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Legislative Council

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Panel on Education

**Background brief prepared by the Legislative Council Secretariat
for the meeting on 12 November 2007**

Use of information technology in education

Purpose

      This paper summarizes the discussions of the Panel on Education (the Panel) on the use of information technology (IT) in education.

Background

The Five-year Strategy

2.   In 1998, the Administration issued a policy document entitled "Information Technology for Learning in a New Era: Five-year Strategy - 1998/99 to 2002/03" (the Five-year Strategy) with the following key missions -

    (a)   to help teachers to become facilitators for student learning, as well as comfortable and habitual IT users as soon as possible;

    (b)   to incorporate IT elements in the school curriculum and to enhance the provision of education software to support learning and teaching;

    (c)   to enhance progressively the provision of IT facilities for schools and work with them to overcome constraints; and

    (d)   to build up network infrastructure to facilitate sharing of education resources and communication among schools, teachers, students and parents.

3.   In 2001, the University of Hong Kong was commissioned to review, on an interim basis, the effectiveness of the Five-year Strategy. The review confirmed the effectiveness of hardware provision to schools, but identified room for improvement in teacher enablement, especially in the integration of IT in learning and teaching.

4.   In 2004, the Hong Kong Polytechnic University was commissioned to review the overall progress made under the Five-year Strategy, in particular the readiness of schools, teachers and students to use IT for enhancing the effectiveness of learning and teaching.   The study provided pointers to fine-tune the IT strategy in education and its implementation plans.

The Second Strategy

5.   Building upon the strengths developed from the Five-year Strategy, the Administration issued a consultation document entitled "Information Technology in Education - Way Forward" on 16 March 2004 for a two-month consultation. Having regard to the views collected, it issued another policy document entitled "Empowering Learning and Teaching with Information Technology" in July 2004, which set out the Second IT in Education Strategy (the Second Strategy) with the following goals:

(a)   empowering learners with IT;

(b)   empowering teachers with IT;

(c)   enhancing school leadership for the knowledge age;

(d)   enriching digital resources for learning;

(e)   improving IT infrastructure and pioneering pedagogy using technology;

(f)   providing continuous research and development; and

(g)   promoting community-wide support and community building.

6.   The Second Strategy has been implemented since the 2004-2005 school year.

Deliberations of the Panel

7.   The Panel discussed the use of IT in education at a number of meetings. The major issues of concern raised by members in respect of the Second Strategy are summarized in the following paragraphs.

Computer recycling project

8.   Members expressed support for the computer recycling project (the project) to encourage donation of old computers to help needy students under the Second Strategy.   However, they were concerned about the limited scope of the project which would cover only 20 000 students.   Members pointed out that according to

a survey conducted by the Hong Kong Professional Teachers' Union, around 5% of the student population, i.e. about 40 000 students, did not have a computer at home. The survey also revealed that the majority of low-income families were living in partitioned rooms in private flats which might not have access to Internet. Students of these families had to queue up for a long time for the use of computers in youth or community centres but could only use the computers for an hour or so. Members were concerned that students without computers and access to the Internet at home were in a disadvantageous position in learning. They urged the Administration to expand the scope of the project to cover all needy students.

9. The Administration explained that under the project, the donated computers would be refurbished, bundled with necessary software and Internet access service for use by students up to the end of the 2006-2007 school year. Schools could give such computers to needy students directly, loan the computers to them or install the computers in schools for shared use. The Education Bureau (EDB) would provide basic IT skills training to the parents concerned prior to the allocation of these computers, to enable proper parental guidance on the use of computers in these underprivileged families.

10. The Administration further pointed out that according to the Thematic Household Survey on Information Technology Usage and Penetration (the survey) conducted by the Census and Statistics Department in the second quarter of 2003, about 5.8% of the local student population aged 10 or above (about 36 270 students) did not have computers at home. Of the responses received, 29.1% considered that the costs were too high, 12.2% indicated that they had access to computers in other places while 15.5% did not know how to use computers. The Administration had regarded those giving these reasons as requiring help, and assessed the gross demand for computers at home to aid student learning to be around 20 000. A total of $49.3 million was allocated for the project. In collaboration with non-governmental organisations, some IT and Internet service providers had agreed to provide the necessary software and maintenance services for the recycled computers, and their access to Internet at nominal costs.

