



香港教育大學
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卓越教學發展中心通訊

CELT Newsletter Fourth Issue December 2019

本期主題 The theme of the current issue:

評估素養 Assessment Literacy

本期專稿 Featured Article

以學生為中心的評估模式
Student-centred Mode of Assessment

個案分析 Case Study

授人以魚，不若授人以漁？
Isn't It Better to Teach One to Fish
Rather Than Giving Him a Fish?

卓師專欄 CEATE Awardees' Column

不一樣的STEM課堂
An Unusual STEM Programme
教育重歸以「人」為本發揮卓越教學果效
Re-emphasis on 'Human-oriented' Education
to Achieve Teaching Excellence



Faculty of Education
and Human Development
教育及人類發展學院

CELT
CENTRE FOR EXCELLENCE IN LEARNING AND TEACHING
卓越教學發展中心

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高寶玉教授

卓越教學發展中心總監
課程與教學學系教授（實踐）

評估是教學的重要環節，自 2001 年香港實施課程改革以來，評估模式也相應地不斷改革以

配合教改的需要。不同的模式評估中，學生自我評估 (self-assessment) 是近年許多國家評估改革的核心內容，例如美國、英國、澳大利亞和新西蘭等的教育政策都提倡學生自我評估，強調評估的形成性目的和技能的發展，以幫助學生進行有意義的自我評估來促進他們的學習。

研究指出，自我評估能提高學生的評估判斷能力、自主學習能力和終生學習能力 (Panadero, Andrade, & Brookhart, 2018)。香港現行的評核政策亦主張學生能參與課堂評估活動，提倡學生應該依靠自我評估，而不是頻繁的考試，去了解自己的學習需要、學習重點和優勢。筆者通過跟本地老師協作的機會，發現很多老師曾嘗試在教學上運用不同的評估方法和模式，包括：自評表、評估表、利用應用程式進行評估、學生自評、互評等等，期望為學生的學習帶來正面的影響。然而，有什麼具體的課堂活動能促進學生自我評估，我們仍然知之甚少。此外，對自我評估過程與認知 / 元認知（例如：自主學習、學業表現）和學習的情感方面（例如：學業情緒）的動態交

互作用研究也較少。正因為所知不深，老師往往會對自己在恆常教學時進行的評估活動、施行的評估模式的效能抱有懷疑，不知如何才算得上是能促進教與學且具質素的評估。

本期通訊以「評估素養」為主題，藉著專稿及個案分析跟大家探討何謂「以學生為中心的評估模式」，以及三種不同目的的評估，包括對學習的評估 (assessment of learning)、促進學習的評估 (assessment for learning)、和作為學習的評估 (assessment as learning) 之間的關係等等，讓大家對評估的理論有進一步的理解及思考。

此外，筆者和今期通訊專稿的作者晏子博士正進行一個研究，探討在自然的教學情境中，學生自我評估如何促進自主學習、帶來更佳學業情緒和促進更好的學習成果。研究亦會考察自我評估的準確性，以及自我評估與學業情緒的關係。我們相信了解這種關係將有助於向教師提供教學建議，以幫助學生進行有意義的自我評估。我們亦期盼研究有助進一步發展自我評估理論，幫助學生改善形成性評估以指導他們的學習，並為教育政策的制訂和家長角色的定位提供參考。期待日後研究完成後，再跟大家分享研究結果。

促進卓越教學是本中心的使命，教導、守護學生是我們努力不懈的任務，願與各同仁共勉！

參考資料：

Panadero, E., Andrade, H., & Brookhart, S. (2018). Fusing self-regulated learning and formative assessment: a roadmap of where we are, how we got here, and where we are going. *The Australian Educational Researcher*, 45(1), 13–31.

Professor Ko Po-yuk

Director, Centre for Excellence in Learning and Teaching

Professor (Practice), Department of Curriculum and Instruction

Assessment is a significant component of instruction. In Hong Kong, the assessment modes have undergone changes to meet the needs of the curriculum reform since its implementation in 2001. Among different modes of assessment, student self-assessment (SSA) is a core element of current assessment reform worldwide, for instance, countries such as the USA, the UK, Australia and New Zealand advocate student self-assessment and emphasise the formative purpose of assessment and the development of skills to help students conduct meaningful self-assessment to facilitate their learning.

Research has shown that self-assessment leads to better evaluative judgement, self-regulated learning, and life-long learning (Panadero, Andrade, & Brookhart, 2018). Under the current assessment policy in Hong Kong, students are expected to engage in classroom assessment practices. Rather than relying solely on frequent examinations, students are expected to conduct self-assessments to better understand their own learning needs, learning priorities, and academic strengths. Through working collaboratively with teachers in Hong Kong, the author has identified that many teachers have tried adopting different methods and modes of assessment in their teaching, including self-assessment forms, assessment forms, assessment apps, student self-assessment, peer, etc., hoping to bring a positive impact on student learning. Yet at the classroom level, little is known about specific classroom activities that promote SSA. In addition, little attention has been paid to the dynamic interaction between SSA processes and the cognitive/metacognitive (e.g., self-regulated learning, academic performance) and affective (e.g., academic emotions) aspects of learning. Hence, with such limited understanding of SSA, teachers often query about the assessment activities and also the effectiveness of the mode of assessment

used and conducted in their routine teaching. They are still wondering what kind of assessment would be considered as quality assessment that could facilitate teaching and learning.

The main theme of this newsletter is 'assessment literacy'. Through the feature article and case analysis, the 'student-centred mode of assessment' is explored, and the relationship between three modes of assessment, including 'assessment of learning', 'assessment for learning' and 'assessment as learning', is examined, thus providing readers a deeper understanding of the assessment theories for reflections.

Moreover, the author and Dr Yan Zi, author of the feature article of this issue, are conducting a research on exploring how self-regulated learning, better academic emotion and better learning outcomes could be facilitated through self-assessment in a naturalistic environment. The research also investigates the accuracy of self-assessment, and the relationship between self-assessment and academic emotion. We believe that the understanding of such relationship would provide teachers with recommendations on teaching, and help students conduct meaningful self-assessment. We also hope that the research would further contribute to the development of the theories of self-assessment, help students improve formative assessment to guide their learning, and also provide reference for formulating education policies, and define the roles of parents in assessment. We look forward to sharing with you our research findings in the future.

The mission of CELT is to facilitate the development of teaching excellence. Teaching and guarding students are our unremitting missions. Let us encourage each other in our endeavours!

References:

Panadero, E., Andrade, H., & Brookhart, S. (2018). Fusing self-regulated learning and formative assessment: a roadmap of where we are, how we got here, and where we are going. *The Australian Educational Researcher*, 45(1), 13–31.

