to integrate RE into the ALM.

Despite these challenges, some of the school heads encouraged their teachers to use whatever extra time they had to introduce the RE strategies in the class. With the implementing partner creating a rapport with the heads of schools and the teachers, this could be organised in some of the classrooms.

In the Advisory Board meeting held in Chennai, this issue of integrating RE methods as a regular feature was discussed with the Chennai Corporation officials. The Chief Educational Officer and the HMs assured IBM that all efforts will be taken to help the

teachers and students make maximum usage of the new RE methods. The Advisory Board also suggested that an orientation programme on RE exclusively for Education Officers and supervisors could be conducted..

#### 4.2.2 Training Support in Andhra Pradesh

In AP, the local implementing partner initiated the RE program with a training for the 10 school principals, which was organised jointly by IBM and APREIS. Having applied itself to the main concern of how to take the RE philosophy and approach to the classroom, the implementing partner, in discussion with IBM, made efforts along with its team consisting of four subject teachers and a team leader, to match subjects and lessons to the relevant teaching-learning methods. It then moved into the mode of exposing the teachers to these possibilities, and to make clear how particular lessons could be done using a specific method.

This was followed by the first teacher training workshop to orient the teachers on the RE philosophy, programme objectives, discuss the school visit observations, introduction of RE tools, ICT integration as well as deliberate on the new teaching-learning processes that can be used in the classrooms. The RE facilitators developed a training manual on the RE programme, describing its objectives along with a range of teaching-learning methodologies.

Training materials, posters as well as training design and session plans were prepared to orient the selected teachers on the RE methods and the framework.

The second teacher training programme oriented the teachers on integrating the

teaching-learning processes with the subjects focusing on holistic presentation of the syllabus, connecting different branches of the subject, creation of subject corners in the classroom, preparing a plan of action for rollout, integration with day to day examples and other related concerns of implementation.

The RE facilitators made periodic visits to the schools (once a month), to oversee the practice of RE in the schools. During visits they interacted with the principals, teachers as well as students. The focus of the initial visits was on enabling teachers as well as students to perceive this new approach towards learning. The RE facilitator also mentioned that convincing the teachers to change the seating arrangement in the classroom was difficult. As the programme gained ground in the classroom, it was observed that the teachers had difficulty in planning what tool to apply to each topic since the teachers did not have the time to plan for their classes.

The RE facilitators also organised an experience sharing workshop, where subject specific teachers met to discuss the implementation of RE in their classrooms. This workshop helped the programme greatly as it facilitated sharing of experiences, use of new RE methods in class, and other processes of implementation.

#### 4.2.3 Different Approaches

In this context, it is necessary to mention the difference in approach adopted by the implementing partners in AP and Chennai. In AP, the RE facilitators provide subject-specific guidance and support to the teachers, which the teachers felt was very useful. It helped them to apply many of the RE tools

in their respective subjects. The training partner in AP also produced and distributed many subject and lesson oriented CDs that teachers could show to the children, when the lessons were being conducted.

In Chennai, the focus was to build the capacity of teachers to understand the concept of RE and initiate them to develop the specifics to their requirements. Subject related support was not provided with the approach being that the teachers should have the freedom to apply the tools to their class, as they see fit, instead of adhering to a standard format. During discussions, some teachers felt that support for converting the usual class plan to an RE methodology would be useful at least initially, till they are familiar with the techniques and tools. In Chennai there was more emphasis on the personal development of the teachers, with the programmes being more participatory.

After observing the schools and talking with the teachers, it is surmised that it is not necessarily a good practice to spoon feed the teachers with syllabi-specific tools as then there is a culture of dependency that is further validated. The thrust could be to indicate how the various tools can be used for different concepts and topics, and teachers being subject experts could then apply the tools to suit their requirements in a planned manner.

IBM represented by the Project Manager is of the opinion that since APREIS schools and CoC schools have different identities and operate in different environments, a single model may not be applicable in both the states. Hence IBM has given each partner the space to evolve their own practice so that after the initial period of testing

the waters, one could arrive at a model or models for training and implementation of RE in India.

To ensure that each partner draws and learns from the other's experience, IBM organised periodic meetings between the implementing partners.

During the initial phase of the project period, a planning workshop was organised. IBM shared the overall RE project framework and guided the partners to design the program and ensure that the objectives are met. Subsequently, sharing workshops were organised on a periodic basis to ensure cross fertilization of ideas.

## **4.3 Teachers Learning of RE Methodology**

### **4.3.1 Understanding and Practice**

This section looks at the core of the IBM-Reinventing Education programme as it is being implemented in the selected schools. The teachers' recall of the RE philosophy from their training; their understanding of the programme; the practice of the methods in the classroom; the changes brought about as a result within the class and for the teacher; and other related areas are reviewed here.

### **4.3.2 Teachers' Understanding of RE Programme**

With the training programmes having a positive impact, the teachers seem to have found the RE programme attractive and the programme has appealed to them. The teachers articulated the objectives of the RE programme in various forms.

The study revealed that while the teachers have understood the RE programme, they had difficulty in implementing the programme in their classrooms. The teachers suggested that they were in need of more support in applying the RE philosophy to specific subjects and topics; and need to learn how to get more out of each tool to increase the students' understanding.

### Ms. Kaveri\*– RE teacher from Chennai

Ms. Kaveri has used the RE tools more than five times in her class for various topics. She told the team visiting the schools that the training programmes were good, "as not a single minute was wasted". She gave a high rating to the usefulness of some of the tools. From the exposure visit she realized that young children have the capacity to create and direct their own learning. Some of her comments were as follows:-

"Bingo is enjoyed by all the children and gets them involved."

"Classroom Norms have been helpful in improving discipline."

"It is difficult to complete portions because of frequent training programs (other than RE), leave, holidays, etc."

"It would be helpful to have detailed notes on applying methods to different subjects."

"Participation has increased and even slow learners are motivated to come up with points."

*\*Name Changed*



In Chennai, it was observed that there have been some difficulties in understanding because the training material is available only in English. Since the schools are Tamil

medium, translating and giving materials in the local language would make the levels of understanding better for all the teachers. If training and materials provided were to be given in English and Tamil, it may increase the usage of these methods in the class, making teachers more comfortable with adapting these tools in the classrooms.

Within the short time between the launch of the programme in the state and the field visits, all the teachers have definitely tried out the methods in the class. In Chennai; however, due to the government led ALM being practiced in the same classes, 6, 7, and 8, many teachers have not found the time or the space to implement the tools learnt in their training programme as often as they would have liked to.

### Sulochana \*– RE teacher from AP

Ms. Sulochana has ~~also~~ used some of the tools (that she thought were useful) more than five times. She mentioned that the training helped her to improve her professional skills and to use ICT methods.

#### Some of her comments:

"Learning by doing promoted self- learning among children."

"Think, pPair and sShare leads to cooperative learning."

"Some tools I used more than five times as those can be adaptable to almost each session. But some tools I did not use."

As a result of the RE programme, I have developed a friendly relationship with students and student-teacher interaction has increased."

*\*Name changed*



The critical lacuna in the teacher's understanding in both the models seems to be the lack of an overarching framework. The teachers' questions seem to be – why is there a need for a change; what is the direction of the change; where do we need to get to; what is the correlation between the RE methods, doing better in exams and learning with involvement; and what are these 21<sup>st</sup> Century skills?

### 4.3.3 Recall and Use of RE Methods

An important component of this study was to know whether the RE teachers have been able to understand the RE philosophy and practice RE in their classroom. To understand this, the teachers were asked to recall the new teaching learning methodologies that they were oriented on in the training programs. This helped in understanding whether the teachers are practicing RE in the classrooms.

