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Computer Literacy Programme Transforming Rural Bangladesh

Anir Chowdhury, anirchowdhury@pmo.gov.bd
Ajoy Kumar Bose, ajoy@dnet.org.bd

D.Net, Bangladesh

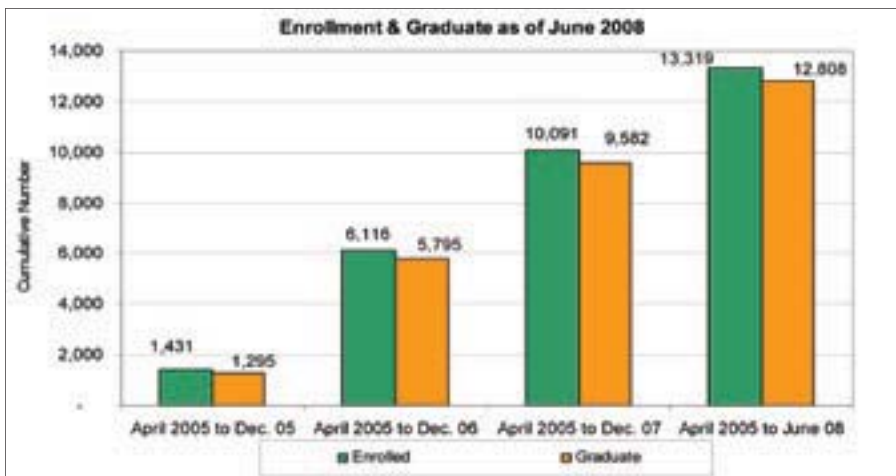
Glimpses from the CLCs

An unremarkable high school in a nondescript backwater village of our country just became equipped with a Computer Learning Center sponsored by the Volunteers Association for Bangladesh, New Jersey (VAB-NJ, USA). The students in the high school had never seen a real computer in their life; most people in the village had never heard of such a thing, and if they had, they could not care less: what can a computer do for them? Students were used to slogging through their SSC 'Computer Science' syllabus by memorising concepts and definitions from the boring, black-and-white, blurred images of CPUs and monitors on newspaper. These were the digital-not-haves in the increasingly digital, but as quickly digitally divided, world. Chances that these students would grow the right skills to compete in the globalised world were remote. Now, the newly established CLC is offering them a ray of hope. Even the villagers are



coming by to see the lab and finding out how a computer can impact their lives.

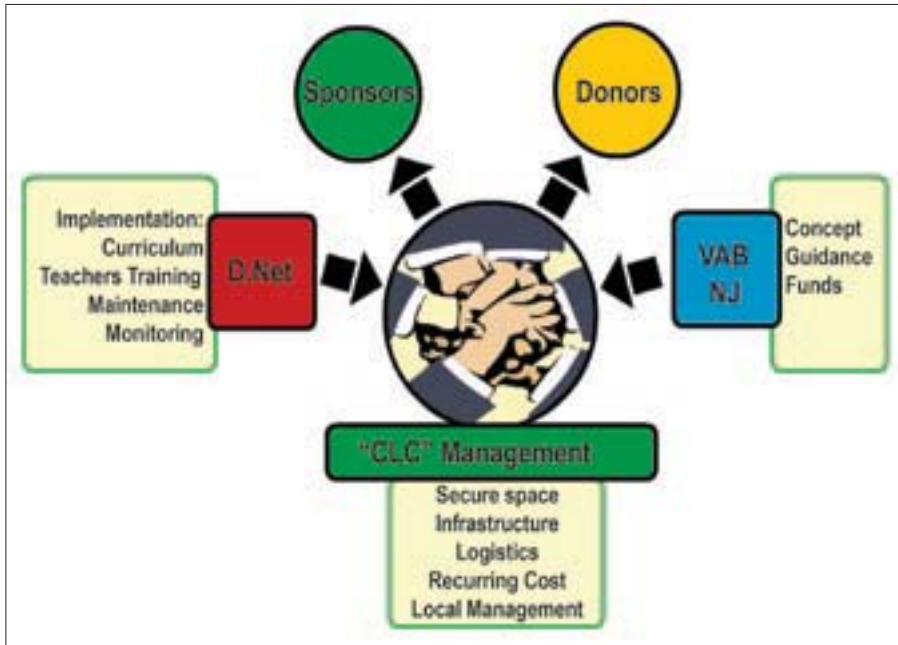
This is the story of 82 CLCs launched in high schools, colleges and community based organisation of disadvantaged areas of Bangladesh as of June 2008 by D.Net.



