



Teacher Resource Centres In India A Sourcebook

Edited by

Padma M. Sarangapani, Disha Nawani,
Latha K and Jyoti Banga

&

Resources In Education: A Film

Directed & Edited by
Natesh Ullal



Tata Institute of Social Sciences, Mumbai

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*Padma M. Sarangapani
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Contents

	Acknowledgements	3
01.	Teacher Resource Centres in India: An Introduction	7
02.	Agastya International Foundation	20
03.	Arvind Gupta Toys	26
04.	Bharati Vidyapeeth's Institute of Environment Education and Research (BVIEER)	30
05.	Bodh Shiksha Samiti	36
06.	Centre for Environment Education	41
07.	Centre for Learning Resources	46
08.	Comet Media Foundation	51
09.	Deenabandhu Teacher Resource Centre	57
10.	Dhwani Educational Resource Centre	63
11.	Digantar Shiksha Evam Khelkud Samiti	71
12.	District Education Resource Centre (DERC)-DIET Chamarajanagar	77
13.	Jodo Gyan	81
14.	Kathalya	87
15.	Navnirmiti EduQuality Foundation	93
16.	Pragat Shikshan Sanstha	98
17.	Pratham Delhi Education Initiative (PDEI)	104
18.	Pravah	108
19.	Rashtreeya Vidyalaya Educational Consortium (RVEC)	112
20.	Regional Resource Centre for Elementary Education (RRCEE)	117
21.	Sethu	124
22.	Sutradhar	130
23.	The Teacher Foundation	137
24.	The Teachers of India Web Portal	142
	Resources in Education: A Film	149
	Abbreviations	151
	Contributors	154

01. Teacher Resource Centres in India

An Introduction

Treating a teacher as a professional in her own right has not yet found legitimacy in our country. Teachers are still struggling to maintain even their basic rights, leave alone establish their professional identities. One finds more of 'meek dictators' than 'empowered professionals' in this field. However, the need to engage teachers in curricular, pedagogic and assessment-related matters is now slowly being recognised. Different ways are being conceived to get teachers to participate in larger systemic reforms, such as involving more and more teachers in preparing textbooks and continuous and comprehensive evaluation (CCE). So what needs to be done to strengthen the professional capacities of teachers, and what kind of spaces need to be created to enable this? Teacher Resource Centres (TRCs) are among such important spaces that are established with a view to support teachers in their efforts to develop professionally.

Professionalism in teaching

There are very few spaces that focus exclusively on teachers. Even if they do, most offer the kind of training and materials that do not necessarily take teachers' needs and interests into account. There is an element of patronising the teacher, and though there is some choice, it is limited and within a closed framework. But for teacher professional development to be functional in the true sense, the teacher should have autonomy and should voluntarily participate in her growth. If she sees a programme thrust upon her, not much will be achieved in the long run. Besides, the incentive for seeking out such a space should be her own belief that it would help her develop professionally and that it would help her become a better teacher.

Teaching is demanding work that needs lifelong support of innovative learning activities. The teachers often stress the need for a continuous process of 'training and learning' leading to

acquisition of knowledge and their professional growth. Such a process would help to strengthen their knowledge base and equip them with support to accomplish with satisfaction their educational duties and vocational needs. Besides, collaboration and interaction with colleagues is also seen by the teachers in the study as important for development. The idea of professionalism in teachers can, therefore, be summed up in the three concepts of 'learning, engagement, and improved practice' as expressed by Bredeson (2002).

For professional development, teachers need spaces that give them access to quality knowledge, as well as enriching programmes that enhance and satisfy their personal urge and need to develop professionally. Resource Centres (RCs), as noted by Jayaram (2005; pg 6) can play an important supportive role in the ongoing process of teacher professional development. RCs can be conceptualised to bring professional as well as resource support into the domain of a teacher's classroom.

Resource Centres

During exploration of RCs in India, a resource centre appeared as a common idea but with manifold perceptions. Broadly, these were spaces through which one could work with teachers, though the ultimate goal of all RCs was to affect (influence) the teaching-learning processes.

We came across RCs which were set up as part of schools with an objective of strengthening the practice of their teachers. These designated spaces were different from the school's library or the staffroom and were meant specifically for teachers' professional work. But in time, they became mere repositories of so-called 'valuable projects and resources', accumulated over the years with the best of intentions. The RCs in the community spaces were found to be run by external agencies such as Non-Governmental Organisations(NGOs) or trusts. Mostly, these had

their own agendas, though what was developed as a programme or a resource was selected through the filter of what teachers in general seemed to require. Then there were RCs set up by the government — the block and cluster RCs (BRCs, CRCs) — where the progressive idea of the professional development of teachers existed on paper alone. But in terms of operational dynamics, these RCs were spaces to familiarise teachers with a particular kind of curriculum and were very much oriented towards routine teaching. Some RCs functioned as part of the university setup or other such teacher educational spaces. These mostly served teachers of education and were meant for practicing teachers.

RCs could also be classified on the basis of 'physicality'. For some, the space was very much a physical entity, such as a centre to visit where activities and programmes were being held. As opposed to this, there were the virtual RCs, which were web-based platforms. Teacher members could visit, connect within the community, hold professional conversations, post resources and reflect on the resources available. More difficult to visualise were spaces that functioned as RCs but were largely event-driven. During an event, there would be several discussions and talks and exchange of professional ideas, but in its absence, the space would have nothing to offer the teacher.

Often, RCs were found to be thematic in nature and were developed by an expert group around a single idea or a theme such as mathematics, science or storytelling. The sole purpose of such an RC was to transfer specific expertise to the teaching community.

Most RCs had a definite focus on resources and an engagement with them at various levels. They were creating resources, making them available to teachers, training teachers to use them, or procuring them. These resources ranged from the physical to the virtual to maybe just an 'idea' worth contemplating. In some

RCs, the fascination with teaching-learning materials (TLM) was overwhelming. Irrespective of the utility of TLMs, the focus of the RCs was heavy on creating them.

As different were these setups, so also was there variation in their modes of functioning and the responsibilities they took upon themselves. Thus, there was a diffusion of focus on who the RC was working for – students or teachers or both; the idea of the RC; its purpose or intent; its areas of impact, and so on.

Teacher Resource Centres

Some RCs functioned in varying degrees as TRCs, a space or an experience that would meet a teacher's desire for professional development, for capacity building. These were spaces with a different imagination. They were much more than the special in-service training programmes, the pre-service classroom settings and the innovative resources available to the teacher. Though the initiative to visit such a space would be hers, the teacher would be assured of receiving professional inputs outside her work mandate. Further, the space would give her a feeling of belonging to a larger professional community of teachers – local, national and perhaps international – and put her in touch with conversations beyond her workplace. It would give her an identity as a professional that, in a sense, would be over and above her work as a school teacher. Different teachers could visit the same TRC for different interests. All need not go through the same routine. The teacher would not be put through just any activity; at a TRC, she had the power to initiate an activity she desired.

The above definition of a TRC is supported by a very influential and widespread Teachers' Resource Centre movement in the early 1960s in Britain. The seed of this idea is thought to have originated in the Nuffield Science Teaching project, where the emphasis was on the teacher as an intellectual. These TRCs were

considered to be of, by, and for the teacher, that is, they belonged to and were located within the teaching communities. This movement recognised the teacher as capable of professional decision-making and saw her as an individual who not only continuously needed to invest in the teaching process but also needed opportunities to reflect on her work. In India, the early TRCs made their appearance around the 1970s and 1980s in cities such as Delhi, Chennai, Mumbai, Kolkata and Pune. These TRCs were set up with support from the British Council (Jayaram, 2005). They were designated spaces for activities that focused on an exchange of professional ideas, curriculum review and development, in-service programmes, developing resources and liaison between teachers and policy makers. At this time, the Delhi region saw the birth of three prominent TRCs: The Ramjas Teachers' Centre (1979), The Educational Planning Group (1978) and The Springdale's Teachers Centre (1980). During these years, there was a mushrooming of many more such spaces, which largely concentrated on in-service teacher support programmes, workshops and seminars, thus functioning as RCs for teachers as distinct from TRCs. In 2006 as a part of the activities of the District Quality Education Project (DQEP) collaboration with District Institute of Education and Training (DIET) Chamarajanagar, Karnataka, such a District Educational Resource Centre for Teachers (DERC) was developed at the DIET, which over the last eleven years has been serving teachers in the District (NIAS, 2007).

The Sourcebook

The main idea behind compiling a sourcebook is to present a flavour of the kinds of RCs and TRCs that exist in India. The book documents some of the good RCs in the country, while also presenting the variety among them. The purpose is not to portray the RCs but to understand the variations in their objectives, strategies, visions, designs, challenges and other aspects. The compilation also helps us understand how RCs function as TRCs.

The second purpose of the sourcebook is to put together a composite picture of the RCs and TRCs which would serve people interested in exploring or setting up RCs or TRCs, who can benefit from others' experience and need not start from the beginning.

Strategies and specific designs

The consolidated case studies help us understand the fact that though all TRCs and RCs focus on the common goal of helping, influencing and training teachers in a particular way, the strategies and specific designs employed by them to achieve this varies. A common trend is often observed across RCs, but then strategies and designs have been found to be specific, such as focusing on content enrichment activities, short- and long-term courses or systemic interventions. Besides, some patterns observed are contextual, catering to the pragmatics of the situation, whereas others relate to the approach and philosophy of the RC itself. Recounted here are some specific designs and ideas that were adopted and that seemed to contribute to and help define the overall nature of the RC.

Some RCs were started with the purpose of making a difference in the quality of resources that children could have. But it soon became clear that just having the best of resources is not enough. Besides textbooks, teachers are the most important link in schools between knowledge and children. It was necessary to bring teachers into the chain; and so these RCs started to focus on teachers in a big way. Additionally, influencing teachers resulted in a cascading effect; teachers would go back to their schools and have a positive effect on the children within their circles. Thus, more and more children could be reached by training teachers (e.g. Agastya, BVIEER).

In the initial years of RCs' functioning, not many people in the teaching community saw the worth of connecting with

these RCs. Some RCs went that extra mile to interact with and expose teachers to what the RCs had to offer and thus win their confidence. According to Ramji Raghavan, the founder of Agastya, just connecting to teachers via talks and telling them about resources was not enough. Teachers needed to be motivated enough to get involved. They needed to experience for themselves the benefits that the resources had to offer. Some innovative methods employed to do this included inviting them for overnight stays at Agastya's Kuppam campus and interacting with them once they had reached their comfort zone. At Deenabandhu and Agastya, teachers were encouraged to take a resource apart and then reassemble it to engender curiosity as well as confidence about its functioning and use. Some RCs (e.g., Comet) encouraged teachers to adapt their resources using locally available materials. These not only worked out to be cost effective but also were made of materials that children and adults were comfortable with. At DIET, Chamrajnagar, the DERC was largely designed as a resource-rich space. Displays were constantly changed; posters were strategically placed to communicate something of value to teachers and to catch their eye; the internet could be accessed for additional information. Teachers would drop in of their own accord, and once there, they would experience the 'ah-ha!' moment, and find things of value for themselves. The activities and even the meetings were designed to be interesting.

Most RCs did not work with teachers in isolation because they had experienced that teachers, once back in schools, resorted to their conventional ways due to several constraints, some beyond their control. Two approaches which were commonly used were:

The whole school approach – To ensure the success of a programme, the RC sought the involvement of the different stakeholders – students, school administration, teaching and non-teaching staff. Once the programme was accepted by

the whole school, there were fewer chances of the idea being shelved (BVIIEER).

Top-to-bottom approach – Even if it was the teachers who were targeted, the TRCs would still try to integrate the principal and the management of the school and acquaint them with the benefits of whatever the TRCs had to offer. This was because the decision-makers (the principals) may not be convinced of, or even be aware of, the ‘goodness’ of an idea. It was seen as necessary to familiarise them and keep them in the know about the programmes to ensure the programme’s smooth sailing (e.g. Sethu, BVIIEER).

At times, the RCs functioned as spaces where the workshops were designed according to the ideas of founders, management, employers or the school and not what was desired by the teachers. Workshops, seminars, discussions and even the courses were designed around topics that these people felt would benefit the teaching community.

The intent and the zeal of the RC-in-charge, or the head, are very important in making the idea of an RC sustainable. For one needs an enormous sense of purpose, a complete faith in what one is doing and an ability to hold an idea together to meaningfully run such a space. Therefore, though ‘qualifications’ and ‘knowledge’ are seen as important prerequisites, more important are the ability to ‘feel’ and experience enthusiasm for the idea – the philosophy of the RC and also its vision. Most RCs look on these qualities as important criteria for selecting their resource personnel (RP), as they believe that given the inclination, ‘knowledge’ can be acquired, but the ‘feel’ for an idea is more difficult to acquire, it is innate.

Many RCs were found to not only make or sell resources but were actively involved in making the teachers comfortable in the

use of those resources before handing them over for use in the school (BVIEER, CEE). In some cases, the RPs also walked the extra step to demonstrate the resource in class or work alongside the teachers until they achieved proficiency (e.g. Navnirmiti, Jodo Gyan).

RCs focused on innovating, developing and making available more hands-on resources, which were practical and most popular with the teachers. If the resources could also be low-cost, it was an added benefit and seemed most attractive to the users in the teaching community. For all teachers were in agreement that resources helped visualise concepts/ideas, were most useful in motivating students and were a powerful way to learn and teach.

Geographical accessibility of the RC for its users was an important factor for their success. But some RCs overcame the problem by going the extra mile. For example, the RCs in Chamrajnagar receive teachers of far-off schools, too. The RPs accommodate such teachers by extending the RC's timings or delivering the resource required at the school so that teachers are encouraged to use the resources without having to waste time travelling. The Agastya campus is in a remote area. The organisation overcomes the problem by putting in service their own transportation for teachers and students. Besides, they have popularised the use of mobile vans, which travel to different villages loaded with resources and carrying the RPs.

Some organisations believed that capacity building of teachers was vital for their professional development and pre-service teachers needed training as much as in-service teachers. For this, the whole ambit of teacher-training needed to be brought within a common system. The pre-service teachers would be present in tomorrow's classrooms, when precious time and resources would be spent on training them. Instead, it made

sense to do it while they were still in college. Another significant reason for doing capacity building during pre-service was that once teachers entered the system, it was more difficult to access them directly or through their schools for the limited number of workshops organised.

Some RCs were particular about maintaining a feedback system. This helped them rework their programmes, fashioning them more in line with what the teachers desired, ultimately helping to bridge the gap and increasing the value of the programmes. For some others, being hard-pressed for time, feedback was in name only, gathering just details such as mail IDs. But even these details helped the RCs to keep in touch, informing teachers about newer programmes and other updates.

While mapping RCs across the country, it was observed that certain pockets of the country, such as the Delhi area, the Mumbai region, and the state of Karnataka, had a disproportionately larger concentration of RCs as compared to the rest of the country.

Though education is seen as a national mission, surprisingly, there were fewer RCs run by government organisations than by NGOs. And many times, though they strove hard, the NGOs found it difficult to successfully implement their ideas. For, many of these ideas were entangled in the nitty-gritty of the government's functioning. For example, Sethu runs a much appreciated programme called Gynandeep, which has been drawn from their practical experiences of handling children with 'special needs'. But it can only be offered as a certificate course. The programme does not qualify for affiliation as it does not satisfy the government's criteria for 'space'. Similar is the problem of Jodo Gyan Kendra (the school run by Jodo Gyan), which has been unable to get an affiliation, again due to space constraints.

Challenges

A common challenge seen across RCs was the difficulty in getting teachers to value and use such a space. Unfortunately the stress in our education system is more on rote memorisation, and teachers, principals and even parents fail to understand the importance of a RC. The textbook becomes the Holy Text which brings in the marks at the examinations, and the RC is only associated with fanciful TLMs made for 'joyful learning'. Further, for the teacher, there is no compulsion, nothing in her 'culture' that requires her to visit a TRC. There is no place in her busy timetable for such an activity outside of her school duties. The effort needed to be a part of such a space has to be made largely on her own initiative.

A practical difficulty faced by many RCs is the difference in the capacities of teachers around the country. This difference is not only observed between government and private school teachers but also is very visible in teachers belonging to different states of India. As capacity is the sum total of knowledge, awareness and exposure, it becomes difficult to put together or design a 'one size fits all' kind of an experience for all teachers in a session.

Another challenge faced by RCs is their inability to measure in concrete terms the impact of their programmes. The impact of certain resources is quantifiable. We can say that a particular resource has helped us learn about a, b, c. Again, success is obvious when many teachers are seen visiting an RC on their own accord (as observed in the case of DIET, Chamarajanagar). But in most cases, for the programmes held at the RCs, the impact is on the 'quality' of knowledge gained. For example, the success and spread of Kathalya is a measure of its impact. Though it is an accepted fact that storytelling helps children think and express themselves clearly and develop memory, these are mere observations. If we think of measurement, there are no instruments or an 'analysis-sheet' to give us an accurate picture

of 'how much success' is achieved. On what scale can one truly measure the impact or the influence that discussions and open seminars had on a teacher's thinking? This also is a problem for the RCs when funding agencies need proof of the success of a programme.

Availability of regular funds is the other major issue, especially for the NGO-run RCs. In the absence of an assurance of a constant flow of funds, many worthy ideas are compromised. In some cases, the RC may even decide to close down as has happened in certain cases. A lot of energy, mental and physical, has to be devoted to chasing funds, which could be better utilised on improving the culture of such a space. Funds are directly linked not only to the agenda of the RC but also to retaining valuable staff at the centre.

In many RCs, the RPs had to spend an enormous amount of their time and energy in ensuring that teachers visit such places when events are scheduled (even though they were quality events and the teachers were aware of this) as teachers have no obligation to attend.

The case studies presented in this Sourcebook help us understand better the space that we call the resource centre. We realise that the vision of an RC or TRC is not all that simple to execute. For, the journey of an idea from its conception to execution is long and arduous. However, the ways in which these RCs sustain themselves and continue to work despite challenges is very heartening indeed.

References

Bredeson, P.V. (2002). The architecture of professional development: Materials, messages and meaning. *International Journal of Educational Research*, 37, 661–675, doi:10.1016/

S0883-0355(03)00064-8

Jayaram, K. (2005). Proposed models of teachers' resource centres, Teachers' Resource Centres: Models of Direct Interface with Teacher Practitioners, Part 1, report submitted to SRTT.

NIAS National Institute of Advanced Studies (2007). DIETs: Potential and Possibilities (unpub.)

02. Agastya International Foundation

Kuppam, Andhra Pradesh

The name Agastya, associated with wisdom and persistent pursuit of learning is apt for an organisation that aims at providing teachers and children with varied and transformative learning opportunities. Agastya has devised several specialised programmes and resources for teachers that help them in day-to-day classroom interactions as well as in achieving long-term transformations in teaching and learning. In the beginning, Agastya worked to facilitate science education by sparking curiosity and creativity among children but later evolved to cater to teachers as well. Every day, around 20–30 teachers and 600 children visit the Agastya campus for different types of inputs. The services are free for government school teachers and students.

Strategically located at the meeting point of Andhra Pradesh, Karnataka and Tamil Nadu, the main Campus Creativity Lab at Kuppam, Andhra Pradesh, has been serving teachers and children from these three states for almost a decade. The dry and barren land that housed Agastya's science labs was converted into a green ecology park through careful planning. In 2002, Agastya began its first operation of taking the mobile science laboratory to the villages. This mobile laboratory constitutes vans that carry different models and toys to government school children. According to Shibu Shankaran, the campus in-charge, the campus may be able to reach several hundred children, but if it influenced even one hundred teachers, they, in turn, would influence the learning of at least a thousand children. Also, while students may not be able to visit Agastya daily, through their teachers' support, they are more likely to learn through enquiry and exploration. Agastya has now expanded its reach to several districts in thirteen states, to thousands of teachers and students, and even to distant places through partnerships with governments and the establishment of local science centres with the help of local partners.

When Agastya first began to make forays into the neighbouring villages, both teachers and parents were reluctant to let their children interact with Agastya RPs. To overcome their resistance, Agastya trainers communicated their aims and ideas to the community. As the teachers came to see the value of their approach in their teaching, their resistance gradually declined.

Another challenge faced by Agastya was related to the remote location of the campus. In the beginning, teachers came in very small numbers, but this changed when trainers made extra efforts to reach out to the community through mobile labs. When teachers and children need to visit from distant locations, Agastya arranges transportation in its own buses. The entire cost of transportation is borne by Agastya.

The Resource Centre

At the Kuppam centre, there is an open air ecology lab, a butterfly garden and several medicinal herbal gardens. Different types of optical illusions and sculptures made out of ordinary materials such as kitchen utensils have been placed at strategic points in the campus, calculated to attract the attention of visitors and to get them thinking long before they enter the training hall.

The models and toys at Agastya range from small, low-cost items that can be prepared with simple raw materials such as magnets, pencils and rubber bands to relatively larger, high-cost equipment such as cranes. Teachers may buy the models or may learn how to make them. Most of the models and toys are prepared to suit the curricular requirements of middle school and high school science. Thus, there are models for refraction of light that make use of different lenses, different types of optical illusions to explain the working of the eye and the brain, models for explaining the concept of parallel and series circuits and resistance, models of organs of the body to explain their functioning and so on. These are prepared by the Agastya staff

in the creativity lab at Kuppam.

There are laboratories for physics, chemistry and mathematics and centres for computer and robotics that are used by the teachers as well. The planetarium is another place where training in astronomy is given as per demand. Help is often sought from external resource persons to prepare these models. The TLM developers in Agastya frequently undergo training with several experts to find better ways to build models. At least two new models are prepared and introduced every month. Models are also prepared according to the specifications of teachers.

