

EXPLOITING ICT FOR EDUCATION : THE MPBL EXPERIENCE

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SYNOPSIS

Maktab Perguruan Batu Lintang (MPBL) like any other organization exists for a purpose. Ours is “To provide quality teacher training and education at pre- and in-service levels”.

Teacher training and education itself have been experiencing great challenges due to the demands made on them by environmental and societal needs as well as to changes in technology. Due to the fact that teachers are involved as change agents in realizing our nation’s aspiration towards a developed status by 2020, there is an urgent need to equip teachers with the necessary knowledge and skills to meet these demands. An important prerequisite to meet the demands of a global world is an ability to use new information technologies. There is an urgent need for the training of more computer literate information officers who are able to apply, operate and manage the new information technologies as well as to inject any new knowledge that comes along.

Understanding the above scenario, MPBL has formulated some strategies to provide an environment where ICT facilities as well as opportunities are made available for our staff as well as clients (students) so that they may acquire the necessary knowledge and skills. This paper intends to share some of our experiences in its implementation. Our experiences span the following areas:

- o ICT Infrastructure*
- o Utilization of the facilities*
- o Applications and Services*
- o Training and Staff Development*
- o Administration and Maintenance*
- o Challenges faced*

OUR ICT INFRASTRUCTURE

Since the late 1980’s computers have played a vital role in our training curriculum. However, they were merely stand-alone PCs and were mostly used for teaching computer literacy. It was from 1998 onwards that drastic changes began to take place with the implementation of our first computer network. The project was initiated and designed by the Information Technology Unit of the college.

Our strategic plan for building an integrated local area network system covers four phases which is summarized below and illustrated in the diagrams (Appendices).

Phase I	Administration Block and Student Affairs Block (Appendix 1)
Phase II	Expand to Library Block (Appendix 1)
Phase III	Expand to Smart School Simulation Center (Appendix 2)
Phase IV	Campus wide - all lecture rooms, students' hostel, and other main buildings (Appendix 3)

To date we have completed Phase I, II and III, linking a total of 202 computers and 5 servers. All of them have Internet access either through an ISDN 64/128 kbps dial-up line or a 64 kbps lease line. One of our servers is also linked full time to *Bahagian Sistem Maklumat, Kementerian Pendidikan* in Kuala Lumpur. We anticipate that phase IV will be completed by the end of 2003. If all goes according to plan, our local area network by then will support a total of 763 data port points.

UTILIZATION OF THE FACILITIES FOR EDUCATION

All academic departmental rooms, utility or function rooms and offices are equipped with computers for staff use while computers for students' use are placed in five main labs. Two of the computer labs are used purely for IT lectures and hands-on-training. Another two are open daily from 7.30 am until 10:00 pm for students' use while another is used specially for ICT short courses such as the *Intel Teach To The Future Program* and also for use by students taking core IT subjects. Besides these computer labs we also have a very spacious *Smart School Simulation Center* which has 16 computers at present and the number will eventually be increased to 24.

Students and members of staff are given user accounts as well as storage space (personal home directories) on file servers and are required to log on to access the network. Lecturers can place their teaching materials such as syllabuses, course structures, lectures notes, assignment instructions, etc. on the network for students to access. If access restrictions are required, the network administrator will assign the required rights and permissions. Some lecturers also require the students to submit their coursework in digital format through the network to be stored in the designated folder. In fact some of our coursework evaluation tests are carried out online. This can be one of the ways of moving towards a paperless environment. In-service course participants such as teachers undergoing the smart school training programme intensively use the computers in the *Smart School Simulation Center* to equip themselves with new skills as well as try out new ways of teaching using computers.

APPLICATIONS AND SERVICES

With our local area network infrastructure and other computer related hardware as well as software, MPBL is able to provide facilities for students to use as tools as well as for skills acquisition while at the same time ensure that students develop a spirit of critical enquiry and an understanding of information services. Besides the providence of facilities, MPBL has also come up with a number of applications, some of which are purely home-grown while others are innovations. Our applications include :

- o SimPel (Sistem Maklumat Pelajar)
- o eLib (Electronic Library System)
- o eBelajar (Online Learning System)

- o mpblnet (Intranet Information System)
- o edunet (Local Web Server for Education)

Other services include:

- o Internet access
- o File storage and sharing
- o Printer sharing
- o Scanning facilities
- o Graphic, audio, video and other multimedia production facilities

TRAINING AND STAFF DEVELOPMENT

Training on the use of our ICT facilities is carried out in the following ways:

- o Briefing for all new students
- o Through the respective curriculum of the official teacher training program (For trainee teachers and in-service course participants)
- o Through special projects and coaching
- o In-house Training for staff
- o Short courses (for students, staff as well as for school teachers)
- o Training on specific areas upon request (e.g. converting a video tape into VCD)
- o Self-paced and self taught (with training modules or other resources)

ADMINISTRATION AND MAINTENANCE

All network administration and maintenance work (including computer repairs) is carried out by lecturers from the IT Unit and 2 general support workers. The two general support workers are only capable of doing simple tasks since they do not have much IT background. However, they are being trained on the job.

CHALLENGES

Since none of us have had any previous formal training in computer networks, the project was a great challenge indeed. The design and setup of the local area network infrastructure was purely our own without any consultancy services from any outside vendors. We only contracted out the cable work to a local vendor since that requires a lot of manual work such as drilling through concrete walls and so forth. We ventured into the project not only with enthusiasm but trepidation too. Yes, we did encounter problems getting it to work the way we wanted. However, through the process of troubleshooting, we succeeded in solving our problems and emerged feeling confident, satisfied as well as much more knowledgeable in the area of networking.

Another great challenge is time. A lot of time is needed to ensure that all the facilities are functioning smoothly. Very often we have to work late into the evenings in the college and at times even sacrifice our weekends because we want to avoid interruptions to the network by shutting down or rebooting any servers during normal office hours. Very often we also face interruptions from our daily official work when required to help colleagues who are unfamiliar with operating the facilities, for example, to clear a jammed print-job queue.

Keeping abreast with new technologies is not just about investing money and reading widely. Theories and academic knowledge is not enough. We have to spend a lot of time to carry out practical experimentations to explore how these technologies can be deployed for the benefit of the college. However, we enjoy the advantage of being able to enrich our knowledge and with that, we are encouraged to always keep abreast with development in IT and to be sensitive to necessary changes amidst the changing needs of society and the advent of new technologies.

Restrictions and also the sometimes the long process required in the procedure of getting new equipment as well as the replacement of parts for hardware failures can also hinder the smooth running of the facilities. Thus, we cannot guarantee or set a minimum down-time standard.

In our quest to maximize the use of facilities and also to implement new online systems before they become obsolete, we encounter some resistance to change. Some prefer to stay in their comfort zones and are reluctant to learn new skills or help in the implementation of new systems.

CONCLUSION

ICT will continue to play a central role in enabling the growth of a knowledge society and social change, for which education has an important role. It is obvious that we, as an educational institution, have to adapt to the changing world and must make efforts to keep up-to-date, to be sensitive to new needs or demands, and to adopt good standards, principles and practices. In conclusion, we share some thoughts and dreams about the future regarding implementation of ICT technologies in MPBL. They are

- o a computer on every lecturer's desk
- o ICT facilities functioning as "*Centres of Self-education*"
- o a generous annual budget specially for ICT
- o all lecturers become ICT practitioners
- o *New Technologies* transformed into *New Services*
- o new talents emerging from among staff members
- o new jobs/posts being created
- o a paperless working environment
- o the elimination of duplication