Walk with us to some of these CLCs and see the buzz of activities in an otherwise unexciting establishment of learning, and hear the stories of lives being transformed.

Students' lives being transformed

Md. Nasir Uddin is a student of Class X in one of these high schools where a CLC has taken shape. Whereas previously he despised his Computer



and teachers to venture out of their own weasel spaces and empowering them to take new steps. At a number of the centers, the teachers are using computers for tabulating and analysing student grades, scheduling school activities and resource management.

One newly founded college which used to have about 100-120 students successfully leveraged the CLC started less than a year ago to market itself very prominently. Its 2006 enrollment jumped to 250.

Humorous anecdotes of students being petrified of computers and overcoming their fears to become proficient operators of the mystical machine abound. One of our 12,808 graduates fell off her chair while holding the mouse because she was trying to move her body with the movement of the mouse. Another graduate escaped the CLC after closing off the Toolbox in a paint programme – he was terrified that he ‘broke’ the computer. Hundreds of these ‘frightened’ individuals are now operating the computer very successfully and fighting with the new ‘pen’.

School Teaching Being More Learner-Centric

Invariably at all CLCs, group activities on a computer are essential to getting the lessons completed because i) it is encouraged, and ii) the shortage of computers does not allow one-to-one ratio most of the time. The upside of this arrangement is that the seeds for positive collaboration are sown. Where else in Bangladesh do you see such collaboration at the school level other than students plagiarising from one another?

Many of the CLCs have introduced supplementary digital material for general subjects such as mathematics, science and English which the students find difficult to learn and teachers find difficult to teach. This material leverages colourful animation and cartoons that are fun for the learner. It holds the interest of the learner much more effectively than drab textbooks and often monotonous lectures from the teachers. Because the learners sit at the driving

Science subject material which he needed to ingest directly from newsprint, now he could not be more eager to learn the material taught at the Center as he dreams of being a computer scientist one day. Many graduates of the programme have found the motivation and courage to pursue advanced studies in computer science.

A poor girl at a Feni CLC was so inspired from her interaction with the computer that she convinced her brother and another relative to buy a computer at home for further learning.

Before the Computer Learning Center was started, students would not get more than 70% in SSC Computer Practical tests. After the establishment of the Center, some students are scoring as high as 100%.

Many graduates of the Computer Literacy Programme have been gainfully employed because of the skills they acquired at the CLC. A heartening story is that of Rubel Islam and Alamgir Hossain from Doulatpur who have been employed as computer operators at the Bangladesh Army.

Teachers becoming agents of change

Md. Farid Uddin is the teacher of a high school boasting a CLC. He is leveraging his personal interest in computers to

build awareness within the community on how the computer has become the new ‘pen’ in the age old maxim ‘The pen is mightier than the sword’. A large number of unemployed youth are coming to him for computer literacy.

Teacher Farhana Akhtar in Bagerhat inspired and guided students Ziaur Rahman and Zahidur Rahman to start their own small ‘computer shop’. This is an example of where the CLC gave these two students an ‘axe’ with which to earn a livelihood.

A teacher writes from a CLC in Munshiganj, ‘The most important effect of CLP is that it has created and is creating computer awareness among the students of the school; now students realise the importance of computer for their present and coming life.’

School administration being more efficient every year, many schools used to spend several days processing the admission test results of a few thousand prospective students. With the computer processing power, and the consequent heightened sense of urgency among the staff, the efficiency gain has cut down this effort to almost a third of what it used to be. Students get their test results within a day.