The models are put on display in different laboratories in the campus, different Agastya centres, the teachers' training hall, the mobile laboratory vans and occasional science fairs and exhibitions. All models developed by Agastya are not available for display under one roof, but information about different types of models can be obtained on enquiry. Models are not available for rent by individual teachers. However, as part of different initiatives and programmes of the organisation, such as the Lab in a Box programme, the teachers can borrow these models for a while and then return them.

Platforms for training

At Agastya, teacher training commenced first through both on-campus and offsite workshops and later through the mobile science labs. Collaborating with the government education department, Agastya undertook to provide training to government school teachers in Chittoor district in Andhra Pradesh. Training programmes were also organised in the teachers' schools or in their locality.

The training programmes have a very large component of practical activities. They usually involve teachers interacting with different models and toys, learning scientific principles with the help of these models, and learning to make them. The training

approach of the Agastya team can be summarised as 'training teachers to learn', which in turn helps them to teach. Therefore, on the Agastya campus, teachers are taken through the same activities as students and are given the experience of learning in a new way. The trainers encourage teachers to take the toys and models apart and remake them to see how they work. The large range of low-cost models is especially appealing to teachers since they can be easily bought or replicated for use in the classroom. One training programme may differ widely from the next since they are planned according to teachers' requirements and subject areas. Teachers convey their preferences and needs to Agastya in advance. These may refer to specific content areas within a subject, such as the concept of refraction of light, or wider approaches to a subject, such as using observation to teach biology. Each training programme is carefully recorded, and feedback is collected from the participants to plan the contents of the next one.

Teachers are given training in setting up their own school laboratories with the help of Agastya resources under the 'acharya' programme. Some teachers from the nearby villages frequently visit individually, while teachers from distant locations mostly come at the time of scheduled visits. Usually, a schedule is prepared for all the schools which use Agastya services to determine the visiting days for each school. The training is conducted by Agastya trainers, who themselves remain updated through workshops and trainings with external RPs and subject matter experts. Agastya trainers also visit schools to supply models and train teachers on request. This initiative has enabled the organisation to reach teachers even in far-off geographical locations such as Bihar and Delhi.

Training on constructivism is a new initiative which began in July 2013 upon request for collaboration on this topic from the Government of Karnataka. Teachers are given theoretical

grounding in constructivism, which is supplemented with examples of how it might be practised in class. Teachers are often also exposed to different experiences such as music and dance performances, workshops and lectures by subject matter experts. to enhance their learning in key areas.

Agastya's Founder and Chairman, Ramji Raghavan, had the vision to create a place conducive for learning science through interactive, experiential and hands-on activities for students and teachers. Over the years, the organisation has expanded its role to include other beneficiaries (such as community members) and other subject areas beyond science (such as art, dance and music, media, communication and leadership) and massively expanded its outreach programmes through mobile science labs and satellite science centres. Children participating in Agastya's transformative programmes, especially in its peer-to-peer learning Young Instructor Leader programme have consistently been winning prizes at the IRIS-Intel National Science Competitions.

Even as it expands its current programmes to newer locations, Agastya has many plans in the pipeline, including the establishment of a library for the use of teachers and students, development of a new arts centre, addition of a culture and languages unit and development of new centres in different cities. Working in collaboration with the government in Karnataka, Agastya is in the process of replicating its campus and completing an ecosystem for hands-on science education, which consists of a new Apex campus, core science activity centres and lab-in-a-box programme, in addition to its existing mini science centres and mobile labs. Funding for all its programmes and initiatives comes from government schemes, the trust which manages the organisation, and private donors and foundations.

Agastya's path-breaking work in education has been recognized by the National Knowledge Commission, National Innovation Council, Rockefeller Foundation, Google Global Impact Challenge and many other national and international forums and organizations.

At a glance

Name:	Agastya International Foundation
Established:	1999 (functional since 2004)
Address:	Gudivanka, Chittoor District, Andhra Pradesh
Working hours:	Monday to Saturday, 9:15 a.m. to 5:15 p.m.
Employees (no.):	Around 140 (including trainers, TLM developers, caretakers and other staff)
Beneficiaries:	Teachers (especially government school teachers), students and community
Resource materials available:	Chiefly models and toys, and sometimes specific manuals along with the models

03. Arvind Gupta Toys

Pune, Maharashtra

“Training is a taboo word here,” says Arvind Gupta, “Only horses and mules are trained. Humans can only be inspired by personal examples.”

Arvind Gupta Toys (AGT) was founded by Jayant Naralikar with a vision to “bring the gleam back in the eyes of children”. Situated within the Inter-University Centre for Astronomy and Astrophysics (IUCAA), Pune, this initiative is funded by the Tata trust. Gupta further says, “We are a process and not a registered organisation.”

As one enters the space of AGT, it looks like a lively toy shop. However, what’s different from regular toy shops is the fact that visitors are free to create their own toys and need pay nothing. Being a very radical critic of schooling and an enthusiastic supporter of ‘learning’, Arvind Gupta states his philosophy in very simple terms, “Play is a very serious business.”

In his mission to popularise science learning, he is supported by his small but extremely energetic and able team comprising Vidula Mhaikar, Ashok Rupner and Shivaji Mane. The team is also supported by volunteers who help with maintaining social media forums, translations and in other capacities.

The team engages in extensive experimentation and research. Most experiments are done using waste material, primarily urban waste such as bottles and packaging material. Centre has over 150 experiments based on throwaway plastic bottles alone. The team strongly believes in not getting confined to any specific curriculum or bound by any specific examination board. They believe that curious teachers wanting to experiment will definitely create spaces for AGT material in the existing curriculum.

The Engagement at AGT

The organisation's key work centres on making toys out of waste. These toys are primarily scientific objects used to discover, learn and enjoy scientific concepts. Utilising waste remains at the core of their philosophy and they also believe in designing toys for the poorest children, who perhaps, need them the most. The input to the experiment being waste materials, the programmes are easily expandable and can be easily taken to children from all kinds of socio-economic backgrounds. AGT works primarily through the following media:

- Online portal: The website www.arvindguptatoys.com is the central work at AGT. As the organisation believes that the internet is a liberating force, there's a focus on online copyright-free distribution. With this idea, the team has set out on a mission to make available free online projects, books and other reading materials not only on science but also on education, pedagogy, schooling (and its critique), environment, peace, anti-war and great children's literature. Today, over 4,000 books adorn the website. Wherever possible, the team and volunteers also provide translations. The videos called Toys from Trash have been dubbed in 18 languages by volunteers. In four years, over 22 million people have visited the website to view these videos.
- Workshops: The team hosts workshops on hands-on science activities every Tuesday and Thursday. These workshops are highly sought after and have to be booked two months in advance. They are open to anyone – schools, teachers, students, parents, researchers or just anyone who may be interested in learning. All workshops at the centre are free.
- Books and DVDs: The centre sells hard copies of books like *Diwaswapna*, *Tottochan*, *Teacher*, *Summerhill* and many science activity books in English, Marathi and Hindi from publishers like Eklavya, NBT, Scholastic and Vigyan Prasar. For remote areas with no access to internet, they have collated a

DVD titled the Learner's Library with 210 short videos, 7000 photographs from Toys from Trash and 800 e-books.

Reaching Out

Most of the engagements with participants at AGT are planned and executed on request. The team receives requests for workshops and other materials through emails and telephones. For wider dissemination, the organisation relies on a Facebook page, which is maintained by a volunteer.

Impact and influence

As can easily be seen, no evaluation tool can accurately measure the effectiveness of such a centre. In the last couple of years, the reach and influence of AGT has increased. The website has been mirrored in places like South Africa. Over 15,000 books have been downloaded and 40,000 students and teachers view the videos uploaded on the website every single day. Some of the toy videos are designed by students themselves, for instance, Durga's Turbine was designed by a young girl from a poor school where the centre runs a science club. The videos under Toys from Trash have been very popular amongst users, recording views by 23 million people in the last 4.5 years. The National Repository of Open Educational Resources (NROER), an initiative of the Ministry of Human Resource Development (MHRD), Government of India, and the Central Institute of Educational Technology, National Council of Educational Research and Training (NCERT), have hosted 600 videos created by AGT.

Challenges

AGT is not an independent organisation and works within a government setup. This at times limits its functioning. The funding comes from a private trust which has its own thrust areas. Another challenge is to find like-minded and committed people. There are space constraints as well.

The journey forward

Arvind Gupta believes there's a huge need to translate good

materials from English to Indian languages to broaden perspectives. He is working on several such translations and making these available either through the website or print.

At AGT, experience is valued the most, which is contrary to the apathy towards experiential education in most schools.

Started as a centre for joyful learning of science, AGT also raises fundamental questions that focus on the current standards and curricular nature of science learning in our schools. AGT goes beyond just making toys for fun. It situates science learning in the midst of an important educational dialogue; and prompts educators to think about what can be done with science education in this country and beyond. AGT tries to address other concerns like 'ways of understanding the social, economic and humanistic value of science', 'the philosophical and political nature of science', and most importantly, discovering the joy and happiness of engaging with science.

At a glance

Name:	Arvind Gupta Toys
Established:	2003
Address:	Inter-University Centre for Astronomy and Astrophysics (IUCAA), Pune, Maharashtra
Phone:	+91 80 25288545, 25215191
Email:	arvindtoys@gmail.com
Website:	www.arvindguptatoys.com
Facebook:	https://www.facebook.com/pages/Arvind-Gupta-toys-and-books
Employees (no.):	Four; volunteers extend help in various capacities
Beneficiaries:	Anyone who has an interest in science and education

04. Bharati Vidyapeeth's Institute of Environment Education and Research (BVIEER)

Pune, Maharashtra

BVIEER, Pune, believes in the mandate of 'showing concern for the environment', which is reflected through Environment Education (EE). The initiative started as a small unit in 1994 to impart education in 'environment' through the use of innovative resources and training programmes for teachers and over the years, has worked towards creating different strategies to enhance this specialised field of education. Over time, the organisation has grown to include a number of academic programmes at the post-graduate level. In addition, their major focus remains outreach, by training school teachers (through a diploma in EE and workshops) on pressing environmental issues. The teachers then go back to their schools and work as master teachers and trainers, thereby impacting thousands of citizens, especially children.

Functioning of the organisation

Erach Bharucha, who initiated BVIEER, believes that teacher capacity-building makes environment education feasible at all levels. This contributes towards a change in the thought processes and attitudes of society. The BVIEER focuses heavily on capacity building to ensure implementation of environment-friendly behaviour through feedback from teachers that helps the organisation to decide the next step of changes in approaching EE and Education for Sustainable Development (ESD).

Widening the scope of education to include hands-on methodology with activities, games, action learning and employing a wide variety of innovative tools makes BVIEER's programmes easily acceptable to teachers.

Creating materials and handing them over to teachers can easily result in the materials becoming showcase mementoes or library exhibits. Therefore, special care is taken to train teachers and build their capacity to use a particular resource material.

The organisation uses a combination of different approaches to take their programmes forward. Talking to the director of education in a particular area or the principal of a school is extremely important to prevent the programme from collapsing (a top to bottom approach). However, it is the teachers who are their primary target audience and, for the success of any programme, it is necessary to get them motivated (bottom to top approach). In their early experiences, the organisation had realised that for effective EE implementation, it was not possible to deal with the 'teacher' in isolation. So, to increase the chances of success of any EE programme, they use the 'whole school approach' by involving and garnering the interest of all stakeholders, that is, the teaching and the non-teaching staff whose help is necessary in the projects as well as students and their parents.

Programmes and resources

In an academic year, many workshops are held and each is planned for anywhere between 3 to 5 days. These workshops aim to improve the clarity of an EE concept for the teacher or increase the ability of the teacher to make her students relate to and experience an environmental concept better.

For this, a lot of locale-specific educational material is prepared in the form of books and booklets on ecosystems that explore nature; flip-charts on biodiversity; posters on food chains, celebrating local festivals in an eco-friendly manner; and audio-visuals of birds and bird calls, etc. These materials disseminate important environment information. Many times, EE is embedded in other subjects such as science and geography. To implement

easy teaching, handbooks have been designed where, for every chapter in the textbook (Maharashtra State syllabus), there is guidance in the form of related environmental information, as well as an additional activity that could be conducted by students.

BVIEER works closely with other organisations and NGOs, such as United Nations International Children's Emergency Fund (UNICEF) and World Wildlife Fund (WWF), and also within various departments of the government of India, such as the ministry of environment and forests.

The organisation offers programmes for schools, teachers and students. Examples include the DNA Club activities and the National Green Corps, through which BVIEER reaches 9,000 schools across Maharashtra through the department of social forestry.

As an educational institute, it offers a master's degree in environment science and technology besides a diploma in environment education for in-service school teachers, and these have resulted in some unique dissertations. This is a UGC accredited course, run in the summer and Diwali school vacations. During the school term, the teacher is expected to conduct related projects and assess the results generated. BVIEER also has a master's programme in geoinformatics, which is a unique course with large job opportunities.

Challenges faced

At BVIEER many challenges have been overcome but many issues still need to be addressed. Some of these are discussed below.

The biggest challenge is that the EE information needs to find its way to all teachers. But a majority of teachers are uncomfortable using reference books or other enriching print material. All the teachers single-mindedly refer to the textbooks. So the

organisation has reworked its strategy and strengthened the EE information in the textbooks through interactions with NCERT and Maharashtra SCERT and Maharashtra Text Book Bureau.

A random sample survey showed that only when teachers were accessed through workshops and given materials were the resources likely to be used and not when resources were provided at schools. So there is the challenge to reach out to every teacher, which is possible only if the whole ambit of teacher training is brought into the system.

Long-term sustained funding is crucial for the programmes to be effective. It may be a small amount but has to be continuous to build sufficient capacity. This is necessary to sustain the long-term interest of teachers. These funds can contribute towards maintaining a minimum level of activities and networking among participants after the workshop is over. The activity may be something as simple as calling teachers once a year for a refresher programme. When teachers meet at these programmes, the discussions and interactions are not extensive in the initial rounds. It is only after teachers have tried out the activities in their schools that they have valuable opinions and experiences to share, thus contributing to taking the programme forward. Unfortunately, most funders are unable to foresee all this, and the organisation often needs to dip into its own funds to finance the refresher programmes.

Another important challenge is that EE forms only a small part of another school subject. Whereas science is taught as science and given its due time, EE gets a does not get requisite attention. Further, EE is treated more as factual data whereas, to create interest, a more practical approach is needed. The teachers need to be made aware of and trained in different ways in which knowledge can be linked and explained through different activities. This is what brings about behavioural changes.

According to E. Bharucha, for a more effective EE programme, changes in the syllabus and curriculum need to happen at the level of National Council for Teacher Education (NCTE) as the teacher-students who are now passing out already have a basic idea about EE (having come across it in their school days) as compared to the in-service teachers for whom the topic is new. Thus, the focus of training and capacity-building now needs to include pre-service teachers.

Another practical challenge that the organisation is aware of is the huge difference in teacher capacity across the length and breadth of the country. This fact has to be taken into account while designing workshops.

In recent times, the focus of EE has shifted from simple nature education to study more applied aspects of environment, which is a transition from learning to cope with and repair the damage that has been caused to the natural environment. As this is fairly complex, teachers find it difficult to understand the interdependence between the environment, social issues and economics. It is a challenge for the organisation to reinvent environment education to meet the above goals. Also, the current emphasis is on building teacher capacity to take decisions on the kinds of projects to be explored, to generate feasible solutions based on concrete data and, importantly, the analysis of an environmental situation.

Further, there is ongoing research and interest in preparing enriched and integrated EE programmes by the organisation. Integrating EE with music, drama or a focus on cultural inheritance and including environmental health issues into EE programmes is urgently required.

At a glance

Name:	Bharati Vidyapeeth's Institute of Environment Education and Research (BVIEER)
Established:	1994
Address:	Katraj - Dhankawadi Campus, Pune, Satara Road, Pune 411 043
Phone:	91-020-24375684; 91-020-24362155
Email:	bvieer@vsnl.com
Website:	ieer.bharativedyapeeth.edu
Employees (no.):	15
Beneficiaries:	Postgraduate students, NGOs, forest department, teachers, both in-service and pre-service; schools, students
Vision	To ensure that environment education and conservation awareness reaches every individual in the community and is delivered as target specific programmes that can be easily understood and acted upon.
Goal:	Some of the goals that the organisation focuses on are: <ul style="list-style-type: none">• To orient school and college teachers in the skill of imparting environment education through courses, teacher training workshops and seminars.• To develop a programme for environment education at school and college levels, including maintaining facilities such as museums, libraries, exhibitions, laboratories, interpretation centres and nature awareness areas for field studies.

05. Bodh Shiksha Samiti

Jaipur, Rajasthan

Bodh Shiksha Samiti is a registered society working to bring about change in the existing social system through education. The founders of Bodh were inspired by the democratic rights movements of the 1980s and committed themselves to giving it an institutional form. They strongly believed that change must come from within the community and that the education system must respond to the challenges faced by society. Therefore, Bodh began its work in the field of education.

Bodh has a chain of schools in the slums of Jaipur city and rural pockets of Rajasthan, particularly in those areas where the public school system is still underdeveloped. It clearly understands the need for well-trained resource persons and teachers for its schools and, therefore, runs a teacher resource centre to empower its large pool of teachers. This resource centre not only trains its own teachers but has also been providing training to teachers of various other states and like-minded organisations. So far, it has provided several trainings to teachers in Rajasthan and Chhattisgarh.

Power of the community

The organisation strongly believes that equitable quality education is the fundamental right of all children and that it is the moral duty of schools to ensure that quality education is available for the marginalised sections, too. Secondly, as schools are community institutions, the collective of teachers, community members and children should take responsibility for it. Further, Bodh does not believe in forcing the institution on a community. Rather, their belief is that the school should naturally grow out of the community.

Bodh has a very interesting modus operandi. They identify an area in the villages where a public school is not available and send a

teacher to that village. The teacher starts interacting informally with the prospective students in some common area, maybe a playground which the children are seen to frequent. The teacher gradually convinces some students to learn a few things at any convenient pre-designated place in the village. Soon, the curious parents of the students approach the teacher wanting to know about the proposed activity. This is the beginning of a dialogue between the teacher and the community. Once the teacher wins the confidence of the community, the people provide the space for the educational activities. Over time, the community manages to collect enough funds for the foundational infrastructure of the school (half of the expenditure on building infrastructure is borne by the community). The word school here does not mean a school with all modern amenities but, at this stage, may be only an open space in the village. Gradually, with the contribution of villagers, a formal school takes shape. This process takes time, sometimes even a few years, but it happens with the consent and involvement of the community.

The people develop a strong sense of ownership and pride towards the school. All the decisions pertaining to the school are taken in consultation with community members. These members are treated with respect, and Bodh values their knowledge and skills. Sometimes, a villager may be invited to speak to the students, paving the way for local knowledge to enter the classrooms. This is the uniqueness of knowledge creation at Bodh.

All the teachers are required to maintain a reflective diary. They meet regularly after school hours where they share their experiences and challenges with each other and thus learn from each other. It is here that they plan their teaching activities for the following day. Thus, they satisfy the most essential function of a TRC, a space for teachers to share their reflections. This helps enrich the knowledge and skills of teachers. In this way, the TRC at Bodh is highly decentralised. Almost every school has a TRC.

The central office of Bodh is located at Kukas, Jaipur, where all the major plans for its various schools are prepared. There is a Bodh school on this campus whose head happens to be a former Bodh student.

Teacher Resource Centre

The TRC at Bodh engages in innovative work. One such idea is the concept of 'mother teachers'. These are women whose children are students at Bodh schools and who are interested in the formal education of their children. Bodh offers training to its mother teachers in reading and writing and later gives them the opportunity to teach in their schools. There are several mother teachers working in different schools of Bodh.

Teaching-learning materials such as storybooks, charts and models are developed at the main centre by a special team in consultation with teachers. Materials may also be prepared by teachers themselves to be used in the classrooms. Teachers can avail books from the library to develop their knowledge and skills.

At Bodh, music, arts and drama are important in the teaching-learning processes and form an essential part of the curriculum. It is compulsory for every child at the organisation to be involved in some form of music and drama. For this purpose, teachers too are trained in these arts and appreciate their importance in developing the qualities of teamwork, empathy, perfectionism and aestheticism in their students.

Bodh takes support from various organisations for smooth functioning as also to expand its reach and gain from the experiences of others. The mentor at Bodh believes that if the organisation works with honesty, there would be no problems with funding, and so far, his belief has proved true. The transport giant Eicher has been supporting the school projects at Bodh. International organisations such as Sir Aga Khan Foundation,

Michael and Susan Dell Foundation, Save the Children, Plan India and UNICEF also support the organisation. On its part, Bodh, with its experience of 30-odd years in education and teacher training, has been supporting and guiding the government of Rajasthan in the formulation of many educational policies.

Availability of good quality resource persons is a challenge at Bodh. Young educated people join the organization but leave when faced with the hardships of working in the villages. Bodh is still working hard to mobilise and involve youth from different walks of life and convince them to join the collective effort of the organisations and communities so that quality education can be ensured for all.

At a glance

Name:	Bodh Shiksha Samiti
Established:	1987
Address:	Central Office and Urban Resource Centre, SP-41, Road No 6, RIICO Institutional Area, Kukas (Amer), Jaipur -303101, Rajasthan
Telephone:	+91 1426 227456, +91 1426 227457, +91 1426 227458
Fax:	+91 1426 227456
Email:	director@bodh.org
Website:	www.bodh.org
Employees (no.):	Around 750 people (staff) + communities
Vision:	To participate in the formation of an egalitarian, progressive and enlightened society by contributing in the evolution of a system of quality education and care for all the children

Goal:	To demonstrate that common community schools are the alternative to mainstream schools and profit-making private schools, both in terms of quality practices and outcomes
Resources and programmes:	45 common community schools, resource organisation of the government for assessment reform, technical support organisation to many like-minded organisations across the nation, direct support to the government in strengthening the schools
Beneficiaries:	Children – around 25,000 directly and the respective communities

06. Centre for Environment Education

Ahmedabad, Gujarat

The Centre for Environment Education (CEE) was established in 1984 as a centre of excellence in environment education (EE) by the Ministry of Environment and Forests (MoEF), Government of India. As a national institute on EE, CEE's primary objective is to improve public awareness and understanding of environmental issues with a view to promoting conservation and wise use of nature and natural resources. Importantly, EE encompasses a variety of teaching methodologies, with special emphasis on active approaches, to effectively integrate the environmental dimension into the existing subjects.