卓越教學論壇暨教學顧問委任典禮



▲ 「卓越教學論壇」吸引了大約二百位校長及教師參加



▲ 新任教學顧問與香港教育大學學術及首席副校長李子建教授、中心總監高寶玉教授、聯席總監葉蔭榮博士、晏子博士合照



▲ 東華三院張明添中學梁偉業老師

卓越教學發展中心再度與行政長官卓越教學獎教師協會攜手合辦「卓越教學論壇」，論壇於 2019 年 3 月 2 日（星期六）上午舉行，同場並委任了 25 位曾獲行政長官卓越教學獎的教師及校長，在未來兩年擔任中心的教學顧問。是次論壇的主題是「卓越課程的發展—聚焦、深化、持續」，吸引了大約二百位中、小學校長及教師參與。

當天由香港教育大學學術及首席副校長、課程與教學學系講座教授及卓越教學發展中心聯席總監李子建教授致歡迎辭，並代表中心感謝卸任的 19 位教學顧問願意在繁重的教學工作以外騰出時間，分享經驗，推動卓越教學。因應社會急速變化，過去十多年，學校課程持續改革和更新。過程中，香港的校長、老師們均經歷了不少挑戰，同時積累了寶貴的經驗，因此大會邀請了三位兩度獲頒行政長官卓越教學獎或嘉許狀的得獎教師擔任講者，分享箇中經驗。

三位講者包括東華三院張明添中學梁偉業老師、基督教宣道會宣基小學何亦橋老師、鄧肇堅維多利亞官立中學關呂佩玲老師，他們分別從「聚焦」、「深化」、「持續」三個層面，分享多年來發展卓越課程的歷程、反思和面對的挑戰。梁偉業老師致力推動 STEM 教育，他分享了在學校的「設計與科技」課程**聚焦**推動「科藝創建師（STEMaker）」教育的過程；何亦橋老師則分享在學校**深化**體育課程所帶來的正面影響；關呂佩玲老師則分享如何透過視覺藝術課程，**持續**令學生的生命更豐盛。



▲ 基督教宣道會宣基小學何亦橋老師



▲ 鄧肇堅維多利亞官立中學關呂佩玲老師

緊接的公開論壇環節，大會邀請了四位中、小學校長，以及所屬學校曾獲行政長官卓越教學獎的老師，跟大家討論在課程持續更新的大環境下，老師如何達至卓越，以及學校如何承傳卓越的學與教文化。他們包括天水圍香島中學吳容輝校長、沈振業老師；天水圍循道衛理小學蘇炳輝校長、鍾君玲老師；基督教宣道會宣基中學潘淑嫻博士、溫結冰老師；以及培僑小學榮休校長連文嘗、黃穎詩老師。



▲ 四位曾獲行政長官卓越教學獎的老師包括（左二至右二）黃穎詩老師、溫結冰老師、鍾君玲老師、沈振業老師跟大家對談



▲ 左起：高寶玉教授、蘇炳輝校長、潘淑嫻博士、連文嘗校長、吳容輝校長、葉蔭榮博士

老師們不約而同談到面對各種改革帶來的挑戰時，如何用積極的心態、凝聚夥伴的力量、互相合作、分享經驗等方法來迎接挑戰，從中不斷成長；各位校長則進一步分享如何因應學生、老師的特質，製造空間給老師以至全校整個團隊發揮，並鼓勵老師們勇於嘗試和創新，持續改進。八位嘉賓不吝分享他們的寶貴經驗，期望在未來日子，本港的老師們繼續秉持專業，各自在大家的崗位上發揮所長，讓香港的莘莘學子受惠。

「卓越教學論壇 2020」歡迎全港老師參加，活動詳情及報名，請留意本中心網頁的公布。

卓越教學：科技創新啟發教與學暨 專業社群計劃個案分享會



▲ 主禮嘉賓香港教育大學學術及首席副校長李子建教授致歡迎辭



▲ 葉蔭榮博士頒發證書予參與支援計劃的學校代表



▲ 上海史坦默國際科學教育研究中心王雪華秘書長

為促進學界交流，中心於2019年6月22日（星期六）假香港教育大學舉行主題為「卓越教學：科技創新啟發教與學暨專業社群計劃個案分享會」，吸引了近二百位來自香港及澳門的教育界同工參加，場面熱鬧。

活動由香港教育大學學術及首席副校長、課程與教學學系講座教授及卓越教學發展中心聯席總監李子建教授擔任主禮嘉賓並致歡迎辭，之後由中心總監高寶玉教授及兩位聯席總監葉蔭榮博士、晏子博士頒發證書予60間於2018/19年度參與由教育局委託本中心舉辦的「促進實踐社群以優化小班教學」支援計劃的學校，表彰老師們的努力及成果。

證書頒發完畢便由兩位嘉賓進行主題演講。第一位主題演講嘉賓是上海史坦默國際科學教育研究中心（STEM+ Research Institute, Shanghai）王雪華秘書長。王秘書長是國內研究及推展STEM教育的著名學者，至今與300所協作學校發展STEM綜合主題教育模式。當天，她圍繞「適應社會發展和教育創新的上海STEM+課程實踐與探索」，分享現時上海STEM課程的目標及內容，以及介紹上海史坦默國際科學教育研究中心發展的STEM+課程的課程結構及案例，讓參加者在發展STEM課程時能有所借鑑。

第二位主題演講嘉賓是臺南大學附設實驗小學溫美玉老師。溫老師推廣閱讀寫作教學多年，通過社交平台建立的教師專業社群「溫老師備課 Party」，已經超過 10 萬人關注。當天，溫老師的講題是「AI 科技潮：創新學習瘋—理想的未來教育」，她以中國語文及數學科課堂設計及實踐為例，分享如何通過手機、平板電腦、語音工具等，讓教與學從傳統課室走向科技化，引發學生好奇，並把學習跟生活連繫，讓學習更有意義。溫老師還闡釋如何利用編程軟件 Scratch，進行情緒教育。



▲ 臺南大學附設實驗小學溫美玉老師



▲ 活動吸引了近二百位參加者

除了工作坊之外，下午的「專業社群計劃個案分享會」共有 32 間來自本地的中、小學教師，分享他們在不同科目推行自主學習、電子學習及 STEM 教學等的實踐經驗。各位老師精彩的分享，以及對教與學深入的分析及反思，相信參加者定會把當中一些合適的策略和方法，日後在自己教學時嘗試運用。