The CLCs are encouraging students



seat, they drive the depth and breadth of their own learning.

School Emerging as Community Learning Centre and Service Centre

Recently, the administrators of the Mymensingh Teachers' Training College contacted the CLP when their B.Ed. (Bachelor of Education) needed computer training. Some 65 B.Ed students were trained at the Muktagacha and Mymensingh CLCs to successfully satisfy their requirements. This is a poignant example of how CLP has assisted in areas completely outside the original objectives.

Many eager parents visited the computer labs. Teachers of other subjects are also falling in line. One particular English teacher's words are, 'I keep hearing terms such as 'hardware', 'software', 'mouse', 'log-in', 'log-out' all the time, and I have no clue what those mean. It's time I became a computer literate as well.'

In a CLC that was established within a youth development center, the community youth who have graduated from the CLC course, are using the center to draft letters, certificates, programme schedules among many other things. The CLC has made the center a lot more vibrant and useful to its members, their friends and relatives.

Recent introduction of Internet and D.Net's JEEON Livelihood Digital Content in a number of the centers have sown the seed for a giant transformation in information access by the disadvantaged. Based on five years of research on livelihood information needs of rural communities of Bangladesh, the JEEON Livelihood Digital Content features text, video and animation content on agriculture, health, education, human rights and legal issues, disaster management, appropriate technologies, among many other information needs. This content is already in use around the country in 26 of Pallitathya Kendras which are community information centers. Some CLCs are now operating as part-time Pallitathya Kendras after school. Students from different classes are using the content for their academic purpose specially for agricultural study.

The Partnership Made It Work

All of this has been possible because of the dedication of a few devoted volunteers in NJ who conceived of the idea five years ago, a good number of donors and sponsors from the non-resident Bangladeshi (NRB) community, and the sustained commitment of VAB-NJ's Bangladeshi partner D.Net (Development Research Network) to make this project successful against all odds in all remote areas of Bangladesh. Just one look at the distribution map of

the centers opened as of June 2008, and you will know that the organisers have not just tip-toed around Dhaka or only the big cities. Thirty-four districts and 61 sub-districts are represented with the current 82 centers. Schools miles away from the main road are among the locations selected.

It is important to note that the Computer Literacy Program is not purely charity – the schools have to provide the space and furniture for the lab, mobilise the teachers, students and the community, and manage the programme themselves. Thus, it's a true partnership among the VAB-NJ, donors and sponsors, D.Net and school management.

The remarkable phenomenon of NRBs motivating the resident Bangladeshis has happened through this programme. Capable individuals and organisations have come forward to sponsor CLCs. During the fund-raising dinner for the programme in January 2006 in Dhaka, D.Net was able to raise about US \$1,500 from individuals, Bank Asia Ltd a private bank has sponsored 13 CLCs under their CSR programme, Hussain Trust and many individuals from Bangladesh pledged setting up multiple CLCs around the country. Diplomats from a foreign embassy visited two CLCs and donated eight new computers. The Dhaka office of the International Monetary Fund (IMF) provided four and Siemens Bangladesh provided two previously used but very high quality computers to another CLC.

Recently D.Net and Relief International signed a MoU to collaborate their activity on 'Enhancing Computer Learning Program along with Internet connection'. The objectives of the collaboration are to promote ICT in a basic education setting and improve the general state of education in Bangladesh, introduce Global Connection Exchange (GCE) programme activities, Teacher Professional Development (TPD) training, ICT Youth Leadership Training, Technology Volunteer Corps Training, International students and teacher exchange and many more.

It is a rewarding and inspiring

experience to talk to students, teachers, and parents. They feel grateful and encouraged that the more fortunate sons and daughters of their soil are finally looking back and 'giving back'

Computer literacy programme: Planning the next steps

In the last four years since inception, the Computer Literacy Program has gone through a maturation process primarily in programme management and strengthening of operations on the ground. A strong basic curriculum has been designed and proven. The labs are functioning like clockwork (true, there are occasional hiccups with old computer parts needing urgent replacement, but D.Net has perfected a system to address that in an efficient manner for the current centers).