To achieve this, Kartikeya Sarabhai, the founder director of the CEE believes that we need a deep understanding of the environment, its relationships and the impact of human beings and their activities. Further, the foundation of this understanding needs to be laid as early as possible, and a critical audience where these seeds can be sown are children. The school system and its curriculum are one of the fundamental structures within which continuous interaction between teachers, students, and the curriculum takes place. This makes it the ideal place for laying a strong foundation of environmental education.

To build on these principles and with a vision to strengthen EE in the school system, the organisation runs many programmes.

Programmes at CEE

The MoEF developed a discussion paper 'Revitalization of Environmental Education in Schools' in 1998. The outcome of this was a project to strengthen EE in the School System (EESS) that focused on strengthening the infusion of EE, creating a separate space and time for environment at the middle school level, teacher training for effective EE, and the use of non-formal methods.

With the emergence of environmental studies as a mandatory subject, there was a dire need for training teachers on environmental issues. This was undertaken through the Green Teacher programme. This was a programme to build the capacities of a teacher, and it supported and promoted the teacher's creativity and reflective thinking by providing an enabling environment, appropriate educational materials and ideas. Thus, CEE conceptualised a one-year diploma course in environmental education for teachers and educators. This was offered through the distance learning mode. The course is designed with the objective of enabling student-teachers to effectively take up environmental concerns and issues in the classroom and engage their students in practical, action-oriented EE activities and projects. It has two sets of overall objectives, one dealing with the knowledge component and the other dealing primarily with skill building for effective transaction of EE. The course enables learners to strengthen their understanding of ecology and provides them with ideas for transacting its concepts in interactive ways. It enables the learner to appreciate the complexities of environment-development issues by equipping them with the ability to viewing a problem from a variety of perspectives and selecting a plausible solution in a given context. It helps teachers to explore the practice of communicating the contents in a variety of ways and explore a range of resources (books, audio-visual), opportunities (nature camps, local visits, eco-clubs) and spaces (mid-day meal time, assembly, and notice board) available within the school system.

Resources for EE

Environmental education is not merely teaching the content but also requires the very approach of transacting it differently. Recognising the fact that lack of availability of good quality resource material is one of the major barriers to effective EE and that a variety of approaches are required, most programmes at the Centre go hand in hand with the development of appropriate resource materials. Any attempt at developing

uniform educational programmes and materials for a country so diverse is bound to run into difficulties. What works in one region in one set of circumstances may not be applicable in another. Therefore, CEE began to explore a different concept of design. Regarding the design of educational materials, Kartikeya Sarabhai uses the metaphor of a sari. He says, "Our educational designing has attempted to be somewhat like the sari, more a tool than a finished product, a tool that comes alive in the hands of each teacher, its application being the combined effort of the designer and the user." With this kind of thinking and experiences from field, the school-based programmes and the material developed by CEE have the flexibility in their design to allow suitable adaptation for use across varied contexts, both local and global.

While developing and designing materials and activities, the general school scenario is also kept in mind. For example, most of the activities suggested in the materials do not ask for sophisticated or costly equipment. Rather, the activities are woven keeping in mind the school's location in an urban or rural area, the availability of materials in its vicinity and teachers' familiarity with the resources suggested. Similarly, while writing an activity to teach a concept, time and group size are important aspects. For example, enrolment in a class is sometimes as high as 50–60, where the teacher would not use a methodology meant for a smaller group. Thus, it is important to create resources that are adapted to a situation. The other important concern is the cost of materials. They need to be affordable.

Environmental Education Resource Materials

Some effective resource materials published by CEE are being used by schools. These include 'An introduction to Environmental Concerns and Issues' and 'Green Reader', which are introductions to environmental concerns and issues. 'Green Action Guide' provides information on planning and managing

environmental improvement projects. 'Green Club' is a guide to setting up and running green clubs. 'Guide to Green Materials' describes some of CEE's experiences in developing effective environmental education materials. 'Building Blocks' aims to strengthen EE through co-curricular activities that supplement curricular topics. 'Conserving Our Water Resources', 'Energy Matters' and 'Essential Learnings in Environmental Education' are some other publications. 'Training Manual in Environmental Education' is for the DIET staff and aims to help the teacher educators to effectively organise EE in their institutions.

The dissemination of materials is generally conducted through content orientation workshops with practical demonstration of activities so that teachers are able to provide instant feedback. This process helps improve the materials being developed. The materials are given to teachers free of cost during the training programme.

Conclusion and reflections

The effectiveness of EE relies heavily on the knowledge, skills and attitudes of the teacher. EE has not only changed what is being taught (the content) but also why (the objectives and goals) and how (the approaches and attitudes) that content is taught. Unless the teacher is convinced about and feels competent to handle all three, little will change. The teacher has to internalise the change in his or her role from one of 'giver of knowledge' to one of 'facilitator in the learning process'.

The challenge is to empower the teacher with ideas, not prescriptions, of what to do and not to do. Teachers need to not only have subject knowledge but be able to select from a wide variety of methodologies, the ones best suited to their own environment. If teachers are to be effective facilitators in bringing EE into teaching and learning, their capacities to understand and internalise the characteristics of EE and their skills in transacting

need to be built and strengthened. One way to do this is through redesigning the pre-service and in-service orientation and training of teachers.

At a glance

Name:	Centre for Environment Education
Address:	Thaltej Tekra, Ahmedabad 380054
Tel:	079 26858002 – 8005
Fax:	079 26858010
Website:	www.ceeindia.org
Director:	Kartikeya V. Sarabhai
Employees (no.):	300
Beneficiaries:	Teachers, educators, trainers from the government departments, NGOs
Resource materials:	Handbooks and manuals for teachers, posters and charts, supplementary materials for students, policy reports and recommendations, thematic kits and materials such as on water, ozone, biodiversity More materials can be viewed on http://www.ceeindia.org/cee/publications.html

07. Centre for Learning Resources

Pune, Maharashtra

The Centre for Learning Resources (CLR) is a non-profit, NGO that was started in 1984 by Zakiya and John Kurrien. The vision was to improve the quality of Early Childhood Care and Development (ECCD) and Early Childhood Care and Education (ECCE) that the rural and urban disadvantaged children receive in India. The organisation lays great emphasis on early childhood as an important period that affects a child's life-long learning. Some of the principal beneficiaries of its various programmes are:

- Elementary school teachers and educators
- Balwadi and anganwadi workers (pre-school teachers)
- Field personnel working in ECCD programmes
- Teacher trainers and supervisors
- Parents and other caregivers

CLR believes that efforts for the expansion of education in India have often not been matched by a concern for the quality of teaching and learning. This has resulted in unacceptably low levels of learning. While CLR essentially works for strengthening ECCD, ECCE and elementary education, its work now extends to post-secondary youth as well. Another important objective of CLR is to augment research-based evidence related to effective interventions in the above fields.

Early Childhood Development Programme

This is currently operational at Rajnandgaon Block in Chhattisgarh under the State Literacy Mission Authority and the State Health Resource Centre (SHRC). The team is working with health workers to design parenting and care-giving messages. The target group comprises parents and other caregivers of children aged 0–3 years. The programme focuses on the psychosocial development of the child. CLR provides comprehensive technical

support for the deployment of this project in the areas of project design, strategy, accompanying materials and training.

Early Childhood Education programme

This programme consists of the following components.

Observation-cum-lab centres for ECE: Started in 2008, the organisation has developed seven integrated child development service (ICDS) anganwadi centres in Mulshi Block, Pune District, through intensive support in the form of materials, training and monitoring.

Pre-school (ECE) component in ICDS anganwadis: With approximately 215 anganwadi centres in Dharani, Melghat, the programme focuses on pre-school educational effectiveness. The goal here is to demonstrate a replicable, decentralised ECE programme within ICDS and help children be better prepared for formal schooling.

Capacity building, material development and support: CLR also works with several other organisations to provide training and material support to teachers. For example, CLR is providing technical inputs for ECE to Kalike Samruddhi Upakram (KSU) and Community Development Foundation (CDF), which are supported by Navajbai Ratan Tata Trust in Yadgir District.

English Language Development

CLR works as an English resource centre for municipal schools in Pune. CLR has developed a three-year radio-based programme for conversational English development for use in the elementary schools of Pune; Yuva English, an English course for post-secondary youth from socially and economically disadvantaged backgrounds; and training and capacity building with teachers and administrators at different levels with Pune Municipal Corporation, Pune zilla parishad, and Ahmednagar zilla parishad.

The elementary radio programme is a 3-years programme, broadcast in classrooms and used by teachers to enhance students' English. After the broadcast, there is a designated time of about 15 minutes for the teacher to engage in the review and discussion of the content relayed.

Services offered

CLR works primarily in teacher and educator training, large-scale programme design and deployment, and material development for teaching and learning. It offers its services through technical support services.

CLR designs and delivers, on request, a range of technical support services for different stakeholders such as government officials, teachers and teacher trainers. The programmes are need-based and hence always customised to suit the need and context of the group concerned. The materials designed are based on the needs of varying educational programmes and incorporate feedback based on the experience of teachers in the classroom. CLR also provides teacher training materials. Some materials are also available for sale.

The organisation offers several reading materials such as bilingual story books, early maths kit, English books, environmental science kit and teaching Marathi as the first language. Most of these products are produced in-house and are updated with feedback from users.

Some of CLR's ECE materials are contextual and are also available in other languages such as Marathi and Hindi. It offers several audio-visual training materials for ECE trainings. The production of these videos is done in-house. The videos are based on important themes such as a baseline survey of the sociocultural context and ECE programme quality, significance of play in ECE and the role of the helper in anganwadi centres.

Programmatic partnerships

CLR also works with and supports several government organisations and NGOs with programmatic partnerships, which are need-based and for which CLR may be approached directly or through a funding agency or NGO.

In most projects, CLR has an exit policy where they aim to empower the beneficiary group to independently manage their operations after a stipulated time.

Impact and evaluation

CLR's impact evaluation happens through formative and summative assessments of children's learning. For early childhood intervention assessment, CLR engages with funding agencies.

For most projects, a review and baselining are done, which involves pre- and post-achievement analysis of the situation that was affected. Wherever applicable, DIET assesses the programmes as external assessors. Subjective feedback is also collected from participants (teachers, educators, teacher trainers, etc.) and is shared through annual reports.

CLR engages in extensive need and context analysis before initiating any programme. Through its content design, it caters to several local social issues. For example, in its interactive radio programme, it had subtly offered messages that catered to gender and religious equality and respect in general.

Most of CLR's programmes are focused on capacity building for various stakeholders in education. When asked what would be the most important need in education today, Manasi Chandavarkar, the programme manager of ECCD at CLR, says, "If it has to be generic, I personally think the most important need in the sector is that of human resources –not only to find the right people but also to retain them."

At a glance

Name:	The Centre for Learning Resources (CLR)
Established:	1984
Address:	8 Deccan College Road, Yerawada, Pune 411 006, Maharashtra, India
Email:	contact@clrindia.org
Website:	www.clrindia.net
Timings:	10:00 AM to 06:00 AM, Monday to Friday
Employees (no.):	Approximately 30 (spread across Pune, Melghat-Amravati and Chhattisgarh)
Beneficiaries:	Direct – Government agencies, the teaching community, NGOs, government schools, anganwadis Indirect – Children from low socioeconomic groups
Resource materials available:	Training and content material on ECE, English language training materials, books and DVDs on language

08. Comet Media Foundation

Mumbai, Maharashtra

Founded in 1985, Comet Media Foundation is located in the Fort area of Mumbai. Comet, as the organisation is commonly called, believes in education that is grounded in the National Curriculum Framework (NCF), 2005, with a focus on positive social change and sustainability. The organisation works to create awareness amongst teachers and educators, helping to bring about a shift from the rote memorisation and textbook-centric education prevalent in our schools to education based on meaningful activities and understanding as is mandated in NCF 2005.

Chandita Mukherjee is one of Comet's founding members and a director since its inception. According to her, activities which help inculcate learning skills amongst children are all too often seen as frivolous, and there is a general belief that knowledge can only be gained through rote memorisation. There is very little understanding of and few takers for the intangible benefits to education that defy easy measurement (such as language skills or critical thinking). Parents, teachers and even school principals want to see a direct connect and quantifiable benefits between any teacher-training workshop and what is being taught in the schools. It is in this kind of environment that Comet tries to make a mark.

Learning Ladder

The Learning Ladder is a retail outlet, and its purpose is to bring together under one roof educational resources from around the country and manufactured by different sources. It can be accessed by anybody — teachers, educators, parents, NGOs, government organisations. One can browse the books or explore the educative toys displayed. It is here that one is most likely to encounter A. S. Neill's Summerhill or the evergreen Totto Chan, classics in education and books that are difficult to come by in regular bookstores. Some books deal with educational policies,

critiques and experiments in alternative education and are by Indian and foreign authors. If the more formal education interests a reader, there are books on science, mathematics and language. There is a wide variety of illustrated children's books from publishers like Eklavya, Pratham, Tulika, Katha, Young Zubaan and Tara. Marathi and Hindi being the other commonly spoken languages of the region, the store has books in these, as well.

Many games and toys are collected from various rural regions, and each tells a story of determination and grit in its crafting or procurement. Most are made by traditional artisans from organic materials such as wood, lacquer, bamboo and cotton fabric. Their smooth curves and bright materials are meant to attract the young, but are also chosen with an educational experience in mind. Further, the director elaborates, "a spinning top may help some child learn the principles of physics, or the chaupar game sharpen another child's mathematical and strategy skills. At the same time, a traditional pull-along on wheels can be used to strengthen the left-right coordination and walking movements of toddlers. Likewise, some other toys at the store enhance eye-hand coordination amongst very young children." The prices of certain educational resources sourced from craft cooperatives and NGOs may seem high, especially for individuals or low-cost schools with meagre funds. While some books and toys are priced below Rs. 100, other prices can go up to even Rs.1,500. But these are well-produced books printed on high quality paper or games made with high quality materials. The director emphasised that the range catered to all tastes and budgets, and it was only natural that the high cost of making was reflected in the price of the resource.

The catalogue of educational materials, with costs, is available on Comet's website. Additionally, the organisation holds exhibitions at schools and during melas where these resources are made available.

Bal Vividha

Since 1997, Comet organises knowledge festivals called bal vividha at different locations across the country. These are interactive melas centred on one interesting theme and offer alternative approaches to learning through activities and varied experiences related to education. Each festival lasts 2–3 days and caters to the needs of children, teachers and parents. In all, 25 editions of these festivals have been held across six Indian states.

The aim of the mela is to promote acceptance of the idea that learning can happen in non-structured environments. Therefore, at the mela, multiple approaches to learning are available to teachers such as experiential workshops, interactive corners to showcase educational innovations, a film festival, and a rangmanch with live performances. Occasionally, when funds allow, there is also a colloquium or a seminar where current policy issues in education are debated. Care is taken to localise every version of the mela. This takes some effort at networking and persuasion, but it is well worth the outcome. Consequently, the last two vividhas, held at Jamnagar in Gujarat and Durgapur in West Bengal, were held in Gujarati and Bangla, respectively. The mela is Comet's effort to bring together under a single roof educational institutions, NGOs working with underprivileged children, RPs including artists from the theatre and film industry and book publishers, along with the beneficiaries, which include teachers, students and parents.

Participation in the mela not only gives an exposure to newer ideas but increases peer interaction among teachers and educators. It becomes a platform for building new partnerships, for critiquing and for ruminating on creative ideas. However, in recent years, with the advent of corporate funding, the organisation feels restricted in its freedom to choose how much and what to offer at the melas. Most of the corporates that provide funds are more

concerned with increased visibility to government officials, local media and other corporates than with expanding the services offered to underprivileged children. On the question of whether this compromises the quality of the melas or makes them less effective, Chandita Mukherjee answered that, so far, there was no adverse impact. But she wished that these festivals could be sponsored by philanthropic funding which has no agenda apart from the mela itself.

A vital aspect of these melas is the exposure to quality resource materials and new ways of thinking that the participating teachers experience. Whether they are in urban, rural or remote areas, teachers normally do not get sufficient stimulating learning opportunities. Cost, again, is a major factor in discouraging investment in resources for teachers. So, typically, the RPs at the mela help local teachers make cheaper versions of the classic resources using locally available materials. The resources and games are replicated using available seeds and stones, shells, coloured bottle caps instead of beads, cheaper cardboard instead of wood and so on. These may not be as attractive or long-lasting, but they do serve their purpose.

Filmi Chashma

This endeavour uses the film medium as a resource to expose teachers and students to good cinema, as films are an important form of human artistic expression. Cinema is seen to incorporate, in various proportions, all the other arts, be it literature, painting, acting, photography, graphics, dance or music. Films can thus be used to give students a good aesthetic grounding. Filmi Chashma holds workshops in film appreciation for teachers.

In recent years, Filmi Chashma seems to have declined as an activity. The director attributes this to high costs as well as lack of interested funding support.

CIRCLE

CIRCLE, or Community Information Repository and Centre for Learning Experiences, is another concept by Comet Media which, for all practical purposes, has been unable to take off. The idea was to support resource centre-like spaces in communities under the aegis of local organisations interested in educational activities. Such centres would then cater to a community's specific needs and help supplement and replenish the existing school curriculum through informal learning. An important idea behind CIRCLE was to support potential teachers in the community to be self-sufficient in choosing good resources as well as in conducting quality activities on their own.

As CIRCLE was designed to work through partnerships with educational institutions and NGOs, its failure can be attributed to a lack of interest in the idea as the returns were not easily quantifiable.

Challenges

In recent years, Comet has been trying to move from complete donor dependency to self-sufficiency based on its activities. Lack of funding, coupled with a lack of understanding that education is much more than memorising the textbooks, puts certain constraints on the organisation's ability to develop and practise many of its ideas on a wide scale.

Depending on the need of the client (e.g., school, corporate), a workshop or a book exhibition or both may be organised. If a school desires a theme-based workshop, say, on World Environment Day, the package offered would include an exhibition of books on nature and environment, a discussion, maybe on migratory birds, a related film show, some activities to identify birds, etc.

On its part, the organisation is always trying to experiment with new ideas and technology, as we see in their efforts to get a

musician to do a maths workshop (with the possibility of relating musical beats to number patterns) or making a connect between mathematics and nature.

At a glance

Name:	Comet Media Foundation / COMET
Established:	1985
Address:	301 Meher House, 15 Cawasji Patel Street, Fort (Above People's Book House), Mumbai 400 001, Maharashtra
Telephone:	+91 22 2287 6033 or 2287 0668
Email:	cometmediafdn@gmail.com
Website:	http://www.cometmedia.org
Timings:	10 AM to 6 PM, Monday to Saturday
Employees (no.):	Five. Additional resource persons are engaged as and when required.
Vision:	A society of individuals living an equitable and sustainable life, empowered within a culture of knowledge-seeking and knowledge creation
Beneficiaries:	Schools, teachers, NGOs and children
Resource materials available:	Different categories of books as teacher resources, mathematical and scientific games and toys, DVDs on a variety of subjects related to education available for borrowing.

09. Deenabandhu Teacher Resource Centre

Chamarajanagar, Karnataka

Deenabandhu, a charitable trust, was set up in 1992 to give protection to children deprived of parental care. Its two central projects are a foster home and a primary school, both in Chamarajanagar. Its chief aim is to provide children a stress-free, wholesome environment in which they fully develop their potential. In 2001, the trust built a school, and in 2005, it set up a TRC which is now housed in the school's campus. The key components of the Deenabandhu trust are the Deenabandhu children's homes for boys and girls, scholarship programme, higher secondary school, rural development programme for women, adoption of government primary schools and TRC.

Role of TRC in professional development of teachers

The TRC at Deenabandhu provides opportunities for teachers to work towards enhancing their professional expertise. Such a resource centre makes both material and human resources readily available to teachers. The DBTRC believes that the extent of a teacher's engagement in a TRC depends on the support given through specialised human resources. Provision of well-trained and informed master resource persons (MRPs) is a unique feature of this TRC. They observe: "Even though the height reached [by teachers] may be initially limited, where it ends is sublime. How the sense of achievement manifests in teachers is up to us to promote and develop through resource centres."

The DBTRC believes that no amount of isolated in-service training helps teachers to directly implement the ideas in their classroom transaction. They would require sustained support to do so. They do not take the risk of trying out novel ideas as they do not have sufficient exposure. Therefore, TRCs with material and personnel resources should first expose teachers to the experience of concepts they would want to teach. DBTRC strongly believes in enthusing teachers to learn themselves and to establish an emotional

connect with the content, pedagogy and most importantly, the learner. Hence, teachers are the focus of all its efforts. Teachers are considered to be the instruments to enhance the learning experiences of students, and by training teachers in a particular way, this becomes an integral part of their character or personality.

The organisation believes that teachers play a critical role in determining the classroom environment and transacting the curriculum. To do this well, teachers must develop the conviction to play this active role rather than conforming to the conventional and stipulated ways of teaching. Unless learning is brought into the ambit of experience, it cannot be comprehended and internalised by teachers. So, professional development is nothing but the teachers themselves getting enthralled in learning and being open to learning with children.

