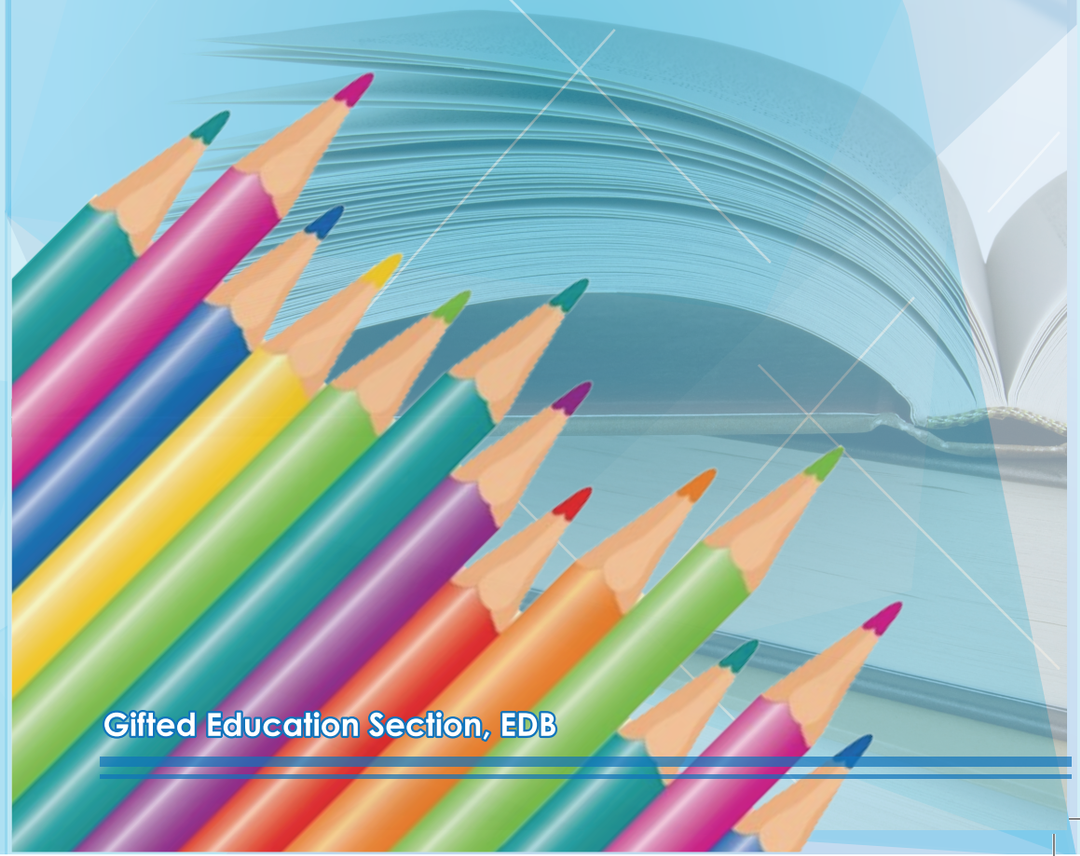
Gifted Education in Hong Kong

Book 3

A Deeper Look at
Learning and Teaching of Gifted Students



Gifted Education Section, EDB

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Preface

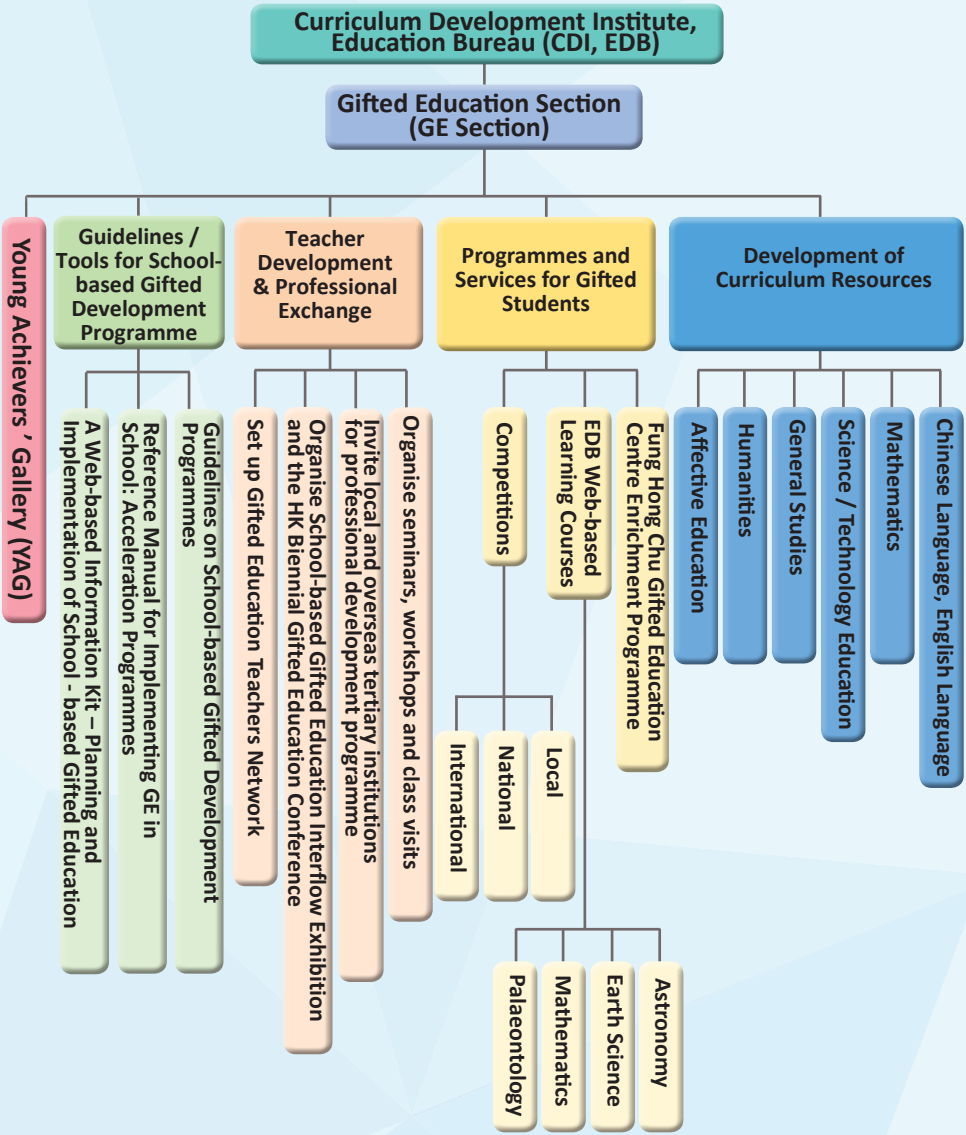
In order to publicise the development of gifted education in Hong Kong and to strengthen the understanding of gifted education among general public, especially the stakeholders in primary and secondary schools, the Gifted Education Section (GE Section) of the Education Bureau (EDB) has produced a series of four videos together with four booklets on gifted education in Hong Kong. These materials provide the essential knowledge of gifted education to interested parties or gifted education co-workers. Some food for thought and extended reading are included to inspire readers to think about or further study these topics.

We believe that to achieve the ultimate goals of 'gifted education for all' and 'education for the gifted', it is necessary to let more people know about gifted education and dispel the misconception that 'gifted education means elite education'. In doing so, all students in Hong Kong will be able to enjoy high-quality learning at school. At the same time, with the help and support of the community, including Non-governmental Organisations (NGOs), tertiary institutions, professional bodies and school sponsoring/educational bodies, gifted students or students with higher ability will be provided with suitable development opportunities inside and outside school to unleash their potentials. In fact, your support and active participation is of crucial importance to the future development of gifted education and the creation of a high quality 'Talent Pool' in Hong Kong.

Gifted Education Section, EDB

Chapter 1

An Overview of the Work of the Gifted Education Section



Chapter 2

Professional Development for Teachers

The EDB and the HKAGE worked together to devise a new professional development framework for all teachers in Hong Kong so as to maximise the cost effectiveness of the available resources.

