Computers on Wheels!!

Computer Education Through Mobile Computer Vans for Rural Children.

The Project:

Vidya Pratishthan's Institute of Information Technology (VIIT), Baramati, Dist. Pune, Maharashtra, India is reputed educational educational institute. The VIIT has already implemented this program in 60+ schools. The institute wants to sprade this program and concept in more areas. This ongoing project and its impact analysis is done by primier Indian institute "TATA INSTITUTE OF SOCIAL SECIECES", Mumbai.

Rotary can help VIIT by donating the Computer Van/s and pay VIIT yearly operation amount required to run the project.

ROTARY CLUB OF PUNE PASHAN, LAXMI ROAD AND VIIT, BARAMATI

EXECUTIVE SUMMARY

- VIIT is a pioneer in implementing the research & development work in the field of IT & IT enabled educational programs, for school children in Maharashtra. VIIT has devised innovative methods in an outreach Program to take IT education to rural India.
- By developing educational content to enhance the teaching and learning process, and to increase the quality of education & generate the interest in learning, VIIT has developed an innovative method of using a Low Cost Mobile Computer Lab, to reach rural schools.
- The Government of Maharashtra (GoM) under the aegis of the Sarva Shiksha Abhiyan (SSA) envisages dovetailing IT in education with efforts currently in place. Leveraging on the objectives of the SSA, the bus project has been designed to seamlessly provide education to students in rural India.
- SSA faces a challenge to maximize utilization of resources in IT education to cover a substantial geographical region. Hence, the mobile computer van, with corporate support can be a way to augment this very aim of maximum reach to the masses.

COMPUTER EDUCATION USING MOBILE COMPUTER LAB

Introduction

The Program envisages the implementation of a **Computer Education Program** in schools situated in rural India, keeping in mind the limitations of the rural environment. The Program incorporates technology infrastructure, teaching/learning aids and skilled human resources, with an aim to provide the students with IT skills, and develop an interest in school subjects.

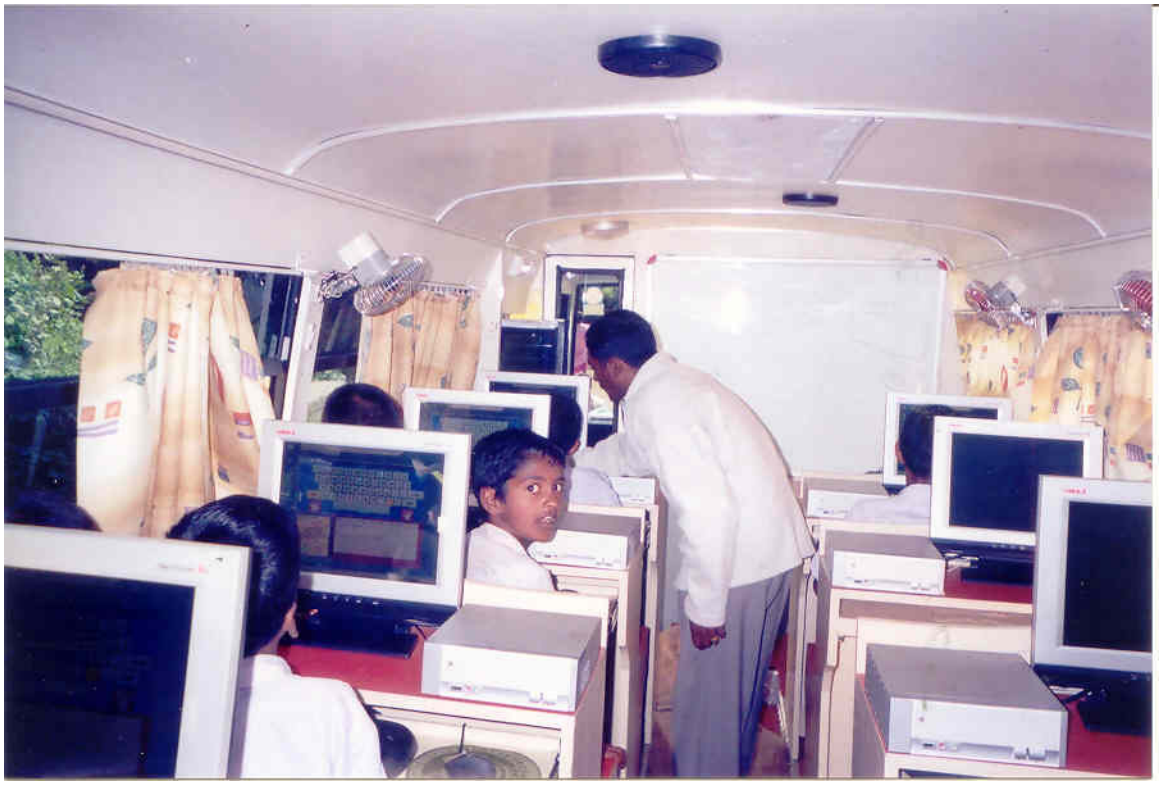
Computer Education in a rural environment faces some unique problems:

- Non-availability of hardware & its maintenance services
- Lack of skilled teaching faculty
- Inconsistent power-supply

To address the above it is proposed that a bus fitted with computers, with faculty onboard, operate in a "hub and spoke model" resulting in the following benefits:

- Maximizing the utilization of hardware, as each bus is used to cover about 200-250 students daily
- Using the scarce resources of teachers to deliver content, as only 3-4 teachers per bus are required
- Reducing downtime on the buses & computer hardware, as the buses return to base every evening for any required maintenance
- Offering uninterrupted delivery tools by fitting generators on the buses and ensure that the entire lab works on a 12V Battery

The infrastructure has the potential of not only being used for formal Computer Education at schools but can also be leveraged for community development programs including those of adult literacy, health and social awareness.



