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Panel on Education

Meeting on 11 May 2015

Updated background brief on issues related to support for schools to implement e-learning and development of e-textbooks

Purpose

This paper summarizes the major concerns expressed by members of the Panel on Education ("the Panel") on issues related to implementation of e-learning, the use of information technology ("IT") in education and development of e-textbooks.

Major IT-related initiatives in education

Strategies on Information Technology in Education

2. In 1998, the Administration issued the first IT in Education Strategy ("ITE1") document entitled "Information Technology for Learning in a New Era: Five-Year Strategy 1998/99 to 2002/03". The ITE1 focused on equipping schools with necessary IT facilities, connecting them to the Internet and the provision of digital resources for learning and teaching.
3. In July 2004, the Administration published the second IT in Education Strategy ("ITE2") document entitled "Empowering Learning and Teaching with Information Technology" with the objectives to enhance students' IT literacy, build up teachers' capacity, nurture e-leadership among school leaders, engage the community in creating an environment conducive to the use of IT in education and narrow the digital divide. The five-year ITE2 was launched in the 2004-2005 school year.
4. The third IT in Education Strategy ("ITE3") was set out in the document "Right Technology at the Right Time for the Right Task" issued in December 2008. The ITE3 aimed to assist schools in drawing up and implementing

school-based IT in education development plans; and integrating IT into learning and teaching activities so as to improve students' learning effectiveness and empower teachers and students to use the right technology at the right time for the right task in the learning and teaching process.

5. The Administration launched a consultation on the Fourth Strategy on Information Technology in Education ("ITE4") and issued a document entitled "Realising IT Potential, Unleashing Learning Power, a Holistic Approach" on 7 May 2014. According to the consultation document, the goal of ITE4 is to unleash the learning power of students to learn to learn and to excel through realizing the potential of IT in enhancing interactive learning and teaching experiences. Initiatives under ITE4 covered various areas, including upgrading of WiFi infrastructure in all public sector schools, enhancing the supply of quality e-learning resources, curriculum renewal and transformation of pedagogical practices, etc. As informed by EDB in June 2014, while there was a general consensus on the goal and direction under ITE4, the school community had mixed views on some implementation issues. The Administration had proposed to earmark a total provision of \$105 million for implementing ITE4 and the estimated expenditure for the 2015-2016 financial year was \$51 million¹.

E-textbook Market Development Scheme ("EMADS")

6. To encourage potential and aspiring e-textbook developers to develop e-textbooks in line with the local curricula and to try out a quality vetting and assurance mechanism for e-textbooks with a view to drawing up a Recommended Textbook List for e-textbook ("e-RTL"), the Administration launched EMADS with a non-recurrent commitment of \$50 million for providing seeding grants on a matching grant basis to successful non-profit-making ("NPM") e-textbook developers. The EMADS was launched in two phases in 2012 and 2013 respectively. The Education Bureau ("EDB") had engaged partner schools to field-test the e-textbooks developed under EMADS through the Partner Schools Scheme. According to the information provided by EDB in March 2015, a total of 18 sets of e-textbooks developed under Phase One of EMADS had been included on the e-RTL for use by schools in the 2014-2015 school year. The try-out of e-textbooks under Phase Two of EMADS at partner schools was in progress².

Support Scheme on e-Learning in Schools

7. In January 2014, EDB launched a three-year trial scheme (subsequently

¹ See the Controlling Officer's Reply (Serial No. EDB472) to Initial Written Question in the examination of Estimates of Expenditure 2015-16.

² See the Controlling Officer's Replies (Serial Nos. EDB158 and EDB175) to Initial Written Question in the examination of Estimates of Expenditure 2015-16.

referred to as the Support Scheme on e-Learning in Schools ("Support Scheme")) with a non-recurrent funding of \$50 million under which a one-off grant was provided to about 100 public sector schools and local schools under the Direct Subsidy Scheme to enhance their IT infrastructure so as to cater for the need of using e-textbooks and other e-learning resources. A total of 53 primary schools, 42 secondary schools and five special schools had been selected to participate in the Support Scheme. As informed by EDB in March 2015, the WiFi infrastructure enhancement works for these 100 schools had been completed by mid-January 2015³.

Major issues and concerns

8. The Panel discussed the use of IT in education at various meetings. Members' views and concerns on a number of salient issues are summarized in the ensuing paragraphs.

