

# The Digital Equalizer

**An initiative of American India Foundation has proved that the role ICT in education at the school level needs serious planning, handholding, management, and constant innovation**

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Technology can be applied in the classroom (and the community) in countless ways, and with numerous benefits. The flexibility of technology and the limitless amounts of information available allows schools to use Digital Technology in very different ways, adapting Technology Aided Learning (TAL) to the specific needs of their own school.

AIF's Digital Equalizer (DE) Program is a Technology Enabled Learning Program that bridges the education and digital divide in India by preparing a large number of youth and children to compete in the digital economy. Targeting children in grades

6 and above, AIF provides on-site support to a DE school for 3 years and prepares the school for complete self-sufficiency after that period.

## DE Philosophy

In DE the focus is on teachers, as the underlying belief is that meaningful education, whether Technology enabled or otherwise, can take place only with skillful teaching. AIF works with subject teachers once a week, for three years in under-resourced schools which are mostly:

1. First generation learners.
2. Girl children.
3. Located in rural/remote locations.
4. Below poverty line.
5. Disabled

6. No opportunities to work with computers.

The DE Program which started in 2002, with few demonstration DE centers, has grown exponentially in the last 3 years. By 2009, DE would have touched the lives of 600,000 children and 15,000 teachers in more than 1500 under-resourced schools in 14 Indian States.

## DE Mantra

To achieve this meaningful impact, the mantra of DE has been Innovation, Partnership and Systemic Intervention. The challenges of education are not new, and traditional solutions that have been used for decades have only shown incremental results.

Innovation within and outside the classroom is no longer a choice, but an imperative. AIF's innovations include On-site weekly teachers' training conducted over three years in every DE school, integration of computers in the curriculum through project-based learning, and changing the role of the learner from consumers of content to creators of content.

A huge number of children in India are not realizing their potential because innovative educational interventions tend to be localized in small clusters. To break away from this "for-ever-pilot" syndrome, AIF partners with individuals, corporations, governments and NGOs to reach the remotest places across the country. This mantra of partnership is built upon the principles of understanding, trust and accountability.

If AIF's interventions have to create a lasting impact on education, it is not enough to work with only teachers and students. AIF works with school, district and state administrators to positively influence their values, beliefs and motivations. These systemic interventions help create an environment that nurtures learning beyond the three years that AIF engages with each DE school.

## Reflections: Implementation Perspective

We think that putting computers and setting DE Lab in schools is easy. The challenge is to transform the teaching-learning process in schools. The first step in addressing this is to uncover the difference between learning "from computers" -where Teachers/students use computers as a tutor-and learning "with" computers, where Teachers/ students use technology as a tool.

Second, technology is not a panacea. Technology cannot solve all the problems faced by our schools, nor will it replace teachers. Technology will have little impact unless it is accompanied by reform at the classroom, school, and district levels. All too often, technology is purchased without a clear vision of how it is to be integrated into the mission of the school or district. Technology projects should be implemented only after a planning stage, where administrators and other stakeholders develop clearly articulated goals for technology use. Schools will need to revisit this plan on an ongoing

ing basis to take advantage of the new opportunities and innovations. Also, schools and districts often forget that maintaining technology can be expensive. Therefore, the costs of educational technology should be built into school budgets on a regular basis.

Third, technology is only one of the tools. There are many instances when technology is not the most appropriate tool to use. The advantages and disadvantages of technology must be weighed by teachers, depending on the circumstances and the goals for the learner.

Fourth, technology is the most meaningful tool when used for problem solving, conceptual development, and critical thinking. Students can learn basic skills "from" computers, but technology should be used to explore, organize, and analyze information promoting

### Higher-order thinking skills

This is a very big challenge as assigning projects that entail students to think and at the same time extend the learning to the concepts of the curriculum, involves training and imaginative thinking.

Fifth, when technology is integrated with project-based, real-world situations, students are engaged in the learning and teachers are energized and the learning that one achieves is long lasting.

Finally, technology will have a positive impact only if certain conditions are met some of which are

>> Technology will have little effect unless teachers are adequately and appropriately trained with a review process in place. All too often, schools and districts spend the majority of their technology resources on equipment, and devote very little to training. Even when teachers are provided with training, too often they focus only on fundamental computer operations rather than on how to use technology as a teaching tool or how to integrate technology into curriculum. For instance majority of teachers trained under the DE program have not even heard of National Curriculum Framework (NCF 2005).

>> Getting the right people for training the teachers is an extremely daunting task. Very often this can make a huge difference to programs like DE. The DE resource person has to wear multiple hats like facilitator in education and technology, a catalyst, a trainer and above all a motivator.

>> At a systemic level, we believe that unless an enabling environment is created in the school ecosystem which drives the teachers to embed technology into their lesson-plans, administrators to use ICT for day to day management, there will be little motivation for the schools to use technology in an integrated manner. For instance, if the system reviews, reflects and recognizes the innovative efforts undertaken by the teacher/ school, it will have huge value.

>> Our experience has shown

that teachers must understand how technology fits into the larger curricular framework to use it effectively in the classroom. Unfortunately, many teachers use technology as an "add-on" to an already complete curriculum. Some teachers "teach technology" and focus on word processing or the use of keyboard resulting in mere cut and paste from various resources. However, we have also seen that when technology is integrated into the curriculum, students not only learn how to use the hardware and software, but learn skills that are valuable in the workplace, such as critical thinking, collaborative learning and effective communication.

>> We have found that the introduction of technology cannot radically change teaching; instead, it served as an icebreaker (change in mindset). Over the course of a three to four year period, we are seeing shifts in teachers' teaching practices. Curriculum delivered in a didactic mode was first strengthened through the use of technology, and then was gradually replaced by more dynamic learning experiences for students such as collabora-

tive, project-based, interdisciplinary learning. In order to see real transformation, a well developed plan (technical and financial) should be in place in an enabling environment.

>> Even with a well-developed plan in place, technology won't have a significant impact unless teachers have ongoing support. Consequently, the effective use of technology requires an adequate school and district infrastructure and must include timely, on-site technical support. Depending upon the maturity level of the school, the support varies for technical and instructional areas.

### Final Lessons

>> The program's success depends on whether one can crack the question "What is in for me" from a teacher's perspective?

>> For measuring the success on ICT use, we use the following parameter: the quantity of digital content of "acceptable quality" that is created by students themselves followed by teacher guided student projects followed by teacher's own creative ideas put into practice in that order.

>> The ultimate success of ICTs for learning will be attained when we shift our discourse from ICTs and focus our energies to the wonders of learning. After all anything that is worth knowing cannot be taught.

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