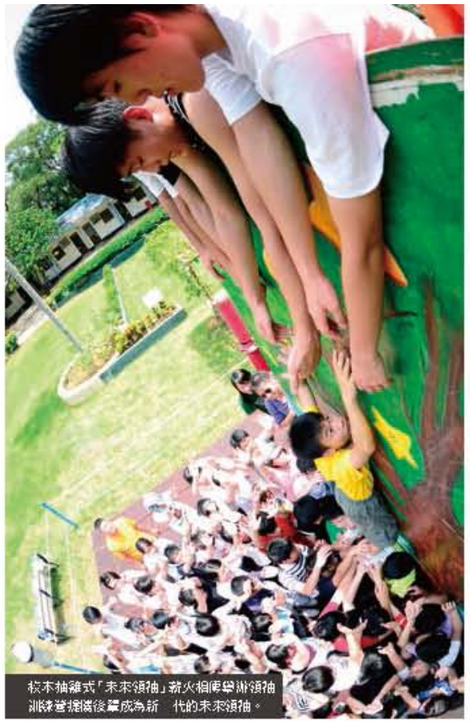
讓資優生創造力騰飛：中華基金中學分享

創造力在教育界中的地位可謂舉足輕重，既是廿一世紀其中一項不可或缺的技能，也是香港資優教育的三大元素之一。各學校為培育學生成材，常將創造力元素注入學與教之中。

教育界最常遇到的挑戰是：校方或教師如何將創造力有效滲入課程並繼而推展？當中又如何讓資優生在適切的培育下發揮創意，振翅高飛呢？在是次專訪中，中華基金中學分享了資優教育如何在三層推行模式下培育創造力的實踐經驗。



校本抽離式「未來領袖」薪火相傳學術領袖訓練營揭幕後舉成為新一代的未來領袖。

第一層架構（全班式）：在獨立而跨學科的增益課程及初中校本課程中推展創造力

為提升學生的學習熱忱，建立學習習慣和思維模式，對未來及就業作好準備，中華基金中學自2000年開始在初中推行校本增益課程，取代了一般學校開設的設計與工藝和家政兩門學科，在中一及中二兩級每一學習週預留一個課節推行增益課程。課程共有十一個學習單元，分別在學習、個人發展及社會教育等方面建立、鞏固及提升初中學生的共通能力。增益課程及初中校本課程如科學、資訊科技、綜合人文學科及視覺藝術等科目有多樣的教學形式，包括正規授課、專題研習、專題講座、工作坊、參觀、考察、小組討論、撰寫及口頭報告等，讓學生從不同廣度（多樣體驗）、深度（了解深思）和角度（多方觀點）掌握所學，感受不同學習風格帶來的得着，令學生自然地把學習與生活接軌。

針對培育創造力方面，教師於「創意教育」單元中營造學習環境，讓學生能在理念上了解創意是在「限制」中有發揮與延續的空間，並協助學生把創意與所有科目連線，讓學生體會內化創意是與學習、生活息息相關的。教師同時以奔馳法(SCAMPER)等教學策略作引導，透過繪畫、短篇寫作、小組解難及產品設計等培育及提升學生的創造力。創造力元素亦滲入各學習單元如傳媒教育、領袖訓練、「未來學」(Strategic Foresight)等，讓學生將創造力融匯其他共通能力作實境解難，加強與生活之連繫。

增益課程亦定期按校本擬定的五個階段作自評（即籌劃、教師簡介與準備、實踐、檢討及調適視作一個循環），從而檢視得失，為更切合學生的全人發展及終身學習作更充分準備。

專題研習：創造力展現的平台

增益課程的另一特點是共有兩個為期共約九個月的專題研習單元，讓學生應用所學，發揮創造力及展現共通能力。每小組由一位教師指導五至六名學生，配合研習主題，繼而揀選範疇、命題，搜尋資料，掌握科學研究方法進行分析，討論研究成果。正如本年度研習之主題為「可持續發展」及「關愛世界」，當中包括具創造力兼反映對社會責任感的題目，例如利用生果皮和種子研發去污劑、酸奶的抗菌作用、聽障人士的就業情況及劃房問題等等，均旨在引導學生從實境解難中以創新見解重新界定問題，構思解難方案並逐一拆解。學生作為主動學習者，全情投入地把自行商討的探究題目逐步落實，學習不再是割裂式，而是與生活融匯、發揮創造力及着重實踐。