**Table 1: Recall Of Re Teaching – Learning Methodologies**

Number of RE methods Recalled	No. of Teachers, AP	No. of Teachers, Chennai
Less than 5	5	-
Between 5-10	3	7
More than 10	2	-
<b>Total</b>	<b>10</b>	<b>7</b>

**Table 2: Usage Of Teaching – Learning Methodologies in Class**

No. of times used	No. of Teachers, AP	No. of Teachers, Chennai
Once	-	-
2-4 times	1	3
5 times or more	9	4
<b>Total</b>	<b>10</b>	<b>7</b>

The above table shows the trend of usage of the new RE methodologies. It is important to note here that this data is only an approximation of the teachers' recall and usage of the RE tools. What it also indicates is that teachers are able to remember, they are putting some of these methods to practice and realize the potential of these methods to help students in improving their levels of attainment in different spheres of learning.

There could be several reasons for the trends in the two states. In AP, the schools being residential schools, teachers have more time with the students. Further, the RE facilitators have also been providing a lot of subject specific support, rendering the use of the teaching-learning methodologies easier for the teachers. In Chennai on the other hand, the Corporation school teachers are pre-occupied with the ALM, being implemented in the schools. Hence the teachers find limited time to practice RE in the classrooms. The other factor in the difference in the usage of tools is the number of students in a class. The average class strength in an APREIS school is 32, making it comfortable to use the tools in class. In the CoC schools, the average class-strength ranges between 40-55 students, making it rather more difficult to apply the RE tools.

In Chennai, there was a wide variance between schools. For example, in one school, a teacher had used a method once or twice; in another, only once. In another school where the programme was functioning very successfully, the teacher has applied the new teaching learning methods over 15 times. In almost every class since the training, she had used one or the other of the methods.

A direct comparison between Chennai and AP may not be the whole truth of the situation. Being in a less complex situation has made it easier for the teachers in AP to use the teaching-learning processes. One has to take into account the liberty they have in using their own methods to help children attain better standards set for them and the more time they have with the children. The RE teachers in Chennai, on the other hand, due to the focus on ALM by the education department, have not been able to practice these methods and also have limited time to complete their own annual portions.

**Table 3: Frequently used RE methodologies**

APREIS	
RE Methods	No. of Teachers
Bundling	8/10
Cooperative learning	5/10
Jigsaw	5/10
Brainstorming	4/10
ICT	3/10
Think, Pair and Share	3/10

CoC Schools	
RE Methods	No. of Teachers
Collaborative Learning	4/7
Self-Portrait	7/7
Metaphor	5/7
Pep-up Activities	7/7
Bingo	7/7
Classroom Norms	7/7
Multiple Intelligences	1/7
Blooms Taxonomy	1/7
Creative Thinking	1/7
Flexibility	1/7

These tables help to identify which are the popular tools from the teachers' perspective. The ones that are used more often seem to be Bundling, Cooperative Learning and Jigsaw

in AP. Bingo, Classroom Norms, Self Portrait and Pep Up activities are the most common RE tools used in the Chennai schools.

#### 4.3.4 Teacher's perception of RE teaching learning methods

The study also attempted to understand the teacher's perceptions regarding the usefulness of the teaching-learning methods and the skills that could be developed among the students using these methods. All the RE teachers mentioned that these methods are useful to the children. But they do vary in the degree to which they perceive the tools to be useful.

The teachers were also confident about which RE tool led to the development of what kind of learning skills if they were used in the class regularly.

**Table 4: Use of RE methods and skills developed: AP**

RE-Tool	Skill Developed
Bundling	Improves problem solving capacity, confidence, communication skills
Brainstorming	Develops thinking, problem solving skills, analytical skills
Cooperative learning	Increases student sharing and learning
ICT	Enhances student's creativity
Jigsaw	Improves communication, self learning skills
Learning by Doing	Promotes self learning
Photo-Journal	Improves creativity among students

A concern and an observation raised by a teacher was that while children improved in oral work, their written work was very poor. This impacted on them during examinations as they

were marked on written work. In her opinion RE could also strengthen the intervention by including written exercises for children.

#### Skills developed among students due to RE tools

- Communication skills
- Reading skills
- Better performance
- Confidence
- Analytical and thinking skills
- Discipline
- Attentiveness and concentration
- Self learning
- Sharing and responsibility towards other students
- Leadership skills

Another interesting observation by one teacher is that RE facilitated equal opportunity for all children to develop leadership qualities. In this instance Collaborative Learning was cited as an example. The RE methods engaged all the children in the learning process and ensured participation by all. Leadership was not concentrated in the hands of one child. Every child got a turn to read part of the lesson, explain contents to the group and clarify doubts.

#### 4.3.5 Classroom Transformation

The main objective of the forward-looking IBM-RE programme is to transform the classroom from its present day conventional, teacher dominated, feudal set up to one that is dynamic and student-centred. This has been the bane of most of the efforts made in the last couple of decades. Everything around the school seems to change but the classroom processes fall back to old set patterns and continue in the same manner.

The teachers' orientation, with only the first line of training programmes done in a six-month period, seems to focus squarely on using the methods for the classroom. The overview of where they are heading or the long term goals may not be crystallized but the teachers' perception seems to be that they would attempt to bring about a change that is in their hands, that is within their ambit.

#### 4.3.6 Class Arrangement

One of the changes that teachers feel they can do, however reticent they may have been initially, is to reorganise the geography of the classroom. In many of the RE classes, students sit in a circle or a wide 'U', or small groups so that they face each other. This may be symbolic, being one of the first steps taken to make the teacher and the students realize that some aspects of the rather rigid school practices can be shifted and there are perhaps other changes that would follow. Some teachers, who have not rearranged the seating or the general pattern of their classrooms/classes, seem to now do it for specific classes or for certain activities. The idea has captured most of the practicing teachers' imagination.

When asked what has changed in the school of late, many of the students in AP said that the seating or classroom arrangements had changed. Students of the grade 8 in the APREIS schools also said that now there are subject corners in the class. On the field visits it was observed that there were many charts made by the children and each wall was for a specific subject.

In the Chennai Corporation schools, it has been difficult to make this change because of some constraints. The teachers are hesitant

to change classroom arrangements in case authorities question them about it. But one school that was visited had a few charts with diagrams done by individual children put up on the wall; and some greeting cards done for the previous Deepavali were kept in the cupboard to showcase the drawing talents of the students.

## 4.4 Teacher-Child Relationship

With a good teacher-child ratio in the APREIS classrooms (the range being between 30 and 36 students per class) the child-teacher relationship also seems to have improved after the introduction of the RE programme. The teachers feel that it has helped them to relate to children in a better way. “The children’s talents which were hidden till now, have come to the forefront. They are drawing, writing, talking, and sharing their ideas...” said one teacher.

In Chennai on the other hand, the higher numbers of children per classroom makes it difficult for the teachers to develop a one-on-one rapport with the students. Despite this constraint, the teachers felt that the RE programme has helped increase the student-teacher interactions in the classrooms.

## 4.5 Role of the Teacher

As seen from the discussions and interviews with the teachers, the changed role of the teacher in the classroom was understood and most of the teachers have realized the freedom and time that this new role offers. Some of them are excited about how, when they have passed on the responsibility to the children, the students have responded well by taking on the mantle. It seems to be

also giving the teachers a sense of success and fulfilment.

Discipline has always been a major issue in the CoC schools and the RE program has been able to instil better norms of behaviour among the students.

In the words of Mr. Kannabiran, teacher from Chennai *“Earlier- When I was in classroom, the class was quiet now when I go out of class, the class is quiet”*

This quote sums up the change that RE has been able to bring about in some of the schools and making the classroom transactions more meaningful.

The principals in APREIS as well as CoC schools reflected that there has been a change in the way the teachers perceive their role in the classrooms. The teachers now are the facilitators, and guide the students in the learning process.

An important change that the RE program has brought about is creating a multiple learning environment in the classrooms. Earlier, the teachers were the only channel of information, but now the students are learning from other sources, and from each other. This change is being recognized by some of the teachers. A few students too were able to articulate this change.