Curriculum and pedagogical practice

9. When the Panel was consulted on ITE4 at the meeting on 9 June 2014, some members considered that in addition to the provision of IT infrastructure in schools, it was also important to enable a paradigm shift from a teacher-centred mode of teaching to a student-centred mode of learning, such as adopting the Flipped Classroom approach. As advised by the Administration, one of the actions under ITE4 to renew curriculum, transform pedagogical and assessment practices would address concerns about reforming the conventional teaching and learning mode to one that was more interactive, self-directed and beyond the confines of time and space.

10. According to some members, some secondary schools did not offer the Information and Communication Technology ("ICT") subject. Question was raised as to whether the Administration would enhance the curriculum of the ICT subject at secondary levels so as to encourage more students to take the subject. According to the Administration, a review of the ICT components of the enriched Technical Education Key Learning Area ("KLA") curriculum had been conducted. It was expected that starting from the 2016-2017 school year, all secondary schools would adopt a revised curriculum at junior secondary levels.

Support for schools and teachers

11. Given the importance of implementing various ITE-related initiatives to

³ See the Controlling Officer's Reply (Serial No. EDB332) to Initial Written Question in the examination of Estimates of Expenditure 2015-16..

deliver more effective teaching and learning outcomes, some members stressed the need to create a dedicated post of IT Coordinator ("ITC") and "Technical Support Services Officer" in each school to provide professional support to teachers and schools in developing the necessary school-based IT strategies and action plans. As IT personnel were highly sought after by all industries, a permanent ITC post should be established in each school, or sufficient financial resources should be provided for each school to recruit and retain an ITC.

12. According to EDB, it would be more appropriate for individual schools to make use of the provisions under the Operating Expenses Block Grant and the Composite Information Technology Grant⁴ to procure the necessary technical support and services according to their specific needs. For instance, schools might consider adopting a subscription model for acquiring WiFi network service so that the maintenance service could be outsourced to professional personnel. The EDB considered that this approach could accord greater flexibility to schools in deploying resources and determining the model that could best meet their requirements.

13. Some members made the observation that the ICT subject was mostly taught in schools by teachers of other subjects. Question was raised as to whether consideration would be given to specifying the professional qualifications or training required of teachers of information and communication technology courses. Concern was also raised about the readiness of teachers in taking forward the various initiatives under ITE4 and the pressure faced by them as a result of increased workload and pedagogical changes. As explained by the Administration, one of the actions under ITE4 was to enhance professional leadership and the capacity of school leaders and teachers through the provision of professional development programmes, at both the generic and KLA-specific levels. Meanwhile, a web-based Resource Pack would also be developed to support schools to tailor-make their own e-learning development plans.

Concerns about EMADS

14. Some members expressed concern about possible unfair competition in the e-textbook market. As most of the NPM organizations interested in developing e-textbooks were well-resourced tertiary institutions, they might have an unfair advantage over small and medium e-textbook developers whose resources were relatively limited. There was also concern that those NPM organizations which had received funding from the Government on a matching basis under the seeding grant of EMADS might be given preference over other

⁴ With effect from the 2004-2005 school year, a number of recurrent grants for various IT in education purposes had been merged to form an annual recurrent Composite Information Technology Grant. After a review on the ambit and provision of the grant, the Education Bureau decided to relax the usage of the grant and increase its provision with effect from the 2008-2009 school year. Currently, all public sector schools can flexibly deploy this grant as appropriate to meet their operational needs for IT in education, including the purchase of e-Learning resources, the engagement of technical support personnel, upgrading and replacement of IT facilities.

e-textbook developers. These members considered that the Administration should prevent unfair competition and ensure the quality of e-textbooks in the long run. Those organizations that had not participated in EMADS should be given equal opportunity to seek the inclusion of the e-textbooks developed by them in the future e-RTL.

15. Regarding competition in the e-textbook market, the Administration advised that EMADS did not operate to restrict any developers from entering the market, but to provide an impetus for the development of a diverse range of e-textbooks in line with the existing local curricula. It was envisaged that after 2014, all e-textbook developers could submit e-textbooks for review and for inclusion into the future e-RTL. The Administration had also informed the Panel that the majority of successful applicants under EMADS were not NPM organizations. NPM developers in receipt of the seeding grant under EMADS must maintain their NPM status throughout the project period.