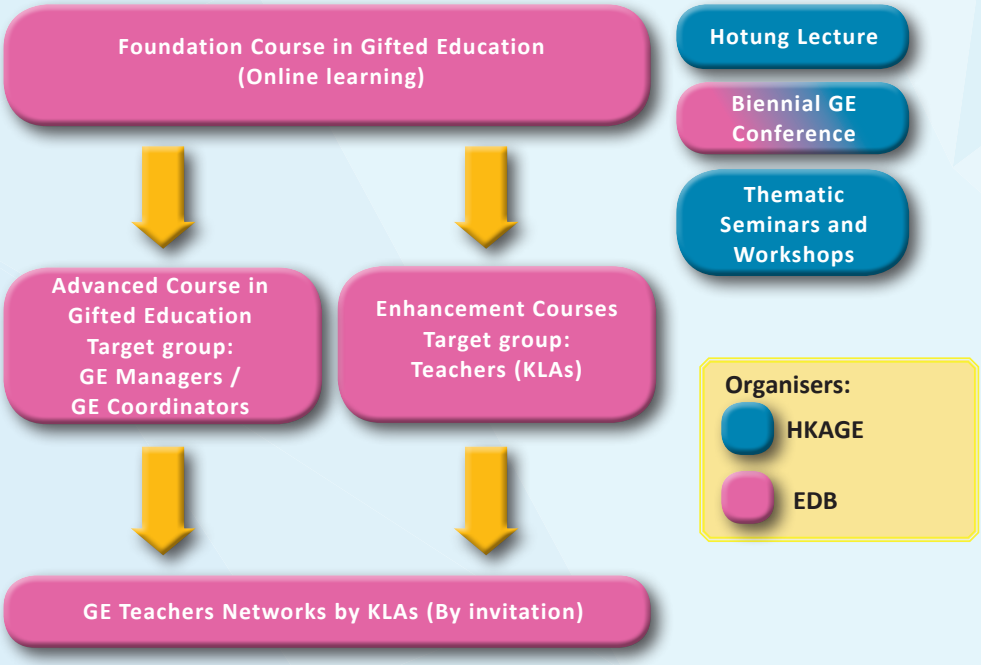
Under this framework, schools are recommended to appoint senior staff to take charge of the following designated roles:

The GE Manager

Principals, Vice-principals or senior teachers are desirable personnel for managing whole school planning of school-based gifted provision including strategic planning, programming and deployment of resources.

The GE Coordinator

Curriculum leaders, subject panel heads or experienced teachers are desirable personnel for the coordination and implementation of school-based gifted development programmes, aiming to enhance the effectiveness in learning and teaching.



*The foundation course will be organised by the EDB from Jan 2016. (It was previously organised by the HKAGE)

Subject teachers

In order that schools can implement their school-based gifted development programmes systematically, individual subject teachers' understanding of the curriculum design and strategies is equally important to the leadership of the GE manager and GE coordinator. In fact, the quality of classroom teaching is crucial to the successful implementation of school-based gifted development programme. Therefore, it is necessary for schools to formulate professional development plans for teachers, with consideration to school development plans, teachers' duties, interests, abilities and needs.

In parallel, the GE Section has organised a number of Gifted Education Teachers Networks, including Chinese Language, English Language, Mathematics, Science and Technology, General Studies, Humanities and Affective Education since 2008 to facilitate the professional sharing among frontline teachers of the same Key Learning Areas (KLAs). Through class visits, workshops and experience sharing among network members, teachers are equipped with the latest GE knowledge and teaching strategies so as to enhance their confidence in implementing school-based gifted development programmes and teaching effectiveness.