What is holding teachers back in Chennai is that they are not able to focus on RE because of the education department’s focus on ALM. While in AP, teachers are not able to go ahead full throttle with RE due to targets set for the APREIS schools for syllabus completion

and the high marks that need to be achieved by the students in the exams. Though the authorities have said they would relax these targets, in lieu of the RE programme, the peer pressure and also because they have become habituated, the teachers find it difficult to ignore these pressures.

While teachers freely request infrastructure supports such as desks and light bulbs, they often do not share their most pressing issues: that they feel burdened because schools are understaffed; teachers are given multiple non-teaching duties and often have little or no cooperation from parents. The HMs are usually aware of these gaps, and solutions are beyond their control. These problems exist across the Corporation school spectrum, and besides sharing these complaints with the Education Officer (EO), and soliciting donations from private bodies and NGOs, there is little that they can do. A silent but established norm in most government departments is to refrain from sharing concerns with higher officials, as it may be perceived as inefficiency.

## 4.6 ICT in the Classroom

The four computers given by IBM to each of the schools have been donated with the objective that it would enable the teachers to use the imparted computer skills as an integral part of the classroom process. The implementing partners have taken the teachers through the basic steps of using the computers as part of the overall inputs given to them. Besides the hardware and the training, in AP they have been given CDs that are mostly on science topics.

From the interviews with the teachers it has been found that many of them are not very comfortable in using the computer.

**Table 5: Teachers comfort in use of Computers before RE programme**

	Andhra Pradesh	Chennai
Very comfortable	2	-
Comfortable	3	1
Somewhat comfortable	2	1
Not comfortable	3	5
<b>Total</b>	<b>10</b>	<b>7</b>

**Table 6: Use of ICT**

Use of ICT in Classroom	Andhra Pradesh	Chennai
Yes	6	7
No	4	0
<b>Total</b>	<b>10</b>	<b>7</b>

Some of the teachers, who were comfortable and had used the CDs in the class whenever possible, seemed excited at the prospect of using them more specifically in the coming semesters and take the students beyond the classroom lessons.

During the visits to the schools, it has been observed that the given computers are rather slow and connecting up takes a long time. Better performing computers may help to break the barrier of disinterest.

Initially, there was a delay in installation of the IBM donated computers mainly because of lack of space and funds allocation for maintenance and related expenses. IBM took up the responsibility of installing the computers in all the schools and requested the government partners to take up regular maintenance. Presently, all the computers are installed in the schools and the departments have made their own arrangements for regular maintenance.

## 4.7 Teachers as Leaders

An important component of the RE programme is to build a cadre of teacher leaders who would take this programme to other teachers and schools. Understanding the extent of experience sharing of the RE programme that has taken place within the schools and among the teachers formed an important component of this study.

Some of the teachers, who had not undergone the RE training from the selected schools, also had a clear understanding of RE methods. They viewed RE as a programme directed towards making classroom instructions easy for children through the use of participatory methods and directly involving children in the teaching-learning process. "In this manner the school becomes more interesting for children", one of them said, who had not been directly given the RE training.

In Chennai, experience-sharing workshops were organised by the Principals of the schools. The RE teachers served as the resource persons and shared the philosophy of the RE programme with teachers from other schools. The implementing partner only played a facilitating role and consolidated the inputs given by the RE teachers. Across the three schools 119 non-RE teachers participated in the sharing session of whom 29 were teacher trainees from different teacher training institutes in Chennai. In the sharing session the RE Teachers presented the RE philosophy and introduced the varied teaching learning methods such as Bingo, Classroom Norms, Collaborative Learning, Multiple Intelligence and Critical Thinking exercises. Chennai, thus, saw an autonomous progression of the programme with the principals and RE teachers taking

the lead in orienting other teachers on the RE programme.

In AP, the teachers mentioned that the subject-specific experience sharing workshops were very useful. It helped the teachers share their experiences and also learn from other teachers how to use the teaching learning methods.

The spillover effect to other non-RE teachers seem to be limited in AP as there have been no sharing programmes organised formally and avenues have not been created for this to take place within the schools. To address this, the teachers in AP will be trained as 'trainers' as in Chennai to share their experiences with other teachers in their schools and elsewhere.

Heads of schools form a crucial meeting point between department resources and official support and the ground reality of teachers. Wherever HMs are enthusiastic about RE, it has made a significant difference to the extent of implementation, internalization of RE philosophy, and the atmosphere of the school. In the three schools focused on, in Chennai one HM took it upon herself to promote RE use in the classrooms.

## 4.8 Learning Outcomes for Students

### 4.8.1 Student Participation in the Classroom

All the 15 students interviewed in AP mentioned that there is a change in the present academic year in the way the teachers take the class. They said that they do plenty of group learning and group discussions; they do experiments and practical work; they make models; prepare

charts and have quiz programmes. They also mentioned the names of some of the tools: Cooperative Learning, (Think) Pair-Share, Jigsaw, quizzes, subject corner, practical experimentation, group discussions, charts preparation and photo journal.

### Student's Response on the RE Programme

- Teacher's listen to us
- Classroom seating arrangement has changed-, we sit in circles and groups
- We are learning by ourselves
- We are understanding concepts better
- Earlier, teachers used to teach us, now we are teaching each other and learning from others
- We are preparing for the lessons by ourselves and teaching each other in the class
- New learning methods are being introduced in class
- The classes are more interesting
- We are learning in groups
- Classes are easier
- We have multiple resources for information rather than teacher and text books
- Subject corners

In Chennai, of the 17 students the team spoke to, most of them could recollect one or the other, if not some of the tools. The students from class 6 were not very articulate but could give examples of the tools that were used. The tool Bingo appeared to be the most favoured tool among the students. The other tools that they mentioned were mind-mapping, brainstorming, pep-up activities and collaborative learning.

The field observations revealed that the students in AP are benefiting a lot from the RE programme they are articulating what they have done, they are talking rather fearlessly in front of the teachers and are able to explain some ideas that they have worked through on the charts. In spite of the confidence building, it is too early in the program to look at the skills that are developed in the students as being sustainable skills.

## 4.9 Summing Up

Quite a lot of ground has been covered in this short period of six months of implementation of RE in the two states. There is a comfort level that has been established between the government and the implementing partners; a working relationship between the schools, the teachers and the trainers; some work has been done in the classroom for the students to appreciate that there is a change in their classrooms; and others not directly involved are keen to learn more about the RE tools.

One needs to appreciate that it takes a lot more time to bring in systemic changes into the classroom and as they are brought in, the children would also respond accordingly. For the methods to have an impact on the students and become an intrinsic part of their construction of knowledge and learning skills, it would take at least a cycle of two years if all the right efforts are made in the right direction. One cannot look for an instant amalgamation after so many years of neglect of their natural talents and intelligence.

RE complements the ALM philosophy and helps in redefining the teacher's role; from a giver of knowledge they have now become facilitators.

- Chief Education Officer, CoC

The RE programme has been able to bring about positive changes in the short time it has been operational, but transformation of the classroom will require more support and structured interventions. The stage is set with motivated teachers and committed partners (APREIS & CoC) using this platform for improving the teaching learning process.

Teachers are also looking forward to move into the next phase of their work in bringing about changes in the classroom along with the students. RE could perhaps prepare to focus on the school as a whole and translate the commitment shown by the government partners into concrete actions.

# Future Steps

This section describes recommendations for future direction. It is based on the discussions with personnel from APREIS, CoC the implementing partners and IBM.

## Key Achievements

- **Government Partnership**

The selection of the specific education departments in both the states has provided a unique and an expanding opportunity for applying the IBM-RE programme in all its intensity and expansiveness. Both the partners are exhibiting keen interest in the programme, which is evident from the support provided to this programme. The government departments in both the states have shown a deep trust in IBM-RE India and its interventions.

- **Implementing Partners**

The implementing partners have applied themselves to the programme and with the help of the IBM-RE team adapted it to the local educational environment. They seem to have built a good rapport with the government partners in their respective states. This has given an impetus to the programme.