16. Some members expressed concern about the pricing of e-textbooks and asked whether EDB would consider providing e-textbooks to all students free of charge. The Administration advised that it would need to explore with stakeholders the feasibility of providing free e-textbooks. Meanwhile, EDB had already set up a One-stop Portal for Learning and Teaching Resources where schools could have free access to learning and teaching materials.

17. There was concern about the development of appropriate e-teaching materials and the use of assistive technology to cater for the teaching and learning needs of students with special educational needs ("SEN students"). In this regard, the Administration confirmed that one of the requirements on developers in the second phase of EMADS was the inclusion of features in e-textbooks to facilitate their use by SEN students.

Implementation of the Support Scheme

18. Some members were gravely concerned that under the Support Scheme, those schools with relatively high IT-readiness would be provided with further funding while schools lagging behind in their IT capacity would not receive additional support. This would widen the digital divide among schools in their implementation of e-learning. Members sought information on the criteria for selecting schools under the Support Scheme. Concern was also raised that out of some 1 000 public sector schools, only a very small proportion had been sufficiently equipped with WiFi connectivity to effectively use e-textbooks.

19. EDB advised that the number of selected schools (i.e. 100) had been estimated on the basis that about 80 partner schools which had joined the try-out under EMADS were interested in adopting e-textbooks. The selection criteria were formulated by the Steering Committee on Strategic Development of

Information Technology in Education. Schools were selected based on their three-year e-learning development plans submitted, which included details and schedule for adoption of e-textbook, curriculum planning, engagement of parents and/or other stakeholders, IT infrastructure enhancement plan and plan for professional development of teachers in e-learning. Their track record on IT in education and existing IT infrastructure were also considered.

20. The Panel noted that funding support would be provided for schools to acquire mobile learning devices because the "bring-your-own-device" approach was not yet common in the local school sector. Some members saw merits in providing a device to each student instead of two to three students having to share one device as envisaged by the Administration under the Support Scheme.

Relevant motions passed by the Panel

21. At the meeting of the Panel on 9 December 2013, the Panel passed a motion moved by Hon Charles MOK and another moved by Dr Hon Elizabeth QUAT. The wordings of the two motions are in **Appendix I**.

22. Regarding one of the requests stated in the motions to provide schools with free WiFi access to the Internet, the Administration informed the Panel in its written response that it would consult stakeholders on the timetable of building up the WiFi infrastructure in the campus of all government-funded schools under the consultation for ITE4. Subsequently, it informed members at the meeting on 9 June 2014 that in addition to the 100 schools participating in the Support Scheme, it would provide funding to the remaining 900 public sector schools for enhancing the WiFi infrastructure in phases starting from the 2015-2016 school year.

Latest position

23. The Administration will update the Panel on the latest progress of implementing the Support Scheme and EMADS at the meeting to be held on 11 May 2015.

Relevant papers

24. A list of relevant papers is in **Appendix II**.

**教育事務委員會在 2013 年 12 月 9 日舉行的會議上
就議程項目"支援學校採用電子教科書以便利教與學
及提升網上學校行政及管理系統"通過的議案**

**Motion passed under the agenda item "Supporting schools to adopt e-textbook to facilitate learning and teaching and upgrading of the Web-based School Administration and Management System"
at the meeting of the Panel on Education held on 9 December 2013**

議案措辭

教育局於 1998 年推出第一個資訊科技教育策略，至今已整整 15 年，可是仍然未能向全港所有學校提供資訊科技基礎建設，一直缺乏電子學習的「全面計劃」。就此，本會促請政府：

- (一) 於緊接的 3 年內在全港所有學校落實資助，改善每所學校資訊科技基礎設施和教師能力；
- (二) 當局必須於是次計劃，公開甄選準則，及先給予弱勢或「資源嚴重不足」的學校發放津貼；及
- (三) 當局應在津貼推行全校 wifi 無線上網服務費用、網絡硬件或流動電腦裝置外，增加編制「資訊科技統籌員」及「技術支援服務人員」。

(莫乃光議員動議)

Wording of the Motion

(Translation)

That it has been 15 years since the Education Bureau (“EDB”) launched the first Information Technology (“IT”) in Education Strategy in 1998; however, EDB is still unable to provide IT infrastructure to all schools over the territory, and a "comprehensive plan" on electronic learning has always been lacking; in this connection, this Panel urges the Government to:

- (1) effect the provision of subsidies to all schools over the territory in the next three years to improve the IT infrastructure of every school and enhance teachers' capability;
- (2) make public the selection criteria under this scheme and accord priority to schools which are disadvantaged or "seriously lacking in resources" in the disbursement of subsidies; and
- (3) increase the staff establishment by creating the posts of "IT Coordinator" and "Technical Support Services Officer" in addition to providing subsidies to schools for the provision of Wi-Fi access to the Internet within their entire campuses and for the procurement of network hardware or mobile computer devices.