Extended reading

- Link to Professional Development Framework in Gifted Education, Gifted Education Section, EDB
  http://resources.edb.gov.hk/gifted/PD/index.html
- Link to Teacher Zone: Professional Development Framework, HKAGE
  http://ge.hkage.org.hk/en/teachers/teacher-programme/professional-development-framework
- Link to Professional Development Programmes in Gifted Education, Gifted Education Section, EDB
  http://www.edb.gov.hk/en/curriculum-development/major-level-of-edu/gifted/pdp/index.html

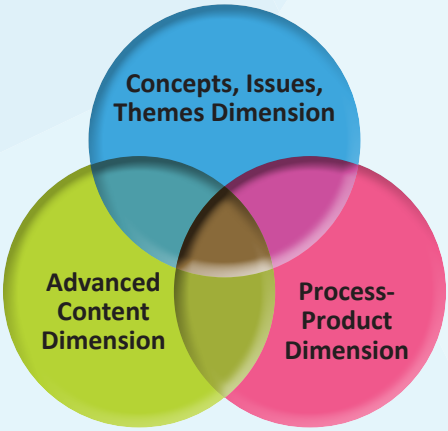
Chapter 3

The Integrated Curriculum Model (ICM)

Dr Joyce Van Tassel-Baska's Integrated Curriculum Model (ICM) is specifically designed for developing programmes for gifted students or students with higher abilities. It comprises three components: overarching concepts, advanced content, and high level process and product. Dr Van Tassel-Baska stresses that these three elements are interrelated.

ICM is a curriculum model that takes into consideration of gifted students' characteristics, e.g. mature thinking (precocity), eagerness to learn (intensity) and complex mind (complexity). It aims to develop curricula which are more challenging and can fulfil the learning needs of gifted students. Dr Van Tassel-Baska has developed a series of modules in Language Arts, Social Studies and Science based on this model and the feedback on them is positive, showing improvement in students' critical thinking, analytical ability and mastery of subject knowledge. Dr Van Tassel-Baska points out that teachers' professional training is an integral component of the ICM.

The Integrated Curriculum Model for Gifted Learners

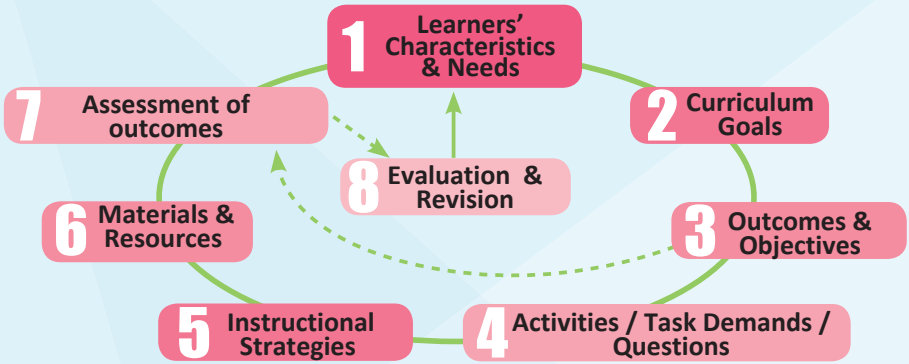


(Van Tassel-Baska, 1987)

(Source: http://education.wm.edu/centers/cfge/curriculum/)

To facilitate the transfer of learning, the ICM stresses that useful and new knowledge should be built on existing concepts and beliefs. It is also necessary to connect with key concepts and the topics of the core areas of study, allowing gifted students to construct new concepts from advanced ideas. These can be developed into concrete and sensible products as the outcome of the learning processes.

Van Tassel-Baska also suggests eight essential elements in the curriculum design:



(Source: Van Tassel-Baska, J. (2003). Curriculum Design Issues in Developing a Curriculum For the Gifted. In J. Van Tassel-Baska, *Curriculum Planning and Instructional Design for Gifted Learners* 3rd ed. (p.18) Denver: Love Publishing)

Curriculum design should be a loop starting from addressing learners' characteristics and learning needs, through the process of goals setting, student output, assessment, and finally evaluation and revision, and then starting a new cycle. Within this cycle, teachers should consider the learning content, assignment design, discussion questions, teaching strategies, related teaching-learning materials and resources available in order to cater for the learning needs of the students.

How can ICM be applied to the school-based gifted development programme?

Have I thought of using ICM in the subject I am teaching?