Strategies

DBTRC's main strategy is to facilitate the professional development of teachers through customised training and intensive hand-holding during implementation. It strives to give teachers the experience and confidence that learning activities are both enjoyable and practical. This type of training is considered essential until the new ways of teaching become an integral part of the teachers' classroom practices. The intention is to make participation in training second nature to teachers for the following reasons:

- Such a formal, structured permanent space facilitates a gathering of the academic community involved in teaching.
- Centrality of experiential learning is promoted, developed and encouraged in such a space.
- Teachers get first-hand experience of the science concepts they would want to teach.
- Teachers develop the attitude that resources are not an end in themselves but a means to achieve certain learning objective.
- Teachers are oriented towards appropriate usage of resources.

Activities

DBTRC provides professional guidance through structured classroom-based inputs and interaction meetings, followed by individual mentoring of teachers in their classrooms. The theme for the trainings aligns with their monthly lesson plans. DBTRC provides resources based on the 'felt need' reported by RC personnel as well as 'articulated need' by the teachers. As part of its work with teachers and resources, it has established a centralised TRC and five school-based RCs, which are housed in government schools in Chamarajanagar. The TRC provides the following:

- Teacher training workshops (10 to 20 days in a year) for teachers from adopted schools to show the use of activities
- Materials and human resources to the trainings conducted by education departments
- Weekly interaction meetings with teachers from collaborating schools
- TRC personnel or the MRP who design and develop customised resources
- Guidance for preparation and implementation of creative lesson plans in their respective schools
- Orientation to use of resources to elucidate science, maths and geography concepts
- Faculty improvement programmes for MRPs to experience the pedagogical value and use of the instructional aids, so that they can help primary school teachers to learn to use the aids and take them to children
- Periodic assessments of children in adopted government Kannada and Urdu medium schools conducted by MRPs
- Structured activities for children in the resource centre

The coordinator manages the work of all MRPs in the TRC as well as in the partnering schools, conducts programmes and trainings, organises all events of TRC, does administrative work, creates documentation of TRC processes and also acts as

resource person to train teachers. The coordinator is responsible for collecting and collating resources made by others as well.

Impact assessment of RC activities is carried out by informal observation, children's performance on paper-pencil tests, tools for teacher performance and feedback on teachers' performance by MRPs.

DBTRC resources

Materials: TRC is a physical space where a variety of material and print resources are developed and made accessible to teachers using locally available cost-effective raw materials. They have a range of pedagogical aids, both instructive and entertaining, most of them catering to higher primary level and above. The belief is that the resources need not be complex and expensive; the simplest resource can be most revealing. RPs strive to demystify the notion of complexity in materials. All materials are displayed on open shelves. The focus is largely on science, but there are a few resources in mathematics, languages like Kannada and English, psychology and social sciences. TRCs provide professional support services to teachers, services ranging from subject-based training, classroom-based research, pre-designed training programmes, provision of teaching resources and more.

Several experiments in biology — e.g., concepts of photo-geotropism — and in physics — e.g., concepts related to light — are indigenously developed and are not found elsewhere. All their resources can easily be adapted and replicated and hence are considered to be teacher-friendly.

Personnel: The RPs provide space for sustained programmatic interventions for growth and learning of teachers. They enable continuous teacher development through inputs that are closely linked with classroom practice and the needs of teachers. The design of workshops for MRPs and teachers are different. The

training expects MRPs to read and suggest readings. The training of school teachers encourages participants to study further to enhance their qualifications.

Inter-RC relations: DBTRC has aligned with Karnataka Education Network (KEN), which is a congregation of five RCs.

Process of setting up a resource centre

The DBTRC is the brain child of G. S. Jayadeva. It is funded by individual donors such as Vinnie Blanc and Joe from Netherland and organisations like SRTT. Initially, D. R. Baluragi, director of the Science Centre in Belgaum, helped design and develop various science materials. Baluragi, along with G. S. Jayadeva, provided training to teachers to help them understand various science concepts using these instruments along with G. S. Jayadev. As the years passed, the number of RPs who contributed to the development of DBTRC activities increased. At present, the trust not only consults expert resource personnel but also has its own in-house trained MRPs who are involved in all the activities of DBTRC.

The trust began with sporadic district- and taluk-level training of teachers in workshops of 1 or 2 days. This went on for 3–4 years. During this period, DBTRC used to cater to about 50–100 teachers. Later, this method was found to be too broad and amorphous. Also, it could not follow up on teachers to handhold them during the implementation phase. Later, the trust focused on one cluster in Chamarajanagar, believing that once a culture of teaching and learning was established, it would be maintained. To establish such a culture, a long-term, consistent engagement with teachers was needed. At present, DBTRC works intensively with government and a few private school teachers in some clusters in a selected area. DIET, Chamarajanagar, makes use of DBTRC resources to directly train teachers. The arrangement is such that DBTRC provides the personnel and material resources

while DIET meets the expenses and logistics aspects of the programme.

At a glance

Name:	Deenabandhu Educational Trust, Deena Bandhu Teacher Resource Centre (DBTRC)
Established:	1996
Address:	Deenabandhu (Teacher Resource Centre) Deenabandhu Trust, Behind Forest Nursery, PWD Colony, Chamarajanagar District, Chamarajanagar – 571313, Karnataka, South India.
E-Mail:	dcchildrenshome@gmail.com
Phone:	Off: 8226 226007, Mobile: 9449406454
Website:	www.deenabandhu.org
Founder	G. S. Jayadeva
Secretary:	
Beneficiaries:	170 teachers in 30 government schools, supporting 3,000 children

10. Dhwani Educational Resource Centre

Dharwad, Karnataka

Dhwani, an educational TRC, was founded in 2001 in Bengaluru and has been working with elementary school teachers in the areas of Kannada language and social studies education, creating resources in Kannada as well as training teachers to use the resources in their classrooms. In May 2012, Dhvani shifted its resource centre from the busy city of Bengaluru to Dharwad, a district in North Karnataka.

Dhwani began with a focused and modest vision to promote education in the local language Kannada. As the founder of Dhvani, Shivananda Hombal, emphatically stated "...to develop confidence in our people that good education can happen in our local language, is the main objective of Dhvani." When Hombal began his career as a Kannada teacher in primary education, he realised that there was an acute shortage of good teaching-learning resources. He experimented with different methodologies and approaches while teaching Kannada and developed his own resources. The desire to have spaces in the education system for children to be educated in the local language, the lacuna of resources and the process of creating teaching aids culminated in the opening of the Dhvani Educational Resource Centre.

Identity

Dhwani believes that a TRC is either a place or a concept or both. It is a place where teachers access resources, acquire skills, meet fellow teachers, exchange ideas and discuss issues, creating a sense of community. The TRC is also an idea of what constitutes quality teaching-learning, beliefs about who teachers are, views about education and training, and ideas for improving teachers' work. The identity of the centre is made up of the role of the place as well as the ideas behind the making of the centre.

Dhwani sees itself creating a small but committed community of teachers who believe in education in the local language and want to engage with education in more meaningful and deeper ways in Kannada. Dhwani has never developed its programme with a vision to scale. Hombal says that Dhwani is interested in human beings and not so much in the system: "System is a concept whereas human beings are real". The organisation believes in working with individual teachers who participate voluntarily in the programme, rather than receiving participants who are mere representatives of the system.

The resource centre comes alive during workshops, which are conducted in summer and at the beginning of the academic year. When there are no workshops, the centre is visited by a few teachers mainly on Saturdays and Sundays. The teachers' visits are usually to clarify doubts about a subject or the resources. Some of them refer to library books, too. But the centre as a physical space is not vibrant and busy on a day-to-day basis. In that sense, Dhwani is more a concept than a place.

The RC and office is located in Dharwad, Karnataka, and the administrative office continues to run in Bengaluru. There is a good collection of reference books in their library apart from their own resources. The centre also has spaces for conducting workshops, a computer and an office room.

The staff of Dhwani is qualified academically in the education discipline (D.Ed., B. Ed). They are also trained on the job. Dhwani has developed a special programme Chitrana, to enable staff to visit historical monuments, take photographs, create videos and prepare three-dimensional models for creating the social science resources.

Dhwani's role can be described as providing teachers with access to resources and offering programmes, resources and facilities. They

create resources and initiate programmes for teachers to be able to access, understand and use these resources in the classroom. As facilitators, they provide support when a teacher asks for help. Their network is small, and the interaction is mainly between teachers and Dhvani. The newsletters serve as a networking tool where teachers can see comments of other teachers'. Teachers have used other networks like the Sama Lochana Sabhe, which are cluster meetings within the government system to discuss Dhvani resources, but Dhvani has not proactively made efforts to create a network or community.

Programmes

Dhwani started its first project in 2003 in collaboration with World Links, a World Bank funded programme. The objective of World Links was to use information technology to aid secondary school teachers to gather and create resources to teach in a better way. Dhvani conducted workshops and visited schools to follow up and realised that none of the resources or workshop skills were being used by the teachers in spite of their high interest in those resources and skills. Shivanand attributed the failure to two reasons.

As most of the target schools were in remote areas, access to technology and internet was very poor. Secondly, the content was in English and not contextualised. Learning from this project, and realising that access to technology and contextualisation was their strength, Dhvani decided to design their own project Poorana. From then on, each project developed out of the needs expressed by teachers and the experiences from each of the projects.

Poorana was designed to create support material for teachers and students for teaching-learning of Kannada and social science in Kannada for upper primary classes, fifth to seventh. Dhvani worked in depth with a small group of 12–15 teachers from Kannada medium schools, government and private unaided, in the neighbourhood of their RC in Bangalore. The school head

and the participating teacher had to commit to be in the project for at least 3 years and continue teaching the same subject to the same set of students in that 3-year period. The resources were created in accordance with the state board syllabus and the teachers. The design included workshop-based training in the beginning of the academic year. Each month, resources were mailed to teachers, a set for the teachers and one copy each for the students. Classroom visits and interactive sessions were also held with the teachers to elicit feedback on the usage and impact of the resources, classroom experiences, children's response and questions related to the subject. In fact, based on feedback from teachers, another project Aarambha (beginning) was started in 2006–07. The design was similar to Poorana, and resources were being made for lower primary teachers and students, from classes one to four.

Through systemic and informal teacher networks, many teachers began contacting Dhvani and were eager to be part of the programme, including teachers from other districts across Karnataka. Dhvani, because of its own limitations of scaling its programme, decided to start a new project Mitra (friend). Mitra enabled teachers to sign up for the resources without necessarily participating in the workshops by contributing a small amount per annum. Mitra began in 2006–07 with about 60 participants and has now grown to over a thousand participating teachers.

Dhvani's Kammata project is a 6-day, residential training programme conducted in the summer vacations in the RC. About 12 interested teachers are selected each summer. The objective of this workshop is for facilitators and participants to study a topic in depth. For example, to understand the architecture of a fort or a temple, the teachers actually spend two days at the site and experience the monument. There are discussions on the topic at the discipline and philosophical level and on how to engage with this content in the classrooms.

Dhwani, as a member of a group called Karnataka Education Network, worked on a 2-year project Vidyashipla where D. Ed students conducted workshops on Saturdays. The focus of these workshops was discussing educational philosophies and improving students' content knowledge.

Resources

Dhwani has a good collection of books on subjects including Kannada literature, education philosophy and psychology, and social science. Through the Poorana and Aarambha programmes, Dhwani has created 25 resources each for lower primary and upper primary teachers, totalling about 50 resources. The resources are in the form of three-dimensional models, worksheets, stories and texts, maps and books.

Dhwani also publishes a monthly newsletter or magazine. Instructions and ideas about resources and how they can be used in classrooms and educational philosophy are some of the topics in the newsletter. This newsletter is sent out along with the resource material every month to Poorana and Aarambha participants. Dhwani brings out a summer vacation magazine Rajja Majja and mails it to students during their summer vacations. Many children's works are published in this magazine.

History resources are meant to give teachers and students additional information about the topics they study in class. One of the resources that was reviewed was the class 5 topic 'Jainism and Buddhism'. This resource has many pictures of historical places and monuments that depict these religions. The language is simple and easy to follow. The content is well researched and is not biased. The most interesting part of the history resources are the detailed links to local monuments. One resource explains how the Theerthankaras can be distinguished one from another in one of the monuments in Karnataka. Students of government schools go on trips every December and usually visit one of

the historical monuments in Karnataka. These trips are a great opportunity to use Dhvani resources to help students engage with the lessons more meaningfully.

Kannada resources have local stories, literature and poems. These resources also have questions and activities that help children to engage critically and creatively with the text. Teachers are also exposed to the authors, history, nature and other nuances of the texts.

Challenges

In a city, it is a tough task for an independent TRC to be a vibrant physical space that connects with the community. The concept of a neighbourhood school or, more importantly, teachers belonging to the same neighbourhood as the school they teach in, has become a rarity. We can see that Dhvani's model is really largely virtual, the postal system being their communication technology. If Dhvani were to use digital methods on a large scale, they would have to worry about teachers' accessibility to computers and the internet, how 'open' they would like their resources to be and economic sustainability in case of giving free access. The organisation largely relies on funding from trusts as well as individual contributions to sustain itself. Creating a sense of community with schools, teachers, students and parents is an arduous task in an urban space. Moving to a smaller district will perhaps allow Dhvani to explore its space in more vibrant ways and engage more deeply with more stakeholders of the community.

As Shivanand discussed in his interview, the two major challenges he faces are teachers' attitude towards professional development and their reluctance to voice their opinions freely and instead submitting to popular views. He felt that most teachers do not understand the concept of self-development. He stated that changing this attitude would be most beneficial. These issues,

he felt, made teachers reluctant to create their own teaching-learning materials. For Dhwani, the resource materials are secondary; what is important is the process of resource creation which would make teachers engage more deeply with the subject and children's learning.

Dhwani is working in a niche area, making resources in Kannada and social sciences for teachers and children. With English becoming the choice of the majority, they are at odds with popular urban and middle class beliefs and demands. For the large majority of children, providing education in the local language is the best hope for a holistic and meaningful education.

At a glance

Name:	Dhwani Educational Resource Centre
Established:	2001
Address:	'Prateek' 3rd Main, 7th Cross, Kalyan Nagar, Dharwad – 580007
Phone:	(0836) 2745684
Email:	dhwanitrust@gmail.com
Website:	www.dhwanitrust.org
Employees (no.):	8
Beneficiaries:	Teaching community; students of education; NGOs; Kannada medium government, aided and unaided schools

Resource materials available:

Kannada language and social science teaching-learning materials for elementary school teachers; 3-D models for social science teaching-learning; a good collection of Kannada and English reference books on education, literature and social sciences. All text resources are available freely on the Dhvani website.

11. Digantar Shiksha Evam Khelkud Samiti Jaipur, Rajasthan

Digantar, from Sanskrit dik and antar, means a focused change in direction. In the case of Digantar, it is a well-thought-out change in direction towards more meaningful, appropriate and complete education for rural children. The organisation believes in a 'clear articulation of aims to provide meaning to discrete educational activities and animate the same towards a certain envisaged direction'. Over the years, the organisation has arrived at a vision that is far from static and a culture that helps to look beyond the obvious. It helps build coherence and continuity on the one hand and the ability to improvise and change depending on current need on the other.

Digantar started its work on a very small scale in 1978. It registered itself as a non-profit society in 1987 and began work in the villages near Jaipur. It established a school and started experimenting with its vision for an equitable and just society, a society that could be achieved through education. The first ten years at the small school were a good grounding for the organisation in elementary education and classroom practices. The school was supported by David Horsburgh in its initial years when he was also responsible for training the teachers.

The Academic Resource Unit (TARU)

TARU was created within the organisation for providing continuous academic support to various projects and programmes (government and non-government). The unit undertakes research studies, need-based training programmes, various teacher education programmes, curriculum development, as well as the evaluation and documentation of Digantar's own programmes. TARU has completed many important projects such as capacity building workshops for the District Primary Education Programme (DPEP) staff in a district of Rajasthan and preliminary work for the development of a teacher-education package and

pedagogical renewal in Chhattisgarh, which includes curriculum development, textbook revision and teacher training. Digantar has also worked with several government programmes as a resource support agency through TARU. This unit has also been collaborating with the Azim Premji Foundation for the last few years to bring about a qualitative change in school education through material development and teacher training.

Alternative Education Project

At present, Digantar's rural education programme provides education to about 600 children in two of its schools. This is the core programme at Digantar, and it focuses on an alternative pedagogy that believes that 'respecting the learners' autonomy and giving them freedom in their pace of learning is extremely important to the teaching- learning processes'. Digantar has developed its own teacher training programme to run this type of school where the teacher has a significant role to play. The teacher is expected to have a broader perspective and opinion on education, the aims of education, the curricular objective, the nature of various forms of knowledge and an appropriate pedagogy for different subjects so that she can develop 'wholly' into a reflective practitioner of education.

Programmes at Phagi

A library programme was initiated in schools which made available books for children. The Pehchan programme focused on adolescent girls and was started to bring out-of-school girls into mainstream education. Through pehchanshalas, girls and their families were made comfortable with the idea of a girl-child going to school and also made to appreciate the importance of education in the lives of girls. The Shiksha Samarthan programme provided on-site academic support and capacity-building of teachers of government primary schools through workshops and trainings. Currently, the Teacher Empowerment programme is an attempt to train a group of local primary school teachers.

This programme seeks to empower teachers to seek, identify and analyse theoretically sound and practical solutions to their classroom problems through reflection.

Quality Education Programme

The idea behind this programme was to have quality capacity-building programmes for teachers in schools and institutions through cluster and block resource centres (CRC and BRC) and the District Institute of Educational Training (DIET). This was a joint project implemented in the Baran district through the efforts of Digantar, Vidya Bhawan Society, Udaipur, ICICI Centre for Elementary Education, Pune, and Rajasthan Shiksha Parishad. The focus was to provide support to teachers, BRCs, CRCs, and the DIET faculty. It carried out the academic responsibilities of teacher training for the whole district for four consecutive years.

Centre for Teacher Knowledge (CTK)

Research has proved that teachers are the core element of the teaching-learning process, so there must be a provision for their professional development. With this in mind, CTK undertakes literature reviews and participatory research studies. Digantar also conducted research to understand the assumptions of teacher knowledge and teacher learning as reflected in the materials, teacher educators' views and classroom practices in elementary teacher education in 11 states of north India.

Educational Discourses

From time to time, Digantar also focuses on meaningful educational discourses. For the conceptualisation and running of its MA (Master of Arts) programme in elementary education, it collaborated with different institutes to arrive at the best possible alternatives for designing and preparing the contents of its curriculum. It has participated in the process of developing the National Curriculum Framework, 2005. With Chhattisgarh SCERT, it has pooled efforts towards curricular reform for the D. Ed course.

Certificate Programme in Foundations of Education

This is designed by TARU as an intensive 6-month programme in dual mode to improve the academic and professional development of those interested in education. It aims to strengthen independent decision-making capabilities and widen the scope for creative activities in education. It hopes to achieve this through deliberating on fundamental issues in education, such as its aims, its relationship with society and the principles and processes of human learning; the nature and pedagogy of school subjects; and other issues like policy, teacher education, assessment and research. The programme is designed to be a well-balanced mix of theory and relevant practice. The richness of the programme is enhanced by participation of individuals from different parts of the country who represent different government and non-government organisations.

Shiksha Vimarsh

This bimonthly magazine in Hindi, published by Digantar, carries articles by educationists and educational practitioners, helping teachers share and learn from one another's professional experiences. The purpose of the magazine is to generate informed discourse relevant to education.

Workshops and resources

Teacher training workshops are regularly organised by Digantar based on their own understanding of education, teaching and learning. The workshops can be customised as per the needs of the schools. They cover a range of topics that help teachers and educators equip themselves with the knowledge and skills required for teaching. Workshop modules regularly in demand include training offered to NGOs who work in the field of education.

Special workshops deal with specific topics such as environment education, self-awareness and value education.

Material resources are continuously being developed for their own schools and for other organisations to foster better teaching-learning practices. Digantar has developed a good number of resource books, including on learning language. They also bring out books with the writings of children. This is a great initiative as there is an absolute lack of literature on children written by children.

Challenges

The director of Digantar feels that the non-government sector faces the challenge of retaining good quality resource persons. In the age of corporate social responsibility (CSR), many corporates have opened their doors to social work professionals and offer relatively high salaries and compensations. It is only natural that people get trained at Digantar centres but leave soon after for economic reasons. Another problem faced by the organisation is lack of resources. There is a lack of stability in the funding for the organisation. However, Digantar has come a long way and has played an important role in influencing the education system in our country. Digantar's founder member, Rohit Dhankar, has been a member of the NCF 2005 in which the organisation's vision finds a resonance.

At a glance

Name:	Digantar Shiksha Evam Khelkud Samiti
Established:	1978
Address:	Todi Ramjanipura, Kho Nagoriyan Road, Jagatpura, Jaipur 302017.
Telephone:	0141 - 2750310, 2750230
Employees (no.):	79

Vision:	An education that develops independence of mind and gives courage to act
Goal:	With the above vision, Digantar strives to develop educational opportunities for all children
Beneficiaries:	Students, teachers, educational institutions, the state education system, NGOs, and interested individuals

12. District Education Resource Centre (DERC)-DIET Chamarajanagar

Chamarajanagar, Karnataka

Started in 2006 as part of a collaboration between the National Institute of Advanced Studies, the DSERT, Karnataka and DIET Chamarajanagar, the District Education Resource Centre (DERC) receives an impressive average of 700–800 visitors each month. DERC is a working resource centre, is well integrated into the DIET, serves as DIET’s library as well as supports its extension work. It is designed to be a space where teachers and teacher educators can access resources which are useful for planning their classes or training sessions as well as a range of teaching-learning materials that can be borrowed for use in the classroom. Unlike RCs that have active outreach and interventions in schools through which they promote a culture of using resources to enrich teaching, the DERC has positioned itself as being responsive and available to teachers while educating them on available resources.

