

**Computer Literacy Program:
Beginning of a Journey Towards a Knowledge Society**
Ananya Raihan
Executive Director, D.Net, Bangladesh

Beginning of the Journey

Dr. Zafar Iqbal invited me to a computer fair in Sylhet organized by the students of Shahjalal University, the university he joined after returning home from USA. He is one of those who opted to serve the country from within. During our conversation, he asked me whether I would be interested in participating in a computer literacy program masterminded by a group of patriots living in the USA. For some reason, he considered D.Net to be the most suitable organization for implementing their vision. D.Net already had a program titled “Improving Access to Livelihood Information through ICT (Information Communication Technologies)”. The focus of D.Net’s activities was rural people. Dr. Iqbal liked our program and he knew about D.Net ever since we interacted through “Tech Bangla”, another initiative by non-resident Bangladeshis (NRBs). He knew that young minds in D.Net do what they believe in.

After returning to Dhaka from Sylhet, I received an e-mail from Dr. M. Farooque detailing the scope of the Computer Literacy Program (CLP) that the Volunteers Association of Bangladesh, New Jersey (VAB-NJ) was planning to undertake. The program was close to our heart, as it intended to deal with one of the core “digital divide” issues in developing countries like Bangladesh and focused on underprivileged youths. Many talented students from rural schools do not reach up to their potential due to lack of access to proper opportunities and resources. The information era added another dimension to their deprivation. The schools cannot afford computers in classrooms. The computer education in class IX and X is textbook dependent in village schools.

From Dr. Farooque’s e-mail I came to know about other volunteers of VAB-NJ. I already knew some of them. I was a bit apprehensive initially. The NRBs started many initiatives before that 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. I talked to Anir Chowdhury, one of the NRBs whom I adore for his commitment and devotion to a prosperous and respected Bangladesh. He also had a high opinion of the initiators of the CLP. A few weeks after the discussion with Anir, I received a phone call from Dr. Farooque. I was pleasantly surprised to find out that he is the son of Mr. Shamsuddin Ahmed, my beloved teacher at the Jahangir Nagar University School. I instantly decided that we should collaborate. However, it was not only our choice. VAB-NJ also wanted to be sure about our professionalism and commitment. Dr. Iqbal’s recommendation moved the initiative a lot. We talked with the core group of VAB-NJ through teleconferences and finally inked a memorandum of understanding (MOU).

The CLP Concept

The VAB-NJ conceptualized the Computer Literacy Program, an initiative through which Computer Learning Centres (CLC) would be established at educational institutions through out Bangladesh to help the underprivileged youths learn computer usage. CLP is a complete package which include the establishment of a computer lab at each CLC, development of a structured hands-on curriculum, development of training manuals for both teachers and students, creation of a pool of trained teachers, and providing the required technical support and monitoring to ensure smooth operation of the computer labs. Each computer lab will be equipped with a minimum of four computers, one printer, and necessary voltage regulator/stabilizers. The program envisioned establishment of twenty such centers during the first year of operation.

VAB-NJ needed collaboration from those who would implement their vision. That is where D.Net came in. The field tasks included site selection for CLCs, developing curricula, preparing instruction manuals, training the teachers, supervising the smooth operation of the centers and so on. D.Net had technical expertise, innovative ideas for implementation, and motivation, but lacked essential resources. VAB-NJ brought in the needed resources. In spite of an adequate resource base, D.Net has shared a portion of program implementation costs. .

Comment [WSC1]: just deleted for consistency, since NRBs does not have '

From the very beginning D.Net was fortunate to have the support of Dr. Zafar Iqbal and Professor Mozammel Haque Azad Khan, Dean of East West University, among our advisors. They attended a number of meetings for curriculum design and learning tool development. They did it without any compensation for their time. With their advice D.Net developed a useful learning tool and teachers' manual. The learning tool builds on the concept of "learning by doing," and avoids use of abstract theoretical ideas that often baffle beginners. Teachers liked the approach very much. A troubleshooting manual for hardware and software issues was also developed, which the teachers found to be very useful. Teachers are providing their input in improving the tools. By June a revised version of the manual will be published.

The design of compensation is another instrument of successful implementation of the program. Teachers spend their time after school for taking the computer literacy class. The primary and the secondary teachers are paid approximately US\$ 16 and US\$ 8, respectively. This additional income helps them support their families. This compensation is an incentive for them to stay with the CLP.

