立法會
Legislative Council

Ref. : CB1/PL/ITB

Panel on Information Technology and Broadcasting

Meeting on 13 September 2021

**Background brief on the Government's work to
promote students' interest in information technology**

Purpose

      This paper provides background information on the Government's work to promote students' interest in information technology ("IT"). It also provides a summary of views and concerns expressed by Members in previous discussions on the subject.

Background

2.   Strengthening popular science education and promoting "Science, Technology, Engineering and Mathematics" ("STEM") education and are among the eight major areas of work announced in the 2017 Policy Address[1] to drive innovation and technology ("I&T") development.

"IT Innovation Lab in Secondary Schools" Programme

3.   The Financial Secretary proposed in the 2019-2020 Budget the provision of $500 million to implement the "IT Innovation Lab in Secondary Schools" initiative in all publicly-funded secondary schools[2] in the coming three school

---

[1] The eight major areas include increasing resources for research and development; pooling together technology talent; providing investment funding; providing technological research infrastructure; reviewing existing legislation and regulations; opening up government data; Government to lead changes to procurement arrangements; and popular science education.

[2] Including government, aided (including special schools), caput secondary schools and secondary schools under the Direct Subsidy Scheme.

years, to lay a sound foundation in IT for young people in their secondary education and further solidify the supply of local IT and I&T talent in the long run. The Innovation and Technology Bureau rolled out the Programme in the 2020/2021 school year. The objectives of the Programme were to cultivate an interest in IT among secondary school students, and enhance their digital skills, computational thinking and innovative abilities. Each participating secondary school would receive a maximum funding of $1 million to set up IT Innovation Lab to enhance IT equipment and facilities at schools and organize more IT-related extra-curricular activities ("ECAs") outside traditional classroom learning.

4. According to the Administration, the Programme has been well-received by both the secondary schools and the IT industry. The Administration has received more than 100 applications from secondary schools as at end-February 2021.

"Knowing More About IT" Programme

5. The Financial Secretary announced in the 2021-2022 Budget that the Government would extend the "IT Innovation Lab in Secondary Schools" Programme to all publicly-funded primary schools [3] and implement the "Knowing More About IT" Programme. Funding has been earmarked for the purpose in the Estimates follow the passage of the Appropriation Bill 2021 in April 2021. The "Knowing More About IT" Programme aims to stimulate primary school students' interest in IT and strengthen their basic IT knowledge through ECAs, thereby enhancing their interest to pursue the study of STEM subjects and preparing them for integration into the digital society in the future. Under the Programme, all publicly funded primary schools can apply for a funding grant of up to $400,000 from the Office of the Government Chief Information Officer ("OGCIO") between the 2021/2022 and 2023/2024 school years.

Previous discussions

6. At the meeting on 11 March 2019, the Administration briefed the Panel on Information Technology and Broadcasting ("the Panel") on the proposal to provide funding support for about 500 publicly funded secondary schools to set up IT Innovation Labs. Panel members supported the "IT Innovation Lab in Secondary Schools" Programme as a means to strengthening popular science education and STEM education in the curriculum. The Panel passed a motion

---

[3] These include government, aided and Direct Subsidy Scheme schools, but exclude private schools and international schools. The number of publicly-funded primary schools is 536 in the 2019-2020 school year.

which called on the Administration to expeditiously expand the scheme to all primary schools in the territory, in addition to secondary schools.[4]   The relevant funding proposal was approved by the Finance Committee on 17 July 2020.   At the meeting held in March 2021, the Panel discussed the Administration's proposal to implement the "Knowing More About IT" Programme.   Panel members supported, in principle, the Administration's funding proposal which would help promote STEM education in primary schools and nurture students' learning interest in STEM-related areas, such as coding, robotics and artificial intelligence, from an early age.   The major views and concerns expressed by Members are summarized in the ensuing paragraphs.

"IT Innovation Lab in Secondary Schools" Programme

Target beneficiaries of the initiative

7.   Members pointed out that the target beneficiaries of many IT education funding schemes, such as The Jockey Club Self-directed learning in STEM Project funded by The Hong Kong Jockey Club Charities Trust, already covered primary and secondary school students.   They considered that the Administration should expeditiously expand the Programme to all primary schools in the territory.