As a part of its design, the DERC includes a wide range of materials—textbooks, including good textbooks from other states and even outside the country, reference materials, children’s story books, dictionaries, books on education psychology, sociology and other subjects. Additionally, it keeps copies of all training modules and official department documents. It includes a section of books about Chamarajanagar District, studies of education in the District and books developed for schools in Chamarajanagar. Thus, there is a range of materials which would potentially be of use and interest to teachers and teacher educators. Many of these materials are in English, but the DERC has also sourced materials in Kannada, Urdu and Tamil—the books number about 7,500. The DERC has also sourced a range of teaching-learning materials. Many of these are in multiple sets so that teachers can borrow a whole set to take to school to use with students. The TLM stock is over 1,500. There are also many audio and video DVDs. Two computers with internet access and printers are also a part of the DERC.

The DERC has been shaped as a practical usable space for a range of users — including its own target users, who are teachers, teacher educators, and student teachers — guided by a coordinator who is a trained librarian. The librarian has applied a range of important principles of organising libraries that make them easy and inviting to use. Among these are timings that enable teachers to visit before and after school—the DERC opens before 9 AM and closes at 6 or even 7 PM. The space is never closed during the day so that no visitor goes away because of a closed door. Membership is a simple registration, and any member can borrow materials. The RC coordinator says that retrieval of materials has never been an issue; she is always able to track people down in case material borrowed by one member is needed by another. The entire collection is open access. The space is clean, well lit and inviting. The displays are changed often. A notice board is regularly updated to showcase new materials and to get teachers to contribute their experiences of using materials. All queries are answered. Teachers who are regular users say that not only are queries answered but there are additional suggestions so that the teacher feels welcomed by an interested community. One teacher observed: “The DERC is very supportive. Sometimes, I realise I need something late at night, and I contact them. Still, they manage to give it to me.” Another confirming the supportiveness of the RC team said, “The RC in charge must be a friend, and teachers must get what they need and have it ready at hand.”

The DERC was a part of the Action Research Study on Resource Centres undertaken collaboratively with TISS. Over the year in which there was rigorous documentation, it was found that there was an average of 735 visits being made each month. The clientele was far more varied than anticipated. College students and community members were regular users, accounting for about half of the visits. Importantly, students of the local teacher education institutions (B.Ed and D.Ed), school teachers, teacher

educators and NGOs and education administrators account for half of all visits. This took place on only 19 visits. On the whole, it can be seen that the RC was being used for 'relevant' work.

An important constituency of the RC is the large number of school students who throng the place before and after school and during the lunch break. This group has been inducted into a self-regulated culture of taking and using materials and borrowing and returning books which they maintain by themselves on their own library cards. Some of them also borrow and take materials for their teachers from the RC. They have fully reciprocated the trust that the RC has placed in them with exemplary responsible behaviour. This achievement is noteworthy.

The DERC has often reflected that by adding more content specialist RPs to its regular faculty, its interactions with teachers could be made even more effective. Further, there is need for constant renewal and reorientation of its work so that it retains its user group—visits by users from the initial group have dropped over the years. Local RPs—the CRP and BRP who were expected to benefit the most from such an RC, especially to improve the quality of their trainings—have not been using this space. This may be related to the overall positioning of trainings in the larger scheme of the state.

The DERC has to keep advertising itself and making itself known in the district. This is necessary as new teachers enter the profession but do not know about this space. The DERC has the advantage of being a part of the official government institution and enjoys unique legitimacy and interest on this account. This is certainly an important aspect which makes teachers feel confident that there are no 'interests' operating in the background. Many of the regular teachers come to the RC because they enjoy using resources to make learning more meaningful for their students. They often refer to the value of doing activities that lead children

to ask more questions and take initiative. It is worth remembering that teachers who are doing this are here entirely out of their own initiative, without any official compulsion to do so. Small as this number may seem, it is a reminder that such Centres support teachers who practise valuable pedagogies. The DERC model has demonstrated how an RC can function effectively and how it can benefit teachers and a range of users at the district level.

At a glance

Name:	District Education Resource Centre
Established:	2006
Address:	District Institute of Education and Training, BEO Complex, Chamarajanagar, Karnataka
Phone:	08226-223001
Email:	dercdiet@gmail.com
Employees (no.):	Three — One RC in-charge trained librarian and two RC assistants
Beneficiaries:	Teachers, student-teachers, teacher educators, school and college students, education administrators and NGOs of the district

13. Jodo Gyan

New Delhi

Jodo Gyan is an organisation working in the field of activity-based learning in mathematics since 1999. It is a self-sustaining, non-profit, social enterprise. It produces its own resources and also sells these to users.

The organisation believes that 'learning can happen in the community of learners and it happens best when it is in sync with the real life of the learner'. Their focus is to reach out to every child in a classroom. The objective of Jodo Gyan is to prepare teaching-learning materials (TLMs) based on actual classroom experiences, mainly in science and mathematics, to address the needs of primary classrooms.

Development of teaching-learning materials

The NGO designs educational materials based on their own experience of teaching-learning at Jodo Gyan Kendra, which is their school located in Shakurpur colony of northwest Delhi. The materials are made with the participation of community members of Shakurpur and with non-toxic washable substances, keeping in mind that younger children will use them. They also help set up maths labs for schools, guiding them on the how, when and where of using a particular resource material.

Teacher training and workshops

Workshops are conducted across the country for primary school teachers. At the workshops, the emphasis is on activities. For creating appropriate contexts, there is liberal use of materials, which helps in transacting the new concepts to the children. In some schools, the Jodo Gyan curriculum is being rigorously implemented. The intervention starts with demonstration classes. The RPs give class demonstrations to the students in the presence of their teachers. Later, the RPs observe teachers conducting classes. This is followed by discussion and feedback between

the RPs and the teachers. Weekly meetings are organised where teachers share their struggles and their 'wow' moments, which help teachers further improve their teaching.

The resource centre

The RC located at Jia-Sarai, south Delhi, has a good collection of TLMs. People (teachers, parents, students) can buy, explore and understand materials, which are displayed in a concept-wise progression. A team of RPs is present to explain how, when and where to use these materials. The RC also has a seating capacity of 50 for workshops and other organised events.

The price of each resource material is minimal and covers its production cost with very little profit margin. The design and concept of these materials is largely drawn from the organisation's own experimentations as well as international research. Activities related to whole numbers have been influenced by research at Freudenthal Institute, University of Utrecht. Besides, various innovative educational materials and teaching practices from different parts of the country, developed through the creative activities of organisations such as Navnirmiti and Eklavya, are also made available. Each material is provided with a printed module that briefly describes the concept and use of the material. Various toys for early learners, Rangometry, Ganit mala, Ganit rack, Dienes block, fractions kit, Aakar-parivar, triangles kit, tessellation kit, jodo blocks, jodo straws, geo board, place value cards, tangrams, sorting sets and books for children and teachers form the bulk of these resources.

Jodo Gyan Kendra

Jodo Gyan Kendra is the experimental school of Jodo Gyan at Shakurpura in West Delhi; it has been running for the past ten years. The school with pre-primary and primary levels has children who are first-generation school goers. It pursues an integrated project-based approach involving non-graded

teaching methodology and innovative teaching methods in mathematics. The curriculum is in sync and consistent with the National Curriculum Framework and has been a part of their school's pedagogy right from 1999, long before it came to be implemented by other schools. The school also includes an anganwadi for younger children. Parents are invited for workshops and discussions; they are regularly counselled to increase their understanding of the approach and pedagogy of Jodo Gyan.

The Jodo Gyan team

Around 50 people comprise the team at Jodo Gyan, who work for the different departments of the Jodo Gyan Kendra, production and office depending on their expertise. Some of the staff also directly deal with the schools, teachers, students and parents. The salary of all staff in the organisation is the same; as the organisation believes this creates solidarity in the workplace. The selection criteria to work at Jodo Gyan do not insist on minimum qualifications or prior work experience. What is important is the passion to bring about an improvement in the pedagogical practices in the classroom. This passion is judged through dialogue and interactions with the candidate. The prospective candidate is then put on a month's probation, during which the team decides on his or her suitability to be a part of the organisation.

Challenges

Jodo Gyan is constantly working to improve the pedagogy and create teaching methods and materials that are connected to children's real life experiences. There are various challenges in the path of the organisation's success. According to the trustees, most teachers are very conventional in their approach to teaching, which is difficult to change. The challenge for the organisation is to develop a completely new way of looking at things and convincing the teachers to adopt that way. For

example, in the traditional way of doing mathematics, the focus has always been on algorithms and correct answers. But Jodo Gyan wants the teacher to shift focus to the child's thinking processes with less stress on the answer. For this, teachers must first unlearn traditional ways and then learn the innovative methods of teaching in a classroom.

The organisation always wanted to have some contribution from the people (teachers, parents or students) to support them in their venture. But to realise this dream, it needs more staff to handle some of the arrangements but is understaffed at the moment.

The organisation has been unable to work on and produce sufficient material for the middle school and for science education, again, due to insufficient staff at the Kendra.

It is still unable to completely connect with the community of Shakurpur, even though it has been in the area for close to 8 years. This is partly because the main focus at the Kendra is on production of resources and curriculum development. Parents are hesitant in sending their children to schools that lack affiliation. Usha Menon, a trustee of the organisation, explains that the RTE Act 2009 only states that there is a minimum area required for any school to be set up, but it completely ignores the fact that the area required depends on the number of children at a school.

For an approach to succeed, it is important for everybody – be it teacher, principal, academic head or management – to think along similar lines, which is difficult to achieve in reality. This is observed in the case of schools where management believes that teachers are solely responsible for students' learning. In reality, many factors contribute to good academics, and teachers need full support of the school on this matter.

The way ahead

According to Usha Menon, as a community, the organisation is still in its infancy. Further development and interlinkages with other communities in education (both in academia and outside) and elsewhere is fundamental to sustain the development of appropriate practices suitable for children. Jodo Gyan wants to reach out to more schools, specially government schools, and with more consistent follow-up procedures. Until that can be done, it will continue in its modest attempt to support teachers and parents to face the challenges in providing quality education to children.

At a glance

Name:	Jodo Gyan
Established:	1998
Address 1:	Jodo Gyan Organisation, E- 12 Shakurpur, Near Britannia Chowk, New Delhi -110034
Timings:	9:00 AM to 6:00 PM; Sundays closed
Address 2:	Jodo Gyan Resource Centre, 28-A/1, Jia Sarai, Hauz-Khas, Near IIT Gate, New Delhi-6
Timings:	11:00 AM to 5:30 PM; Tuesdays and Sundays closed
Email:	jodogyandel@gmail.com
Website:	www.jodogyan.org
Employees (no.):	50 approx.

Resources:	Various toys for early learners, Rangometry, Ganit mala, Ganit rack, Dienes block, fractions kit, Aakar-parivar, triangles kit, tessellation kit, jodo blocks, jodo straws, geo board, place value cards, tangrams, sorting set; books for children and teachers
Beneficiaries:	Teaching community, students of education, NGOs, government schools, anganwadis; small, independent as well as other developers of educational materials

14. Kathalya

Bengaluru, Karnataka

Whether a child or an adult, everyone appreciates a well-told story. According to Geeta Ramanujam, a director at Kathalya, stories are an easy medium to impart a lesson, which is rarely forgotten later. But can stories be used to enhance school curriculum? Is it possible to teach mathematics, science and geography through the medium of stories? According to her, the above questions merit an empathic 'yes' answer.

Going back to her own childhood, Geeta remembers that the one thing that always put her off school work was the stress on rote learning. Therefore, when she became a teacher of history, her aim was to breathe life into the dead and present them as fascinating characters by creating engrossing stories about the feudal lords and dictators. As her students' interest grew, her stories and storytelling slowly percolated into other subjects as well. The next step was to design a story-friendly curriculum. But getting her co-teachers to adopt these methods was challenging. Not only was there a lack of interest but storytelling did not come easily to everybody. To help other teachers and educators make use of this methodology, Geeta began to conduct workshops. And so was born Kathalya, which believes in storytelling as an effective educational and cultural tool for all learnings in life.

The Kathalya Trust guides and trains teachers, educators as well as parents in the importance and know-how of using storytelling as a teaching aid. It does this by conducting workshops and training sessions. At these sessions, teachers get to observe firsthand the effect stories have on their audience as well as learn the techniques involved. The training modules for these sessions are developed in collaboration with experts in storytelling as well as experts in education. These modules cover different aspects of stories as well as the finer nuances of storytelling.

Components of the organisation

Academy of StoryTelling

The Academy is the professional training wing of the Kathalya Trust. It functions as an institute where teachers interested in enriching their curriculum with the use of stories can receive training in the essentials of storytelling. It is affiliated to the Scottish Storytelling Centre, Edinburg, U.K., the International Institute of Storytelling, Tennessee, U.S.A, and the University of Skovda, Sweden.

The beginner's course at the Academy, besides honing presentation skills, also involves basic training in what storytelling is all about, that is, various techniques of storytelling, the expected qualities of a storyteller, appropriate gestures and body language, and the use of various learning aids, besides creating story plans and story aids.

The diploma course is more advanced and provides ample time and space for field and project work.

The Kathashala

The Kathashala, or the story room, is a ready-made teacher resource that helps teachers get started with the processes of including stories in the curriculum. These rooms can be set up by schools in their libraries or classroom corners to supplement classroom teaching or by people or interested organisations. It consists of three components – the Kathakosh, the Kathashikshak, and the Kathagyan.

Kathakosh comprises a chest of 22 items relevant to setting up a story room. It is a box of different kinds of puppets (made for fingers, as a glove, with sticks or paper), picture storybooks, a picture frame, masks, musical instruments, toys, flash cards, templates of animal cut-outs and other such items. The 25

stories provided in the booklet are pedagogically graded as per the current NCERT and come with lesson plans and activity sheets.

Kathashikshak is a training course to groom the prospective storyteller or educator in the techniques and skills of storytelling using the materials in the Kathakosh.

Kathagyan is a compendium of story know-how that helps set up the story room. Besides, it provides valuable techniques and tools by which story educators can be evaluated.

Workshops

Storytelling workshops organised by Kathalya are customised as per the needs of schools. They cover a range of topics that help teachers and educators better understand and equip themselves with the tools of storytelling. Some workshop modules regularly in demand are:

- Creativity in storytelling and writing – creative and innovative ways to build and create stories
- Integrating stories into the curriculum – story plans, adapting stories to concepts to be learnt
- Tools for storytelling – a talk about pictures, origami, puppetry and toy theatre and their uses in storytelling
- Story structures – use of different styles and genres in storytelling
- Story techniques – verbal and non-verbal communication, voice modulation, gestures and emotions

Special workshops are conducted to deal with specific topics of environment education, self-awareness or value education.

The first international storytelling festival in India was conducted by Kathalya in 2005.

Story Labs and Stories on Wheels

Many rural regions, especially Karanjia and Keonjhar in Orissa, have benefited from the expertise and skills of this organisation. The Santhali tribes, with the help of Kathalya, have taken the concept of story labs further into their children's education. Stories on Wheels extends storytelling to field visits, nature trails, and industries and villages of interest.

Aids and props

When storytelling uses puppets, picture cards, masks and origami toys, old folk art forms are revived. These props are either sourced directly from rural vendors or their know-how is shared. Simultaneously, workshop participants are also encouraged to create and prepare some props on their own.

Resource books

The resource book 'Storytelling for Educators' contains detailed guidelines and lesson plans for using stories in education and in teaching children.

The 'How and Why' stories set emerged out of the training sessions at Kathalya when participants were encouraged to put into practice the skills that were taught.

The RC has evolved with time. It came into existence to fulfil the teaching community's felt need of incorporating stories into the curriculum of schools. What started as professional help of experts with appropriate training for using and incorporating stories in the education of children gradually evolved into a mentoring centre. Kathalya does this by providing need-based help from resources to personnel, to all interested institutions, private organisations as well as parents.

Challenges

The director laments that storytelling is not valued as an art. Like teachers, storytellers, too, are denied their due status and monetary compensation. Compounding this is the problem of many teachers hesitating to adopt a methodology different from regular teaching techniques, which needs the investment of interest, time and energy. Then there is the genuine issue of the inability to measure the impact of storytelling. Though it is an accepted fact that this method of teaching helps children become more responsive, think and express ideas clearly and enhance memory and also lowers adolescent aggressiveness, these are observations that have no systematic backing of research. This lack of evidence is a great deterrent for prospective funders, who wish to see tangible results that can be measured.

However, most challenges have been overcome. According to the organisation's statistics, innumerable people (teachers, educationists, parents) have benefited from the training at Kathalya in the last 15 years, with an ever increasing number of local, national and foreign schools opting to incorporate this methodology into their curriculum.

At a glance

Name:	Kathalya
Established:	1998 as a trust
Address:	Kathalya, #88, BHBCS Layout, 2nd cross, 3rd main, BTM II stage, Bannerghatta Road, Bengaluru – 560076
Phone:	(080) 2668 9856
Email:	kathalya@gmail.com
Branches:	Chennai, Delhi, Madurai

Employees (no.):	approx. 10 members, many volunteers
Vision:	Creating an interest in learning by the use of various kinds of stories and the medium of storytelling
Goal:	To use storytelling as an effective educational and communicational tool for holistic development
Beneficiaries:	Schools, teachers, special educators, children, business houses, residential societies, NGOs
	Tools employed in storytelling: Pictures, origami, puppetry and toy theatre
Courses offered:	Certificate courses in storytelling; diploma course for professionals; workshops; help in setting up storytelling rooms with a ready story chest and training

15. Navnirmity EduQuality Foundation

Mumbai, Maharashtra

'Understanding by doing', the philosophy of Confucius, features prominently in all that Navnirmity EduQuality Foundation (earlier, Navnirmity), founded in 1998, aspires to do. Be it training teachers or educating children, this NGO focuses on providing a hands-on experience by working with the resources through methods of demonstration. This is integrated into all its practices of teaching-learning.

'Quality for equality' is their mantra, and the organisation lays great emphasis on bringing the best of educational practices to those who are economically challenged. It is dedicated to acquiring, developing and using high quality but low-cost learning methods, tools and systems, be it elementary mathematics or popular science.

NN, as it is called, works on the principle of self-sufficiency and resists depending on loans and funds for its functioning. There is no commercial advertising of the products on the part of the organisation. Their educational kits and aids do all the necessary public relations for what it intends to achieve within the community.

Discover It and Gunavatta Stores

These are NN stores in Mumbai and Pune respectively, which stock, distribute and sell educational resources in mathematics, science and language learning. Some of these, such as the Jodo-kits, are manufactured by NN and others are availed by partnering with like-minded groups such as Eklavya for toys and Navneet Publications for books.

The toy resources include the maths kits, scientific toys, science experiments, wooden toys, games and puzzles, and fall in the 'do and discover' category. These are selected after much

deliberation on what would educate and challenge a child's mind. Similarly, the books at the stores are thoughtfully selected from various Indian publishers and focus on maths, science, astronomy, creativity, short stories, illustrated picture stories and others. Children's monthly magazines such as Indradhanush can also be availed through NN. An e-catalogue on their website gives a fair idea of the resource materials available in the form of pictures, their descriptions and the best uses of each.

Universal Active Math Kit

NN has been successful in developing the popular Universal Active Math kit (UAM), which is a complete system of teaching mathematical concepts in the primary school. It makes use of their 'Do and discover' methodology with the features of joyful learning for the young ones. This programme involves indirect teaching methodology with a focus on self-generated learning. A concept is not taught directly but through methods of demonstrating a problem. This is done in the universal language of mathematics that every child knows, that is, through the innate language of sounds, signs and pictures. Only later is this knowledge converted to alphanumerical symbols. The UAM methodology stresses equipping teachers with ways to enhance the thinking processes of the child rather than rote memorisation. Maths workshops on UAM are held in the pre-appointed schools across India and once a month at the NN centre in Mumbai, where local teachers are encouraged to participate to enrich their experiences in maths teaching and learning.

These kits have been accepted in private school chains such as the Arya Vidya Mandirs. All of NN's kits, their programmes, camps and teacher training methodology are popular in many government schools and learning centres across Mumbai, Pune and the state of Maharashtra.

Workshops

Volunteers and teachers are routinely and systematically trained to use the NN kits with students. The UAM workshops are held at two levels – introductory for primary school teachers and intensive meant largely for teacher trainers. These workshops are specifically designed and custom-made for the needs of different schools where the programmes run. They are implemented in 106 schools in Maharashtra. An important challenge these workshops face is high teacher-student ratio in the classrooms where teachers actually teach. The training programmes cater to varying classroom situations, such as differences in the backgrounds of students and the resources available (both human and material) at each school. According to Nandkumar Jadhav, the CEO of NN, the resources developed at the centre are not just handed over to the school, but their teachers are actively trained through demonstration in using the resources in the classrooms. If a teacher encounters difficulties in imparting the programme, NN trainers may walk into the classroom and demonstrate the active teaching methods. Further, NN also develops innovative teacher training methods to suit different learning situations.

Challenges

The biggest challenge faced by the organisation is in keeping the costs of their resources low so as to cater to all children, especially the poor. NN tries to employ the neighbourhood slum women to manufacture their resources. It allows external monetary help only as sponsorship for their materials. As a policy, it believes in 'making ends meet'. According to Jadhav, this makes things difficult but is worthwhile as it minimises interference in their methods of working on a programme.

Another significant challenge at NN is getting together and sustaining like-minded passionate people from diverse backgrounds who would not only love to work with children but

are committed to the idea of equality. But the CEO is very matter-of-fact about this situation. He has great faith in the goodness of people and the genuineness of his organisation as sufficient to attract the best talent. As if proving his point, NN boasts of a number of committed staff who have been around through many teething troubles and difficult times at the organisation. NN values commitment over knowledge and degrees, for, according to them, training can be provided but dedication to a cause is innate.

Overcoming the attitudes prevalent amongst first generation school-goers is another challenge. It is difficult to convince them that education can make a difference to their economically backward conditions. NN overcomes this by training volunteers (social workers, college students) from the community as teachers for their programmes. These volunteers serve as role models for the young children. Besides better bonding between the teacher and the taught from the same community, this strategy helps strengthen the child's belief that change is possible, that they too can achieve a profession their heart desires. Becoming an artist or a scientist is not an impossible dream!

