

## Community based collaborative ICT Strategies for Science Education

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In the 1970s, IUPAC launched an initiative at the University of Delhi for improving the hands-on component of chemistry education. An inter-disciplinary team of teachers and technicians designed a variety of cost-effective computer-interfaced equipment and conducted over 100 teacher-training Workshops in 30 countries. The Project attracted support from UNESCO and a number of international, regional and national agencies for nearly three decades.

In the 1990s, Project SITA, funded by the InfoDev programme of the World Bank and supported by COSTED, UNIFEM, APCTT and OneWorld International, took this initiative to a new frontier – using ICT to enable socially disadvantaged women and create low cost publications to support use of low cost equipment.

In 2004, Mitramandal, an e-cooperative, has evolved from these initiatives as a community that focuses on Innovation for Education, Empowerment, Environment and Enterprise. Mitramandal has started key projects in the K12 segment and has also started leveraging industry partnerships. One of the current projects that Mitramandal has initiated is a Capability Building Project for socially disadvantaged sectors. This is in collaboration with the Digital World Foundation in Rome.

The recent advances in web technologies (Web 2.0) and learning methodologies (elearning 2.0), have the potential of revolutionizing the use of ICT in education. The internet has become decentralized, writeable, user controlled and an exponentially exploding source of information. The leverage that community based collaborative learning and innovation provides is immense and we must employ these effectively in science education.

The key is to tie together science education, teacher training, university-industry interaction, innovation, cost reductions and social empowerment through cooperative efforts between all relevant stakeholders.

The objective of this session is to briefly present the project history and current state, the impact of Web 2.0 and elearning 2.0 on teaching and learning and the new directions that we are taking to extend and globalize this project.