Comment [WSC2]: not sure what the convention is with use of \$ with Taka

Deleted: Taka

Deleted: 1000

Deleted: Taka

Deleted: 500

Lessons Learned

We have encountered some roadblocks on the way and have devised innovative solutions. Computers arrived during the Eid Holidays and there were other unusual delays for clearing the shipping containers. There was no duty on computers, but the "Infrastructure Development Surcharge" based on the fair value price is mandatory. Initially the officer-in-charge levied a fee based on a price of "second hand computers" at USD 500, a price at which a brand new computer is available at Dhaka retail market. We were finally able to convince the official to set a fair price of ~\$100.00 for the old

computer sets. The shipment was released from the depot at Kamlapur almost one month after its arrival.

The training of the first batch of teachers was already scheduled with the hope that the computers would arrive and be cleared through the customs on time. As the CLP computers were late, personal PCs from D.Net members were borrowed for two weeks to get the scheduled training going. It was arranged within two days.

The next challenge was shipping computers to the CLCs after training. As the computers were not in safe packs, it was difficult to send them to villages. The cost of cartons and foam was too high and they were not used for shipping. Instead, for each shipment to villages, a number of seats on a bus were booked. A D.Net team escorted the teachers to the bus; the villagers from the bus stands received the computers. In one case we came to know about an impending continuous hartal during the scheduled delivery of the computers. We moved up to computer delivery date to circumvent the potential delay by hartal. The D.Net technicians had to work overtime for a week to meet this last minute schedule change. The whole shipment process has been a unique experience for us. Fortunately, there was no incidence of robbery or theft on the way.

How Are the Pre-owned Computers Working?

We have received a total of 225 computer sets consisting of 175 Pentium II and 50 Pentium III CPUs. All the computers were pre-checked before shipping to Bangladesh. We expected to find them in working condition. However, we found about 80% of the machines in working condition in our initial check up. We are expecting that a portion of the damaged units could be refurbished for reuse. As most of the nonworking computers are Pentium I it is difficult to find replacement hardware. The problems are further aggravated when “clone” hardware does not fit “brand” ones. As dust is a big problem, individual CPUs and monitors are packed in polythene. We will try to recover damaged machines by scavenging parts. We also have a plan to use the non-working CPUs for hardware repair training. We have received some reports from the field on damaged hardware, which has been limited so far, but may become more of an issue in coming months.

There is a burning question as to whether it would be better to buy computers locally in the future, which will avoid detractions from shipping and shipment clearance, cost of storage, refurbishment, maintenance, etc. D.Net is conducting a cost-benefit analysis and the results will be used to guide us in the future. The results of this study will be available after a complete check up of all CPUs and monitors, and the result might be used for recalibrating the current model.

The turnover of teachers may be a potential problem, one that needs to be addressed in next year's program. Already, out of forty teachers from twenty schools, one female teacher left the school just after returning home from training in Dhaka. Since we have a provision for a follow up on site training, the problem could be resolved.

Where Are We?

Twenty Computer Literacy Centers have been set up and will be running by June 2005. These centers are producing over 500 graduates every two months. Ten of these centers were selected as sites meeting infrastructure pre-requisites (such as availability of electricity, dedicated room, tables and chairs), with NRB donations sharing ~ 50% of the costs. Drs. Imdad and Sitara Khan of Saratoga, CA sponsored the remaining ten sites. These ten sites were selected based on detailed competitive scoring. D.Net conducted detailed on-site surveys of twenty potential sites and scored them on several categories such as rural location, proactive and cooperative management, potential to serve a large student base, favorable socio-political environment, and pre-existing presence of VAB and D.Net programs. Scores in all categories were added on a normalized scale and the top ten highest scored sites were selected.

Comment [WSC3]: If this is published after May, "will be running by" can be replaced by "are running as of"

Why is CLP Working?

The beauty of the program is that the grassroots level is tied up with a donor NRBs or a stakeholder who would be interested in the success of the program. The Computer Literacy Center sites are linked to areas where the sponsoring NRBs came from. This tie ensured commitment of local people who valued the good will and efforts of their sons and daughters. On the other hand, the contribution of the NRBs goes directly to the villages, which is a symbolic repayment of indebtedness to the motherland.

The local communities have shown their commitment by providing classrooms for the computer centers, wiring and furniture. As a result, a tri-partite partnership, viz, VAB-NJ, D.Net, and the local community, evolved with a shared commitment, the CLP. The following table can provide understanding of involvement of the parties.