8.   The Administration considered that nurturing IT talent should begin at the secondary school stage.   In this connection, OGCIO implemented the "Enriched IT Programme in Secondary Schools" ("EITP")[5] to provide funding support for eight partner secondary schools to operate enriched IT classes, and to provide funding support for secondary schools in the territory to organize various types of IT activities; about 20 000 students were benefitted.   The Administration's target was to roll out the "IT Innovation Lab in Secondary Schools" Programme to all publicly funded secondary schools in the territory. The Administration would review the outcome of the initiative and consider whether it should be extended to primary schools at a later stage.

9.   Members enquired about the target number of secondary schools receiving funding support under the "IT Innovation Lab in Secondary Schools" Programme, and whether OGCIO would proactively reach out to schools which were less capable of implementing IT activities, with a view to assisting them in

---

[4]   The wording of the motion and the Administration's response were issued to members vide LC Paper Nos. CB(1)696/18-19(02) and CB(1)1053/18-19(01) respectively.

[5]   The Office of the Government Chief Information Officer launched the eight-year "Enriched IT Programme in Secondary Schools" ("EITP") in the 2015/2016 school year to start identifying and nurturing information technology talent in secondary schools vis-à-vis the development of the digital society.   EITP is composed of two components, i.e. Enriched IT Class Programme and Enriched IT Activities Programme.

applying for the Programme. Members also asked whether schools offering STEM curriculum and students studying STEM curriculum would be the main targets, and how long the non-recurrent commitment of $500 million earmarked for the Programme was expected to last.

10.   The Administration indicated that 142 secondary schools had organized various IT activities since the implementation of EITP. Participating secondary schools covered a wide spectrum, including those of different backgrounds and categories. As a number of secondary schools had indicated that there was substantial demand from students for IT activities, the Administration expected that the Programme would generally be well-received by schools. Given that there were currently about 500 publicly funded secondary schools in the territory, the Administration had to set aside a non-recurrent commitment of $500 million to implement the "IT Innovation Lab in Secondary Schools" Programme in the three school years starting from 2020/2021. It was estimated that the commitment sought could, in three years' time, support all secondary schools which were interested in participating in the Programme. The targets of the Programme were not limited to secondary schools offering STEM curriculum or students studying STEM curriculum. In addition, the Administration would continue to reach out to different publicly funded secondary schools proactively to promote the Programme and provide support to schools in applying for the Programme.

Funding scope of the initiative

11.   Some Members suggested that funding support should be provided on a matching basis so that the recipient schools would have to contribute and commit to the initiative. The Administration explained that activities to be organized through the IT Innovation Labs were ECAs and students' participation was voluntary. The Administration considered it appropriate to provide the initial set-up and maintenance cost, and to encourage the private sector to participate in organizing the relevant activities so that the initiative would not take up too much of the schools' manpower resources.

12.   Noting that each publicly funded secondary school would be provided with funding support of up to $1 million, Members asked about the details of the funding to be approved, including whether the proportionate amount of funding granted for acquiring equipment and organizing activities would be set out, whether the funding could be used for replacing existing equipment, and whether existing equipment of schools would be taken into account when determining if schools' applications for acquiring new equipment would be approved, etc.

13.   The Administration advised that the Programme was ECA-oriented. Secondary schools participating in the Programme could make use of the funding

to organize relevant activities and acquire hardware equipment and professional services relating to such activities.   The Administration had not set any limit on the respective proportions of the funding allocated for organizing activities and acquiring hardware equipment relating to such activities.   The Administration expected that under each and every application, the amounts used for organizing activities and acquiring or replacing equipment each accounted for about half of the funding.   Moreover, although schools were usually equipped with some basic IT-related equipment, the Administration would consider schools' applications for acquiring new equipment as they needed.

Support provided to participating schools

14.   Members enquired whether the Administration would formulate a long-term and holistic planning on promoting STEM and IT education, and they urged the Administration to strengthen professional support for schools and teachers. The Administration responded that adequate resources would continue to be provided to facilitate schools in developing I&T education.   Under the Programme, secondary schools could flexibly deploy resources as appropriate to procure the necessary technical support and services according to their specific needs.   Meanwhile, a one-stop support centre would be established to provide professional advice and technical support to schools.

15.   Some Members expressed concerns about possible digital divide as some schools were not as resourceful and knowledgeable in promoting IT in education as others.   They asked how the Administration would promote digital inclusion among schools.   The Administration pointed out that funded activities under the Programme would include sharing of experience in IT application among schools at different levels in the same district.   The Administration would provide sufficient support to schools in need and those lagging behind in implementing IT education through the one-stop support centre and dedicated team.