▲ 專業社群計劃個案分享會



▲ 老師於分享會分享經驗

世界課堂研究學會(WALS) 國際會議 2019

卓越教學發展中心團隊於 2019 年 9 月 2 至 6 日，於荷蘭阿姆斯特丹參與由世界課堂研究學會 (WALS) 舉辦的國際會議—The World Association of Lesson Studies International Conference 2019 (簡稱 WALS 2019)。本年度會議的主題為 Crafting Sustainable Pedagogies for Teaching and Learning (塑造可持續的教與學模式)，共有超過 700 多位來自 46 個地區的學者及教學人員參與。會議的開幕典禮於荷蘭著名足球隊「阿積士」的主場 Johan Cruyff ArenA (告魯夫球場) 舉行，並由當地一位年青音樂老師 Evert Korving 擔任主持。他帶領自己的一班活潑可愛的小學生歡迎來自各地的參加者，並教大家跳舞唱歌，為嚴肅的國際會議帶來與別不同的序幕。



中心總監高寶玉教授與中心三位成員在會議上發表了四份論文，內容涵蓋：1) 教師的教學行為如何協助教師修訂教學模式及課堂學習研究理論、2) 找出及審辨關鍵特徵能協助調整教學焦點、3) 利用課堂學習研究塑造可持續的教與學模式來應對教學新趨勢的可行性、4) 利用課堂學習研究促進教師持續專業發展的學校案例。此外，三位曾於去年修讀「課堂學習研究」單元的教大學生李皓聰 (英國語文教育榮譽學士課程)、嚴紀彤 (語文研究榮譽文學士及英文教育榮譽學士雙學位課程)，還有來自奧地利 Pädagogischen Hochschule Tirol 大學的交流生 Anna-Julia Frey 也參與了是次國際會議，分享他們在小學進行的課堂學習研究的成果及感受，獲得各地參加者的鼓勵和讚賞。



▲ 中心總監高寶玉教授在會議中發表演講



▲ 教大三位學生首次於國際會議上匯報課堂學習研究 (Learning Study) 的成果



▲ 中心團隊、教大學術人員及學生合照



▲ 眾人完成所有發表後的喜悅

今年大會有兩個安排十分值得大家借鏡：1) 製造一個簡約、少用紙張、電子化的會議氛圍。沒有印製場刊、也沒有宣傳品及紀念品，只有用一張貼紙及一條掛頸繩製成的簡單姓名牌；午餐亦沒有多餘的包裝、也沒有使用紙杯紙碟，減少浪費；2) 善用社交平台營造愉快的活動氛圍。大會鼓勵大家在 Twitter 上載有趣的活動相片，分享愉快的時刻。意想不到的是，大會還預備了獎品給最受歡迎的照片，最後由我們充滿幽默感的學生李皓聰獲得。除了得到獎品的喜悅外，相信最寶貴的是獲獎照片為在座各人帶來歡樂，讓是次國際會議在一片歡笑聲下圓滿結束。

到學校參觀

隨後，大會安排我們到 Utrecht 及 Groningen 兩個城市，到訪當地學校及大學，了解荷蘭學校推行課堂研究 (lesson Study) 的情況。我們造訪的兩所學校均是剛引進課堂研究，讓老師們進行共同備課及觀課。學校老師均表示，進行課堂研究時的觀課及課後研討比以往更聚焦，更著重學生的學習是否有效；同時也有學校開始利用課後訪談了解學生的學習成效。在 Utrecht，我們還造訪 Utrecht University 的 Freudenthal Institute (FI)，他們的課堂研究團隊跟我們分享在學士課程中進行課堂研究的情況。在離開阿姆斯特丹四個小時車程的 Groningen，我們從 University of Groningen 教師教育學系的分享中，了解到在當地著重教師個人自主、提倡民主的社會文化下，引入開放教室的觀課議課活動來提升教師的教學質素，乃是最近一、兩年的新嘗試。負責師資培訓的大學教授認為，要建立有效及彼此尊重的共同備課及觀課文化、以學生為本的課堂研究，尚需要平衡教師個人專業上的其他挑戰。可喜是當地已經開始把課堂研究編入師資培訓課程，以及教育局已投放資源鼓勵相關發展，相信課堂研究的發展很快會由萌芽階段達至豐收。



▲ 李皓聰同學的獲獎照片



▲ Freudenthal Institute 的學者介紹於學士課程進行課堂研究的情況

以大自然為教室

在 Groningen，我們還經歷了一趟由 Groningen 大學導師精心規劃，在擁有豐富水資源、泥沼、泥炭、海藻和森林共同交織的天然水公園 Wadden 進行的學習之旅。

我們騎著自行車，由乘船碼頭迎著海風開往受保護的泥沼及紅森林區，沿途學習觀鳥，學習風向與單車速度的關係。接著到達滿佈泥濘的沼澤區，大家換上水靴，導師帶領大家拿著犁耙，找尋泥沼當中特有的微生物及蚯蚓，從中了解動物界中生物鏈：天空鳥兒吃泥濘中的魚，魚兒吃蚯蚓，蚯蚓吃微生物，一瞬間就掌握萬物共存之奧秘。然後，生物科教授與同伴在泥漿上畫了地球及月亮，配上軌跡路線圖，之後教授與同伴雙手緊扣，沿著軌跡旋轉，原來他們在模擬月球圍著

地球公轉時，影響地球不同地方的潮汐改變。這些生動的說明和以體驗學習為核心的互動式的學習，讓我們一起探索與參與，領略宇宙的奧秘及大地四季的豐盛。後來，我們才知道當地學生也是這樣學習的，原來我們當了一天荷蘭學生呢！是次於 Groningen 的參觀及體驗，我們理解到荷蘭師資培訓著重參與，不急進不強求，放眼於持續在教學上的求變，這種態度源於對教學上的尊重。對於學生學習的成長，看重的並不是一時三刻學業上的彪炳成績，而是銳意培養學生持續喜歡學習的內在動機，還利用天然環境啟蒙教與學，從小灌溉學生內心珍惜大自然、善用資源和減少浪費的種子，讓學生很早已經對地球的永續發展作出承諾。



▲ 就地取材利用蚯蚓講解生物鏈



▲ 教授用犁耙在泥漿上畫了地球及月球

快樂的荷蘭學生

聯合國兒童基金會（UNICEF）2013 年的報告比較了 29 個已發展國家兒童的幸福感，當中以物質幸福、健康、教育等作為一個快樂指數，結果荷蘭的兒童最快樂。在參觀 Groningen 的一所學校時，由校內學生負責導賞，更機緣巧合地被分配與一名讀寫障礙及過度活躍的學生一組，他開朗、自信及謙謙有禮地帶領我們參觀，期間除了得悉他就讀的學校對每一名學生均體貼照料外，課程亦甚具彈性及創意。他亦告訴我們學習過程從沒有

