

LCQ11: Arrangements for subjects of Hong Kong Diploma of Secondary Education Examination

Following is a question by the Hon Mrs Regina Ip and a written reply by the Secretary for Education, Mr Kevin Yeung, in the Legislative Council today (June 16):

Question:

Regarding the arrangements for the subjects of the Hong Kong Diploma of Secondary Education (HKDSE) Examination, will the Government inform this Council:

(1) given that the Education Bureau (EDB) has decided, in view of the continuous decrease in the number of schools offering the subjects of Combined Science and Integrated Science and the number of students taking them in recent years, to phase out the two subjects in Secondary Four starting from the next school year, whether the EDB continuously monitored in the past five years the changes in the number of students taking the two subjects and studied the reasons therefor; if so, of the details, and why the EDB had not phased out the two subjects at an earlier time; if not, the reasons for that;

(2) given that only 19 and 15 persons respectively sat the Applied Learning Subjects of "Creative Advertising" and "Magazine Editing and Production" of the HKDSE Examination held last year, whether the EDB has studied the reasons for the unpopularity of such subjects; if so, of the details; if not, the reasons for that;

(3) as some parents have pointed out that since the Applied Learning Subjects of "Applied Psychology", "Practical Psychology", "Railway Studies", "Medical Laboratory Science" and "Interior Design", etc. have contents too difficult for secondary school students and require such students to grasp a vast reserve of knowledge, they worry that their children taking such subjects will learn by rote, whether the EDB will review the curriculum contents of such subjects; and

(4) whether the EDB has formulated key performance indicators for the various subjects of the HKDSE Examination; if so, of the details?

Reply:

President,

The senior secondary curriculum comprises core subjects, elective subjects and Other Learning Experiences. The core and elective subjects are categorised under the Hong Kong Diploma of Secondary Education (HKDSE) Examination into Category A subjects (core subjects and elective subjects in

Key Learning Areas (KLAs)); Category B subjects (Applied Learning (ApL)); and Category C subjects (Other Languages). Apart from the four core subjects, students in general take two or three elective subjects. Due to the diverse interests, aspirations and abilities of students as well as the changes in the manpower needs of society, it is natural that there will be changes in the number of elective subjects offered and that student enrolments in the subjects will differ.

As curriculum development is an on-going process, the Education Bureau (EDB) continually reviews and renews the school curriculum to keep abreast of the times and cater for students' learning needs. We conducted a review of the school curriculum from 2017 to 2020, and we are following up on the recommendations made by the Task Force on Review of School Curriculum (the Task Force), which include optimising the four senior secondary core subjects. The phasing out of Combined Science and Integrated Science dovetails with the implementation of measures to optimise the senior secondary core subjects, with a view to creating space for students and catering for learner diversity. The Task Force also recommends that ApL be further promoted as a valued senior secondary elective subject, and that a wider range of courses be provided to cater for students of different abilities, interests and career aspirations.

Our reply to the question raised by the Hon Regina Ip is as follows:

(1) When the senior secondary curriculum was implemented in 2009, an integrated science subject, in addition to Biology, Chemistry and Physics, was introduced at the senior secondary level. This integrated subject, which consists of two modes (namely Integrated Science and Combined Science), was created for the purpose of providing opportunities for students to gain a comprehensive and balanced learning experience in science under a science subject, thus giving them space to take elective subjects under other KLAs. The design of Integrated Science adopts an interdisciplinary approach. As for Combined Science, it is made up of three parts with selected contents from the subjects of Biology, Chemistry and Physics. Students may take any two parts to complement other elective subjects. Under the senior secondary curriculum, Integrated Science and Combined Science are regarded as one subject and students may only opt for one of the two modes.