16.   Some Members asked about the implementation progress of the "IT Innovation Lab in Secondary Schools" Programme, including whether the Administration had assessed the effectiveness of the Programme, for example, by sending questionnaires to participating secondary schools to collect their views and understand the needs of schools on the support measures.

17.   The Administration advised that it had arranged two briefing sessions for schools and teachers in November 2020 and started accepting funding applications from schools in December 2020.   More than 100 applications had been received from secondary schools as at 8 March 2021.   Participating schools were required to submit evaluation reports to OGCIO upon completion of the activities.   The evaluation reports would set out details including level of satisfaction towards activities organized by schools, feedback from teachers

regarding the way forward and/or suggested improvement of the Programme. OGCIO would review the effectiveness of the Programme and make further enhancement taking into account the comments of participating schools.

<u>"Knowing more about IT" Programme</u>

Support provided to participating schools

18.   Some Members enquired how the Administration would help schools which were less capable of implementing IT activities to participate in the Programme, and how the Administration would evaluate the effectiveness of the Programme. The Administration advised that there were variations among the 536 publicly funded primary schools in understanding digital technology and latest technological developments. The Administration would provide an application guideline for primary schools to facilitate their application for funding. In order to assist schools in procuring and organizing suitable ECAs, OGCIO would set up a one-stop support centre to provide schools with professional advice and support. OGCIO would also continue to strengthen the collaboration with different stakeholders to organize ECAs.

19.   Members enquired whether, under the Programme, participating schools had to engage service providers and procure necessary software on their own, or whether the Administration would provide a list for reference by the participating schools. The Administration responded that participating schools were required to follow proper procurement, accounting and financial control procedures and other relevant guidelines issued by the Education Bureau ("EDB"). While OGCIO would provide a reference list of relevant IT equipment and devices for primary schools, participating schools might still select other hardware or software not on the reference list according to their circumstances and needs of students.

Evaluation of the Programme

20.   Some Members queried whether the Programme was value for money and if there was overlap between the Programme and various funding schemes launched by EDB. The Administration explained that students could enhance their abilities to integrate and apply I&T knowledge and skills through classroom instructions as well as ECAs. In view of this, OGCIO had chosen to contribute by organizing relevant ECAs in collaboration with different stakeholders, including the I&T sector, to jointly organize student learning activities. Meanwhile, the Innovation and Technology Bureau would, in collaboration with relevant bureaux and departments, nurture IT talents in schools, and their efforts were complementary to each other.

Learning activities arrangements amid the epidemic

21.   Members expressed concerns that face-to-face classes had not yet fully resumed and schools' activities were affected by the COVID-19 epidemic.   They enquired about the Administration's measures to continue the implementation of the Programme amid the COVID-19 epidemic.   The Administration responded that the "IT Innovation Lab in Secondary Schools" Programme had received positive response despite the epidemic outbreak.   During the epidemic, OGCIO would continue to help participating schools through the use of video conferencing.   OGCIO would also set up a one-stop support centre to provide assistance to participating schools through telephone or e-mail.

Questions raised at Council meetings

22.   Members have raised questions relating to the promotion of STEM education at various Council meetings.   Details of the questions and the Administration's replies are given in the hyperlinks in the **Appendix**.

Latest position

23.   The Administration will brief the Panel on 13 September 2021 on the progress of its work to promote students' interest in IT.

Relevant papers

24.   A list of the relevant papers is set out in the **Appendix**.

Council Business Division 1
Legislative Council Secretariat
7 September 2021

List of relevant papers

Committee/ Legislative Council meetings	Date of meeting	Papers
Panel on Information Technology and Broadcasting	11 March 2019	Administration's paper on IT Innovation Lab in Secondary Schools LC Paper No. CB(1)661/18-19(05) Minutes of meeting LC Paper No. CB(1)1003/18-19
Finance Committee	17 July 2020	Administration's paper FCR(2019-20)16A Minutes of meeting (paragraphs 142-160) LC Paper No. FC109/20-21
Panel on Information Technology and Broadcasting	15 March 2021	Administration's paper on "Knowing More About IT" programme LC Paper No. CB(1)652/20-21(03) Minutes of meeting LC Paper No. CB(1)924/20-21
Council	28 November 2018	Question No. 22 - Promotion of education on subjects related to Science, Technology, Engineering and Mathematics
Council	21 October 2020	Question No. 17 - Promotion of STEM education