壓力，一直以來都不需要帶作業回家，亦毋須任何補習。父母不在乎他是否聰明絕頂，只希望他輕鬆自在及活得快樂。在參觀 Utrecht 的中學時，也同樣由校內學生負責導賞，學生也跟我們說學校給予他們很大自由度，每週他們有自由學習的時段，可自由選擇學甚麼，甚至可以選擇回家休息、進行自己喜愛的活動等；又可選擇自己想做的社區服務、藝術計劃等，難怪荷蘭能在這些學生快樂指數的國際研究中，經常名列前茅。

世界課堂研究學會 World Association of Lesson Studies (WALS) 匯聚了不同國家和地區從事課堂研究 (Lesson Study) 及課堂學習研究 (Learning Study) 的學者，本中心總監高寶玉教授是學會的創會成員之一。WALS 每年的國際會議 (The World Association of Lesson Studies International Conference)，均吸引來自世界各地的教育工作者參與，分享進行課堂研究 (Learning Study/ Lesson Study) 的成果。主辦單位亦不時為參加者安排訪校觀摩活動，增進彼此交流。2020 年度的國際會議將會於 12 月初在美國三藩市舉行。如想獲取更多資訊，可瀏覽 www.walsnet.org

以學生為中心的評估模式

晏子博士

卓越教學發展中心聯席總監

課程與教學學系副教授

教育評估就其目的來講，主要可以分為三類：對學習的評估（assessment of learning）、促進學習的評估（assessment for learning）、和作為學習的評估（assessment as learning）。「對學習的評估」目的是選拔和問責，聚焦於提供關於學生學習成就的有效及可靠證據；「促進學習的評估」目的是支持學習，通常由教師主導，主要是基於評估數據，提供適時和優質的回饋，以幫助學生改善學習，教師改進教學；「作為學習的評估」目的也是支持學習，但以學生為主導，要求學生主動實施評估，蒐集資料，評估自己或同儕的學習成效，反思和調整學習策略以促進學習。

自科學制度以來，人們對評估的理解往往局限於「對學習的評估」。這種局限導致了以考試為主導的評估文化，並衍生了一系列的問題，包括評估對教學的負面倒流效應（negative backwash effect）、只注重學習結果而忽視學習過程、學生的沉重應試壓力、過分操練等。有鑒於此，香港教育評估改革的目標，即是要改變評估的單一功能以及由此帶來的各種負面後果，推動評估促進學習的作用，尤其是強調「促進學習的評估」（課程發展議會，2002，2009）和「作為學習的評估」（課程發展議會，2014，2017）在學與教過程中的角色。評估改革實施近二十年來，效果如何？其實可以從系統和課室兩個層面進行分析。系統層面，儘管有一些積極的轉變（例如：減少公開考試的數量、引入校本評估等），但以考試為主導的評估文化並沒有實質上的改變。坦白來說，只要社會仍然以能否入讀大學作為判斷學生成功的標準、仍然以公開考試分數來決定學生升讀大學的機會，現時的評估文化就很難有根本的改變。這牽涉到整個教育制度以及其背後的社會文化與價值觀，要改變顯然並非是短時間能做到的，也並非是單靠教育可以做到的。

課室層面的評估改革有一定成效，但還遠遠不夠。最大的成效在於，持份者（尤其是前線教師）

對於評估在教學過程中角色的理解有所改變。大部分教師意識到評估應該用來促進學生的學習和教師的教學。但問題在於，「促進學習的評估」和「作為學習的評估」在課堂中的實施情況並不令人滿意。有研究發現，儘管香港教師對「促進學習的評估」有正面的態度，有較高的自我效能，也有實施的意願，但最終真正在課堂實施的頻次卻不高（Yan & Cheng, 2015）。有人將這歸咎於教師和學生面對的考試壓力，但我們更應該問的一個問題是：為什麼面對考試壓力時，教師和學生往往求諸於機械式操練，而不是「促進學習的評估」？

在 John Hattie 著名的、關於 visible learning 的研究中，操練在提高學生學業成績方面的效用（effect size）是 0.73，而與「促進學習的評估」相關的因素（如鷹架、反思、回饋）的效用介乎於 0.7 至 0.82 之間（Hattie, 2018）。這說明，「促進學習的評估」不僅能滿足長期目標（提升學生自主學習能力），也能照顧教師、學生、及家長都關注的中短期目標（提升學生學業成績）。但為什麼操練比「促進學習的評估」更流行呢？原因其實很簡單，並不是「促進學習的評估」在提高考試成績方面的效果不如操練，而是因為前者的實施難度超過後者。

雖然說評估是教學的一部分，但要做到高質素的「促進學習的評估」，對教師來說也是一種挑戰。Black and Wiliam（1998）也指出，雖然「促進學習的評估」（類似於他們文章中所說的進展性評估）可以幫助學習，但在課堂裏要獲得這種好處，並非易事。因為設計一個好的評估任務，提供準確的評分和高質的回饋，都是費時費力的工作。而回饋也必須被學生理解，並在下一階段的學習中真正去實踐，才會產生實質改善學習的效果。

在香港，評估主要的模式還是單向傳輸的模式（transmission mode）。在這種模式下，評估由

教師設計和實施，回饋也是由教師單向地傳遞給學生，學生在這個過程中處於「被動評估」的角色。我們常常會見到，教師花盡心神擬卷、改卷、提供回饋，但學生收到改好的試卷，隨手束之高閣，或簡單抄下正確答案，便當是完成任務，到下次評估時又再犯同一錯誤。這種評估模式無助於發展學生的評估素養，也不利於發展學生的自主學習。在筆者看來，這是一種持份者的角色錯配，即過分強調教師的主導地位，而忽略學生的主動性。而這種錯配不僅出現在評估的實踐中，也體現在評估改革的過程中。評估改革大部分的嘗試著眼於教師並且完全依賴於教師。在現時香港大班教學的環境之下，教師教學任務繁重，同

時經常需要應付評估改革之外的其他教育新措施，因此往往疲於奔命。而當學生的自主性沒有充分調動起來時，教師這種努力尤其顯得徒勞。很簡單的道理，無論評估設計得多好，回饋有多麼詳細，如果學生沒有動機，或是沒有能力去接收和理解回饋、並基於回饋採取行動、改善學習，教師的努力便是竹籃打水一場空。此外，家長作為支援學生學習的重要一環，在這樣的評估模式下也沒有被善用。儘管香港家長都很重視評估，也有很高的動機去幫助孩子學習，但很多時候，家長這資源往往集中於鼓勵機械式的學習和操練。在這樣的環境下，評估改革實施的效果差強人意，並不出奇。