(Moved by Hon Charles MOK)

**教育事務委員會在 2013 年 12 月 9 日舉行的會議上
就議程項目"支援學校採用電子教科書以便利教與學
及提升網上學校行政及管理系統"通過的議案**

**Motion passed under the agenda item "Supporting schools to adopt e-textbook
to facilitate learning and teaching and upgrading of the Web-based School
Administration and Management System"
at the meeting of the Panel on Education held on 9 December 2013**

議案措辭

鑒於利用電子教科書對於落實推行電子教學尤為重要，南韓政府更計劃於 2015 年全面以電子教科書取代傳統課本及實行「一人一電腦」。就此，本會促請政府：

1. 落實在未來 3 年內分階段於全港落實全面 Wi-Fi 校園；
2. 為老師舉辦電子教學工作坊，以提升電子教學成效；及
3. 訂定政策目標及時間表，積極在未來幾年內全面推行電子教科書教學，實現學生「自攜裝置」(BYOD)/ 攜帶電子書包上課。

(葛珮帆議員動議)

Wording of the Motion

(Translation)

That, given that the use of e-textbooks is of particular importance to the implementation of e-teaching, and the South Korean government even plans to replace traditional textbooks with e-textbooks across the board and adopt the "one student one computer" practice in 2015, this Panel urges the Government to:

- (1) fully implement Wi-Fi campus by phases all over the territory in the coming three years;
- (2) organize e-teaching workshops for teachers to enhance the effectiveness of e-teaching; and
- (3) formulate policy objectives and a timetable for the active and full implementation of teaching with e-textbooks in the coming few years to enable students to "bring your own device" (BYOD)/bring their e-schoolbags to school.

(Moved by Dr Hon Elizabeth QUAT)

Appendix II

List of relevant papers

Meeting	Date of meeting	Paper
Panel on Education	12.11.2007 (Item V)	<u>Agenda</u> <u>Minutes</u>
Panel on Education	14.1.2008 (Item VII)	<u>Agenda</u> <u>Minutes</u>
Panel on Education	31.1.2008	<u>Agenda</u> <u>Minutes</u>
Finance Committee	22.2.2008 (Item No.2)	<u>FCR(2007-08)58</u> <u>Minutes</u>
Panel on Education	8.2.2010 (Item V)	<u>Agenda</u> <u>Minutes</u> <u>CB(2)2078/09-10(01)</u>
Panel on Education	14.5.2012 (Item IV)	<u>Agenda</u> <u>Minutes</u>
Finance Committee	1.6.2012 (Item No.4)	<u>FCR(2012-13)35</u> <u>Minutes</u>
Panel on Education	7.2.2013 (Item IV)	<u>Agenda</u> <u>Minutes</u>
Legislative Council	30.10.2013	<u>Official Record of Proceedings</u> <u>Pages 141 – 144 (Question 20)</u>
Legislative Council	13.11.2013	<u>Official Record of Proceedings</u> <u>Pages 96 – 101 (Question 12)</u>
Panel on Education	9.12.2013 (Item VI)	<u>Agenda</u> <u>Minutes</u> <u>CB(4)301/13-14(01)</u> <u>CB(4)520/13-14(01)</u>
Finance Committee	10.1.2014 (Item No.5)	<u>FCR(2013-14)50</u> <u>Minutes</u>

Meeting	Date of meeting	Paper
Panel on Education	9.6.2014	<u>Agenda</u> <u>Minutes</u>
Finance Committee	1.4.2015	<u>Administration's replies to members' initial written questions in examining the Estimates of Expenditure 2015-2016 (Reply serial numbers: EDB158, EDB175, EDB331, EDB332, EDB472 and EDB495)</u>

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