

**TATA CONSULTANCY SERVICES**

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# Empowerment through learning

## Computer Based Functional Literacy





Meet Gauzia,  
the entrepreneur  
Andhra Pradesh outback, India...

### A few years ago

Gauzia Begum's husband was diagnosed with cancer. Her family's savings had dried up. Her only child had to drop out of school. She wanted to help, but couldn't. She was illiterate, with no skills, and lost. Her future looked bleak. She fought despair.

Then one day, down Gauzia's village dirt track came enlightenment. And a new way of life. That's when her life was touched by the Computer Based Functional Literacy (CBFL) project by Tata Consultancy Services. With merely 40 hours of learning time, Gauzia transformed her life.

### Now

Graduating from menial jobs, Gauzia has loaned some money from a micro-credit society spawned by a local self-help group. She runs a small shop and is ready to take on the future. This time, with hope...

## Computer Based Functional Literacy

Illiteracy is often synonymous with poverty. The written word can go a long way in empowering the less privileged. Traditionally it requires 200 hours of instruction —up to two years — to make a person literate. This leads to a high dropout rate. Convinced that economic development is related to literacy, TCS worked on a paradigm shift that would impact the 260 million illiterate in India. A corporate-wide initiative started in the year 2000 to address and overcome impediments of illiteracy through information technology. Our efforts found success with the CBFL method. With computers and flash cards, we made use of animated graphics patterns for visualization and audio appreciation. A combination of graphic pattern of visualization and repetition of sound patterns lead to recognition, retention, and recall of words. Free of cost to the beneficiary who gets empowered by the privilege of basic education, this method ensures reading can be learnt within 40 to 45 hours of learning.

## The Technology

- The CBFL software was designed and developed by TCS using Multimedia features which enables the illiterate to develop reading skills in 40 hours
- Metaphors in the multimedia presentation make it interesting and attractive for learners. Puppet Shows are used
- Material from National Literacy Mission (NLM) is adopted for use in the program
- It uses a minimal set of words to train learners on all letters in the language. The software has features for the learner to create new words for display and teaching.
- A teacher can operate the computer and software easily. Even without any prior computer training, the teacher can learn to use the machine in a day
- It is available in nine languages (Telugu, Tamil, Hindi, Marathi, Bengali, Gujarati, Oriya, Kannada, and Urdu)
- It requires only a low end PC so that many PCs can be deployed at low cost

## The Methodology

- The teacher conducts classes using a computer for a batch of 10 to 15 students in a session. TCS trains the teacher and provides the software, donating computers on need basis.
- No large scale infrastructure or major training of teachers is required.
- Classes are run for one to two hours each day for about three months to suit the local community.
- We partner with local governments or NGOs for effective implementation of the program. This enables them to start and manage the centers themselves.
- The multimedia format ensures the pronunciation of the words/letters is taught accurately through the system, rather than being left to individual teachers.

*"I can now read newspapers, board the right bus, sign my name, help my children with their homework...  
It is a new life."*

*CBFL trainee  
Velimela Kalavathy (35),  
remote village in Andhra Pradesh, India*



## On the Indian Map

The CBFL program is active in more than 250 centers spread across India in the states of Andhra Pradesh, Tamil Nadu, Maharashtra, and West Bengal. Over 120,000 people have been made literate already. As the initial testing ground, Andhra Pradesh accounts for the major success story. With help from the state adult education authorities, a total of over 75,000 learners have been covered till date in the state.

In the state of Tamil Nadu, more than 30,000 have been trained in Chennai and other districts. The state government wants to deploy CBFL in about 6,000 panchayat (village council) centers. The program in Marathi has been successfully conducted in Maharashtra in Pimpri, Chinchwad, and Purandar Taluka in about 35 centers where a total of 9,400 were trained. The program in Bengali is being implemented in and around Kolkata. In North India, 15 centers, including Tihar Jail are carrying the program forward in Delhi, Haryana, Chandigarh, and Uttaranchal.

At Varanasi, 930 persons were trained by the Ramakrishna Mission staff while in Guna District of Madhya Pradesh, a pilot project in Hindi trained 1,900 persons. The CBFL program in nine languages will be adopted by Grameen Gyan Abhiyaan, initiated by the MS Swaminathan Research Foundation and partnered by TCS, that aims to connect every village through a network of Village Knowledge Centers, covering about 600,000 Indian villages.

## Elsewhere on the globe

Though South Africa may have high literacy levels, it is depressingly low in some pockets. In 2002, the success of the CBFL program in rural India so impressed the First Lady of South Africa that she was convinced that it would work in her country. So, in Pretoria, the TCS team helped design, develop, and initiate the first set of lessons in the Northern Sotho language which was implemented in Lephalale, Northern Province. The team transcribed the sounds of hissing and clicking of Sotho by Roman letters while at the same time, facilitators were trained in running the CBFL program in the Northern Province bordering Botswana. The program was scaled up the next year with funds allocated to the Women's Development Trust for improving literacy levels amongst women. South African educationists are now carrying TCS' CBFL program forward.

*CBFL takes into account the dynamics of the community it works with. For example, if there is a death in one family, the whole village is in mourning for 13 days. In case of a wedding, everybody celebrates, nobody comes to class....*

*The CBFL program requires an hour and a half, for four or five days a week. Classes are held late in the evening; between 7 and 9 pm. Learners can do their work and attend classes too.*



## Benefits

- Acceleration in the pace of learning to read. It takes about one-third the time required by conventional methods.
- Flexibility in adjusting to individual learning speeds.
- Lower dropout rates in comparison with other adult literacy programs.
- About 250 centers across India; Over 120,000 people made literate till date.

## Recognition

- Asian CSR Award in the category of "Support of Education" at the Asian Forum for CSR in 2003 (AIM Manila).
- Dr. Malcolm Adiseshia Special Award in 2004 for Computers for Literacy by Tamil Nadu Board of Continuing Education under Ministry of HRD, Government of India.
- Finalist in the Stockholm Challenge Award 2004 in the category of Education.
- Listed for its initiatives in the UNESCO Meta-survey on the use of technologies in Education, published in April 2004.
- Appreciations from partnering organizations, teachers, and beneficiaries for effectiveness and novelty of technology and methodology.
- EMPI Indian Express Innovation Award Gold Trophy 2006 for TCS Literacy Programme.
- Golden Peacock Global Award 2007 for Corporate Social Responsibility.
- CBFL recommended for deployment as a National Mission in XIth Five Year Plan.

## About Tata Consultancy Services (TCS)

Tata Consultancy Services is an IT services, business solutions and outsourcing organization that delivers real results to global businesses, ensuring a level of certainty no other firm can match. TCS offers a consulting-led, integrated portfolio of IT and IT-enabled services delivered through its unique Global Network Delivery Model™, recognized as the benchmark of excellence in software development.

A part of the Tata Group, India's largest industrial conglomerate, TCS has over 143,000 of the world's best trained IT consultants in 42 countries. The company generated consolidated revenues of US \$6 billion for fiscal year ended 31 March 2009 and is listed on the National Stock Exchange and Bombay Stock Exchange in India. For more information, visit us at [www.tcs.com](http://www.tcs.com)

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