At a glance

Name:	Navnirmity Eduquality Foundation
Established:	1995 (Navnirmity), 2013 (Navnirmity Eduquality Foundation)
Address:	'Discover It', 3rd floor, A wing, Priyadarshani Apartment, Padmavati Road, IIT Market gate, Powai, Mumbai- 400 076. India
Telephone:	091-22-25773215, 091-22-25786520
Email:	contact@navnirmity.org: info@navnirmity.org

Website:	http://www.navnirmiti.org
Employees (no.):	30–35
Vision:	Quality for equality; self-supporting – self-sustaining – self-reliant
Goal:	To acquire, innovate and adopt best practices for quality in mathematics and science education using low-cost/ no-cost learning materials
Beneficiaries:	Schools, teachers, children, slum women
Resource materials available:	Jodo-kit, Jodo blocks, science and mathematics games and toys, wooden toys, puzzles, Experimath kits, primary and upper primary maths kits, pre-primary kits and science experiment kits

16. Pragat Shikshan Sanstha

Phaltan, Maharashtra

Pragat Shikshan Sanstha was registered under the Bombay Public Trusts Act in 1984. However, the work of education was started in 1978 by Maxine Berntsen in the poorest area of Phaltan, Maharashtra. This centre is called Apli Shala (AS). Nine years later, a vernacular medium school called Kamala Nimbkar Balbhavan (KNB) was started in the city. The idea behind this school was to give good quality education to lower and middle class children and serve as a resource centre to improve education in local government schools. With this vision, a multifaceted programme for improving language teaching in the first grade was started as the Educational Outreach (EO) programme. In 2009, the EO became a part of the Centre for Language, Literacy and Communication (CLLC) along with several new language programmes and research activities. At present, the PSS has three units—AS, the programme in the underprivileged area of Phaltan; KNB, a full-time innovative school; CLLC with several capacity-building and research programmes.

Teacher development programmes

Teacher education programme for language teaching lower primary classes was started in 1992 following a reading-writing test carried out in Phaltan for all the class 3 zilla parishad (ZP) school children, one private school and all the municipal school children. The results were very poor, and Maxine Berntsen launched a teacher education programme to equip the municipal and (ZP) class 1 teachers to better impart reading and writing skills to their children by focusing on instructional goals rather than purely on the textbook.

The programme had three aspects: training teachers in Pragat Vachan Padhati, which is a method of teaching early reading and writing, evolved and tested through the teaching practices in KNB; providing children with copies of the primer Apan Vachuya; and school monitoring and support visits and intermittent testing of children's reading achievements.

Several new activities were added in the last 10 years, such as meetings of the village education committee and later the school management committee with parents, a socioeconomic survey of all class 1 children, setting up libraries with community participation.

Two films, Bhashet Nhaun Nighatana and Pragat Vachan Padhati, were produced to aid the training.

In 2012–13, a booklet based on NCF 2005 consisting of 20 modules was prepared and piloted in 32 ZP schools. The modules are based on both theoretical and practical aspects of language teaching. The training design includes contact periods and assignments based on readings and classroom practice.

Strengthening Early Childhood Education

An in-service course of 18 months duration is offered to early childhood educators. The course consists of two-day contact period at two month intervals, supervised practicum and on-site support. It is aided with film clips and Lab-balwadis.

The curriculum of this course is based on a successful balwadi programme implemented among the underprivileged children in Phaltan. It is constructivist in nature with a focus on emergent literacy. The areas covered under this course are language, literacy and communication, children's development and learning, arts and creative expression, maths, science and environment.

Everyday English Programme

EE is a programme for improving teachers' skills of English speaking, reading, writing and teaching. The EE series of three books, two teachers' manuals and one introductory book was produced under this programme. This programme was carried out with the ZP school teachers of the higher primary classes. Three to five workshops were held for the teachers in a year, and

books were provided to all the children from classes 5 to 7. An important feature of this programme was that a group of seven ZP teachers were given extra inputs who were then involved in planning and conducting the workshops as well as making the film *Here is a Tree*. This programme was being conducted under CLLC from 2005 to 2010. It showed very good results in improving teachers' English skills as well as students' examination scores. At present, the programme has been temporarily discontinued due to lack of trained RPs. However, the books are available in the market as a private publication.

Teacher fellowships

This was a part of the CLLC programme in 2009–10 and was supported by Sir Ratan Tata Trust. The fellowships were awarded to teachers to conduct research-oriented projects on any aspect of language: documentation, instruction, understanding or multilingualism.

Methodology of training teachers at KNB

- KNB is an innovative school and for it to remain that way, teacher professional development is very important. Its focus is on an ongoing and organic process of mentoring. For many schools in the area, KNB serves as a model school. Some exemplary methods that have been used at the school are:
- Induction of new teachers so that they learn the skills of learning to learn, explore ideas, apply thinking skills to solve problems, work effectively in groups, care for the environment and respect diversity
- Organisational policies on freedom of expression, equality and importance given to working with one's hands explained to teachers.
- Demonstration of new methods and practices
- Discussion and sharing of new books and experiences in weekly staff meetings
- Encouraging and facilitating teachers to take active part

in annual projects with children, helping them construct relevant knowledge and learn new skills. Annual projects are a unique feature of KNB in which the whole school carries out an in-depth study of a theme. The topics or themes of the projects are closely related to children's lives and environments. Each theme is discussed extensively among teachers before taking it to the classroom.

- Conducting workshops for improving teachers' skills and knowledge. Some of the workshops held in the past 2 years have been on how to write an article, how to ask questions, understanding sexuality, understanding constructivism.
- Encouraging teachers to try out new approaches and ways of doing things, giving them the freedom to plan and carry out more innovative and constructivist methods in teaching the regular curriculum
- Encouraging teachers to undertake action research

Other resources for teachers

Publications

- Everyday English (EE) series – a series with three parts of Every Day English and two teachers' manuals (Jyotsna Publications)
- Teaching English through English – an activity manual for teachers (Jyotsna Publications)
- Introductory book for EE1 – an activity manual for teachers (Jyotsna Publications)
- Marathi translations of two seminal works – Children's Minds by Margaret Donaldson and Other People's Words by Victoria Purcell Gates (to be published by Jyotsna Publications)
- Reports of fellowship work done by teachers and researchers under CLLC programme
- A booklet of simple experiments that can be done using material found around the school

Besides fellowship work done by teachers and researchers, reports on navopakrams (innovative practices; a Maharashtra

government scheme to encourage research and innovation in the teaching community) and action research done by KNB teachers is also archived.

Library of early childhood education books

A library of 165 English titles about early childhood education, early literacy, storytelling, children's art and its interpretation is a rich resource for practitioners and academicians. The organisation offers institutional and individual memberships even to out of town members. The books can be sent and received by registered post. This library was set up under CLLC with financial support by Sir Ratan Tata trust.

Films

Some of the films developed by the organisation are:

- Bhashet Nhaun Nighatana: A film shot in rural Maharashtra showing the influence of culture in language learning
- Pragat Vachan Paddhati: A film showing how to use the Pragat Vachan Paddhati, an eclectic method, in teaching a child to read and write
- Here Is a Tree: A film on school activities for teaching English
- Strengthening ECE: 16 films based on ECE classroom practices
- A Chance to Dream: Documentary on PSS

Many well-researched presentations on varied topics have been developed by teacher-students which act as educative materials for future students.

PSS has two websites www.pragatshikshansansta.org and www.clcindia.org. Most of the organisation's resources including their films can be downloaded for free from these websites. Other resource materials in the form of researched projects completed by teacher-students can also be viewed on this website.

At a glance

- Name: Pragat Shikshan Sanstha, which includes Kamala Nimbkar Balbhawan (KNB); ApliShala (AS); Centre for Language, Literacy and Communication (CLLC)
- Address: Ring road, Behind Adhikargrah, Laxminagar, Phaltan 415523
- Phone: 02166 223041
- Website: www.pragatshikshansanstha.org
- Timing: 7.00 AM to 5.30 PM; Monday to Saturday.
- Established: KNB –1987, AS –1978, Educational Outreach – 1992, CLLC – 2009.
- Beneficiaries: Teaching community of pre-primary, primary and secondary schools, students of education, NGOs, municipal schools, ZP schools, headmasters, government officers, parents, students

17. Pratham Delhi Education Initiative (PDEI)

Delhi

The Pratham movement was started by Mr. Madhav Chavan and Farida Lambay in 1994 with the help of Brihanmumbai Municipal Corporation (BMC) and UNICEF. As the movement expanded, branches were established in Delhi, Vadodara, Ahmedabad, Patna, Pune, Allahabad and Bangalore. Today, Pratham has a national presence and is serving in the field of education at multiple levels.

In Delhi, Pratham was founded by a retired government official, Vinod Khanna, who was supported in this effort by Pratham, Mumbai, and a small group of volunteers from Delhi, who were from varied backgrounds. ICICI Ltd and the HPS Foundation (a development support organisation set up by HCL Perot Systems) extended generous support to this initiative. Pratham Delhi, now a decade old, was formed as part of the Pratham network and shares the mission of 'every child in school and learning well'.

Functioning of the organisation

The strategy of Pratham Delhi, evolved in response to the existing grass-roots level problems. Access to school was a very big problem both at pre-school and primary levels. Pratham has been focusing on pre-school education in association with the Department of Women and Child Development, Government of NCT Delhi. The response of the organisation was to set up large scale community based pre-school centres, called balwadis, for underprivileged children in the 3–5–year age group. For the older age group, Pratham Delhi set up bridge-class centres in communities for out of school children. These classes helped prepare the children for age appropriate mainstreaming. Thus, the focus of Pratham during the last five years has shifted from out of school to in school, and more particularly inside the classrooms.

Pratham has found a huge gap in children's learning abilities in relation to their age in the Municipal Corporation of Delhi (MCD) schools. In response to this situation, the team has developed a process of accelerated reading pedagogy which would enable students to engage profitably in the classroom.

The Annual Status of Education Report (ASER) published by Pratham has shown that there is a constant decline in the reading and writing skills of students. The situation is alarming, especially in government schools across the country. Pratham has identified it as the major challenge of the Indian education system. Accordingly, the Pratham team has shifted its focus to children's learning inside the classrooms. Their training team has trained MCD school teachers in accelerated pedagogy and enabled them in helping children improve their reading skills.

Pratham's library programme further assists school children in improving their reading skills. There are many MCD schools without a library. The RPs from Pratham go to these schools and demonstrate examples to attract and engage students to the library. They design different kinds of activities, such as storytelling and role play, to help develop an interest in reading among students.

During the last 3 years, Pratham Delhi has moved on to the next level of its efforts focused on addressing the second part of its mission statement, '...and learning well'. Pratham has started supplementary learning support, for which they have set up centres called 'learning hubs' that provide class-appropriate learning. Pratham believes in the principle of community teaching and has involved around 600 such teachers. Most of them possess a higher secondary qualification and are employed for 4–5 hours on a monthly basis. Pratham believes in the important role that teachers can play in transforming society. The

organisation has its own curriculum which includes philosophy, psychology and sociology of education.

The Pratham Educational Initiative RC serves their own teachers who can visit the centre and share or seek expert help from the organisation. However, others too can access the RC during workshops and events routinely organised by Pratham.

Challenges

In spite of its many successes, the organisation faces a few challenges.

'Achieving a significantly better outcome and raising the baseline score from 40% for an average grade of children' is proving to be difficult. Besides, the regular inflow of children moving to the next grade only adds to the already existing backlog of children who are nowhere close to their 'age appropriate learning levels'. The key challenge at the organisation is to improve the quality of training given to equip volunteer teachers and help them deliver better education to children at such low levels of learning. Also, there is a deficiency of adequately trained teachers to work with children.

Feedback mechanism

The organisation keeps a detailed record and a follow-up system for the children. In spite of the challenges, many students supported by Pratham have emerged successful. Some of them have achieved a high degree of academic success. A few are pursuing a higher degree which is a big achievement for a first generation school-goer.

At a glance

Name:	Pratham Delhi Education Initiative
Established:	1999
Address:	F-21, 2nd Floor (First Portion), Preet Vihar, Delhi-110092.
Telephone:	011 22507721, 011 22543482.
Email:	infodelhi@pratham.org
Website:	http://prathamdelhi.org/
Employees (no.):	60
Programmes conducted:	Early childhood programme, which includes community based pre-schools and basic literacy and numeracy; in the MCD schools, a school library, science centre, learning-hub and project Saajha (School Management Committee).

18. Pravah

New Delhi

The year 1992 changed many things in India. The demolition of Babri Masjid and the communal violence had shaken the beliefs of many young professionals who were forced to think about the communal atmosphere prevailing in the country. A group of like-minded youth came to the conclusion that social justice is possible only through education. They formed an organisation called Pravah, which was registered in 1993. Since then, they have been working with the youth of the country. The Pravah team has grown to over 25 professionals with vast experience in diverse fields such as human resource development, theatre, psychology and social sciences. They work in partnership with more than 40 Indian civil society groups and constantly reach out to people through various creative mediums such as theatre.

Philosophy of Pravah

As their website states, 'What started as a small campaign led in [residential] colonies and colleges to mobilise public opinion against the violence through creative mediums like theatre, later began to flow as Pravah.....'

The philosophy of the organisation focuses on the fact that the earth is a gift to humans and not the other way around. As the planet belongs to every person, we must nurture the idea of a collective belongingness, a common good. Sectarianism on the basis of religion, caste, class, race, nationality and language is the main reason for fragmentation in society, resulting in differences between groups.

"Pravah believes that instead of 'curing' in the aftermath of social conflicts, people need to engage positively with them. As future decision makers, the youth need to internalise a social orientation and a regard for common spaces, so that they can be moulded into socially responsible decision-makers of the future."

The organisation is centrally located and easily reached from any part of Delhi, with good connectivity by the Metro and bus services.

Importance of teachers

Pravah believes that teachers are the most important actors in any meaningful teaching-learning process. Until recently, the organisation offered teacher fellowships to help them improve their skills and understanding of subject matter. Unfortunately, this has now been discontinued due to a lack of funds, but while it lasted, it resulted in some good work done by teachers. The organisation further believes that if they can train even a few teachers, the knowledge would slowly find its way to the others in the system. Thus, a change in the education system can be brought about by the training of its teachers.

The resource centre

There are very few RCs in India whose objective is to focus on teacher development. Ideally, these RCs are places where teachers get an opportunity to reflect upon their practices and upon their profession and share ideas with colleagues which leads to a deepening of their understanding about education and about their profession. The involvement of a good RP at the RC further influences this understanding.

The coordinator at Pravah, Ishani Sen, is one such person, whose enthusiasm and vision motivate others at the centre. The coordinator is directly involved in most of the functioning of the organisation, including dealing with the funders. She works as an RP, as well as coordinates the working of other RPs at Pravah. She is also involved in preparing and planning the schedules and training programmes for the involved schools.

There are plenty of teaching-learning materials available at Pravah, but the important things are the discussions at the centre. The organisers believe that these create awareness amongst teachers

and encourage them to debate various issues in education. The RPs at Pravah also help teachers develop lesson plans, quizzes and role-play scripts, besides other materials to be used in the classroom. These resources, while helping to equip the teacher, also encourage effective teaching practices.

Pravah has a good network of experts who work with schools and select different types of schools to work with. Though much needed, there is no space at Pravah itself to hold workshops where teachers can meet occasionally to share their ideas.

Challenges

One challenge Pravah faces is the reported unwillingness of teachers to accept new ideas and to invest the effort to try out new things. Some still view teaching as a part-time job. This kind of thinking reduces the status of teaching as a profession in the eyes of the public.

Secondly, schools are very resistant to change. In the changed socio-economic environment, other institutions have seen changes, but not schools.

Finance too is a problem, and Pravah is now trying to be more self-sustaining. This is the reason the organisation is now focusing on working with private schools, which can pay for their teacher-training programmes.

The organisation strongly believes in the leadership ability of the youth to bring about a change in the way society functions. They are enthusiastic about the development of newer TRCs, especially in schools, as they believe that there must be spaces where teachers can share their professional experience. They extend help on this and charge minimally to support new TRCs. They have also worked with the TRC of different schools, such as Blue-Bells School, Delhi.

At a glance

Name:	Pravah
Established:	1993
Address:	C-24 B, Second Floor, Kalkaji, New Delhi, 110019. India
Telephone:	+91 11 2644 0619, +91 11 2621 3918, +91 11 2629 1354
Email:	mail@pravah.org
Website:	www.pravah.org
Philosophy:	Instead of 'curing' in the aftermath of social conflicts, we need to engage positively with them. As future decision makers, youth need to internalise a social orientation and a regard for common spaces so that they can become socially responsible decision makers of the future.
Programmes conducted:	Teacher training; 'from me to we'; 'friendship udankhatola camp'; fun camps; Citizenship Learning and Action Program (CLAP)

19. Rashtreeya Vidyalaya Educational Consortium (RVEC)

Bengaluru, Karnataka

Rashtreeya Vidyalaya Educational Consortium (RVEC) works with teachers and teacher educators. It is part of the Karnataka Education Network (KEN), which has been functional since 2006. All six organisations that are part of this network, despite having an independent existence, share a common vision of creating a community of teachers and educators who are committed to educational change through classroom innovations. Towards fulfilling this vision, RVEC has established a RC in Bengaluru for practising teachers, which facilitates training programmes for them. It collaborates with national and state governments as well as NGOs. However, most of RVEC's efforts are geared towards strengthening pre-service teacher education (PSTE). For this purpose, they have identified three key areas: enhancing student teachers' understanding and use of teaching-learning resources by providing them with KEN resources; providing additional inputs to D.Ed. students by means of workshops and regular meetings with RPs; and strengthening the capacities and skills of existing TEs. The objective behind this strategy is to enable synergy between the District Institute of Education and Training (DIET)-Teacher Education Institution (TEI) and schools to ensure better exposure of pre-service teachers to actual school realities during their practice teaching and internship.

RVEC's work is located in two teacher training institutions in Bengaluru – RV Teacher Training Institution (RVTTI) and St Theresa Teacher Training Institution (STTTI). It also works with teacher educators (TEs) of both DIETs and private teacher education institutions (TEIs) as part of providing support to them. It has also established college-based RCs in a few colleges outside Bengaluru. The focus in both these spaces is the 'student teacher', and the objective of RVEC's endeavour is to provide additional inputs to them over and above the regular D.Ed. training they receive.

Since the focus of most of these organisations is the student teacher, KEN developed a working model, known as the Vidya Shilpa and managed by RVEC, to demonstrate ways in which PSTE could be strengthened. This project was supported by Sir Ratan Tata Trust (SRTT). The main objectives of this project are providing intensive capacity-building inputs to STs on content and methodology, conducting workshops for TEs to support them in their professional growth, conducting baseline study on PSTE in Karnataka to develop informed understanding about its status, creating advocacy space for reforming it and outreach activities through exhibitions and the Makaranda newsletter. The main objective of this model is to provide the STs with an exposure to 'experiential learning' and create an exciting space for rich and elaborate discussions about teaching and learning resources.

Components of RVEC's work

The five main components of RVECs work in colleges are:

- Conducting formally structured regular weekly workshops with STs in specific subject areas, which draw upon a wide range of resource personnel from Volunteers in Service to Education (VSEI), Suvidya, Dhvani and RVEC
- Organising informal weekly meetings in both the TEIs with the STs facilitated by two RPs from RVEC. The nature of these meetings is more spontaneous and in the nature of queries and concerns raised by the STs.
- Setting up RCs in these two colleges and using these resources in the workshops for enhancing STs' understanding of resources for effective teaching
- Working with TEs, a relatively new component aimed at providing support to TEs
- Advocacy with the state government, based on a conference organised on elementary teacher education. The recommendations emerging from the conference are implemented by SCERT.

RVEC changed its strategy over a period of 3 years in its work with these colleges. This was based on their experience and understanding of the ways in which the student teachers and teacher educators were responding to them and what RVEC thought would work better. From conducting weekly workshops with STs in the first year, it switched to conducting monthly meetings for TEs because they realised that workshops with STs did not have as significant an impact as expected on the ways in which TEIs were working. There was also a change from subject-based workshops to theme-based workshops. Several exhibitions were organised with KEN resources and drew larger participation compared to earlier exhibitions. This was done because RVEC realised that individual subject inputs did not enable students to view the curriculum holistically and draw insights from each other.

Challenges

Some of the challenges faced by RVEC are that STs often do not take these workshops seriously. It was also intended that a constant set of TEs would attend all the workshops organised for them, but each time a new TE would attend a different workshop. This hampered the development of holistic understanding in the TEs who attended these workshops randomly. Eventually, the state education department shifted its focus to renewing the D.Ed. curriculum. At present, RVEC is playing a major part in renewing the D.Ed. curriculum, which essentially reiterates the need for synergy between TEIs, teacher educators, school teachers as mentors, and schools heads to provide support to student interns.

The other more fundamental challenges that RVEC faces is in assessing the impact of its work in these spaces because of the following reasons:

- There is no direct relationship between RVEC's work and STs' understanding of resources and their use in teaching. The STs

are under no compulsion to attend the workshops organised by RVEC or use resources discussed in these workshops. In fact, it was found that the responses of the STs often varied from initial grumbling to their TEs to not attending these workshops. Since these workshops overlapped with college activities, the STs perceived them as an additional burden. Though they said that they found the workshops valuable, many of them found it cumbersome as they were loaded with elaborate writing work of lesson plans and other assignments in their D. Ed. course.

- It is difficult to capture change as it may neither be tangible nor immediately visible.