以學生為中心的評估模式

要改變這種狀況，關鍵在於改變評估的單向傳輸的模式，以及重構學生、教師、家長在評估中的角色。筆者在此要提倡一種以學生為中心的評估模式。此模式要求將教師主導的「促進學習的評估」與學生主導的「作為學習的評估」進行統整，並且互相促進。

具體來講，學生應處於評估活動的中心。學生要掌握評估技巧，主動進行自我評估和同儕評估，尋求回饋，進行反思。亦即強調「作為學習的評估」。這會帶來三個好處：其一，「作為學習的評估」本身是一種有效的學習策略。「作為學習的評估」的過程能夠提供豐富的學習機會予學生，這些過程包括：確定評估任務和成功標準、完成評估、尋求和提供回饋、反思以及改良自己的表現。隨著學生逐漸熟悉這過程，他們便可以逐步掌控自己的學習過程，提升元認知，從而發展自主學習和終生學習的能力。其二，通過長期「作為學習的評估」的訓練，學生的評估素養得以提升。他們對於不同評估任務的性質和目的、成功標準會有更深入的理解，也會更了解回饋在學習中的重要作用，懂得如何尋求有效回饋，以及基於回饋改善學習。而這些知識和能力，反過來又會使教師主導的「促進學習的評估」更有效。其三，在以教師為中心的評估模式中所遇到的問題（如：大班、教師工作量過大），在學生為中心的評估模式中可能得以減輕。因為在這種模式中，教師不再是回饋的唯一來源，每一位學生都是自己以及同儕的學習資源。

那麼，在以學生為中心的評估模式中，教師的角色是如何？教師在評估活動中要承擔起領導者和支援者的角色。這可以從兩方面來理解：一方

面，教師仍然需要擔當起「促進學習的評估」中的角色。譬如擬卷和改卷，甄別學生或某個群體的個別學習需求，為學生提供及時回饋（包括指明改進方向和提供改進機會），以及選擇與調適教學材料、資源、與教學策略，以支援每個學生進步；另一方面，教師要盡力培養學生「作為學習的評估」的能力。要達到這目標，教師需要運用不同的範例來教導學生進行自我/同儕評估的技巧、指導與監督學生（設立合適學習目標和成功標準，建立內部回饋和自我監督的機制，發展元認知與反思能力），以及建立一個安全及有充分支持的環境，好讓學生敢於嘗試與探索。某種程度上，這要求教師改變教學模式，教師要將一部份「提供回饋」的時間和精力用來激發學生進行自我評估和同儕評估；將一部份「傳授知識」的時間和精力用來鼓勵學生主動參與學習及建構學習。

家長在評估活動要扮演監察者和支援者的角色，目的同樣是促進學生「作為學習的評估」的能力發展。不少研究已經證明家長參與評估對學生學習的重要性。家校合作可以更有效地分析和確定學生的學習需要。在以學生為中心的評估模式中，家長不再是簡單地鼓勵機械式學習和操練，而是根據自身的情況和資源，從不同層面提供協助。例如：積極進行評估和回饋、就學科知識提供意見、監察學習進度、提供情感支援等。

因此，以學生為中心的評估模式重構了學生、教師、家長在評估中的角色，令「促進學習的評估」與「作為學習的評估」互相配合，積極誘發學生的主動性，提升教師評估工作的效率，以及最大化家長的支援效果。當然，要轉變評估模式絕非

一日之功，還需要很多條件的配合。首要的條件便是要提升持份者（尤其是學生、教師、家長）的評估素養（assessment literacy），其他條件還包括：要提供更多本地實證研究，以證明學生為中心的評估模式對於達致長期目標（提升學生自主學習能力）以及中短期目標（提升學生學業成

績）的效果；要有易於推廣的具體評估策略；要有容易操作的評估和教學工具（如網上評估學習平台），等等。只要持份者互相理解，家校竭力協作，長期堅持「積跬步以至千里」，改變課室層面的評估文化就有可能。

問與答

評估素養是什麼？

評估素養（assessment literacy）是關於「如何評估學生，如何解讀評估結果，以及如何應用評估結果來提高學生的學習和教學有效性」的知識（Webb, 2002）。有評估素養的人能夠設計和實施高質素的評估，收集可靠的學習顯證，以及利用這些顯證來支持有效的教育決策。評估素養對各個持份者的要求略有不同。

具體來說，具有評估素養的教師應該可以：

- 1 了解課程內所訂定的每項學習目標；
- 2 按不同學習目標的性質和評估目的，選取及設計合適的評估活動；
- 3 進行不同模式的評估活動、批改及闡釋學生學習的顯證；
- 4 有效地向不同持份者解釋學生的評估表現；
- 5 就評估得來的資料，為個別學生提供建議、修訂學與教策略、發展校本課程及規劃學校未來的發展；
- 6 培養學生積極參與評估活動的態度，並透過評估活動，持之以恆地發展學生自主學習的能力；
- 7 培養學生參與不同類型，包括校內及校外的評估活動時應有的技巧（課程發展議會，2014）。

對於學生來說，評估素養主要體現為：

- 1 理解評估的不同目的；
- 2 理解回饋的重要性，能利用回饋改善學習，並能主動尋求回饋；
- 3 反思自己的評估表現，了解自己的優勢與不足；
- 4 通過評估掌控自己的學習目標，並監察自己的學習進程。

具有評估素養的家長應該能夠：

- 1 理解考試、評估與學習的關係；
- 2 理解和分享評估所提供的，關於學生學習成果的信息；
- 3 根據評估所提供的信息，幫助孩子更好學習，並在考試時展現最好的表現。

是否要設計不同的評估任務，以分別滿足不同的評估目的 (即：對學習的評估、促進學習的評估、和作為學習的評估)？

教學過程中，可以設計不同的評估任務，來達致不同的評估目的。但同一評估任務，也可以滿足不同的評估目的。以學校的期終測試為例，如果教師只是將結果報告給學生和家長，而沒有教學上的跟進，那麼，這是典型的「對學習的評估」；如果教師除了報告結果之外，還基於學生的表現給予回饋，並調整下一學期的教學策略，那便是「促進學習的評估」；如果能教導學生自己解讀測試結果，主動尋求額外回饋，並進行反思，則已經是「作為學習的評估」了。

學生自我評估的準確性重要嗎？

自我評估，以及其他「作為學習的評估」的策略，應該被視為一種學習策略，而不是評估方法。學生能提供準確的自我評估結果，當然好。但由於其主要目的不是進行選拔和問責，即使學生的自我評估結果不是太準確，也不能因噎廢食，而不做自我評估。因為，「作為學習的評估」中的自我評估，其最大的作用是讓學生參與到評估活動中，理解評估標準，尋求回饋，找出自己學習的強弱項；長遠來看，培養學生反思的習慣，從而發展自主學習和終生學習能力。

參考文獻：

Black, P., & Wiliam, D. (1998). *Inside the Black Box: Raising standards through classroom assessment*. King's College, London, United Kingdom.