According to the data from the Hong Kong Examinations and Assessment Authority (HKEAA), the numbers of candidates sitting for Combined Science and Integrated Science have been declining year on year, from 7 919 and 312 in 2012 down to only 454 and 102 respectively in 2020. We have been maintaining liaison with the HKEAA and schools offering Combined Science and Integrated Science in order to understand their implementation in schools and explore ways to cater for students' needs more effectively. Some schools have commented that they encountered certain difficulties in implementing the two subjects. For example, some students have difficulties in studying the two science disciplines of Combined Science in parallel, while some schools have difficulties in arranging for teachers to teach Integrated Science. In light of the latest situation in the implementation of Combined Science and Integrated Science in schools as gathered by the EDB through different channels, the Curriculum Development Council and the HKEAA, after careful

examination, have endorsed the phasing out of Combined Science and Integrated Science starting from Secondary Four in the 2021/22 school year. This can enable schools to optimise the senior secondary curriculum concurrently by, for example, switching to offering an additional Biology, Chemistry or Physics to strengthen students' science knowledge foundation, or offering an elective subject (e.g. Technology and Living) or ApL course (e.g. Applied Science, Engineering and Production) in the science, technology, engineering and mathematics (STEM)-related areas to meet students' interests in learning science as well as their aspirations. Also, schools can then encourage students to participate in more STEM-related life-wide learning activities to cater for students' interest and development needs, and broaden their learning experiences. It is expected that such a change will facilitate the implementation of science education and STEM education in secondary schools, and help students articulate to a diversified range of study choices and career pathways more effectively. When reviewing the development of Combined Science and Integrated Science, the number of students taking the subject is only one of the considerations. The EDB has taken into account all factors, including the curriculum design, social demands, resource deployment, students' needs, lateral coherence of various subjects and international benchmarking, in making the decision, so as to respond to changes in society and students' needs.

(2) and (3) ApL courses are Category B subjects of the HKDSE Examination, and they are designed and delivered by external course providers. Unlike Category A and C subjects, the ApL curriculum focuses on practical elements with dual emphasis on theory and practice closely linked to broad professional and vocational fields so that students can acquire the fundamental knowledge and beginners' skill sets of related trades and industries while developing generic skills.

Currently, there are more than 40 ApL courses under six Areas of Studies, namely, Creative Studies; Media and Communication; Business, Management and Law; Services; Applied Science; and Engineering and Production, covering different trades and industries to provide students with diversified choices. Students may study ApL courses of their choice in accordance with their learning interests, aspirations and abilities. Since students have different learning needs and interests, it is natural that the numbers of students in different courses differ. As the student population has dropped, there is a corresponding impact on the number of students taking ApL courses. Generally speaking, a course will be offered for three cohorts of students upon obtaining approval. The minimum class size varies slightly among different courses according to the nature and content of the courses. The EDB and course providers will decide whether to continue offering the courses based on a number of factors including students' choices, positioning of the related courses, articulation to post-secondary education and the needs of society. We aim to provide more choices for students to cater for their learning needs and interests. However, if individual courses consistently fail to attract a sufficient number of students for their continuous operation, the course providers will eventually not apply for re-running the courses.

Regarding curriculum design, the EDB has put in place stringent criteria and mechanisms for assuring the quality of the courses. The Curriculum Development Council Committee on ApL will examine the curriculum design to ensure that the ApL courses to be offered are developed according to the specified design principles, and that the areas, content, depth and breadth of the courses are relevant to the learning needs and abilities of senior secondary students to achieve the curriculum objectives.

To keep ApL courses abreast of the times and provide students with wider subject choices, the EDB will review the implementation of courses on an on-going basis and develop different types of courses according to the needs of students and society. In addition, the EDB will further promote ApL as a valued senior secondary elective subject. Various support measures, including providing students with subsidies and more diversified courses, offering ApL courses early at Secondary 4, relaxing the funding eligibility for students taking ApL as the fourth elective subject, offering Taster Programmes of ApL at the junior secondary level, etc., have been implemented to broaden students' studies and learning experiences and facilitate their all-round development, so that they are better prepared for further studies and work.

(4) The design of the senior secondary curriculum is student-focused and provides a broad and balanced curriculum framework with diversification aiming at creating more space for students to explore and choose subjects in accordance with their own needs and future development, so that they can develop their potentials and talents to the full to achieve the educational goals of whole-person development and lifelong learning. The EDB has not set specific key performance indicators for individual subjects. Schools will exercise their school-based professional judgment in making decisions on the elective subjects being offered, taking into consideration the interests, abilities and learning needs of students as well as the schools' mission, teachers' expertise and school context. The EDB will review the design and development of the senior secondary curriculum on an on-going basis and renew the curriculum and assessment arrangements from a holistic perspective, taking into consideration the learning needs of students and the views collected from different stakeholders, in order to respond to changes in society and students' needs.