Extended reading

- The HKAGE website: Van Tassel-Baska, J. (2008, July 18). What works in curriculum for the gifted. http://hkage.org.hk/en/events/080714%20APCG/01-%20Keynotes%20&%20Invited%20Addresses/1.9%20Van%20Tassel-Baska_What%20Works%20in%20Curriculum%20for%20the%20Gifted.pdf
- Link to the Center for Gifted Education, College of William & Mary: http://education.wm.edu/centers/cfge/curriculum/
- Link to Info-booklet (2013) Differentiation for Gifted Learners in Practice. HKAGE http://issuu.com/hkage/docs/hkage_booklet_r7?e=1939558/3863019

Chapter 4

The Parallel Curriculum Model (PCM)

Parallel Curriculum Model (PCM) is a curriculum framework constructed by six GE scholars: Tomlinson, Kaplan, Renzulli, Purcell, Leppien, and Burns (2002) with an aim to ensure the curriculum fulfils gifted students' intellectual needs so that these students can be inspired to further develop their talents in the domain they excel in. The PCM consists of four parallels, including the core curriculum, the curriculum of connections, the curriculum of practice and the curriculum of identity. This set of curriculum can be used singly, or in combination with any or all of the three other parallels.

The Core Curriculum	It provides core knowledge in all the domains and stresses the importance of learning of theories, concepts, principles, facts and skills. It can be combined with any or all three parallels, aiming at strengthening students' basic knowledge of a subject in different grade levels in all Key Learning Areas. Most of the core curriculum is included in a country or region's standards/ syllabus of the individual subject.
The Curriculum of Connections	It is an extension of the core curriculum. It aims at letting students discover the relationship and connections between different Key Learning Areas. It encourages learning across subjects, time, place and culture to enhance the width and depth of the students' thinking.
The Curriculum of Practice	It is an extension of the core curriculum. It aims at strengthening students' knowledge and skills in a particular domain through hands on practice and nurturing them to become experts in that domain.
The Curriculum of Identity	It helps students to have an in-depth thinking about the relationship between a particular domain and students' personal life. Through practices, the curriculum of identity helps students know more about their characters, preferences, strengths and weaknesses, values and capabilities so as to reach the ultimate level of achieving self-actualisation.

Reference:
Tomlinson, C. A., Kaplan, S., Renzulli, J., Purcell, J., Leppien, J., Burns D. (2002). *The parallel curriculum: A design to develop high potential and challenge high-ability learners.* Thousand Oaks, CA: Corwin.

How can PCM be used in school-based gifted development programme?

Have you considered using PCM in the subject you are teaching?

Extended reading

- Tomlinson, C. A., Kaplan, S. N., Renzulli, J. S., Purcell, J.H., Leppien, J.H., Burns, D.E., Strickland, C.A., & Imbeau, M.B. (2009). *The Parallel Curriculum: A Design to Develop Learner Potential and Challenge Advanced Learners(2nd ed.).* Thousand Oaks, CA: Corwin .
- Tomlinson, C. A., Kaplan, S. N., Purcell, J. H., Leppien, J. H., & Burns D. E., & Strickland, C. A. (2005a). *The parallel curriculum in the classroom, Book 1: Essays for application across the content areas, K-12*. Thousand Oaks, CA: Corwin Press.
- Tomlinson, C. A., Kaplan, S. N., Purcell, J. H., Leppien, J. H., & Burns, D. E., & Strickland, C. A. (2005b). *The parallel curriculum in the classroom, Book 2: Units for application across the content areas, K-12*. Thousand Oaks, CA: Corwin Press.

Chapter 5

Tomlinson's Equalizer

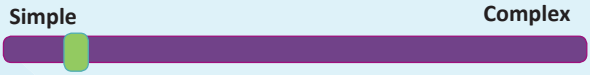
One of the major strategies to cater for learning diversity is Differentiated Instruction. Dr Carol Tomlinson suggested that teachers not only have to consider the students' ability when designing differentiated learning activities and assignments but also their learning style and readiness. She has developed a graphic tool called an "Equalizer" which comprises eight dimensions describing the activities and assignments. These may vary from concrete to abstract, slow to fast, simple to complex, basic to transformational, single facet to multiple facets, small leaps to great leaps, more structure to more open, less independent to more independent. Teachers may refer to the link below for more details about the Equalizer: http://www.mainesupportnetwork.org/pdfs/sing07/Singapore%20-%20Handout%20-%20Equalizer.pdf

Dr. Tomlinson conceptualises these variations to be like an equalizer used on an audio system which allows users to adjust the volume, tone and balance to the optimal level. Likewise, teachers, with reference to students' ability and characteristics, can adjust the curriculum or teaching strategies by moving the control to the most suitable position that can meet the different learning needs of students.