Hattie, J. (2017). *Hattie's 2018 updated list of factors related to student achievement: 252 influences and effect sizes*. Retrieved on October 23 2019 from <https://visible-learning.org/hattie-ranking-influences-effect-sizes-learning-achievement/>

Webb, N. L. (2002, April). *Assessment literacy in a standards-based urban education setting*. A paper presented at the American Educational Research Association Annual Meeting, New Orleans, Louisiana.

Yan, Z., & Cheng, E. C. K. (2015). Primary teachers' attitudes, intentions and practices regarding formative assessment. *Teaching and Teacher Education*, 45, 128-136.

課程發展議會 (2002)：基礎教育課程指引－各盡所能·發揮所長（小一至中三）。香港：政府印務局。

課程發展議會 (2009)：高中課程指引－立足現在·創建未來（中四至中六）。香港：政府印務局。

課程發展議會 (2014)：基礎教育課程指引－聚焦·深化·持續（小一至小六）。香港：政府印務局。

課程發展議會 (2017)：中學教育課程指引。香港：政府印務局。

Student-centred Mode of Assessment

Dr Yan Zi

Co-Director, Centre for Excellence in Learning and Teaching
Associate Professor, Department of Curriculum and Instruction

Assessment can be categorised into three main types based on its purposes: assessment of learning, assessment for learning, and assessment as learning. Assessment of learning aims for selection and accountability, which focuses on providing effective and reliable evidence of student academic achievement. Assessment for learning aims to support learning. It is often teacher-directed and used to provide timely and quality feedback to inform learning and teaching based on assessment data. Assessment as learning also aims to support teaching and learning but it is student-directed. Students are expected to take initiative to engage in the assessment process, collect data, assess the learning effectiveness of themselves and their peers, reflect and adjust the learning strategies to facilitate their learning.

Since the introduction of the imperial examination system (keju zhidu), people have viewed assessment as confine to 'assessment of learning'. Such confinement has resulted in examination-oriented assessment culture, and generated a series of undesirable consequences, including the negative backwash effect of assessment on teaching, overemphasis of the learning outcomes rather than the learning process, pressure of examination, excessive drilling, etc. In view of these problems, the education assessment reform in Hong Kong aims to change the confined function of assessment and its negative consequences. It promotes the function of assessment to facilitate learning by emphasising 'assessment for learning' (CDC, 2002; 2009) and 'assessment as learning' (CDC, 2014; 2017). The effectiveness of the implementation of the assessment reform in the past two decades can be analysed from two levels, the system level and classroom level. At the system level, despite some positive changes (e.g. reduces the number of public examinations, introduces the school-based

assessment, etc.), there is no fundamental change in the examination-oriented assessment culture. Frankly speaking, it is difficult to have any fundamental change of the existing assessment culture if the society still keeps using university admission as the standard to determine students' success, and to determine students' opportunities to get entry into the university based on the public examination results. This involves the whole education system and its underlying social culture and values. Apparently, it is unreasonable to expect an abrupt change within a short period of time, and to expect making this change happen merely through the education system.

The assessment reform has some impact at the classroom level. Stakeholders, particularly the frontline teachers have changed their understanding of the roles of assessment in the teaching process. Majority of the teachers aware that assessment should be used to facilitate learning and teaching. However, the implementation of 'assessment for learning' and 'assessment as learning' in classrooms are not satisfactory. Yan and Cheng (2015) found that even though teachers in Hong Kong have positive attitude, high level of self-efficacy, and intention regarding implementing formative assessment, it is not commonly practiced in classrooms. People attribute the failure of implementation of formative assessment to the fact that teachers and students have to face the pressure from examinations. However, we have to ask a question: why do teachers and students seek for mechanical drilling but not 'assessment for learning' when they are facing the pressure from examination?

John Hattie's famous study on visible learning indicated that the effect size of memorisation on enhancing students' academic achievement is 0.73. For factors related to 'assessment for learning' (such

as scaffolding, reflection, feedback), the effect size is between 0.7 to 0.82 (Hattie, 2018). This means that 'assessment for learning' not only able to achieve the long-term objective (to enhance students' self-regulated learning skills) but also cater for the mid and short-term objectives concerned by the teachers, students, and parents (to enhance students' academic achievement). Why drilling is more popular than 'assessment for learning'? The reason might be simple. It is not because of the incapacity of 'assessment for learning' on enhancing examination results, but the challenges of implementation of 'assessment for learning'.

Despite that assessment is an integral part of teaching, teachers found it challenging to conduct high quality 'assessment for learning'. Black and Wiliam (1998) pointed out that although 'assessment for learning' (similar to the formative assessment as stated in their article) can help learning, it is not easy to gain such benefit in the classroom because it takes time and effort to design a good assessment task, provides accurate marking and high quality feedback. There would have actual improvement in teaching and learning only if the students could understand teachers' feedback and take action accordingly in the next stage of learning.

In Hong Kong, the one-way transmission mode is the dominant mode of assessment. Under the transmission mode of assessment, teacher is responsible for designing and implementing the assessment. Feedback is solely derived from teachers to students in a linear manner. Students play a rather passive role in the assessment process. Teachers

have put lots of effort into designing the assessment papers, marking, providing feedback. However, when students got the marked papers, they often just lay the paper aside and neglect the teacher's feedback, or finish the task by simply writing down the correct answers. They repeat the same mistake again in the next round of assessments. The one-way transmission mode of assessment could neither help students to develop their assessment literacy nor facilitate their self-regulated learning. The author viewed it as a mismatch of the roles of stakeholders. That is, the over-emphasis of teacher-centred assessment but neglect the students' initiative in the assessment process. This mismatch not only happens in the assessment practice but also in the assessment reform process. Most assessment reform initiatives in Hong Kong focused exclusively on teachers. Placing responsibility exclusively on teachers might not result in optimal outcomes because it overburdens teachers, especially when the class size is large. Teachers' efforts are in vain if students' autonomy is not fully mobilise. No matter how well the assessment is designed, how details of the feedback are offered, it's fruitless if students do not take initiative or have sufficient skills to receive and understand the feedback, take action to improve their learning based on the feedback. Moreover, parents' resources are not well utilised in the one-way transmission mode of assessment. Although parents in Hong Kong value assessment and have high motivation to help their children to learn, parents usually focus on encouraging a spoon-feeding method of teaching and rote learning. Under such circumstance, it is not surprising that the outcomes of the assessment reform are barely satisfactory.