Access to IT facilities after school hours

11. Members were of the view that schools should make the best use of available IT resources including notebook computers to cater for the needs of students. They suggested that the Administration should take proactive actions to encourage schools, in particular those located in districts with a large number of low-income families, to extend the opening hours of their computer rooms beyond normal school hours to facilitate use by needy students. Schools should employ additional staff to man the computer rooms and IT facilities. There was a suggestion that the Administration should consider incorporating the extended use of computer rooms and IT facilities in schools as one of the school-based after-school learning and support programmes for students from underprivileged families.

12.   The Administration pointed out that starting from the 2001-2002 school year, all public sector primary and secondary schools had been provided with an incentive grant for making their IT facilities available for students' access after school hours.   The Administration would provide assistance to individual schools on a need basis, and continue to encourage schools to extend the opening hours of their libraries and computer rooms for students' access outside school hours on school days as well as on Saturdays and Sundays.

Retention of Information Technology Coordinators (ITC)

13.   For the purpose of promoting IT in education, the post of ITC was provided for schools by phases since the 1998-1999 school year.   Members noted with concern that under the Second Strategy, the ITC grant would be discontinued. Members urged the Administration to continue with the provision of ITC as teachers should not be expected to perform the role and functions of ITC in computer maintenance and application of new IT developments in learning and teaching on an on-going basis.

14.   The Administration explained that there were divided views on the retention of ITC under the Second Strategy.   Some schools expressed support for the continuation of ITC.   However, quite a number of schools raised concern about the support rendered by ITC.   These schools considered it better to use the resources in other needy areas such as enhancing e-leadership in schools and helping teachers with the use of digital resources.   In the Second Strategy, the Administration would put in place a range of multi-faceted and comprehensive support measures to help schools integrate the use of IT in learning and teaching. The existing IT grants to schools amounting to $190,000 to $280,000 per school per year depending on class structure would be merged into a composite IT grant.   In addition, the Administration would continue to provide schools with a Capacity Enhancement Grant in the range of $150,000 to $500,000 for primary and secondary schools, and allow schools to deploy the funds to employ full-time or part-time ITC.

15.   Members considered the composite IT grant insufficient to meet the different needs of schools in enhancing the use of IT in education, including employing ITC, upgrading computer hardware and software, etc.   They opined that the Administration should not delete the post of ITC under the excuse of re-deploying resources to upgrade IT equipment for enhancing teaching and learning in schools.

16.   The Administration stressed that the ITC grant was meant to be time-limited when it was disbursed.   Schools could flexibly use the merged IT grant and the Capacity Enhancement Grant to employ ITC to meet their individual needs. During the implementation of the Five-year Strategy, teachers had been trained in the use of IT in education.   All teachers had completed basic IT training and many of them had achieved the intermediate and upper intermediate levels in the use of IT in education.   Under the Second Strategy, a recurrent provision of $12.26 million was allocated for the provision of subject-based and school-based training for empowering teachers to integrate the use of IT in teaching and learning.

Implementation measures

17.　　Members had sought information on how EDB would reinforce curriculum and resources support for schools, and monitor the on-going developments in the use of IT in schools under the Second Strategy.　Members were also concerned about the progress of Direct Subsidy Scheme (DSS) schools in the use of IT in teaching and learning.

