LEGCO PANEL ON EDUCATION

Information Technology in Education – Way Forward

Purpose

This paper informs Members of the outcome of the public consultation on "Information Technology in Education – Way Forward", and seeks Members' views on the implementation of the next information technology (IT) in education strategy.

Background

2.   On 19 April 2004, the Administration submitted a paper to this Panel (LC Paper No. CB(2)1979/03-04(01)) on IT in education.   The paper detailed the present development of IT in education in Hong Kong, consulted Members on the way forward of IT in education and informed Members of the launch of public consultation on the next IT in education strategy.

3.   The consultation lasted from mid-March to mid-May 2004. During the consultation period, the Administration held five forums which were attended by over 1,000 teachers, school principals, IT industry representatives, parents and members of the community, and received 58 written submissions.   The consultation document has also kindled lively debates in the community from March to May during which the press reported a number of stories and opinions on the subject.   Local tertiary institutions and the Hong Kong Education City (HKEdCity), a portal in support of education in Hong Kong have also held a number of forums to discuss the proposals in the consultation document.

Feedback received

4.   In general, the Administration's proposals received positive feedback from the stakeholders concerned.   The directions of the future

strategy were affirmed, though a majority of the schools were concerned about the resources the Administration would invest into IT in education at a time of budget deficit.

5.   Apart from resources, those consulted were generally concerned about the Administration's continuous support for the integration of IT in the curriculum, and learning and teaching in classroom in particular.   In this connection, quite a number of schools raised concern on the support currently rendered by Information Technology Coordinators (ITC).   Views were divided in this regard.   Some schools agreed that given the Administration's past support on ITC, resources for the next phase should better be diverted to other needy areas such as enhancing e-leadership in schools and helping teachers with the use of digital resources.   Some schools however expressed that the Administration should continue to support ITC by continuing with the relevant grant.   In response, we explained that the ITC grant was meant to be time-limited when it was disbursed, and in the new strategy, we will put in place a multi-faceted and comprehensive support system to help schools to integrate the use of IT in education.   For instance, we will be developing key learning area specific training for teachers in the use of IT; we will be enhancing the sharing of good teaching practices using IT and strengthening the role of the Centres of Excellence (comprising 20 schools which are advanced in the application of IT in education) in coaching and mentoring the schools in need.   We will also be helping schools to acquire and use more extensively quality digital resources, etc.   These aforementioned measures had received strong support from all quarters during the consultation.

6.   The other more salient views gauged during the consultation are at **Annex A**.

Way forward

7.   In the light of the feedback received, we are revising the proposals in our next ITEd strategy along the following directions –

(a)   In terms of resources, we plan to merge, as a first step, existing IT grants to schools amounting to $190,000 to $280,000 per school per year depending on class structure into a composite IT grant. We will give schools a greater flexibility in the use of such grant in support of IT in education projects, technical support services

and other IT integration issues.   We will also be liaising with the Quality Education Fund with a view to formulating collaborative schemes to help schools to address computer upgrading and replacement, which are capital intensive.

(b)   In support of the integration of IT in curriculum, we will be drawing up a framework of "information literacy" and the associated tool kits for teachers on practical ways to use IT in learning, teaching and assessment.   Apart from the measures to empower teachers with IT as set out in the consultation document, we will add to them the establishment of mutually supportive teacher communities to undertake and share pedagogical innovations, through online and face-to-face means.   We also plan to transform, as a pilot, two of our existing "Centres of Excellence" to institutions that facilitate teachers to develop, share and disseminate innovative learning and teaching materials using the latest IT-related pedagogy and facilities.

(c)   In the enhancement of school leadership, we will add to our proposals a pilot on dedicated IT leadership training for school principals to build knowledge, skills and understanding on key issues and impact of learning IT.   Depending on the result of the pilot, such training can be held on an ongoing basis to benefit more school principals.   In this connection, the HKEdCity will be tasked to set up online communities as an e-platform to support principals' IT training and sustain the momentum of such training.