Student-centred mode of assessment

The key issue to solve the above-mentioned problem is to change the one-way transmission mode of assessment, and to restructure the roles of students, teachers and parents in assessment. The author proposes a student-centred assessment mode that integrates the teacher-directed 'assessment for learning' and student-directed 'assessment as learning' together.

Specifically, students are placed at the centre of the assessment activities. Students have to master

the assessment skills, take initiative to conduct self-assessment and peer assessment, seek for feedback and have reflection. In other words, it emphasises on 'assessment as learning'. There are three advantages of student-centred mode of assessment: Firstly, 'assessment as learning' itself is a productive learning strategy that can provide ample learning opportunities for students during assessment processes (e.g. assessment task and criterion specification, feedback

and revision opportunities are considered ways of learning). When students get familiarised with the assessment processes, they are able to get control of their learning process gradually by themselves, enhance their metacognition, and develop their self-regulated learning and life-long learning skills. Secondly, through regular 'assessment as learning', the assessment literacy of students would be enhanced. Students would have a deeper understanding of the nature and aims of different assessment tasks and criteria of success. They would also understand the importance of feedback on learning, learn how to seek effective feedback and improve their learning based on the feedback. The enhanced assessment literacy, in turn, could make the teacher-directed 'assessment for learning' more effective. Thirdly, the challenges brought by teacher-directed mode of assessment, such as large class size, heavy workload of teacher, could be released through the student-centred mode of assessment. With the student-centred mode of assessment, teacher is not the sole source of feedback and students serve as learning resources for themselves and for one another in assessment as learning.

What are the roles of teachers in the student-centred mode of assessment? Teachers play the roles of leaders and supporters in the assessment activities. Firstly, teachers still need to lead 'assessment for learning', e.g. design the assessment papers and do the marking, identify learning needs of individual student or a group of students, provide timely feedback to the students (including point out the direction for improvement and provide opportunities for students to take action), and select and make adaptation to teaching materials, resources and teaching strategies to support individual improvement. On the other hand, teachers have to help their students to acquire skills of 'assessment as learning'. To achieve this goal, teachers need to make use of different exemplars to equip students with self-assessment and peer assessment skills, offer guidance and supervise the students (set up appropriate learning objectives and criteria of success, develop internal feedback and self-monitoring mechanism, develop metacognition and reflection skills), and develop a safe and supportive environment to facilitate students' exploration. To some extent, this demands teachers to change their

mode of teaching. The teachers' role should be fine-tuned from providing feedback to inspiring peer and self (internal) feedback, and from transmitting knowledge to engaging students in learning.

Parents play the roles as supervisors and supporters in the assessment activities with a purpose to develop students' competence on 'assessment as learning'. Studies have confirmed the importance of parents' participation in assessment on students' learning. Home-school collaboration is helpful for analysing and identifying the learning needs of the students effectively. With the student-centred mode of assessment, parents do not simply encourage the use of rote learning and drilling, they also provide different levels of assistance based on their own experience and resources, e.g. conduct assessment and provide feedback, offer suggestions on subject knowledge, monitor the progress of learning, provide emotional support, etc.

Hence, the student-centred mode of assessment reconstructs the roles of students, teachers and parents in assessment. It integrates 'assessment for learning' and 'assessment as learning' together, motivates students' initiative to participate in assessment actively, enhances the effectiveness of teacher-directed assessment, and maximises the impact of parental support. It certainly takes time and effort to change the assessment mode. Certain conditions are necessary to make this change happen. The most important condition is to enhance the assessment literacy of different stakeholders (students, teachers and parents). Other conditions include: to provide more local evidence-based research to substantiate the positive impact of the student-centred mode of assessment on long-term objective (to enhance students' self-regulated learning skills) as well as the mid and short-term objective (to enhance students' academic achievement); it should have concreted and ready-for-use assessment strategies; user-friendly assessment and teaching tools (e.g. online assessment and learning platform, etc.). Nevertheless, it is promising to change the assessment culture at the classroom level with concerted and persistent efforts of different stakeholders.

Questions and Answers

What is 'assessment literacy' ?

Assessment literacy is the knowledge about “how to assess what students know and can do, interpret the results of these assessments, and apply these results to improve student learning and program effectiveness ” (Webb, 2002). People with assessment literacy should be able to design and implement high quality assessment, collect reliable evidence of learning, and make use of this evidence to make effective educational decisions. There are different expectations for different stakeholders on assessment literacy.

Specifically, teachers with assessment literacy should be able to:

- 1 Understand the format and outcome of every learning goal set in curriculum;
- 2 Select and design appropriate assessment activities according to the nature of various learning goals and assessment purposes, and also know how to minimise potential problem and bias;
- 3 Conduct different types of assessment activities, mark and explain student’s learning evidence;
- 4 Explain student’s assessment performance to different stakeholders effectively;
- 5 Provide suggestion to students, revise learning and teaching strategy, develop school-based curriculum, and plan school’s future development according to evidence from assessment;
- 6 Cultivate student’s positive attitude to participate assessment activities, and persistently equip students with self-directed learning ability via assessment activities;
- 7 Equip students with skills that help them participant in various types of assessment activities within or outside of schools (CDC, 2014).

For students, assessment literacy can be reflected mainly as:

- 1 to understand different purposes of assessment;
- 2 to understand the importance of feedback, make use of feedback to improve learning, and able to seek for feedback;
- 3 to reflect on their own assessment performance, understand their own strengths and weaknesses;
- 4 to control their own learning objectives through assessment, and monitor their own learning process.

For parents with assessment literacy, they should be able to:

- 1 understand the relationship between examination, assessment, and learning;
- 2 understand and share the information of students’ learning provided by assessment;
- 3 support their children’s learning based on the assessment result, and to help their children demonstrate their best performance on examinations.

Is it necessary to design different assessment tasks to meet different purposes of assessment (i.e. assessment of learning, assessment for learning, and assessment as learning)?