For example, if a learning task can be completed by a simple and direct way, then, this task is a relatively 'simple' one. For a task that requires students to use different concepts and principles, it is a relatively 'complex' task. Generally speaking, it is more desirable for students who are at a lower level of readiness in a particular area of study to be given tasks that slide towards the left of the continuum in the Equalizer while gifted students will be better challenged with the tasks more towards the right.

Below are some examples using "Equalizer" in the English Language classroom:

Description	Example	Description	Example
Concrete Literal, event based, demonstrated or explained	Ask students to role play a story based on a story book.	**Abstract** Symbolic or metaphorical, idea based, not demonstrated or explained.	Ask students to create a story with the same message delivered as the original story in the story book while using different characters and events. Students can also include more messages other than the original message if they wish. Students should role play their own story as well.



Description	Example	Description	Example
Simple Work with few abstractions, requires relatively less originality	Ask students to read a chapter of a book and fill in an event chart which shows the sequence of events and the feeling that the main character had in response to each event.	**Complex** Work with multiple abstractions, requires relatively more originality.	Ask students to read a chapter of a book and imagine that they are the main character. Ask students to write a letter to tell somebody about what they saw and felt in a vivid manner. Students should end their letters with a concluding thought about what they are hoping will happen the next day.

Do you think it is feasible to apply the concept of Equalizer to design differentiated activities or assignments ?

Am I willing to adjust the curriculum for gifted students? Which dimension(s) in the Equalizer is/are easier to handle and implement in lessons?

Extended Reading

- Tomlinson, C. (2001). *How to differentiate instruction in mixed ability classrooms* (2nd ed). Alexandria, Va. : ASCD.
- Link to UVA's Institutes on Academic Diversity: http://differentiationcentral.com
- Link to Materials from Tomlinson (1997): http://www.gifted.uconn.edu/siegle/epsy373/Tomlinson.htm
- Link to the website of Carol Tomlinson: http://www.caroltomlinson.com/

Chapter 6

Curriculum Resources in Gifted Education

Established in 2003, the Gifted Education Section has dedicated to developing learning and teaching resources in different Key Learning Areas, including Chinese Language, English Language, Mathematics, General Studies, Science and Technology, Humanities and Affective Education for frontline teachers' reference or use. Teachers are encouraged to adopt and adapt these materials with reference to their students' interests and abilities so that the adapted school-based curriculum will meet closely the needs of students.

The curriculum resources developed by the Gifted Education Section can be broadly divided into two main categories: Level 1 Whole class (including 1A and 1B) and Level 2 Pull-out (including 2C and 2D). All these resources have been tried out in different schools. Some of the resources were adapted or refined from the Fung Hon Chu Gifted Education Centre Enrichment Programmes, some were from the partnership projects with primary and secondary schools and some were developed by the curriculum officers of the Gifted Education Section in collaboration with members of the Gifted Education Teachers Networks.

Developing these curriculum resources will, on the one hand provide teachers with ready-to-use learning and teaching materials, on the other hand, the resource packages can provide teachers with necessary reference upon which they can model on and design their own curriculum after accumulating enough experiences.

Do you think these resources are useful to schools? What kind of learning and teaching resources can be added?

Have I made good use of these resources when I organised school-based gifted education programme?

Extended Reading

- Link to Learning and Teaching Resources, website of GE Section, EDB：
  http://gifted.edb.hkedcity.net/eninfo.php?m=3

Chapter 7

EDB Web-based Learning Courses

To match with gifted students' autonomous and independent learning style, the Gifted Education Section of the Education Bureau started to design and launch a range of web-based learning courses in 2007. These courses provide students with more diversified learning opportunities so that students can further develop their different talents. Currently the web-based learning courses developed include Astronomy, Mathematics, Earth Science and Palaeontology.