There are several intervening variables which can impact the STs' practice of teaching, and therefore, it is difficult to isolate the impact of RVEC on their growth and understanding of resources. The last challenge seems to be the most important for the STs work in an evaluative framework of being constantly assessed and given marks. The 'performance' of the ST in practice teaching or teaching is in accordance with what they have been taught and what they are expected to do. So, there are two institutional contexts within which the RVEC's impact must be examined: the context of the institute where STs receive training and the institutional context of the schools where STs go for practice teaching. While the former is governed by curricula, syllabi and assessment requirements, the latter is determined to a large extent by the expectations of the head masters, mentor teachers and the learning requirements of students, which are often guided by the needs of assessment.

At a glance

Name:	R V Educational Consortium
Established:	1994 by Rashtreeya Sikshana Samithi Trust (RSST).
Address:	RV Teachers' College building, Jayanagar II Block, Bangalore 560011
Phone:	91 80 26568094
Website:	www.rvec.in
Director:	Dr. R. Mythili
Mission:	Committed to quality research and development in the field of education
Beneficiaries:	Practising and future teachers, teacher educators

20. Regional Resource Centre for Elementary Education (RRCEE)

Delhi University, Delhi

In 2006, a group of individuals and institutions came together to form the University School Resource Network. The vision was to create spaces where teachers from schools and academics from institutes of higher education could interact, 'talk' with one another and bridge some of the perceived gaps between theory and practice. Seven years later, the Regional Resource Centre for Elementary Education (RRCEE) is the only remaining centre from the network, and it continues to work in pursuit of its vision.

RRCEE is located in the Central Institute of Education within the campus of the University of Delhi. The large spacious room houses the library which is open to the public and also functions as a space for conducting workshops and other programmes of the Centre. The Centre remains open on all weekdays from 9.30 AM to 5.30 PM. And what happens during those 8 hours? Well, on some weekdays, one might find several people using the library and sifting through books, translations and reports written by teacher fellows, or people intently working away at a computer, uploading an article on the web portal. On other weekdays, everybody from the Centre would be busy watching a film or listening to a panel along with an audience of teachers, teacher educators, researchers and student teachers. On some days, one might also find a large group huddled around a small table discussing teacher education and curriculum renewal intently. And yes, on the odd weekend, one will find teachers discussing an article they have read, engaged in a writing workshop or flipping the pages of a book.

Programmes and activities

Teacher Fellowship Programme

RRCEE believes that school teachers need to be given opportunities for self-directed professional and personal

growth. This would include providing 'space' and 'opportunity' for teachers to undertake research on issues of curriculum, pedagogy and other classroom-based concerns. Since its inception in 2006, RRCEE has provided a platform for teachers to undertake classroom-based research through a formal programme of teacher fellowships. The aim of this fellowship is to broaden teachers' understanding of education and prompt them to enhance their knowledge of pedagogy, subject content and issues in educational theory. The understanding is that a research-based learning framework has the potential to provide direction for enhancing professional capacities of practising teachers.

The teacher fellows are selected through an initial application and an interview process that happens during March each year. RRCEE identifies and approaches mentors for the selected teacher fellows based on their research interests. Each mentor, often a university faculty member or school teacher, guides an individual fellow throughout the period of her research. This creates the space for the academics and the teachers to 'talk' to one another, potentially blurring the lines between the often separated domains of theory and practice.

Recognising that school teachers, especially at the elementary level, are kept away from the field of academics and higher education, RRCEE organises monthly study sessions. The study sessions introduce the teacher fellows to educational theory and attempt to cover broadly the areas of childhood, educational studies, gender and caste, and education thinkers. A volume of readings from these areas are prepared for each cohort. During each study session, a teacher fellow makes a presentation on the article and initiates discussion on it along with a faculty member or mentor. Another key aspect of the fellowship is the writing workshops. The workshops are pivotal in supporting the fellows to articulate the ideas that emerge from their research. The

workshops cover various aspects integral to research writing, including reviewing literature, referencing, and writing style.

However, the challenge has been in creating a synergy between the workload teachers face at school and the demands of the fellowship. A few teacher fellows have found it challenging to keep up with both aspects. This has been the experience in almost every batch, and RRCEE is currently developing alternative ways of conducting the programme. Possible solutions include a two-week residential module at the start of the fellowship to provide an introduction to educational theory and allow the teacher fellows to focus on research during the remaining nine months; group mentorship instead of one-to-one mentor-teacher arrangement; and seeking support from research scholars to help teachers with research methodologies and relevant readings.

The fellowship culminates in a symposium during which each teacher fellow presents her work to an audience that includes teachers, faculty members, researchers and student teachers. The research reports of teacher fellows are made available at the RRCEE library and on the web portal. A few of the teacher fellows have also published their work in academic journals and magazines. Many of the research reports are currently being edited for future publication. The 40 fellowships offered so far have set a precedent, in a small way, in institutionalising research opportunities for school teachers as well as bringing the teacher's voice to the discourse on education.

Public lectures and film screenings

Perhaps the low importance attached to education in our society is evident from the limited public discourse about it. Unfortunately, even when education does find space in the public sphere, the discussion is restricted to a narrow set of issues. The relationships between society, social structures, identities, schooling and education are ignored. Often, this is compounded

by the voices of children, teachers, and parents being left out. The biannual public lectures and film screenings organised by RRCEE are an attempt towards broadening the discourse on education by bringing to fore the social aspects of education and by providing a platform for teachers, teacher educators, researchers and student teachers to engage with diverse issues that intersect with education. The films and lectures have covered topics including gender and teaching, caste, teaching and learning of science, children's literature, partition, childhood, and the history of Delhi. The film screenings are accompanied with a panel discussion that often includes the director of the film, academics and teachers.

The public events organised within the University have provided a space to interact and conduct a dialogue over a wide range of issues. A teacher passionately narrated how she experienced the gendered nature of the school setting and how she traverses it. Another teacher was astonished and invigorated by the possibility of teaching science through the everyday experiences of the child. A teacher educator pointed out to a filmmaker that his film on partition did not capture the voices of women and how they experienced it.

However, despite the tremendous potential and appeal of these events amongst students and educators alike, organising such events remains a challenge. Obstacles range from lack of proper venues and acoustic arrangements to scheduling a day and time that would suit all. The Centre is considering organising these workshops in collaboration with teacher education institutes, NGOs and other organisations as a way of furthering the vision of RRCEE and resolving some of these issues.

Academic support for teacher education curriculum renewal

One of the objectives of RRCEE is to envision the professional development of teachers who value the world of the child,

understand the role that children's identities play in the educational process and view learning as a search for meaning and knowledge generation as a continuously evolving process. To make such engagement possible, 'structural spaces' within pre-service and in-service teacher education programmes need to be created. However, present programmes in teacher education are far from such a vision. In such a situation, reviewing teacher education programmes to respond to the changing contexts and emerging knowledge in education becomes imperative.

For any change in curriculum to be meaningful, it is essential for people who daily engage with that curriculum to be a part of the revision process. With this in mind, RRCEE has been providing academic support to the State Council for Education Research and Training (SCERT), District Institutes of Education and Training (DIET) based in Delhi, DIETs of Chhattisgarh and Ekalavya in the exercise of teacher education curriculum renewal. The various people at the Centre, including the staff, teacher fellows and teacher educators associated with RRCEE, have been pivotal in extending academic support to the renewal of various teacher education programmes. The Centre also functions as a physical space for meetings, deliberations and workshops. This collaboration has been pivotal for realising the vision of creating a space within a higher education institution that functions at the confluence of theory and practice, working towards meaningful implications within elementary education. The drafting of the model syllabi for the D. Ed. programme adopted by the National Council for Teacher Education (NCTE) has been one such instance where RRCEE has played an active role.

Resource library and web portal

RRCEE houses a rich library that is open to the public. The library has more than 3,000 books covering a plethora of topics: children's literature, curriculum studies, contemporary

studies, teacher resources, policy documents, gender and caste, educational studies and others. The library subscribes to twelve periodicals and journals and eight newspapers. One also finds movies, documentaries, and recordings of all public events organised by RRCEE in the library. The library maintains an archive of newspaper articles related to education and other contemporary issues.

Another interesting and unique aspect of the RRCEE library is the repository of articles in Hindi. The lack of availability of and access to resources in regional languages is a hindrance for prospective teachers as well as teacher practitioners. To bridge this gap, RRCEE has been translating selected readings from English to Hindi. Over 80 articles have been translated so far, including classic texts as well as journal articles and book chapters. Due to unavailability of multiple copies, books and other materials are not issued. However, the Centre provides facilities for photocopying and the material is returned within 24 hours.

The web portal www.rrcee.net is a virtual extension of the Centre and is an attempt at creating a virtual space for interaction and dialogue amongst the elementary education community. The portal is updated frequently with articles and resources on education from India and around the world. It also has digital copies of translations, teacher fellow reports, as well as policy documents. In many ways, it attempts to take the Centre beyond Delhi. In early 2013, a podcast series *Dialoguing Education* was also launched. The podcast is an attempt at bringing to fore issues related to education in India and around the world, informed by a strong perspective on social justice. In response to one of the podcasts, *Education Reform and the Question of Social Justice*, a user commented: "This is an inspiring discussion, got me thinking." Such feedback and an increasing number of users at the site are perhaps a testimony to the potential of RRCEE as a

space to rethink existing perspectives on education. The Centre continues to work and expand its scope of work in the field of teacher professional development and to provide a platform for teachers to engage in the field of education as reflective practitioners.

At a glance

Name:	Regional Resource Centre for Elementary Education
Established:	2006
Address:	Central Institute of Education Annexe, Room 106, Delhi
Phone:	011-27667434
Website:	www.rrcee.net
Working hours/ days:	Monday to Friday, 9.30 AM to 5.30 PM (can be made available on weekends on request)
Name of RC-in-charge:	Prof Poonam Batra
Employees:	6
Beneficiaries:	Student teachers, teacher educators, teachers, researchers

21. Sethu Goa

‘There are children; and then there are the children with special needs’.

Sethu, an organisation based in the small state of Goa, is a charitable trust that focuses on children with ‘special needs’. It works with a network of pre-schools that practice inclusive education, providing technical support and training for their teachers.

For a teacher, having recourse to an organisation like Sethu goes a long way in guiding and supporting her to understand, identify and deal with special children. It is every teacher’s classroom dilemma to differentiate the ‘playing up’ of normal children with the genuine learning disabilities and behavioural problems of special children. Besides, in today’s ‘inclusive classroom’ culture mandated by the Right to Education Act, this knowledge gains greater significance for the teachers. Inclusion does not mean just the accommodating of the special child in the physical spaces of a regular school but creating ample opportunities for her to meaningfully participate in her own education. The need for such an organisation is all the more pertinent as ‘special education’ is not a core subject nor given sufficient importance in the various teacher education curricula of our country.

Among the several things that Sethu (which means a ‘bridge’) does, it extends a long arm of support to the teaching fraternity, especially of Goa. The purpose of starting such an organisation was to reach out and be of service to as many ‘special needs’ children as possible, and an important way this could be achieved was through training and sharing of knowledge and information on this topic with teachers, educators, students of psychology, social sciences and nursing, and anganwadi caregivers.

At the beginning of the academic year, all schools in Goa are approached through written communications and e-mails about the programmes to be scheduled at Sethu. Interested teachers can then attend these workshops directly or as representatives of their school. Sometimes, schools request a specialised workshop for their teachers. In other cases, if the organisation is approached directly by parents for help with their child, Sethu, besides helping the child, also involves her teachers in collective strategies evolved for supporting her, as the child spends a fair amount of time in school. It is here that Sethu is able to give help and support to the teacher, so that she gains the confidence to deal with 'special behaviour'.

Training programmes and workshops

Unfortunately, untrained teachers have difficulty in dealing with even the common problems that a special needs child encounters. So the organisation not only garners the teachers' support in diagnosing the problem but also offers a wide range of need-based training programmes and workshops that equip teachers and counsellors on topics related to child development, behaviour management, speech, sexuality and ADHD (attention deficit hyperactivity disorder). Another important part of the training includes sensitising teachers and helping them develop the ability and knack of communicating with parents in case a problem is identified in a child.

Class Act

This is a 4-day workshop organised to help primary teachers learn the 'know-how' of promoting learning and behaviour management in the classroom through an interactive process that includes group discussions, lectures and practical exercises. The workshop has four components. The first, learning in school, focuses on the different ways in which young children learn and the kinds of learning difficulties they face. The second deals with different methods to promote the learning of the

English language and achievement of literacy skills, as this is a common problem faced by teachers who come from non-English speaking backgrounds. The third component is about teaching maths through the interesting methods of 'doing and discovering' popularised by Navnirmiti. The fourth, behaviour management, is effective in helping the teacher deal sensitively with the behavioural problems of the child.

Gnyandeeep

The Gnyandeeep curriculum has evolved out of a continuous process of refinement of Sethu's practical involvement in the matters of 'special children'. It has been developed into a pre-school teacher training programme that offers deep insights into the skills and knowledge required by teachers for an in-depth understanding of child development. It extends over a period of 6 months and comprehensively covers a range of issues such as special needs, child development and pre-school training.

At Gnyandeeep, core topics are discussed, but the actual learning happens in the discussions and shared experiences of a rich mix of participants, (teacher-students, teachers, school counsellors, teachers on a sabbatical and parents).

Resources at Sethu

Sethu believes in in-house production of many specialised resources in the form of charts, picture cards and posters. The organisation also makes use of kits prepared by Navnirmiti and Centre for Learning Resources, Pune. There is a basic library on the premises, but the teachers and teacher students liberally access the internet for reading and reference material, e-links for which are provided to them. Some relevant books are prescribed, which can be easily purchased through the internet. During workshops, different bookstores are invited to put up their stalls so that participants can browse and purchase useful reading resources.

Fund crunch

As the organisation is a charitable trust, a substantial percentage of funds are in the form of donations. The workshops for teachers are charged, and an annual jumble sale organised by Sethu tries to fill in the gaps. But still, funding remains one of the main challenges faced by the organisation. It affects the staffing and in a way, limits the kind of people who seek employment as the NGO cannot afford to pay on a par with government organisations. It is difficult to find trained professionals from the fields of physiotherapy and occupational therapy. Very few specialist doctors want to work with NGOs; they prefer private practice. However, those who do come on board are definitely richer in terms of the learnings, opportunities, initiative and job satisfaction, thus accomplishing a lot more, for at Sethu, regular meetings are the norm. Lack of departmentalisation also means greater work exposure, as everybody gets to be a part of all that is happening in the organisation. On its part, Sethu invests in providing extended training to its committed staff.

Other Difficulties

A consistent challenge faced by the organisation is that it is the school teachers and not the principals of schools who mostly attend the programmes to learn about pre-literacy skills and numerical skills. Most often, these 'heads of schools' are not convinced about the need for such workshops or trainings as they are not even aware of the latest developments in this field and believe in adhering to their conventional techniques. Since the school 'heads' are the ones to take important decisions in the teaching-learning processes at their schools, it becomes necessary to integrate them into the programmes.

Space crunch at the centre is another big problem, and many programmes and workshops have to be put on the back burner or their frequency reduced. Commuting over long distances in the state of Goa is also difficult due to unavailability of convenient

public transport services, because of which facilities available at the centre cannot be regularly and easily utilised.

The future

If in the future, the issue of funds could be overcome, Sethu would like to focus on early intervention, for there are chances of significant improvement in children if their problems are identified and they receive treatment at a Sethu-like centre as early as possible. But this necessitates greater awareness amongst caregivers, including teachers.

So, the way forward can only be in greater investment in training teachers, involving principals in their programmes, designing more appropriate courses and conducting action research to strengthen and improve what the organisation is doing and also find supporting evidence. Further, the organisation is working on the possibility of every taluka in Goa being able to afford a centre on the lines of Sethu, where basic training could be easily imparted without the need to travel long distances. Sexuality education too is a serious matter, and though it receives attention, the area needs much work. Steps are being taken to ensure that teachers, especially of 'special education' and other educators, are well trained and prepared to deliver sexuality education. Besides, there is constant work being done at the organisation to translate reading materials in special education into the local Konkani language for easier understanding, better accessibility and increased use.

At a glance

Name:	Sethu
Established:	2005

Address:	Sethu Centre for Child Development and Family Guidance, Top Floor, Aleluia Menezes Building #3, Opp. MES Inspection Bungalow, Altinho, Panaji, Goa 403001
Telephone:	(0832) 6513749
Email:	reachus@sethu.in
Website:	http://www.sethu.in
Working hours/ days:	Tuesday to Saturday (9.00 AM to 5.00 PM)
Employees (no.):	approx. 15
Mission:	Provide services for children with developmental, behavioural, emotional and educational challenges.
Beneficiaries:	Schools, teachers, educators, students of education, special education
Commonly held lectures and workshops:	Special needs, learning disabilities, child development, pre-school training, childhood sexuality, understanding ADHD, discipline without tears, Experimath, phonological awareness, understanding adolescence, building self-esteem

22. Sutradhar

Bengaluru, Karnataka

Various organisations and individuals, including some teachers, are doing excellent work in the field of education, but according to Mandira Kumar, the director of Sutradhar, there is a general lack of communication and sharing of ideas being researched. Thus, efforts are scattered across the country, and something commendable done in one place is rarely available for scrutiny, adaptation and use elsewhere. Sometimes, the lack of coordination can even result in a wasteful duplication of efforts. Thus, the need of the hour is awareness amongst teaching professionals of the resources available in the market. Besides, when innovative materials are developed over a period of time through hard work and experience in one place, it's a pity that they are rarely available in the mainstream market for everybody's use. Apart from all these drawbacks, teaching is a profession where there is insufficient accessibility of written materials and scarcity of meaningful dialogue, and materials and dialogue are vital for the professional development of any teaching community.

Sutradhar, as the name suggests, takes upon itself the responsibility of weaving or presenting together on a common platform the awareness, knowledge, training and learning materials available in this field across the country.

The organisation in its first year functioned solely as a teacher support store by showcasing and retailing learning resources. The realisation soon struck that just displaying these was not enough. To harness the full potential of resources, their uses needed to be explained and demonstrated. Some of the resources, such as beads, shape-colour tiles or even building blocks, could be put to ten different uses in a classroom, which did not become apparent solely by displaying them. Other learning materials that were important to early learning, such as

sand and water, could not be 'sold' on the shelf. There were also media-related methods such as storytelling, puppetry and dance that Sutradhar wished to promote. To integrate all these ideas of bringing resources and teachers together, workshops were introduced. Open forums and seminars were added to bring together members of the teaching community, NGOs involved in children's education, and teacher educators by engaging them in meaningful debates and discussions on prevalent issues.

Sutradhar works on the following lines with the teaching community, taking care to address the needs of pre-school, primary school and special education.

- Informal education, through workshops on storytelling, art, puppetry, theatre, dance and toy-making, with the idea of making the teaching-learning process more lively, hands-on, and meaningful
- Academics, dealing with the more formal subjects in education such as maths and science, languages, thinking skills, geography and sex education
- Special education needs, to help with the early identification of developmental delays amongst children or learning disabilities in the primary classroom; the use of dance therapy; adapting and making toys

The core activities of the organisation are focused on the following:

The retail outlet at Indiranagar, Bengaluru, has a large collection and display of learning resources. It is a 'one-stop shop', or what is commonly referred to as a 'teacher support resource centre'. While it serves the educational community by having resources under one roof, it also gives developers a space to showcase their products, thus serving a dual purpose. The original vision for the organisation was to create a hub-and-spoke model with satellite outlets spread across the country. These outlets would not only be fed by the centre, that is, the main organisation, but would have facilities for local nourishment, too, thereby building

into them the scope for a more realistic relevance. But Sutradhar faced many practical hurdles in this, and the larger vision was never completely realised.

The resource materials showcased in the shop are procured from various places. Besides the regular manufacturers, these materials are sourced from smaller producers, NGOs, women's self-help groups, little-known publishers and village craft groups. The materials include books for children (stories or information) and teacher's reference material, innovative puppets, folk toys, traditional games and activity and learning kits. A handful of these materials (especially those made for special education) or books (such as Gandhi's Views on Education) have very few takers. At times, the cost of stocking and displaying them at the store are much more than their profit margin. But Sutradhar being an educational resource centre and keeping in mind the needs of the end users, believes in stocking these, too.

Some of the materials available at the store, for example, the Early Learning Kit and flashcards on vegetables, animals and craftspersons, are carefully thought out, researched, designed and produced at Sutradhar itself. Many a times, the organisation refines and designs teaching aids to meet specific needs or to overcome a lacuna in the market. A set of flash cards titled Invisible Hands focus on everyday professionals and helpers who are engaged in making children's lives easier. These cards not only give information and help the child develop a healthy respect for professionals such as washerman, farmer, weaver, tailor, but also work towards removing the stereotyping of professionals as being only astronauts, doctors and scientists.

Sutradhar also serves many special education groups. As Mandira Kumar puts it, "This was not in the original plan but was incorporated based on the demands and the needs felt by some of the special education teachers visiting Sutradhar." These

resources were created only after focus group discussions were held with some special educators in Bengaluru. Family puppets for play therapy or a Chinese stick as a movement prop are some examples. Sometimes, simple adaptations, for example, giving the insets puzzle pieces a larger peg or a raised surface, are done making them useful for special education.

More recently, the organisation has concentrated on single product materials, such as cards rather than kits, because these are more economical to develop for the organisation and easier to purchase for the teachers. All Sutradhar resource materials are shown on their website, and one can order through a catalogue with pictures and descriptions. For people who are a long distance from the store, it helps that they can see and order online. Though many would want to handle and choose the items rather than read a page out of a book before making a selection.

A reading room and library is also an integral part of the RC where one is likely to find books on early learning, educational media and elementary education, along with some documents, films, curricular materials and out-of-print manuals of interest to the teaching fraternity.