(d)   On digital resources for learning, we will be strengthening our strategy by enhancing the HKEdCity incrementally as a market facilitator for increased public/private collaboration in the production and adaptation of resource materials.   The HKEdCity will be tasked to undertake structured market surveys and research with a view to better understanding schools' use of and demand for education resources.   It will monitor and survey from time to time the demand for the education resources put onto its repository, and will improve its repository by constantly improving its indexing and incorporating evaluations of the resources by professional bodies.   In order to better integrate IT in learning and teaching, we will add to our strategy a pilot on "electronic

learning credits" whereby schools will be given funding to acquire relevant electronic and interactive learning materials as well as curriculum specific peripheries to enhance learning and teaching. The HKEdCity will be tasked to expedite the development of its platform to provide for e-transaction of e-learning materials.

(e)   We will be adding a pillar to our strategy to improve IT infrastructure and pioneer pedagogy using new technology. Under this pillar, apart from helping schools to upgrade and replace obsolete hardware and migrate where appropriate to wireless systems, we will encourage innovation and trials of new technology and equipment to enhance learning and teaching. We will assist schools in the development of IT equipment replacement and upgrading plans.

(f)   Another pillar added to the strategy is continuous research and development, which is vital to sustain our IT in education strategy in the future. Under this pillar, apart from the existing proposals on research and studies, we will add research that provides feedback on the effectiveness of our IT in education strategy, such as baseline monitoring and evaluation of our programmes, and research on the impact of IT in education on students' learning outcomes. We will explore, as a long term measure, the possibility of setting up a Hong Kong based research centre to pioneer the leading edge IT applications in support of proven educational precepts and to come up with creative means of applying IT in pedagogy, learning and teaching and other education purposes.

Implementation

8.   We plan to finalize the strategy by mid-July for public announcement, and start implementation from the next school year in September 2004. Amongst the measures proposed, and as a priority, we plan to start, within this financial year, those which would bring about better integration of IT in learning and teaching. These measures, together with the funding required, are detailed in **Annex B**.

Financial implications

9.   We estimate that the funding required for the measures to commence in this financial year will be $493.01 million, of which $211.7 million will be non-recurrent and $281.31 million will be recurrent, on the part of the Education and Manpower Bureau (EMB).   While the recurrent expenditure of $281.31 million has been budgeted for in the Estimates, we have also earmarked internally additional provision of about $200 million for funding the non-recurrent items in the next IT in education strategy, and will seek the Finance Committee's approval for deploying such reserve shortly.   We will continue to seek funding from other sources by way of collaborative schemes to enhance the funding support for the strategy.

Advice sought

10.   Members are invited to note the outcome of the consultation, and offer any views they may have on the implementation of the next IT in education strategy.

Education and Manpower Bureau
June 2004

**Feedback on Consultation on
"Information Technology in Education – Way Forward"**

Empowering learners with IT

1. Most agreed that the formulation of the "information literacy" framework could provide clear learning targets for students at different key stages. Many schools welcomed the formulation of assessment tools, but they wanted them to be learning-oriented and more for formative evaluation. E-learning solutions were welcomed as a means to provide learners with opportunities for two-way interaction and personalized learning in support of life-long learning objectives.

Empowering teachers with IT

2. All agreed that teachers should be empowered to integrate IT in learning and teaching. Some suggested that professional development should focus on nurturing "constructivism" strategies, such as enhancement of know-how on collaborative, project-based learning.

Enhancing the leadership capacity of schools

3. All supported the merging of existing IT grants and increase in the flexibility of the use of such grants. All agreed that schools should be encouraged and assisted to map out a strategy for enhancing and replacing obsolete IT infrastructure on campus. Some suggested that a "safety net" should be established to enable all students to benefit from the use of IT and to minimize digital divide amongst schools.

Digital resources for learning

4. Many expressed that quality digital education resources were insufficient. They were of the view that where digital resources were appropriately indexed, they should be readily available to teachers. Most stakeholders were of the view that digital resources should be learner-centred. A review system should be established to monitor the quality. Some suggested

that the HKEdCity should strengthen the coordination between the private sector and schools for the development of quality digital resources.   The IT industry considered that Government should do more to stimulate the digital resources market and to induce the industry to develop quality products.

Sharing and continuing professional development

5.	Most teachers were willing to share their good practices in IT-enriched pedagogy and their self-developed educational resources. Some teachers raised concern on intellectual property rights regarding the use of and sharing of web-based teaching resources. They were also concerned about the protection of their own intellectual property rights once their works were shared.