More specifically the Learning Infrastructure will comprise of the following:

(a) IT based Infrastructure

(i) A 55 seater bus, redesigned to a computer lab for 36 students accommodating 2 students to a terminal, with a generator facility
(ii) Installation of 18 multimedia Computers (Laptops) on the bus with LAN cabling, a server, printer and if possible - Internet connectivity
(iii) LCD projector Laptop for teaching theory classes in the school classroom.

(b) Computer Education teaching-learning aids

(i) Student Activity Book with learning outcomes, notes & assessment activities for use by students based on computer skills learnt. Each student will be provided with one Student Activity Book
(ii) Teacher Manual with learning outcomes, notes, teaching methodology, additional activities & assignment activities for use by teacher based on computer skills taught. Every bus will have at least four Teacher Manuals
(iii) Resource CD with soft-copy teaching-learning aids and monitoring & assessment kit. At least two Resource CDs will be provided per bus.

(c) Operation and Maintenance of Infrastructure

(i) Three qualified Computer Teachers per bus, who will teach Computer skills based on the Program Manuals provided

(ii) Maintenance of infrastructure - including the bus and the IT hardware
(iii) One qualified Computer Education Coordinator per 5 buses, for coordination, monitoring and reporting of Program implementation and affectivity
(iv) One driver cum cleaner per bus

(d) Educational services

(i) Computer Teacher's training to orient them for effective Program implementation, provide them with technical + pedagogical inputs and enhance their soft-skills

The Bus Project for ROTARY

The Program proposed for Rotary is modeled on the VIIT, Baramati project. Subject to approval of the project, a study will need to be commissioned to ascertain data in order to structure the details of implementation. The information such as number of villages, number of students, and geographical distance between villages would help determine the no of students a bus can cater on its daily route. The total no of buses required, the no of headquarter towns where each bus would be based to cover villages within a given radius and recruitment of staff and other support services such as maintenance / spares would emerge from this study

In its present form, SSA faces a challenge to maximize utilization of resources in IT education to cover a substantial geographical region. The problems of non-availability of hardware & its maintenance services, lack of skilled teaching faculty, inconsistent power-supply and the sheer cost of installation of multiple computer labs are taken care of by the proposed model

VIIT is successfully implementing this project since last two years. Currently the Project covers total 6,351 students in 51 schools around Baramati and Ambegaon. Vision IT proposes the same to Rotary the salient features of which are:

- Depending on the student nos. in a school, the Mobile Computer Bus will implement the Program in a school for approx 2 hours per 72 students

- Every student attends 1-hour of Computer-theory, conducted in the classroom using a multimedia-projector system & 1-hour of Computer-practical, conducted in the Mobile Computer Bus. The courseware was adapted in Marathi .

Outcomes for		
Students	***School***	**Community**
Exposure to technology skills	Technology aware school	Technology ahead community with capacity to use technology as a tool
Increase in interest level for school studies	Better performance of students at Competitive exams	Better skilled and informed next generation
Increase in school attendance and better performance at examinations	Networking with other schools via the common Computer Teachers/ Coordinator for sharing Best Practices	Use of technology for basic society tasks e.g. communication, banking, etc will increase
Overall personality change with high confidence levels	Decrease in drop-out rates	
Exposure to English terms and jargons		

Commercials of the Computer-Bus Program Implementation & Cost

Implementation - details for 1 bus

- 6 hours of computer time is available per day on a bus, excluding 2 hours of travel time & lunch break
- 36 students get hands-on computer practical per hour, approx 200 students per day
- 36 students will get theory of one hour duration simultaneously so each students will get 2 hrs / week computer training.

Why this project?

With a year of implementation behind us we have been able to :

- Understand the social context of the rural students, which differs from taluka to taluka.
- Assess the changes in the students' personality in terms of increased confidence.
- Evaluate the students' orientation and familiarity with computer technology.
- Evaluate students' perceptions of relevance of IT in rural life.
- Assess changes in the students' personality through the eyes of their parents and teachers.
- Assess the delivery of the programme and curriculum with the help of the Lab teachers.
- Recommend how to improve dialogue with parents about relevance of IT in their own life as well as the students' lives.

By successfully implementing the pilot project in Baramati, we are confident that with Corporate Support the mobile PC vans, will be able to achieve the aim of bringing IT education to the rural populace in India.

Economics

The Cost of the Project of 1 bus with Computers, UPS, Printers, Generator back-up, LCD projector, Furniture and Fixtures shall be approximately Rs. 20,00,000.00 (say U.S. $40,000)

The yearly running cost per bus (to be paid to VIIT) for the period of 5 years shall be about Rs. 30,00,000.00 (say U.S. $ 60000).

This Bus will educate minimum 7500 students in 5 years = $ 100000 / 7500 = $13.34 per benifishary and the project can go further for 5 years after infusion of new equipments!!

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