- **Teachers**

In the short span of six months that the programme has been practiced, the RE programme is definitely witnessing a change in the teacher's role and perceptions of teaching-learning methodologies. It would take some more time for the RE teachers to fully internalize the concept and adopt a new way of teaching. The teachers have also been able to articulate the benefits of the RE programme to the students and the skills that could be developed among the teachers from using the RE tools.

In Chennai, the teachers are eager to attend the training programmes and have a sense of camaraderie towards the members of the training organisation.

- **Students**

During the field visits in AP and Chennai, the students have been able to articulate the benefits and change in teaching methodology due to the RE programme. The students mentioned that the classes are easier, the teachers are friendlier, they interact more with the teachers, and so on. Thus the programme is definitely having a positive impact on towards transformation of the classroom transformation.

## 5.1 Creating an Enabling Mechanism for Practice of RE

Besides the input of training that seems to have gone according to the expectations of the implementing partners in both

the states, an understanding with the government partners has to be established as to the kind of support required by the teachers to implement the methods in the classroom. These have to be worked through, especially in Tamil Nadu. In the APREIS schools, the targets set for each

class and teacher by the department could be reviewed and reset (either higher or lower, but realistic) taking into account the RE programme. The IBM-RE programme cannot be a stand-alone initiative. It needs to dovetail into the larger education programme of the state and align with its activities and goals.

This seems imperative especially because of the strong initiative from the government in the form of ALM for these same classes (in TN). It makes it difficult for the teachers to do something outside the government-owned programme that is continuously monitored by the SSA since it is in its initial phase of scaling up. The plan for action and support could be discussed with the department heads which would then pave the way for making the IBM-RE tools an integrated practice in the classroom. Otherwise, as of now it has become a once-in-a-way activity and not the norm.

### **5.1.1 Networking with decision-makers**

Discussions with the officers, who are in charge of the programme at an executive level, need to occur along with the heads of schools to negotiate for the time required to make the programme a regular activity for the students in the school.

IBM-RE India needs to have discussions and links with many layers in the government departments so that the departments are strongly in favour of the programme. It could build upon the already established working relationship. This is rather critical for continuity because the turnover and transfers of the officers is quite high in most of the government organisations.

### **5.1.2 Principals as Leaders**

The school head is the first level of support for the teachers and in spearheading the program at the school level. They need to not only have the knowledge of the program, but also be trained to encourage the teachers of the entire school to execute the RE programme in their schools.

Principals of schools need to not only have knowledge of the programme but also learn the methods to monitor, mentor and motivate the teachers.

### **5.1.3 Advocacy material at all levels**

There needs to be some material that the government departments in both the states, could use for advocating the IBM-RE programme within the administrative cadre. This will not only help all officials understand what RE is, but also help when monitoring is done by the supervisors. They would know what to look for and their message to the teachers would be done in a positive manner. Now, perhaps because they do not know too much about the method, the supervisory staff does not support the teacher actively.

### **5.1.4 Facilitating Teacher's Constraints**

Teachers have multiple commitments, in a large school system other than teaching the students. Rather than requesting for more autonomy and decision-making powers, teachers request more enforcement, guidance and sanction from higher authorities, before they can practice RE methods. Teachers will get more freedom through institutional sanction, not in isolation from it. For example, a teacher in Chennai said she liked RE but

wished it would become enforced so that she could practice it more. Another teacher said that she wished higher authorities would all be given an orientation on these methods and converge in their support of one method, instead of giving mixed messages and 'leaving it up to her'.

What is required at this stage is getting overall sanctions from the departments for the practice of RE on a regular basis in the classroom. This would strengthen the programme and help the teachers and schools to go forward from the base that has been built so far.

## 5.2 Classroom Application

In the APREIS schools, the methodology could be taken one step further to make it a part of the child's conceptual understanding, as it is now being done in a more or less mechanical manner by the students.

The inputs being given presently seem to be minimal in relation to the results that are expected. The training procedures and the IBM-RE tools could be examined to identify gaps against the goals of the programme and adapt them to local conditions and expectations. The RE programme has definitely been able to bring about positive changes, but transformation of the classroom will require more support and structured interventions.

The entire programme could be a generative process, rather than one of transplanting. Discussion of the principles of RE, its relationship to the NCF 2005 and to the state curriculum; and how a process of integration and interlocking could be planned is critical at this stage. The government personnel,

the heads, the teachers, the members of the advisory board, would have a lot of varied experience and with a proactive team leader could make the IBM-RE programme substantial and meaningful to the middle and secondary school environment in the two departments which are already open to new ideas that are applicable in their situation.

The RE programme has definitely impacted the way the teachers teach. It is very similar to ALM being implemented in the State. A change is definitely observed both among the teachers and the students. Teachers have remarked that attendance has increased due to this intervention.

*Deputy Commissioner, Education, CoC*

### 2.2.1 A Norm in Daily Classroom Transactions

Within this arena, the next steps for IBM-RE India are to demonstrate along with the training partners in the field, that the programme is part of the teacher's routine planning. This could be tracked and tangible outcomes shown to enable the government departments to move forward with the prospect of expansion and scalability which are the next set of intermediate results for IBM-RE India.

## 5.3 Effective Use of ICT

There are several constraints in using ICT in the Indian school system such as inadequate infrastructure, space, familiarity of teachers on the use of ICT to name but a few. The use of ICT is still at a nascent stage in the schools. The ICT programme as of now needs to be examined as to what could

be expected within the set timeframes, infrastructure facilities and class strength of the schools. It has to also explore the non-traditional approaches to the use of ICT in the classrooms.

IBM's initial studies of the current teaching-learning process in India revealed that the teachers are not proficient in computer usage. Though teachers in the age group of 25-40 are inclined to adapting to this technology, the more senior teachers seem very reluctant to make this change.

Despite the current situation, the study has clearly indicated that technology can be a critical component for education reform when used strategically. Thus it's an opportune time for launching the RE portal as part of the overall intervention.

There is also a growing recognition and acceptance of using interactive media, computers to enhance the educational process. Teachers are eager to learn new technology and practice interactive process for delivering.

At the end of this RE programme it is envisaged to have the current classroom model transformed into a new genre in which the learning will go beyond the four walls of a classroom with a student-led learning model and the teacher serving as a facilitator.

To enable the RE process to continue beyond classrooms and enable collaboration and sharing of information, learnings and best practices, a RE portal using open source tools and developing it on the "Bluesky e-Learning Platform has been initiated.

This Bluesky will be an online portal platform, which will motivate teachers to communicate and collaborate with teachers of different schools in different states via the internet. The RE portal will serve as a place of collaboration and communication among teachers. With constant collaboration among teachers, the portal is envisaged to become rich in effective learning content, which can be used for improving the teaching learning process.

Since many of the teachers were not proficient in the use of computers, the first phase of the RE programme focused on training the teachers on computers, creating e-mail accounts and internet browsing. The resource agencies have imparted training on computer use in the states.

Another process of integration that could be looked at is to make the methodologies be available through the RE Portal, like the IBM's Bluesky programme in China where thousands of teachers and school students are using it as part of their school work. The philosophy of the Bluesky platform developed for China is "Under the same blue sky, people have the right to benefit from high quality education resources."

In the next phase of work, the tools and the experience gathered could be amalgamated into the Bluesky portal, to make it relevant for the Indian school environment.

## 5.4 Participatory Professional Development

At the present stage, RE is not getting reflected in the teacher's activities and the whole absorption of RE philosophy needs to take place among the teachers. What is

missing in an overall understanding of the RE philosophy and not restricting it to only the use of a few teaching learning methods in the classroom. The teachers require some support on incorporating the RE philosophy in the class structure.

What would help the programme implementation is an organic understanding of the RE programme and philosophy among the teachers. Teachers can then come up with an overview as to how the programme and some of the methods could be incorporated into the class structure, with or without lessons.