18.　　The Administration explained that under the Second Strategy, EDB would concentrate on the leadership capacities of principals and teachers in the development of holistic and strategic school plans for making effective use of IT and its integration into the curriculum and the teaching and learning processes. The Administration aimed at strengthening teachers' capability to use IT for curriculum and pedagogical innovations and students' abilities to use IT in lifelong learning and creative problem solving in the information age.　A broad framework of "information literacy" for students would be developed to provide teachers and students with a clearer picture on the learning targets of using IT in education. EDB would provide schools with a set of tools incorporating useful references for teachers to follow.　In addition, principals would be required to submit their plans for the implementation of the proposed measures to promote the use of IT in their schools.　EDB would provide professional advice and support to schools and principals by way of the existing quality assurance mechanism.　The Administration would review the school curriculum with a view to reinforcing the practical aspects of using IT in students' learning activities.　It would also review the 25% standard for the use of IT in school education under the Five-year Strategy, and provide more flexibility for principals and teachers to design their programmes of application of IT in teaching and learning activities under the Second Strategy. The Administration would monitor the progress of IT development in schools by way of school visits and surveys.　The progress of DSS schools in the use of IT in education would be monitored in accordance with the terms and conditions of the service agreements between the Government and the schools.

Ranking of Hong Kong in the use of IT in education

19.　　Members noted with concern a white paper entitled "The 2003 e-learning readiness rankings" published by the Economist Intelligence Unit in cooperation with the International Business Machines which revealed that in terms of the application of e-learning in education, Hong Kong ranked 19th while South Korea, Singapore and Taiwan ranked 5th, 6th and 16th respectively.　Members expressed concern about the current and future positions of Hong Kong, as compared with its neighbouring jurisdictions, on the use of IT in school education after the implementation of the Second Strategy.　They called on the Administration to set out the standards to be achieved and compare the development of Hong Kong with other jurisdictions on an on-going basis.

20.   According to the Administration, although Hong Kong started a bit slower in the application of e-learning, it compared favourably with other countries in terms of the average number of computers in schools, the training of teachers in the use of IT, and the provision of digital education resources to schools. According to the survey conducted by the Census and Statistics Department, 91.3% of household units with a child aged 10 or above had a personal computer at home. Unlike its popularity in countries with a large territory, e-learning in Hong Kong mainly played a supplementary role to mainstream classroom education in schools under the Five-year Strategy. Nevertheless, EDB recognised the wide application and importance of e-learning in the promotion of lifelong and life-wide learning, and would aim at promoting e-learning as a means to break through the physical barrier of classroom learning under the Second Strategy.

Relevant papers

21.   A list of the relevant papers on the Legislative Council website is in the **Appendix**.

Council Business Division 2
Legislative Council Secretariat
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Relevant papers on
use of information technology in education

Meeting	Date of meeting	Paper
Finance Committee	18.4.1997	Minutes FCR(97-98)2
Panel on Education	20.6.1997 (Item IV)	Minutes Agenda
Panel on Education	17.10.1997 (Item IV)	Minutes Agenda
Finance Committee	5.12.1997	Minutes FCR(97-98)73
Panel on Education	28.7.1998 (Item II)	Minutes Agenda
Panel on Education	26.10.1998 (Item III)	Minutes Agenda
Panel on Education	16.11.1998 (Item III)	Minutes Agenda
Finance Committee	29.1.1999	Minutes FCR(98-99)71
Panel on Education	15.9.1999 (Item I)	Minutes Agenda
Panel on Education	8.6.2000 (Item I)	Minutes Agenda
Finance Committee	23.6.2000	Minutes FCR(2000-01)37
Panel on Education	18.6.2001 (Item VI)	Minutes Agenda
Panel on Education	28.2.2002 (Item IV)	Minutes Agenda
Legislative Council	2.7.2003	Official Record of Proceedings Pages 105 - 107 (Question)

Meeting	Date of meeting	Paper
Legislative Council	18.2.2004	Official Record of Proceedings Pages 38 - 42 (Question)
Panel on Education	19.4.2004 (Item IV)	Minutes Agenda
Panel on Education	21.6.2004 (Item VII)	Minutes Agenda
Finance Committee	2.7.2004	Minutes FCR(2004-05)27
Panel on Education	9.5.2005 (Item V)	Minutes Agenda
Finance Committee	10.6.2005	Minutes FCR(2005-06)14
Legislative Council	25.10.2006	Official Record of Proceedings Pages 40 - 42 (Question)
Legislative Council	18.4.2007	Official Record of Proceedings Pages 20 - 23 (Question)

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