Teachers are being trained effectively. They are delivering training to the students according to the agreed upon

ability to objectively assess the impact of a programme that it implements and then apply corrective measures to make the intervention more effective and efficient. In general, the CLCs seem to have great positive impact on not only the students and teachers but also on the parents and the community as a whole. It is important to obtain feedback from independent, external observers. In 2006, a graduate student from the Fletcher School of Government of the Tufts University, USA carried out a formal comprehensive evaluation of CLP based on structured questionnaires, interviews and focus group discussions. The study report entitled, "Bridging Digital Divide for Rural Youth: An Experience from Computer Literacy Programme in Bangladesh," is available online at www.vabonline.org/vabnj.

The study came up with some interesting observations: CLP graduates tend to collaborate with and learn from

report that the CLC seems to increase the confidence, comfort and enthusiasm of a student in a computer environment, and are somewhat split on whether it increases self-confidence.

Advanced training

CLP so far has limited itself to a 32-hour basic training that teaches the students the basics of computer hardware operations, Microsoft Windows fundamentals, word processing, spreadsheets, drawing, and some hardware and software troubleshooting. Advanced courses are being planned which will allow the students more sophisticated use of the computers such as desktop publishing, email and internet, presentations, animation, and even simple programming. D.Net has identified eight schools and conducted a day-long workshop with the teachers to assess demand in these different CLC locations to design the right mix of educational content.

D.Net has introduced international standard certification programmes such as Microsoft's Unlimited Potential in a few CLCs, and is exploring International Computer Driving License among others. This can potentially become an income-generating activity for the CLCs.

Internet access

Twenty-eight CLCs have internet connectivity currently. Internet access open doors for unprecedented knowledge and creativity for the students. This is directly evidenced in Bangladesh in another programme run by an international donor agency Relief International Schools Online that has set up Internet Learning Centers (ILC) in a few underprivileged schools. The schools students are communicating and working on joint projects with students from India, Tajikistan and the USA. The joy and resourcefulness unleashed by the CLCs and ILCs are a sight to behold.

Computers for general education

The power of computers as a tool of general education is established all over the world including developing countries. It is indeed the new 'pen'.



schedule. Over 92% of the enrolled students are successfully graduating from the programme.

Now that the foundation of the set of labs has been established around the country, VAB-NJ and D.Net have started planning the next generation activities for the CLCs.

Impact research

D.Net is primarily a research organisation. Its strength lies in its

one another more than their peers who did not go through the programme do. Teachers report that CLP trained students do better in other areas, such as, Mathematics, Bengali and English, CLP course are beneficial in the students' preparation for SSC Computers. Head Teachers report that the presence of a CLC in a school enhances enrollment in and transfer of students to that school and presence of the CLC has had an overall positive impact on the operations and character of the schools. Guardian's

D.Net is collaborating with Bangladeshi organisations such as Foundation for Education Research and Innovation (FERI) and Bangladesh Mathematics Olympiad (BdMO) to bring to the CLCs Math and Science Camps. In such camps, multimedia educational CDs will be demonstrated through computers and students will engage in various activities on selected topics. BdMO in the last seven years has popularised Mathematics all over Bangladesh to the point that all self-respecting schools would want to get involved in the Math competition. The CLCs could provide a very effective avenue for these competitions coupled with multimedia CDs on Math.

Another innovation D.Net is planning to launch around the CLCs is 'Education on Wheels'. The concept has its roots to a visit by a few D.Net members to underprivileged schools in Egypt. There, computers are placed on movable trolleys and taken to classrooms to demonstrate educational concepts thereby making the teaching-learning environment a lot more enjoyable and effective. In the context of CLCs, all D.Net needs is a trolley where one of the center's computers will be fitted and loaded with multimedia educational CDs for their trip through classrooms. Four CLCs are going to start the 'Education on Wheels' programme from November this year. The schools will bear the cost of trolleys while D.Net provides training and relevant CDs for display in the classrooms.