The pedagogy for implementing the programme by the training partners at the local level could be a hybrid of the two models in the two states. As much as teachers need a structure for developing a plan of how to use the RE tools in the classroom, they also need the kind of approach that would enable them to contribute and influence the overall plan. The participatory methodology could be also applied within the precincts of the training so that the teachers feel empowered. But the underlying principle being that empowerment comes from successful implementation of what is planned for the classroom with the students. One model of training does not have to be at the cost of the other.

## 5.5 Classroom Demonstrations

Classroom demonstrations can be an important component of the training programme, since the teachers require support on how to integrate the RE programme in the classroom. Following principles of androgogy, makes it imperative that adults visually see, observe and reflect upon the changes that need to

happen, for the teacher to assimilate and include in her practice.

From the AP experience it may be abstracted that it takes time for the teachers as well as the students to absorb and adapt to this new approach; however if the approach unifies within the training programme the content, the method and the spirit of the approach, it will open the window for practicing the RE approach in its fullness. Otherwise, in the education system in India, most are quite comfortable with the theory flowing in one direction and the practice going another way. However, if the idea is to bridge this chasm, one has to start with rooting the practice and later or simultaneously extracting the theory from it. This will also be in alignment with the idea of action research propagated by the RE models being done in other countries.

Training partners need to be able to apply themselves wholeheartedly to the program and understand the immediate needs of the teachers, which may be a short term goal and from there guide them to the long term goals of the project in empowering the teachers.

## 5.6 Working with Teacher Training Institutes

In Chennai, sharing sessions were held with teachers from Teacher Training Institutes (TTI) and private schools. The response has been very positive.

For impacting a larger community of professionals, teacher training institutions in both the states could be viewed as a field for wider spread and expansion of influence. The RE tools could be taught as a part of teacher preparation and incorporated into the pre-service curriculum programme.

## 5.7 Technological Integration through RE portal

The RE portal developed for India could provide an e-learning environment where teachers and students can communicate and collaborate with each other and among themselves, so as to provide a better teaching and learning environment.

The system features should include a platform for uploading good quality content on topics, provision for sharing content with other teachers and students, means to have one-to-one communication with other users or group of users and a platform to share queries on topics with others and get responses for the same.

In short, whatever a teacher or a student can do in a classroom; can be done in the portal online and even more with the rich variety of content available. All this coupled with content that will be dynamically adapted based on the students' learning profile will help nurture the teaching learning process.

Care must be taken to ensure that the features offered in the portal will be presented in a way that is interesting and user friendly so that the teachers have no difficulty in learning and using them.

## 5.8 Focused Training

The focus could be to maximize on the training programme inputs to make the practice a ground reality in the schools, so that from the next academic year, formal plans could be made along with the multi-level partners for further inputs to make

scalability possible. The following training needs are identified:

- I. Training APREIS and CoC department Officials at all levels
- II. Periodic workshops with the principals on experience sharing and taking the program forward/ implementing it in the entire school in a phased manner
- III. Experience sharing between schools
- IV. Classroom demonstrations

From the experience so far, it would perhaps be more effective to have an integrated approach of RE in India based on the two approaches followed in the two states.

## 5.9 Developing a RE manual

There is a need to develop a comprehensive RE manual that would detail out the philosophy of RE along with sample lesson plans that will help teachers adopt RE into their daily classroom transactions.

## 6. Linking with Other Partners

In Tamil Nadu, the Kasturba Gandhi Balika Vidyalayas (KGBVs), could be another department to add on schools for implementing the RE tools. These are residential schools for girls in districts all over India where the female literacy levels are low, which are funded by the MHRD. In Tamil Nadu many are managed by NGOs, convents and local bodies, but come under an umbrella body. It would enable the IBM-RE India programme to be implemented in a complete way in conditions that may be more conducive. (Refer appendix for link to KGBVs)

IBM-RE India needs to have discussions and links with many layers in the government departments so that the departments are strongly in favour of the programme. It could build upon the already established working relationship. This is rather critical for continuity because the turnover and transfer rate of officers is quite high in most of the government organisations.

## Conclusion

Though one has to think and plan for scalability for various reasons, the large student population to be reached being a major pressure; the principles of the program, not just the activities, need to be understood in the context of India, before entering the fray. For instance, in the RE programme in Australia, even in the third phase only 44 schools in three school regions in Victoria state were thought to be sufficient as a scale-up. But it still became a model for other countries perhaps because of the levels of quality achieved.

For any programme to be practiced at a larger level, maintaining quality is a major challenge. So, in the initial stages optimum measures of quality in all aspects of the programme have to be demonstrated in a school group before taking it further.

With this past experience of a year, the holding organization would now be in a better position to perceive what is required over the academic year. Besides these, if other initiatives are suggested by the teachers or the department,

a quick response, whichever way the decision is taken, needs to take place, to speed up the processes and to enable the faculty to feel they can influence the programme – a step towards being empowered.

Taking the school as a unit of operation, rather than the individual teacher, would enable the programme to be taken forward more quickly. This would mean working with all the teachers in the middle school, with the head of the institution and addressing supervisory issues.

IBM internationally having the purposeful intention of working with the public education systems to bring about a qualitative change in the learning environment of the children attending these schools; it is sensitive to the needs of its government partners and is willing to make the extra effort to work with the departments in India. State-level departments too appreciate these efforts and are open to the programs that IBM brings with it.

To make RE functional in more schools and classrooms, IBM RE India could think of packaging a RE manual along with feedback formats that would feed into a data management system which is accessible to all the partners, including the portal for teachers. This would help IBM India to give the RE programme a form and a shape to be taken forward and reach out to many more classrooms and multiple numbers of students. Along with RE portal and the RE manual, substantial change in the teaching learning process can be achieved.