Each of these courses comprises three levels of study. Each level of study consists of reading texts, graphic illustrations, animations, reference links, exercises, quizzes and an end-of-level test. Students are required to pass the end-of-level test before moving on to the next level of study. Students' progress of study and scores of quizzes and tests are kept in individual portfolios.

Each school can nominate a maximum of 15 students to each course. Students can choose to enrol in either an English or Chinese course in accordance with their language proficiency. Each student can only attend one course in each academic year. Schools are also required to assign a teacher to follow up student nomination matter and monitor the study progress of individual students.

Do you think the web-based learning courses can help gifted students in their studies?

Has my school nominated students to the web-based learning courses? Would my school use this platform to design learning activities in Levels 1 and 2?

Extended Reading

- Link to the Web-based Learning Courses, website of GE Section, EDB : http://gifted.proj.hkedcity.net/en/index.php?

Chapter 8

Student Competitions and Related Resources

Every year, the Education Bureau organises various territory-wide competitions for students and nominates outstanding students to take part in national or international competitions. Through these competitions, gifted students are provided with opportunities to interact with their intellectual peers, broaden their horizon and further develop their potential in the area they excel.

The territory-wide competitions, held in collaboration with different educational bodies, NGOs and the Hong Kong Academy for Gifted Education, cover domains such as Chinese Language, English Language, Mathematics, Science and Technology. Outstanding students from some of these competitions are selected to represent Hong Kong to take part in national and international competitions.

In parallel to organising these competitions, curriculum resources are developed for schools to prepare their students for the competitions or to run school-based development programme. The questions and students' works from these competitions are collated and compiled as resource packages for teacher reference. These include: The anthologies of Elite Student Project in Chinese Language (Primary & Secondary) and the Hong Kong Budding Poets (English) Award, the booklets of Mathematics Creative Problem Solving Competitions for Primary and Secondary Schools and Hong Kong Budding Scientists Award. Teachers are encouraged to make use of these resource packages flexibly to design Levels 1 and 2 school-based programmes, benefitting a wider population of gifted students or higher ability students in school.

Do you agree attending competitions can encourage gifted students to pursue their goal?

How can I use the resource packages to design curriculum for gifted students?

Extended Reading

- Link to Student Competitions, website of GE Section, EDB: http://gifted.edb.hkedcity.net/eninfo.php?m=4&oid=22
- Link to Territory-wide Competitions, website of GE Section, EDB: http://gifted.edb.hkedcity.net/eninfo.php?m=4&oid=22&tid=109

Chapter 9

Young Achievers' Gallery – A Showcase for Displaying Students' Achievements

Seeing that Hong Kong students have been achieving outstanding results in both national and international* competitions, a Data Bank of Hong Kong High Achieving Students was set up in 2004 to gather data of the award-winning students. This is to recognise the effort and accomplishments of students and celebrate their success. In 2007, the Young Achievers' Gallery (YAG) was opened to serve as the platform to commend these students' outstanding achievements.

Since 2010, YAG has been organising Celebrity Student Talk Series. Gifted students with outstanding achievements are invited to share their experience and conduct workshops for primary and secondary students. It is hoped that through these personal sharing and learning activities, participating students could be inspired to strive for excellence and understand the importance of effort and support from the significant others behind the success.

The YAG has been revamped in 2015 and being enhanced with more functions. With the newly introduced multi-purpose exhibition hall, the enhanced mini-theatre and the online gallery, the YAG can reach out to more school stakeholders. The YAG is now ready as a social learning hub to enable the exhibition of a wider variety of student learning outcomes and facilitate active learning among students, teachers and parents.

Schools are encouraged to visit the EDB "Data Bank of Hong Kong High Achieving Students" Online Nomination platform (http://edb.hkedcity.net/yar/) to update information of their award-winning students. All submitted information will be verified and displayed at the Info Zone of the YAG.

Extended Reading

- Link to Young Achievers' Gallery, website of GE Section, EDB: http://resources.edb.gov.hk/gifted/YAG/en/

*National competitions refers to competitions in which more than half of the provinces in China have sent student representatives; international competitions refers to competitions in which at least five countries are involved.