Workshops

The workshops function as training occasions and are guided by the belief that resources can be optimally utilised if teachers are trained in their use. For in-service teachers, workshops are conducted with the help of specialist RPs identified by Sutradhar. These workshops are mostly experiential in nature and last from 1 to 3 or 5 days. At a time, not more than 30 participants attend them. The workshops cater to a diversity of knowledge and skills as the organisation is committed to plural approaches. There have been maths workshops by experienced teacher trainers, both on the Montessori approach as well as a different approach

based on some materials developed by Jodo Gyan, a maths resource centre.

There have been toy-making workshops for children with disabilities in partnership with UNESCO, a language building workshop in Hindi by a team from the Rishi Valley school among others. The organisation thus covers not only a wide range of workshops but also many subject areas from geography to art to thinking skills. Many workshops highlight the importance of introducing rigor in maths, art or science at the pre-school level. Some workshops may be tailored to the specific demands of some institutions or NGOs. Most of these are scheduled between end-June (the earliest when school teachers are deputed for the academic new year as they are the main participants) until end-December. Sutradhar has realised that workshops work optimally when held for 2 days over Fridays and Saturdays rather than during weekdays.

For the students of home science, education, social work and child development, the organisation holds short orientation programmes of half to one day from time to time. These students are encouraged to explore the resources and experiment with their uses. They also learn about the work that is being done in early childhood education at the centre.

An important highlight of these workshops is the coming together of teachers from different backgrounds, be they NGOs, regular schools or rural or tribal schools. Some participants have even travelled from far off places such as Orissa, Pune, Chennai and Chittoor to be a part of the workshops!

Sutradhar does face difficulty when asked to judge the efficacy of these workshops in tangible terms, a near impossibility given that teachers attend from many different schools and settings. Functioning largely in Karnataka, getting efficient Kannada

resource persons is another challenge they consistently face.

Open forums and seminars

These are spaces for people to come together with ample room for interactions, discussions and talks and many opportunities for learning. It is in this that they differ from regular workshops. These forums are grounds for a fair give and take of ideas, where attendees do not just absorb what is being offered but also actively contribute to shaping the discussions. The forums help explore many current initiatives on educational issues and are well attended by teachers, parents, teacher trainers, researchers, government groups, NGOs and any member of the public who may be interested in the topic of discussion. Sutradhar is able to hold only about 2–3 of these forums in a year as massive preparations are needed for them, another reason that not too many resource centres are able to offer these.

On an average, three experts are invited to speak at a seminar. For example, in the open-forum 'Language and Literacy', the three experts invited explored the topic from the following angles: the academic perspective with research done in the field on Indian language acquisition, teaching oral English to rural children, and the perspective of an organisation that promoted books and reading.

As media coverage of the forum is encouraged, the sessions get written about in the newspapers and covered through e-groups, leading to further discussions and a consequent larger audience reach, helping ignite plant sparks of awareness and keeping the debates alive.

At a glance

Name:	Sutradhar
Established:	1995
Address:	59/1, 10th A Main, 3rd Cross, Indiranagar Stage 2, Bangalore 560038
Phone:	+91 80 25288545, 25215191
Email:	sutradhar2007@gmail.com
Website:	www.sutradhar.com
Timings:	10 - 5.30pm, Tuesday to Saturday.
Employees (no.):	8–10 RPs are sought out as and when required.
Beneficiaries:	Teaching community, students of education, NGOs, government schools, anganwadis, small independent as well as other developers of educational materials
Resource materials available:	Over 1,500 resources developed by over 150 groups across India are sold at the centre with children's resources and books, folk toys and games, teacher resources, teachers' and learners' kits and other teaching aids forming the bulk

23. The Teacher Foundation

Bengaluru, Karnataka

The Teacher Foundation (TTF) was established in 2002 as a centre 'for the teachers, by the teachers' to work towards teacher education and school improvement. TTF's vision is 'to make schools enabling environments for all students by empowering the educators to become energetic, effective, reflective practitioners and life-long learners'. TTF believes that a change in the attitude, behaviour and skills of teachers will bring about a change in the way they teach in the classroom, which in turn will affect the learning outcomes of students.

There are very few opportunities for teachers in India to grow professionally and personally. Teachers need centres and forums where they can discuss issues and share ideas, insights and imponderables. TTF offers teachers learning spaces that are friendly, challenging and non-threatening. Its model for teacher learning highlights the importance of collaboration with other professionals and learning over time. The methodology in the training sessions includes brainstorming, group discussions, reflection and sharing, 'circle time', readings and reflection and viewing of film clips. The sessions are process-oriented, interactive, collegial and rooted in the practical reality of classrooms in the Indian subcontinent. TTF has a number of programmes and projects that use a whole school approach – working with schools, teachers and management and school heads – to build training and support systems for teachers to work on and improve their pedagogy.

TTF work began in the city of Bangalore but soon extended to other parts of Karnataka and India. They have also worked with educators in a few neighbouring countries. TTF works with both government and unaided institutions. Teachers are the key focus of TTF's work, and the organisation has reached out to

and trained nearly 35,000 teachers over the last nearly 12 years. It has tried to nurture a forum for teachers conceptualised as a teachers' resource centre (TRC). Maya Menon, the founder-director of TTF, thinks of the TRC as both a structured as well as an unstructured platform for teachers to meet, share, discuss and grow as professionals. A TRC is more than a physical space and the material resources themselves, she feels, are not the most important. The activities and work with teachers that the centre enables is what she considers important. Menon feels that 'teacher development' is positively influenced by peers and she visualises TTF as a space which, above all else, facilitates professionals from the same field to come together and discuss various aspects of their work and common concerns, as there is great scope for learning from peers.

Strategies employed

TTF has tried several strategies to bring teachers into a forum where they can interact with each other and discuss professional matters that cut across institutions. While earlier teachers could become members of TTF and receive information about monthly activities and talks organised as 'Afternoons with TTF', TTF increasingly networks with teachers using social media, especially Facebook and Twitter. Over 3,600 teachers are part of TTF's Facebook network. This network is truly a forum 'of teachers, for teachers and by teachers'. A teacher who has undergone training through TTF can join this network. The network aims to bring together a diverse group of teachers from around the country and other parts of the world, too. Recent discussions that have elicited interest and cross-postings include inspiring quotes on teaching-learning and worthy articles on the state of education in India in general and about teachers in particular.

In 2012-13 TTF undertook an action research project titled Continuing Professional Development (CPD) through Social Networking Amongst Indian School Teachers. This has been

published as a chapter in the British Council book *Continuing Professional Development: Lessons from India*, edited by Rod Bolitho and Amol Padwad (see http://www.britishcouncil.in/sites/britishcouncil.in2/files/continuing_professional_development_-_lessons_from_india.pdf)

Programmes at TTF

TTF regularly holds open workshops, seminars, meetings and conferences, and notifications, invitations and discounts are sent to teachers and principals from a wide variety of schools. A major initiative has been to design short workshops on themes of current interest to teachers, for example, the workshops Continuous Comprehensive Evaluation and Differentiated Learning. TTF is empanelled by the CBSE to offer a range of professional services for teachers and the heads of schools. Some sustained TTF programmes aimed at making systemic changes in schools are the Whole School Turnaround and Safe and Sensitive Schools Projects. For the past 10 years, TTF has also offered the Cambridge International Diploma for Teachers and Trainers (CIDTT) from Cambridge International Examinations, UK, which individual teachers and teacher aspirants have signed up for. Every year, around 30-50 teachers complete CIDTT with TTF. TTF recently hosted school teachers from the United States and school principals from Bhutan to interact with and share ideas with Indian teachers. TTF is currently exploring the use of technology for training teachers. In 2012, a pilot project was conducted through the Department of State Education Research and Training (DSERT) and SSA in Karnataka, where 282 teachers in 6 remote centres were trained simultaneously over a 5-day period using a cloud-based synchronous platform. A smaller project was conducted through the World Bank in Bihar where teacher educators used a range of technologies such as smart phones, tablets and cloud-based tools.

TTF's national-level conference held once every two years is another open forum that brings practitioners together to hear presentations and discuss matters with each other. The workshops at the conference are all open forums in which any teacher can enrol.

The Bengaluru office of TTF also has The Teacher Storehouse where teaching materials and resources can be purchased. Teaching Unchained is a quarterly newsmagazine that goes out to all institutional and individual members, carrying ideas and features on practices in India and abroad.

TTF uses in-service teacher development models that attempt to establish long-term relationships with teachers and offer a high degree of mentoring and school-based support. Teachers are inducted into a community through which they can engage with new ideas and aspects of their practice that can be improved by reflection and use of new strategies.

Challenges

TTF acknowledges that a major bottleneck is teachers' time. Physical meetings at an RC that is away from school necessitate travel arrangements and time, which are scarce resources, particularly for women teachers. Besides, school managements are more likely to accept in-service training programmes rather than giving teachers time to visit RCs in more unstructured ways. However, teachers who individually enrol for CIDTT do regularly visit TTF centres.

A new focus for TTF is offering pre-service training and support for young women and men who wish to teach in low-cost unaided institutions. This is a 900-hour full-time programme called 'The New Teacher' and was launched in April 2014. While this is not a recognised course, several school managements have agreed to recruit its trainees.

At a glance

Name: The Teacher Foundation
Address: 37/10 Yellappa Chetty Layout, Ulsoor Road,
Bangalore 560042
Phone: 080-41131930, 2559155, 2559 0084
Email: info@teacherfoundation.org
Facebook page: [https://www.facebook.com/
teacherfoundation](https://www.facebook.com/teacherfoundation)
Website: www.teacherfoundation.org
Beneficiaries: Teachers, school heads

24. The Teachers of India Web Portal

Any discussion of TRCs and their impact and influence in the field of education must include a discussion of e-resources or RCs that are accessed via the internet. ICT (information and communication technology) is a key educational resource because of its potential for easy access to content, rapid data transfer, interactivity and customisation of content to address user needs. The Teachers of India web portal (www.teachersofindia.org) provides a variety of educational resources to teachers via the internet.

The portal was born out of a desire to meet the challenges facing teachers and teacher education in India. Some of the challenges were lack of immediate access to resources, information and new experiments in education, poor quality of academic support provided to teachers, isolation of the faculty of teacher education from the national and international community of researchers and educators and limited avenues for the professional development of teachers and educational administrators.

In view of these challenges, the National Knowledge Commission proposed that a web portal be created for teachers and teacher educators to facilitate the dissemination of knowledge. The Azim Premji Foundation (APF) responded to this proposal by creating the Teachers of India web portal in 2008. The portal was developed with the following vision:

- To create a vibrant community of teachers through the sharing of knowledge and experience on a common platform
- To enrich teachers' knowledge of subject content and pedagogy
- To demonstrate new approaches to classroom practice and provide concrete support in the form of teaching and learning materials
- To support school teachers of state-run schools, who teach in the regional language

- To be a forum for teachers to freely interact with each other across languages, to share insights, good practices, resources, information and experiments in education

Apart from these goals, the portal also exists to support the creation of a body of knowledge to motivate teachers to access, apply and add value to existing knowledge. The portal aims not only to provide resources to teachers but also to encourage teachers to become resource creators. With these purposes in mind, the creators of the portal conducted research to find out what kind of a platform would be most beneficial for users. Here, the primary target user group were government school teachers.

Features of portal

Language of access: The most striking feature of the portal is that it can be accessed in five languages: English, Hindi, Kannada, Tamil and Telugu. Since the portal was created with the aim of supporting teachers who teach in regional languages, it was necessary that resources on the portal be available in these languages. This is also crucial to the dissemination of resources and ideas by translating them from one language to another. Some resources are translated from English or Hindi to the regional languages. Some resources are generated in the regional languages themselves.

Joining the portal: Any person who is able to access the internet and is fairly familiar with using a computer can join the portal. However, the process of contributing a resource requires one to be a little more technology-proficient as there can be technical glitches while uploading a resource.

Categories of resources: There are four categories of resources available on the TOI portal:

Classroom resources: These include lesson plans, activities, worksheets, videos, audio clips and images.

Teacher development resources: These are resources primarily for the professional development of teachers and include articles, videos and ebooks.

Spotlight: This is about teachers who have made a difference.
Community discussion forum: This is an interactive aspect of the forum where discussion on various issues in education or comments on resources can be made.

Periodicals: Two periodicals published by Azim Premji University are available, Learning Curve and At Right Angles.

The Teachers of India portal aims at not only achieving quantity in their impact, but also quality in their content. Therefore, the content of the resources goes through a thorough review during the processes of creating, editing and selection. For a particular resource to be chosen for the portal, it must meet certain criteria. It must be original and accurate. The underlying values of a resource must uphold the values directed by the NCF. Pedagogically, resources must be interactive, such as to encourage critical thinking, suggestive and not instructive.

There are also some criteria specifically for lesson plans.

- The objectives of the resource must be specific, achievable and realistic.
- The organisation and design of learning experiences must be clear, logical and such as to promote higher order thinking.
- The lesson must incorporate multiple approaches to teaching and must take into account different learning needs and styles in children.
- The lesson must assess prior knowledge as well as the outcome of the lesson.

- The lesson must promote learner autonomy and must guide children to engage in self-learning and reflection.

As the TOI portal exists within the ecosystem of the APF, the focus of the portal has always been to reach out to and impact teachers who are working in government schools. One of the key ways in which the portal seeks to impact government school teachers is through resource generation workshops. Here, the teachers are encouraged to create classroom resources which could be lesson plans, videos, visual aids and others and share them on the portal. Although many teachers are not involved in contributing resources yet, it is encouraging that there is a platform for them to do so.

Impact and Influence

At present, the web portal has 5,661 registered users and 20,000 visits per month on an average. Even though the portal was created to be used mainly by government school teachers, many teachers from private schools register and are using the portal and contributing to its resources. By and large, the portal has been used more to access resources and less to contribute resources. Some of the main reasons for this are that teachers do not see themselves as resource creators and struggle with documenting resources that they create. There are technical glitches that prevent teachers from contributing resources. Several other challenges are discussed below.

Challenges

- There is lack of computers and internet facility in government schools along with long power cuts.
- There is lack of familiarity with computers and teachers do not feel the need for virtual RCs like portals.
- There is lack of time for professional development.
- Since the main focus is on the government school teachers,

unfortunately, the creators of the portal cannot make use of the skills of other teachers who are capable of contributing good resources and so the quality of resources is compromised.

- Typing in a regional language requires additional software, the awareness and availability of which may not be easy for those who want to use it.
- Translating and editing resources from English or Hindi into regional languages is a challenge.
- Teachers see the internet mainly as a form of entertainment and not as a resource.

Possible Solutions

Some of the key RPs identified ways in which the portal team was attempting to meet these challenges.

Since many teachers do not have access to computers, the district institutes run by the APF can play a role in popularising the portal at different workshops by encouraging teachers to access the computers available at the institute, by taking the portal to the cluster coordinators who have laptops so that they can popularise the portal among teachers.

The portal can partner with organisations that are already working in regional languages to develop content.

Social media like Facebook can be used to popularise the portal. Many informal groups on social networks are discussing education, and the portal could tap into these groups for potential users.

Teachers' View of the Portal

Some of the ways in which teachers learnt of the portal were through the newspaper, internet browsing and Facebook. All

teachers shared that the portal has benefited them in some way or the other. Teachers were accessing the portal in the language they were most comfortable with. One of the teachers mentioned that, through this portal, he was motivated to continue to work in the field of education and make changes just like other people whom he had read about in the 'Spotlight' section of the portal. They were encouraged to read about what other teachers were doing in their localities. Most of the teachers mentioned that they were not aware of the community discussion forum or about how to contribute a resource. However, there were a few who had contributed resources to the portal. On the whole, the experience of the portal seems to be a positive one for teachers. With time and reach, there is a potential of many more teachers using the interactive aspect of the portal and also transitioning from resource users to resource creators.

The Teachers of India portal is an important RC through which an effort is being made not only to impact the professional development of teachers, but also to give them ownership of the resources that they use. Through this portal and other ICT-based educational resources, a culture of sharing knowledge and ideas can be promoted along with equity of access to resources.

At a glance

Name:	Teachers of India Web Portal
Established:	2008
Link:	www.teachersofindia.org
Employees (no.):	12 member team. Additional resource people are involved in translation as and when required.
Management and funding:	The portal is managed and funded by the Azim Premji Foundation.

Beneficiaries:	Government and private school teachers, teacher educators, students of education
Resource materials available:	2,288 resources in the following categories: <ul style="list-style-type: none">• Classroom resources• Teacher development resources• Community discussion forum• Spotlight on teachers who have made a difference• Periodicals

Resources in Education: A Film

Duration: 32 minutes and 41 seconds

<https://www.youtube.com/watch?v=MF4hTSdhBhs&t=651s>

Direction and Editing

Natesh Ullal

Research and Content

Padma M. Sarangapani, Disha Nawani, K. Latha, N. Sumana

Associate Director

Dakshayini Urs

Camera

Ananth Urs and Tarun Singh

Script

Shraddha NV Sharma

Voice

Vidya Dinker

Assistant Editor

Ini Periodi

Music

Abhilash Mouli

This documentary on teaching learning resources provides insights into the pedagogic significance of resources for the education of children. Resources are something which can be used to support both teaching and learning, build knowledge, encourage inquisitiveness, arouse curiosity, provide answers, invoke questions and most importantly, help children construct knowledge. The documentary deals with both the conceptualisation and the use of teaching learning resources and 'activity-based learning' which has often been misinterpreted and misused in our country to the detriment of students' learning.

This documentary essentially consists of the voices and opinions of educators, practitioners and teachers who are either creating,

curating or using resources with both children and teachers. These professionals collectively respond to several concerns, pertaining to the design and use – and misinterpretation and misuse – of such resources. Resources, as understood by these practitioners, constitute a variety of objects ranging from flash cards, pebbles, *ganitmala*, especially designed experiments and kits to even the natural environment. The use of resources for teaching central concepts or key ideas in different subjects is also elucidated by the practitioners. The film highlights focused and sensitive use of resources towards definite ends, which lead to learning of a certain kind. It also shows the use of resources by teachers and students in actual classroom situations. In the process, one gains the ability to discern good from bad resources. While the former facilitate learning, the latter are used in a sterile 'show-and-tell' manner merely to display objects. One also gains insights into how teachers' use of resources determines their pedagogic effects.

Abbreviations

ASER	Annual Status of Education Report
AS	Apli Shala
AGT	Arvind Gupta Toys
ADHD	Attention Deficit Hyperactivity Disorder
BGVS	Bharat Gyan Vigyan Samiti
BMC	Brihanmumbai Municipal Corporation
BRC	Block Resource Centre
BVIEER	Bharatiya Vidyapeeth Institute of Environment Education and Research
CEE	Centre for Environment Education
CLLC	Centre for Language, Literacy and Communication
CLR	Centre for Learning Resources
CRC	Cluster Resource Centre
CDF	Community Development Foundation
CIRCLE	Community Information Repository and Centre for Learning Experiences
DBTRC	Deena Bandhu Teacher Resource Centre
DERC	District Education Resource Centre
DVD	Digital Versatile Disc
DIET	District Institute of Education and Training
DOE	Department of Education
DPEP	District Primary Education Program
DSERT	Directorate of State Educational Research and Training (same as SCERT)
ECCD	Early Childhood Care and Development
ECE	Early Childhood Education
EO	Educational Outreach Program

ESD	Education for Sustainable Development
EE	Environment Education
EESS	Environment Education in School System
GOI	Government of India
ICT	Information and Communication Technology
IRIS	Initiative for Research and Innovation in Science
ICDS	Integrated Child Development Service
IUCAA	The Inter-University Centre for Astronomy and Astrophysics
KSU	Kalike Samruddhi Upakram
KNB	Kamala Nimbkar Balbhavan
KEN	Karnataka Education Network
MCD	Municipal Corporation of Delhi
MoEF	Ministry of Environment and Forest
MHRD	Ministry of Human Resource Development, Government of India
MRP	Master Resource Person
NBT	National Book Trust
NCT	National Capital Territory of Delhi
NCERT	National Council for Educational Research and Training
NCTE	National Council for Teacher Education
NCF	National Curriculum Framework
NROER	National Repository of Open Educational Resources
NGO	Non-Governmental Organisation
NPE	National Policy on Education
PSTE	Pre-Service Teacher Education

PSS	Pragat Shikshan Sanstha
RVEC	Rashtreeya Vidyalaya Educational Consortium
RVTTI	RV Teacher Training Institution
RRCEE	Regional Resource Centre for Elementary Education
RC	Resource Centre
RTE	Right to Education Act
SSA	Sarva Shiksha Abhiyan
SRTT	Sir Ratan Tata Trust
SCERT	State Council for Educational Research and Training
SHRC	State Health Resource Centre
SLMA	State Literacy Mission Authority
STTTI	St Theresa Teacher Training Institution
ST	Student Teacher
SVYM	Swami Vivekananda Youth Movement
TEI	Teacher Education Institution
TRC	Teacher Resource Centre
TLM	Teaching-Learning Material
TARU	The Academic Resource Unit
UNICEF	United Nations International Children's Emergency Fund
UAM	Universal Active Math
WWF	World Wide Fund for Nature
ZP	Zilla Parishad

Contributors

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The Sourcebook on Teacher Resource Centres in India is a compilation of short articles on 23 Teacher Resource Centres working in India. These articles are written based on a desk review of basic documents, a visit to the Resource Centres (RCs) and interaction with their key personnel. Besides providing basic information about each RC, the write-ups also include an understanding of their vision, objectives, areas of work, strategies employed and challenges encountered by them. Individuals interested in knowing about the work of specific RCs or to generally understand the kind of work undertaken in this space, and models adopted, will find this sourcebook valuable.

Resources in Education is a documentary film which offers several meaningful insights into the conceptualisation, design, use and pedagogic significance of teaching-learning resources. The film brings together the voices/opinions of educators, practitioners and teachers who either create, curate or use resources with both children and teachers. These voices collectively respond to several concerns pertaining to the multiple facets of resources, and also clears several misconceptions. This is a must-watch for all those working on strengthening children's learning.