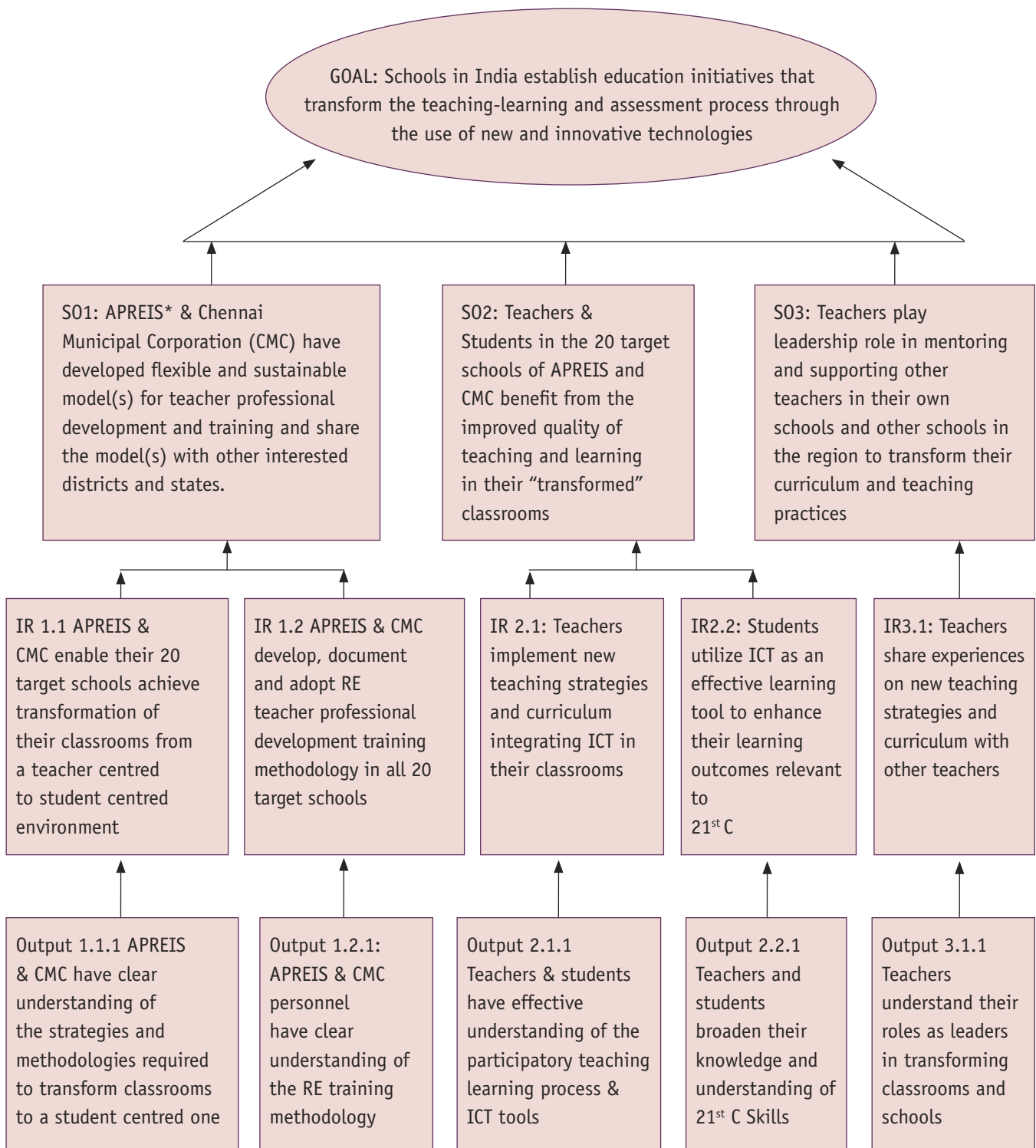
## Annex 1

## RE at a glance

Activities	Andhra Pradesh	Chennai	Total
Coverage of schools	10	10	20
No. of teacher trainings	2	2	4
No. of teachers trained	42	26	68
No. of principals training	1	1	2
No. of principals trained	8	10	18
No. of teachers trained by RE teachers	20	80	100
Lesson plan development workshop	1	-	1
No. of education officials trained	2	1	3
No. of visits to schools - participatory facilitation to teachers	14	36	50
No. of ODC event	1	1	2
No. of ODCs involved	6	17	23
Interaction with RE students	-	1	1
No. of review meetings with HMs	-	1	1

# IBM Reinventing Education India – Project framework

## Annex 2



## Annex 3

## Programme Milestones

### 2006

- October Signing of MoU with APREIS and Chennai Municipal
- November Official Launch of RE India Programme in Chennai

### 2007

- January: 3-day inaugural RE India Workshop in Hyderabad and Chennai by Australian experts
- May: IBM Reinventing Education Summit, Shanghai
- May/June: RE Portal
- September: Donation of 40 computers each to Chennai and AP schools – started
- November: Constituting local implementing partners to execute programme in AP and Chennai respectively

### 2008

- January: RE Orientation Program for APREIS principals
- January: field visits to all schools in AP
- February: field visits to all schools in Chennai
- February: 1st 2 day teachers training workshop Hyderabad
- May: Planning workshop with implementing partners to develop a framework, implementation strategy and action plan

- June: 2nd teachers training workshop (4 days) in Hyderabad
- July/August: School visits by AP trainers to support RE Trained teachers. Guidance on implementing RE in classrooms given
- July: Inaugural workshop (half day) for RE Chennai conducted. DC, EO and HMs of attended the orientation workshop
- August: IBM RE Programme Manager visited Australia to study/visit RE schools and interact with Victorian Board of Education on their IBM RE partnership
- August : 1& 2nd workshop for Chennai RE teachers conducted
- August: Classroom observation and facilitation during school visits in Chennai started
- September: 1st Advisory Board meeting in AP conducted. IBM, APREIS, NGOs from the field of education and educational experts attended
- September: 4 days ICT training (basics of computer applications) for APREIS teachers conducted
- September–November: Chennai RE teachers started sharing their experiences and conducted ‘mini workshops’ for other teachers/schools and trainees from Teacher training institutes
- October: 3rd & 4th teachers workshop for Chennai conducted
- November: RE review meeting with HMs for Chennai schools conducted. Corporation CEO participated

- November: APREIS & Chennai RE teachers visit IBM Kid Smart Centre at Hyderabad and Chennai respectively
- November: 2-day ICT training for RE Chennai teachers conducted
- November: RE Portal demo conducted to select Chennai teachers and HMs
- Nov/Dec: RE Newsletter in Tamil – developed in consultation with IBM and funded by Corporation of Chennai. To be circulated to 300 corporation schools
- December: 3-day ICT training for APREIS teachers conducted
- December: concluding and reflection session for Chennai teachers conducted
- December: Science competition and demo by select RE students in Chennai conducted. IBM On Demand Community Volunteers facilitated the session at Tamil Nadu Science and Technology Centre
- December: Independent Impact evaluation of IBM RE – Phase I launched

## Case Profile of a Student, APREIS School, Balanagar

## Annex 4

The Balanagar APREIS Girls School is located in Mahabubnagar district, around 80 kms from Hyderabad, the capital city of Andhra Pradesh. There are 354 students studying in this school. The students studying here come from the nearby villages and districts.

Nagamani is one such student, studying in class VIII. Ask her how she feels about studying in a residential school and she says, 'it is good, but there is lot of hard work'.

Studying in this school since class V, it was not easy for her to get admitted into the APREIS School. It is only the bright and intelligent students who get to write the APREIS entrance exam and get selected. So she considers herself to be privileged to study in a residential school.

Nagamani's day starts at 5 am in the morning, with the ringing of the bell. They are given only 15 minutes time to complete their morning ablutions and get ready for the yogasanas and physical exercises that start at 5:15 am. If she gets up earlier, she gets to use the bathroom, since one bathroom is shared by ten students on an average; else she has to stand in a long queue.

From 6 to 6:45 the students get ready for the school assembly. She quickly takes a bath, since there are other students waiting and she has to be there in the kitchen by seven.

This week, she is part of the group to serve breakfast to the teachers and students. The students, on rotation, are in charge of serving food to students and teachers.

The school starts at 7:30 A.M and ends at 1:30. The students then have a two hour break. At 3:30 the students again assemble in the classrooms for study hours. At 4:30 they break for tea and sports. Dinner is served at 6:30 and by 7:30 pm the students again assemble in the classroom for 2 hours of study.

The life of an APRIES student is thus largely spent in the classroom attending the regular school hours or study hours after the school. Weekends are spent washing clothes in the open area or reading a few books. Rarely do they get out of campus, and their exposure to the outside world is limited.

Her parents are agricultural labourers. During the off season, they engage in daily wage labour. She is a first-generation learner and is proud of the fact! Occasionally, her parents come to meet her. They have to lose a days labour for that, hence the visits are infrequent. Does she miss home? Says Nagamani, "of course. Life is tough here. But we all have to struggle, if we need a better life." Such is the wisdom of a 13 year old girl, who wants to provide for a better life for herself and her family.

## Case Profile of a Student: Corporation High School, Thiruvanmiyur, Chennai, TN

### Annex 5

The Thiruvanmiyur Corporation High School is located in a shady dead end, inside a winding entanglement of streets. It is the middle of the morning, but two little boys scamper down the street in dark blue uniforms and perching on top of a pile of bricks, suck pink sweets from the petty shop. Enter the gate and you are smacked with a flat glaring expanse of sun-drenched grounds, you squint. This is one of the biggest Corporation schools and the largest one in this zone. Outside the HM's office, the dusty board reading "Corporation High School" leans against the wall; it hasn't been nailed up in months.

Lakshmi is 12 years old and undersized for her age. Crouched on the staircase, looking up with huge, interested eyes, the first thing that strikes you is that this is a very tiny, very self-possessed little girl. She's attended Thiruvanmiyur Corporation High School "since baby class", and now she's in the 7th standard. She's a good student, and her favourite subject is science. School finishes at 3:30 pm but Lakshmi stays on for special tuitions conducted on the first floor, and gets home after 5:00 pm. "What do you want to be when you grow u-" "Doctor!", she answers before you even finish your sentence, matter-of-factly. You are taken aback by her self-assurance.