Income generation and sustenance

An idea is only as good as its staying power. The Computer Literacy Program has been very successful in its current context. However, the programme needs to be sustained. The funds for it must be maintained either through the donors and sponsors or by some other means. Or, perhaps more realistically, through a combination of donors/sponsors and income-generating activities managed by the CLCs directly. D.Net and VAB are designing several such components to sustain the remarkable achievement the CLCs have been able to make in a

very short time. Some of these activities are:

- Offering advanced courses suitable to local demand
- Leveraging the CLCs as part-time Pallitathya Kendras. The digital services such as computer composing, digital photography, serving livelihood information from the JEEON Livelihood Digital Content platform can all generate income for the CLCs.

There are many other income generation activities that are on the drawing board, but the programme needs to move slowly so as not to upset the integrity that it has been able to build with the school communities hosting the CLCs.

Sustaining the NRB commitment and energy

Executive Director of D.Net Dr. Ananya Raihan, when describing his first contact with VAB-NJ, wrote in an article that appeared in the 2005 fund-raising booklet for the Computer Literacy Programme, 'I was a bit apprehensive initially. The NRBs have started many initiatives before which faltered in the middle of the process due to lack of comprehensive planning and clarity about the ultimate objective, prevalence of 'charity' mentality, inadequacy of back-up plans, and a lack of understanding of the realities in the field.' The particular NRBs driving the Computer Literacy Program have proven Dr. Raihan wrong so far – he was indeed quite happy to be proven wrong! Recently, on hearing about CLP, Mark Surman, Managing Director of telecentre.org, a Canada-based global initiative for IT for development, remarked to Dr. Raihan that it is the only programme in the world where

countrymen (NRB and residents) successfully pushed such an initiative a long way without any 'foreign donation'.

The almost unnoticeable event of the poor Feni girl figuring out a way to get a computer in her house is by no means ordinary. It is indeed symptomatic of the profound cultural and social revolution that computers can catalyse for our deprived society. Rubel and Alamgir's employment as computer operators in the Army is also part of the equation of paving the road for our countrymen to become able soldiers of the increasingly globalised and digital world. CLP is providing the initial sparks of this revolution and transformation.

As mentioned earlier, CLP's capabilities are limited. In the backdrop of 64,000 villages of Bangladesh, 82 CLCs have been established in four years. Obviously success to date is dwarfed by national need. However, the experience gathered and lessons learned over the three years encourage bigger dreams. It has been reaffirmed that honest and fruitful endeavors encourage others to extend a helping hand. The deprived students in the remote villages of Bangladesh have shown that they can make good use of every little opportunity provided to them. CLP has demonstrated that NRBs, with their expertise and resources, are able and willing to effectively contribute to developmental projects that help the country. Professionals from Bangladesh are now scattered in various parts of the world. Most of them nurture a fond desire to pay back to the land from which they sprang. This is a cherished treasure whose proper utilisation can bring the desired well being for the nation. ■



Anir Chowdhury is a Co-Founder and Member, Governing Body, D.Net and Policy Advisor, Access to Information Programme, Chief Adviser's Office, GoB. He is also the Vice President of open source movement 'Bangladesh Open Source Network' (BdOSN). Chowdhury has been a key contributor to ICT policy formulation, e-Governance advancement, open source adoption and ICT4D progress in Bangladesh as a member of the ICT Task Force.



Ajoy Kumar Bose is a Co-Founder of D.Net. He worked as a research officer at Bangladesh Institute of Development Studies (BIDS) from 1991-2001 and has rich and varied experience in socio-economic research, SME, education, agriculture, and Information Technology. His expertise lies in collection, synthesis and analysis of data and core-team management. Bose is presently the Project Coordinator of Computer Literacy Programme in D.Net.