VAB-NJ's Contribution	D.Net's Contribution	School Contribution
Conception of CLP; Raising funds from individuals and organizations; Provide pre-owned functional PCs for distribution; Provide vision and funds to implement the program	Curriculum development; Teachers training; Supervision of the program; Field research to improve implementation process; Technical support; Share overhead cost	Space and furniture; Mobilize teachers and students; Run and operate the program

I cannot help but mention a few examples of commitment from the local community. In one school, they did not have adequate space. As one of the selection criteria was existence of adequate space to set-up a computer lab, the school management and local community came forward to build a brick building for the center. A female teacher of Mamun Smriti Pilot High School, Jamalpur, became sick during her training at Dhaka. She did not want to leave training despite high temperature and sickness. In Bagerhat, the

local management brought an Internet connection for the learners on their own cost. There are many other stories that show that the program design is very important for ensuring local ownership. We have noticed tremendous enthusiasm among the local population at many sites. In Mymensingh, the management of local educational institutions spent their resources for organizing an inaugural ceremony, which was attended by 500 local people. In one school the teachers came forward and said that they too would like to be computer literate. The English teacher's comment was particularly interesting. He said, "I hear new words like 'mouse', 'cursors', and 'software', etc. and I do not know what these mean. I too would like to be computer literate."

What Have We Found to be Important?

We noticed that it was very motivating to the teachers when they are encouraged by the eminent personalities. We have been fortunate enough to have the presence of Dr. Mozammel Haque Azad Khan of East West, Dr. A.R. Khan of Dhaka University, and Dr. Atiur Rahman of Bangladesh Institute of Development Studies. They were happy to spend time with the teachers in the certificate awarding ceremony.

D.Net has been proposing through various media that the "one school – one computer" program launched by the government of Bangladesh is not adequate. Rather we need a "one school – one computer lab" program for some tangible result. The success of CLP will prove this point and may provide the government a benchmark to recalibrate their computer education program. It is also important to have a comprehensive approach - the presence of computers is not enough. Like the CLP, computers, UPSs, printers, up-to-date curricula and learning tools, teachers' training, continued oversight, and teachers' incentive pay are required.

D.Net recently participated in a workshop in Cairo on IT (Information Technology) Education. Most of the participating countries happened to be nurturing some form of Computer Literacy Program. The members participating in the workshop highly appreciated the total system approach of the CLP initiative.

Next Steps for CLP

In the next year's program two things will be very important. The first is the printing of learning tools and distributing them among the teachers and students (maybe at a subsidized rate). The second is to design a sustainable expansion of the program. D.Net in its current capacity might not be able to run the program in more than 50 schools. The lessons learned, however, might be useful for another separate "CLP" in Bangladesh where D.Net can be a useful partner.

There has been a demand from the educational institutions to use the computers after completion of the CLP program for advanced commercial training programs when the computers are not in use for CLP purposes. Such programs will generate money for the

purchasing of spare parts for the computers, cartridges for printers, and expansion of the labs. However, any such program will have to be monitored closely so that the main thrust of the program does not falter. A separate module of learning materials will be needed for this purpose. After the advanced training, the trained youngsters will be able to find computer-related jobs, such as in hardware, desktop publishing, or Internet business. This will be an excellent move towards capacity building. However, this should not be the end. A bigger market for information products prevails in rural Bangladesh. Computer and Internet based information centers can create huge job opportunities for the rural youth, as they have done in India, Malaysia, Africa and elsewhere. In Bangladesh, D.Net is working on similar objectives with organizations like the M. S. Swaminathan Research Foundation of Chennai, India. The village youth trained in ICT may be the work force for “Pallitathya Kendra” of D.Net across the country. These centers will provide all types of livelihood information to the rural poor. This activity will empower them and help them come out of poverty. A truly knowledge-based society will be built. That is our ultimate dream.

The Big Picture

We have come to a very important reckoning. Currently, we are planning to establish 20 centers each year. If we continue at this pace, and if the CLP is the only such program, it will take 900 years to establish computer centers in all the educational institutions¹ of Bangladesh, *ceteris paribus*. This simply shows that the CLP program launched by VAB-NJ is not enough. There should be similar initiatives launched by others, and the CLP itself should expand its current activities. I believe that resources will not be a problem. A solid success can attract giants like Microsoft and others for investment in computer education. Bangladeshi corporate houses are also potential sources for funding. With the concerted effort of the government, NRBs and those of us in Bangladesh, we can dream of a Bangladesh digitally connected with the rest of the world.

¹ Post primary excluding Madrasah.