Her confidence shouldn't come as a surprise, because even since her 'baby class' days,

Lakshmi has been quite capable of taking care of herself. She wakes up at 6 every morning, when her mother goes to work, cleaning in a nearby household. Lakshmi gets herself ready for school every day, brushing her teeth, combing her hair, fetching water for the house, having a quick bath. After eating a plate of palaya saadam (old rice) that her mother has kept in a corner of the kitchen, she grabs her bag and leaves for school. Sometimes she cooks if her mother is tired, but she only knows to make a few things, like kootu. "When do you get time to do your homework?" I ask. "In the evening? Or in the morning?" "Both evening and morning", she shrugs. "How's the midday meal in the school?" you ask. "It's really good, it has all the vegetables and it's very nutritious. But it's only for very deprived children." She adds, proudly, "My mother packs lunch for me. It doesn't have all the vegetables. But it is still very tasty!"

Lakshmi has other talents, and likes taking part in speech and drawing competitions. Just last week, she won second prize in a district-level drawing competition and her teacher awarded her the certificate in the classroom. Her excitement was short-lived though, because when she got home, her mother didn't appreciate her achievement. "She came crying to me the next day", her teacher says, looking pained. "Her mother told her 'What use is this certificate? Throw it out and do some work! How will a small girl feel?'"

Lakshmi lives close by, with her parents and an older sister, aged 16. Her sister is in the 12th standard. Her mother does housework in a couple of nearby homes and her father works as a watchman. They work long hours everyday, but they try to come to school when her teachers call them. Her older sister helps her a little bit with her homework. Lakshmi's parents are the exception rather than the norm, because most parents are not able to attend regular meetings with teachers. "If they come even one day they lose their wages for that day. If we tell them "your child has failed" they don't understand the importance of this. They'll say "ok, do what you have to do..."

Thiruvanniyur CHS caters mostly to children from surrounding slums. According to the 2001 Census of India, the total slum population of Tamil Nadu in selected 63 Municipal Towns is 2,838,366; of these, the largest slum population is found in the Chennai Corporation where 10,79,414 persons are reported as slum dwellers. This forms 25.6% of the total population. Lakshmi is a first-generation

school-goer in her family, the case with most children who attend Thiruvanniyur CHS. Her teacher confides, "Many students can't even manage to buy a notebook. When the old one gets over we have to get some old rough-notes diary from our house. How can we send them off to browse the internet?"

Most children who attend the school work part-time to supplement their family's income, and many school parents work for daily wages – women in housework and the men in construction. The fishing village (kuppam) is nearby, and some boys go out fishing with their fathers at 4:00 am. The math teacher tells me, "One boy in my class, he wakes up at 4 am to deliver milk and newspapers. By the time he comes to first period, he's asleep." Although his drowsiness may also be because he doesn't eat enough breakfast: their parents being out, many students skip their morning meal. "I ask my class each day, "who all have not eaten?" Many hands go up. I give those students some bread or tea to keep them awake till lunch time."

## Study Methodology

This study adopted primary research techniques to discern the effects of the RE programme. In-depth interviews using structured questionnaires were used to understand the perceptions of the RE programme, among teachers and principals. Students were interviewed separately to gather the benefits they are receiving from the RE programme.

Following this, the study team also met APREIS and CoC officials as well as the implementing partners to get a broader perspective of the RE programme, the constraints and challenges in implementing RE and suggestions for future direction.

The following table presents in detail the key stakeholders interviewed for the programme and the methodology used.

### 1. Key stakeholders interviewed

S. No.	Stakeholder	Methodology
1	APREIS/CMCCoC	Personal Interview
2	Local Implementing Partners	<ul style="list-style-type: none"> <li>Focused Group Discussion- Project Team</li> <li>Personal Interviews</li> </ul>
3	School Principals	Personal Interview
4	RE Teachers	Personal Interview
5	Non-RE Teachers	Personal Interview
6	All RE Teachers in the same school	Focused Group Discussion
7	Students	Personal Interviews and FGD

### 2. Selection of Schools

S. No.	APREIS- Andhra Pradesh	CoC- Chennai
1	APREIS Girls Residential School, Vikarabad	Corp. High School, MGR Nagar, Chennai -78
2	APREIS Girls Residential School, Balanagar	Corp. High School, Padvathamman Kovil Street, Kosapettai, Otterri, Chennai -12
3	APREIS Boys Residential School, Keesargutta	Corp. Higher Secondary School, Bharathidasan Street, Tiruvanmiyur, Chennai -41

### 3. Study Coverage

	Andhra Pradesh	Chennai
No. of Schools Covered	3	3
No. of RE Teachers interviewed	10	7
No. of Principals	3	3
No. of non RE-Teachers	5	3
No. of Students	15	17
Teachers, FGD	2	2

## India's Commitment to Education\*

### International Declarations, Constitutional Provisions and Policy Statements

#### Jomtien Conference

This conference of 155 nations held in Jomtien, Thailand in 1990 committed its participants to the following objectives. It was expected that each participant nation would frame policies and initiate programmes that will lead to the fulfillment of its commitment to education; hence no rigid time lines were affixed at Jomtien. It was suggested that 2000-01 would be a good time for the participant countries to re-group to evaluate the progress achieved and plan for the future.

1. **Meeting basic learning needs:** Every person – child, youth and adult – shall be able to benefit from educational opportunities designed to meet their basic learning needs.
2. **Shaping the vision:** To serve the basic learning needs of all requires more than a recommitment to basic education as it now exists. What is needed is an "expanded vision" that surpasses present resource levels, institutional structures, curricula, and conventional delivery systems while building on the best in current practices.
3. **Universalizing access and promoting equity:** Basic education should be provided to all children, youth and adults.
4. **Focusing on learning:** Whether or not expanded educational opportunities will translate into meaningful development – for an individual or for society – depends ultimately on whether people actually learn as a result of those opportunities, i.e., whether they incorporate useful knowledge, reasoning ability, skills, and values.
5. **Broadening the means and scope of basic education:** The diversity, complexity, and changing nature of basic learning needs of children, youth and adults necessitates broadening and constantly redefining the scope of basic education to include the following components:
  - Learning begins at birth. This calls for early childhood care and initial education. These can be provided through arrangements involving families, communities, or institutional programmes, as appropriate.
  - The main delivery system for the basic education of children outside the family is primary schooling.
  - The basic learning needs of youth and adults are diverse and should be met through a variety of delivery systems.
  - All available instruments and channels of information, communications, and social action could be used to help convey essential knowledge and inform and educate people on social issues.
6. **Enhancing the environment for learning:** Learning does not take place in isolation. Societies, therefore, must ensure that all learners receive the nutrition, health care, and general physical and emotional support they need in order to participate actively in and benefit from their education.

7. **Strengthening partnerships:** National, regional, and local educational authorities have a unique obligation to provide basic education for all, but they cannot be expected to supply every human, financial or organizational requirement for this task. New and revitalized partnerships at all levels will be necessary.
  8. **Developing a supportive policy context:** Supportive policies in the social, cultural, and economic sectors are required in order to realize the full provision and utilization of basic education for individual and societal improvement.
  9. **Mobilizing resources:** If the basic learning needs of all are to be met through a much broader scope of action than in the past, it will be essential to mobilize existing and new financial and human resources, public, private and voluntary.
  10. **Strengthening international solidarity:** Meeting basic learning needs constitutes a common and universal human responsibility. It requires international solidarity and equitable and fair economic relations in order to redress existing economic disparities.
- iii. ensuring that the learning needs of all young people and adults are met through equitable access to appropriate learning and life skills programmes;
  - iv. achieving a 50 per cent improvement in levels of adult literacy by 2015, especially for women, and equitable access to basic and continuing education for all adults;
  - v. eliminating gender disparities in primary and secondary education by 2005, and achieving gender equality in education by 2015, with a focus on ensuring girls' full and equal access to and achievement in basic education of good quality; and
  - vi. improving all aspects of the quality of education and ensuring excellence of all so that recognized and measurable learning outcomes are achieved by all, especially in literacy, numeracy and essential life skills.

