

**PERSIDANGAN KEBANGSAAN MENGENAI MASYARAKAT BERMAKLUMAT
NATIONAL SUMMIT ON INFORMATION SOCIETY (NASIS)
7 – 8 SEPTEMBER 2005
INTERNATIONAL CONVENTION CENTER, BRUNEI DARUSSALAM**

Date of issue: 5th September 2005

Doc. S1-3

Session 1: Development Updates

**ICT in Education (ICT-based educations) and
Education in ICT (Literacy and curriculum)**

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(Wednesday, 7th September 2005, 1.45pm – 4.30pm)

E-Education and Conducive Environment for Transforming Brunei's Education

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The application of Information Technology in Brunei's education started in early 80's. Several notable IT projects were implemented based on the ad-hoc needs of various departments and schools under the Ministry of Education. The development of IT at this stage can be classified as the social rationale- based on the model used by Hawkrigde (1990). Very little attention was given to the pedagogical and catalytic aspects of IT in education. However, the journey took a paradigm shift as it moved toward the 21st century. This development coincided with the launch of e-Government under the 8th National Development Plan. The paper begins by presenting a historical background of this digital journey.

It is sometimes wise not to dwell too much into a debate related to which items should become top priority. Rather, a pragmatic approach must be taken in order to consider all the possible means to achieve an end. Such is the case of Brunei's E-education development. It looks at the five strategic pillars that will provide an environment capable of transforming education in the country. These five pillar programs comprise the Edunet (Network Infrastructure), E-learning (curriculum content and learning management system), Education Information Systems (information system applications), Digital Library and Human Capacity Building. Almost all the projects under each of the programs are 'horizontally connected'; cutting across the barriers between departments, schools, and agencies under the Ministry of Education.

This presentation highlights some of the structural changes and processes that shaped the formation of this E-education plan, taking into account the various theoretical frameworks and implementation mechanisms. An ICT Department headed by its own director was formed in conjunction with the e-government requirement of institutionalising a Chief Information Officer (CIO) in every ministry. An ICT Plan was crafted in alignment with ministerial strategic plan with a primary objective of education transformation that is relevant for the new millennium.

The presentation then describes the unique features found in some of these projects and their roles in changing the teaching-learning landscape in the country. In the Edunet Program, all the schools, colleges, agencies and departments will have network connectivity and access to personal computers. Every school has been allocated with at least one interactive white-board, a major departure from the traditional blackboard in terms of delivery. The School Management System (SMS) forms the central information system that helps to manage myriad information related to staff, teachers and students for decision-making. In the e-learning program, a common Learning Management System platform will be made available for all schools in the country. Teachers can upload materials in the website and students will then download them at their convenient time instead of wrestling with the limited time copying notes during class. The underlying principle is to remove difficulty, but promote interest and fun in learning. Digital library projects take a new twist in bringing home the importance of learning by discovery and exploration instead of mere memorising given facts information. Last but not least, the Human Capacity Building Program will focus on strengthening the awareness, knowledge and skills of the trainers and teachers related to IT in education. The presentation concludes with information on current status and progress of these projects.