高中抽離式科研 人小姐的「可彎曲光學微生物薄膜燃料電池」在八十 屆英特爾國際科學與工程大賽獲得一等獎，並得到「星之子」的美譽。

初中增益課程的「未來學」單元採用校本電子書，同學可透過平板電腦進行最新資料的搜集，並養成前瞻的視野。

第二層架構（抽離式）及第三層架構（校外支援）：創造力的延伸

初中階段的增益課程及校本課程已讓學生各展才華，點燃了學習的熱忱，具創造力的同學也嶄露頭角及獲得肯定。不少資優生會因在專題研習中的創造力及好奇心獲得尊重與滿足，繼而自發參加抽離式培訓，如科學探究、機械人製作、資訊科技知識和應用、領導力培訓、兩文一語演說及創意寫作班等等，就該學習領域以不同角度與方式作出更深入的探究或實踐。另外，在科學探究方面，他們亦會開展新的研究命題，組織及邀請一些志同道合的同學加入。現時該校有大約30%的優秀學生參加抽離式課程。校方亦推薦約10%具傑出表現或潛能的學生參與香港資優教育學苑、教育局、大學及其他專上學院等舉辦的課程，讓學生按自己的學習需要及興趣報讀具挑戰性的增潤課程，延伸學習機會，繼續燃燒對學習的熱忱。

中一正好是醞釀期，到了中四開始，資優生已作好準備，以自己一直研發的作品參加研討會、展覽或本地、全國及國際的比賽，分享成果及汲取外來經驗，提升作品質素。如此的鋪陳反映了校方在支援資優生學習方面提供了具層階式的培育與發展空間，配合學生已備有的創造力、自我學習能力及自覺性，騰飛指日可待。

中基學生過往三年曾參加的部分校外活動

形式	參與項目
研討會	環保青年論壇 「中大之樹與鳥」研討會
展覽	樂活博覽2013 學營商體驗計劃
本港、全國及國際的比賽	• 香港電腦奧林匹克競賽 • 香港機器王競賽 • 二零一二年「運動零禁藥 競賽要公平」 • 電子海報及標語創作比賽 • 中國中學生作文大賽 • 香港科學青苗獎 • 香港青少年科技創新大賽 • 香港學生科學比賽 • 羅氏少年科學家大獎 • 全國青少年科技創新大賽 • 英特爾國際科學與工程大獎賽

多方準備造就的成功

配合學校的發展，教師參與培育資優生的工作當然功不可沒。在第一層次全校式推動資優教育中，全校的教師都參與增益課程或校本課程的策劃或教授。在專題研習方面，校方早於新學年開課前已提供培訓，協助教師了解帶領專題研習所需的技巧與知識，並分享過往經驗，讓教師在籌劃時可有更充足的準備。在第二層次的抽離式及第一層的校外支援方面，主要由校長、助理校長、榮譽顧問及教師們共十一人成立的資優教育小組策劃及推動。資優教育小組成員學歷背景優秀（當中包括持博士、哲學碩士學位的資深教師），反映對有關領域知識的專業深度，對教學及培育資優生方面能提供有力的指引及切實的協助。

校方一直以不同途徑鼓勵及支持創造力發展，在「創意與創新」的大前提下，學校增設了創意學習中心（Creative Learning Centre），讓學生在部分音樂課節運用電腦作曲，而在視覺藝術課時也可運用電腦創作。校方同時亦以跨學科的形式把資訊科技與視覺藝術及音樂串連，讓學生有機會透過設計電子書或拍攝微電影，學習業界專業技巧（如拍攝、剪接、圖像處理等）及展現創造力。教師也鼓勵學生多參與公開展覽、研討會、比賽等，透過展示、匯報及交流，讓學生實踐所學，擴闊視野，建立自信。因為付諸實行，當中的投入感與創造力的發揮持續激勵學生盡展所長。

結語

創造力非一朝一夕培育，當中牽涉校本政策、資源調配、教師培訓等多方面的準備。我們希望以中華基金中學在資優教育及創意教育的實踐作實例參考，藉以營造有利條件，讓資優生創造力騰飛。

The Hong Kong Academy for Gifted Education

Frontline Sharing by The Chinese Foundation Secondary School

Firing up Gifted Students' Creativity

(Summary)

In this interview, The Chinese Foundation Secondary School (CFSS) shares its experience of nurturing students' creativity under the three-tiered implementation mode of gifted education.