Community-wide support and community building

6.	All agreed that schools should collaborate with parents to ensure that students understand the ethical and "health" issues on IT. Some suggested that an online platform should be established to facilitate communication between schools and parents, and that measures to address digital divide should continue.

Information Technology in Education
Implementation Plan

Goal and Measure	$M (Non-recurrent)	$M (Recurrent)
(I) Empowering Learners with IT		
(a) To update the framework of "information literacy" for students and to develop assessment tools for use by teachers to help them assess students' attainment of the learning targets;	2	
(b) To support research and evaluation on pedagogically appropriate e-learning platforms; to help set up such platforms in schools in need at about $7,000 each and to provide teacher training and enhance courseware.	9	
(II) Empowering Teachers with IT		
(a) To develop, support and provide Key Learning Area or subject-based training and school-based training as well as professional development courses, including refresher training for teachers;		12.26
(b) To enhance sharing and collaboration among teachers using exemplars, effective software, online training platform and mutually supportive teacher communities;	1.5	
(c) To support incentive schemes for developing instructional software and indexing resources;	1	
(d) To transform, as a pilot, two existing	3	

Goal and Measure	$M (Non-recurrent)	$M (Recurrent)
"Centres of Excellence" (one primary school and one secondary school) to become "Learning Centres". These "Learning Centres" will be suitably equipped and seconded teachers will be arranged to make use of the Centres to plan, develop, pilot and organize professional development programmes for teachers in four Key Learning Areas (Chinese, English, Mathematics and Science).		

(III) Enhancing School Leadership for the Knowledge Age

(a) To pilot dedicated IT leadership training for school principals and to set up online communities as an e-platform to support principals' IT training;	3	
(b) To continue with the disbursement of IT grants to school and to merge such grants;		231.87
(c) To strengthen the role of the regional Centres of Excellence network in supporting schools on planning and implementing IT in education;	0.5	
(d) To disseminate the assessment tools developed under the "Overall Study on Reviewing the Progress and Evaluating the Information Technology in Education Projects 1998/2003" for wide adoption in schools for self-evaluation.	0.3	

(IV) Digital Resources for Learning

(a) To strengthen the HKEdCity's role as a market facilitator to enhance production, licensing and adapting the contents of quality overseas e-	3.5	

Goal and Measure	$M (Non-recurrent)	$M (Recurrent)
materials, and the publicity and dissemination of such materials when they are posted to the HKEdCity;		
(b) To pilot an "electronic learning credits" scheme to encourage schools to acquire relevant electronic and interactive learning materials. Schools will be funded for such acquisition with express objective of integrating the use of e-materials in learning and teaching.	10	

(V) Improving IT Infrastructure and Pioneering Pedagogy Using Technology

Goal and Measure	$M (Non-recurrent)	$M (Recurrent)
(a) On a matching fund basis and subject to schools' demonstrated needs, to further improve the IT infrastructure of schools by –		
➢ replacing or upgrading hardware to make it better support today's needs for learning and teaching;	92	
➢ providing additional LCD projectors and related systems in schools and/or IT equipment for use by teachers; and	45	
➢ extending the scheme on wireless technology to more schools.	34.5	
Schools will be required to submit IT replacement and upgrading plans and funds to be disbursed to a secondary school will be up to $188,000, a primary school, $165,000 and a special school, $145,000.		
(b) To encourage innovation and trials of new technology and equipment that may enhance teaching and learning by launching a pilot on the use and effectiveness of interactive	2	

Goal and Measure	$M (Non-recurrent)	$M (Recurrent)
whiteboard;		
(c) To continue to provide maintenance of computer equipment to schools.		37.18
(VI) Continuous Research and Development		
(a) To identify and develop exemplars for more effective sharing among teachers;	1	
(b) To collaborate with local and overseas communities to pioneer leading edge IT applications.	0.2	
(VII) Community-wide Support and Community Building		
(a) To put in place programmes for schools and Parent-Teacher Associations to help parents ensure students understand the ethical, legal and health issues involved in using IT;	2	
(b) To pursue collaborative schemes with the private sector and NGOs in support of IT in education;	1	
(c) To encourage "computer recycling" and donations to help needy students to bridge the "digital divide".	0.2	
Total	**211.7**	**281.31**