### Dakar Conference

The Dakar Conference was conducted 10 years after Jomtien. Here time-bound targets were set to ensure stricter adherence to goals which were:

- i. expanding and improving comprehensive early childhood care and education, especially for the most vulnerable and disadvantaged children;
- ii. ensuring that by 2015 all children, particularly girls, children in difficult circumstances and those belonging to ethnic minorities, have access to and complete free and compulsory primary education of good quality;

## Millennium Development Goals

### Achieve Universal Primary Education

Target: Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling.

### 86<sup>th</sup> Constitutional Amendment

Article 21A: The State shall provide free and compulsory education to all children of the age of six to fourteen years in such manner as the State may, by law, determine.

**Article 45:** The State shall endeavor to provide early childhood care and education for all children until they complete the age of six years.

\*Abstracted from note by Dileep Ranjekar, CEO, Azim Premji Foundation

## Links for further reference

1. MHRD, Education dept: <http://www.education.nic.in/>
2. NCERT: <http://www.ncert.nic.in/welcome.asp>
3. NCF 2005: [www.ncert.nic.in/html/pdf/schoolcurriculum/framework05/prelims.pdf](http://www.ncert.nic.in/html/pdf/schoolcurriculum/framework05/prelims.pdf)
4. SSA, India: [http://india.gov.in/sectors/education/sarva\\_shiksha.php](http://india.gov.in/sectors/education/sarva_shiksha.php)
5. SSA, TN: <http://www.ssa.tn.nic.in/>
6. CoC: <http://www.chennaicorporation.gov.in/links/index.htm>
7. APREIS: <http://telanganaresidential.net/apreis.html>
8. KGBVs (Guidelines for Implementation): [http://www.education.nic.in/kgbv\\_guidelines.asp](http://www.education.nic.in/kgbv_guidelines.asp)
9. KGBVs (main portal): <http://164.100.51.121/girls-education/kasturba-gandhi-balika-vidyalaya/kgbv-scheme>
10. Effectiveness of ABL: A report of the base year study, by SchoolScape and SSA TN: <http://www.ssa.tn.nic.in/Docu/Effectiveness%20of%20ABL%20under%20SSA.pdf>

## About New Concept

New Concept Information Systems is a private limited company, incorporated in India. It was established in 1988 by a group of professionals drawn from diverse disciplines. Twenty years later, it stands as a multi-service provider in the social development sector, with a 65 + strong professional team.

New Concept has established field offices in Hyderabad, Bhubaneswar and Chennai; all offices manage projects independently, while there is synergy in the sharing of resources, skills and experience.

### New Concept's core competencies

#### Advocacy, Communication and Social Mobilisation

ASCM strategy, IEC materials, advocacy kits, data booklets, annual reports, calendars, diaries, event management, web content and design, films, video documentation.

#### Documentation

Analytical / policy / mission documents, strategy / status / policy papers, country, state and district level action plans, workshop/conference coverage.

#### Publications

Compilation, editing, design and printing of HDRs, working papers, studies, reports, books and booklets.

#### ICT, Data Management and Web Services

Web programming, hosting, maintenance, positioning and key word optimisation, database creation, data management and analysis, developing customized analytical tools for specific applications, client-oriented MIS/ information systems.

For more information please log on to [www.newconceptinfo.com](http://www.newconceptinfo.com)

## Background of Project Team

### 1. Amukta Mahapatra, Director, SchoolScape, Centre for Educators - Lead Consultant

Amukta Mahapatra, a consultant in the education sector, has more than fifteen years of experience consulting in the education sector in various capacities. As a consultant for SSA TN, she undertook a study to understand the effectiveness of the ABL program before and within the first year that it was up scaled over the entire state..

As a consultant for UNICEF, based in Bhubaneswar, she has developed along with an internal task force, a Quality Package to be implemented in government schools across ten states. Monitoring and observation formats were also designed and field-tested in different states along with training for third party evaluation..

She was associated with **Directorate of Teacher Education Research and Training, GoTN** for Professional Development of Teachers. As part of the program, she led the team and trained the DIET (District Institute for Education and Training) faculty, selected teachers and BRCs across the state (approx 750 participants). They in turn trained all the primary school teachers and the entire DIET faculty of the state. This has now become a model for training through out the state of Tamil Nadu.

### 2. Sudha Nair, Senior Manager, NCIS, Hyderabad – Team Leader

A postgraduate in Science from IIT Mumbai with postgraduate diplomas in Journalism, Advertising and Marketing (Mumbai), she is leading New Concept projects in Andhra Pradesh and neighbouring states since that last 7 years.

She has conceptualized and developed print and audio-visual documentation for ActionAid, Alliance, Catholic Relief Service, CARE-STEP, Hindustan Latex Ltd, Janshala, Centre for People's Forestry, Centre for World Solidarity in Hyderabad.

She has helped develop BCC/IEC strategies for UNICEF, ILO, Aga Khan Foundation, Oxfam, Water Health International – India, Academy of Gandhian Studies and Satyam Foundation in the state.

### 3. Aruna Ramakrishnan- Project Coordinator, Andhra Pradesh

A Masters in Public Policy from National University of Singapore, she has more than five years of experience working in the social development sector. At New Concept she is managing the documentation and research projects. She has also been working as a

freelance consultant on projects related to documentation and research for NGOs. Prior to working with NC, she was working as a Consultant on Monitoring and Evaluation for Naandi Foundation's Education Project in Hyderabad city.

#### **4. Roshan Jamal - Project Coordinator, Chennai**

Roshan is working as Project Manager with New Concept Chennai. She manages the research and documentation projects for the Chennai Office. She is experienced in Programme Planning & Management, managing field surveys, developing research tools and monitoring and evaluation. She has more than 25 years of experience in the development sector.

Prior to New Concept she was the Chief Executive Officer of Tamil Nadu State Non-Governmental Organizations and Volunteers Resource Centre As Programme Director in a leading South India based NGO – Guild of Service (Central) on the Individual Child Support Programme in Partnership with Save the Children (U.K), she was responsible for Programme Planning, Implementation, Monitoring, Reporting, Review, Documentation, Coordination.

#### **5. Shakti Natraj - Research Coordinator**

Shakti is a graduate in Interdisciplinary Studies in Humanities, University of Chicago. As a Researcher at New Concept, Chennai, she is working on several research and documentation projects. She is in charge of editing and designing the *bimonthly* Tamil

Nadu State AIDS Control Society (TANSACS) newsletter since November 2008.

She is also the Project coordinator for qualitative evaluation of an arts-based intervention for Make Art/Stop AIDS (MASA). MASA is a California-based organisation that has been funding an arts program at the Government Hospital of Thoracic Medicine in Chennai, for over 3 years. As a project coordinator she is in charge of developing the research tools, pre-testing, Monitor data collection, ensure quality control and report writing.

#### **6. Sireesha - Research Coordinator**

Sireesha is working with New Concept as a Project Associate. She has significant expertise and experience in the areas of community based research, public health system, training, maternal and child health, Reproductive health and HIV prevention. She has worked extensively at the grassroots levels as a researcher and trainer in various health and education projects.

Prior to working with NC, she was associated with Academy for Nursing Studies. She has coordinated several research projects in this organisation. As a research associate for a training programme to women health volunteers, she was involved in designing the training methodology, data collection, coordination with public health personnel, development of communication material, training tools preparation, conducting TOT, refresher trainings, day to day monitoring of training programme in 24 districts.