Level One (Whole-class Approach): Promoting Creativity through the School-based Enrichment Course and Junior Secondary Curricula

To arouse students' passion for learning, develop their learning habits and thinking modes so as to prepare them for their future career, CFSS has implemented its school-based Enrichment Course since 2000 in place of the subjects Design & Technology and Home Economics commonly offered in the curriculum of most schools. The Enrichment Course is introduced to Secondary 1 and 2 students and taught in 3 periods per cycle. It consists of 11 learning modules that focus on building, strengthening and enhancing junior secondary students' generic skills in the learning, personal development and social domains.

CFSS's Enrichment Course engages a variety of teaching approaches that ranges from formal lessons, project-based learning, thematic talks, workshops, visits, fieldworks, group discussions and written/oral presentations. In the Enrichment Course's "Creativity" module, students learn to appreciate that creativity is cultivated under and driven by "contraints". Teachers use SCAMPER as one of the teaching strategies. Creative elements are also embedded in other learning modules such as "Media Education", "Leadership Training" and "Strategic Foresight", allowing students to apply creativity in conjunction with other generic skills to solve practical problems.

The School regularly reviews the effectiveness of its Enrichment Course to ensure that the course serves the purpose of preparing students for whole-person development and lifelong learning.

Project Learning: A Platform to Showcase Creativity

One key feature of the Enrichment Course is the two-phase "project-based learning" modules spanning over nine months which gives students opportunities to exercise their creativity and engage their generic skills. Students form groups of 5 to 6 and are given a theme. With teachers' guidance, members determine its project's domain and topic, then proceed to gather information while adopting scientific inquiry methods and finally discuss their findings. Through the process, students demonstrate that they are active learners and are committed to delving deep into their selected topics. Learning becomes a part of daily life embedding creativity and practical experiences.

Level Two (Pull-out Approach) and Level Three (Offsite Support): Extension of Creativity

Gifted students whose creativity and curiosity are kindled in project-based learning will volunteer to participate in pull-out training programmes which allow them to drill into specific learning areas from different perspectives or apply what they learn in various ways.

Currently, 30% of outstanding students in CFSS participate in the pull-out programmes. The School also nominates about 10% of its outstanding students to participate in programmes offered by the HKAGE, Education Bureau, local universities and other tertiary institutions. Students can challenge themselves by enrolling in enrichment programmes according to their own learning objectives and interests, extending their learning opportunities and fueling their passion for learning.

Teachers also encourage students to actively participate in exhibitions, seminars and competitions, which widens their horizons and build confidence. Students often demonstrate a high level of commitment and creativity during these activities, consequentially their motivation to strive for the best is stimulated.

Some of the CFSS students' participation in external activities in the last three years

Seminars	Events
Seminars	Environmental Youth Forum "CU Trees and CU Birds" Seminar
Exhibitions	LOHAS Expo 2013 JA Company Programme
Local, National and International Competitions	• Hong Kong Olympiad in Informatics • Hong Kong Green MECH Contest • "Drug Free and Fair Play in Sport" E-poster & Slogan Design Competition 2012 • High School Student Chinese Writing Competition • Hong Kong Budding Scientists Award • Hong Kong Youth Science & Technology Innovation Competition • Roche Young Scientist Award • Hong Kong Student Science Project Competition • China Adolescents Science and Technology Innovation Contest • Intel International Science and Engineering Fair

Concerted Efforts Key to Success

In-line with the School's development, teachers contribution to nurturing gifted students is indispensable. In Level One (Whole-class approach), all teachers participate in planning and implementing Enrichment Course or school-based curriculum. For project-based learning, the School provides briefing sessions to teachers before the beginning of each new academic year, equipping teachers with the skills and knowledge essential for guiding students in project-based learning module. In Level Two (Pull-out Approach) and Level Three (Off-site Support), the GE team comprises 11 members, including the Principal, Deputy Principal, honorary advisors and teachers with high level of expertise in key learning areas and gifted education.