We could design different assessment tasks to meet different purposes of assessment in the teaching process. However, it is possible for the same assessment task to meet different assessment purposes. Using the final examination as an example, if the teacher just reports the examination results to the students and parents without any follow-up, it's a typical example of 'assessment of learning'; If the teacher offers feedback to students based on their examination performances, as well as making modifications to the teaching strategies for the next academic term, that would be 'assessment for learning'; If the teacher teaches students how to interpret the assessment results, seek for feedback actively, and have reflection, that would be 'assessment as learning'.

Is the accuracy of student self-assessment important?

Self-assessment and other 'assessment as learning' strategies should be considered as a learning strategy rather than as an assessment method. It is certainly desirable for students to provide an accurate self-assessment result. However, we should always encourage student self-assessment even though the self-assessment result is not very accurate. Remember that the main purpose of 'assessment as learning' is not for selection and accountability, but for supporting learning. The major benefit of self-assessment, as an 'assessment as learning' strategy, is to allow students to engage in the assessment activities, understand the assessment criteria, seek for feedback, identify their strengths and weaknesses in learning; in the long run, to cultivate a habit of self-reflection, and to develop self-regulated learning and life-long learning skills.

References:

- Black, P., & Wiliam, D. (1998). *Inside the Black Box: Raising standards through classroom assessment*. King's College, London, United Kingdom.
- Hattie, J. (2017). *Hattie's 2018 updated list of factors related to student achievement: 252 influences and effect sizes*. Retrieved on October 23 2019 from <https://visible-learning.org/hattie-ranking-influences-effect-sizes-learning-achievement/>
- Webb, N. L. (2002, April). *Assessment literacy in a standards-based urban education setting*. A paper presented at the American Educational Research Association Annual Meeting, New Orleans, Louisiana.
- Yan, Z., & Cheng, E. C. K. (2015). Primary teachers' attitudes, intentions and practices regarding formative assessment. *Teaching and Teacher Education*, 45, 128-136.
- 課程發展議會 (2002) : 基礎教育課程指引—各盡所能·發揮所長 (小一至中三)。香港: 政府印務局。
- 課程發展議會 (2009) : 高中課程指引—立足現在·創建未來 (中四至中六)。香港: 政府印務局。
- 課程發展議會 (2014) : 基礎教育課程指引—聚焦·深化·持續 (小一至小六)。香港: 政府印務局。
- 課程發展議會 (2017) : 中學教育課程指引。香港: 政府印務局。

授人以魚，不若授人以漁？

賴明珠博士

卓越教學發展中心項目顧問

我們一向認為老師若要把教與學的任務做好，就必須對學生的學習作出適切的評估，以提供有效及可靠證據促進教與學，故此大家認為評估的主導權必然在老師。然而張淑賢（無日期）指出「評估不一定是由教師獨自進行的（實際上並不是，也不應該）。學生可透過評估自己和同儕促進自己的學習，在評估和學習上，學生應是局內人而非局外人。」換句話說，老師應該讓學生掌握評估的技巧、自己主動進行評估、尋求回饋以及進行反思，自己主導評估，促進學習（即作為學習的評估 assessment as learning）（晏子，2019）。因此要建構學生的學習，最終需要讓評估融入學生的學習歷程，讓學生自己或同儕之間合力進行，並在評估過

程培養自主學習的積極態度。如果以「授人以魚，不若授人以漁」來比喻推動學生主導評估比老師進行評估更為重要，也尚未不可。事實上老師如果能夠有計劃、按部就班地進行評估工作，要達至有效的評估和回饋，應該不難的。相對於學生，由於他們還在求學階段，進行評估時則可能會出現困難，譬如學生之間有差異，倘若評估標準超出他們的能力，學生未必能夠在自我評估的過程中反思和調整學習策略，改善學習。有鑒於此，本文舉出以下的案例，嘗試從教學設計的角度，檢視老師如何在小二語文說話訓練的課堂中進行不同模式的評估，並探討課堂上各種評估模式之間的關係，以及如何提升學生的評估素養。

利用「對學習的評估」(assessment of learning) 確定學習的難點

本案例中的學校有志提升低年級學生的說話能力，期望通過有效的教學，訓練學生看圖說故事的能力。然而課程的安排上，說話教學的節甚少，因此學校一直希望能夠發展一些自學工具，讓學

生進行自我訓練。此外，學校也一直使用參考香港中國語文課程（第一學習階段基本能力的說話範疇）設計的校本說話評估表，如下：

說話評估表

評審準則	等級分數				
	0 - 4%	5 - 8%	9 - 12%	13 - 16%	17 - 20%
能清楚講述圖中故事					
能順序講述事件的大概					
能運用日常生活的詞語表情達意					
能掌握所學字詞的發音					
說話聲音響亮					

由於以上評估準則涵蓋的範圍較廣，老師並不容易在課堂中進行針對性的評估測試，以及有效地跟進學生的學習。因此老師期望在二年級進行看圖說話的研究課，通過備課、觀課評課，優化教學並同時設計更為有效的評估模式，從而掌握學生看圖說話的學習狀況。

為了具體掌握學生看圖說話的難點，老師在教學前讓三位學習能力不同（高、中、低）的學生，進行看圖說話（四格漫畫）測試。以下是學生的一些普遍情況：

- ◆ 如果人物太多，他們會不知道誰是主角，也不知道從那一個人物的活動說起；
- ◆ 如果圖中沒有時間 / 地點的提示就不會提起相關內容；
- ◆ 不會關注圖與圖之間，地點或時間的轉換；
- ◆ 不懂如何觀察圖中的事物導致內容平鋪直敘，缺乏幻想力；
- ◆ 不知道如何把多幅圖畫串連起來成為一個完整的故事。

從以上的分析可見，對於二年級的學生而言，要求他們把四幅圖畫串聯起來成為一個完整的故事，限於他們的語言能力，會遇到不少問題。倘若老師把課堂的學習目標訂得太多，評估的內容當然會增加，故此就需要對課堂處理的學習目標作取捨或分緩急先後處理。

最後老師依據學生的學習難點確定了描述四格漫畫故事的學習重點：

- 1 先從四格漫畫中找出主角，以主角的活動來掌握故事的發展與脈絡：因為主角人物是故事發展的主線，沿著主角的活動突出故事的發展主線，是說故事的技巧之一；
- 2 儘量說出每一幅圖畫中的時地人事：時地人事四素是記敘文的基本內容，只要學生細心觀察圖畫，藉著圖中的事物或背景不難找到豐富說話的四素內容；
- 3 圖與圖之間能運用適當的詞彙表述地點、時間或事情的變化：當話題從一幅圖轉去另一幅圖的時候加上適當的時間詞或承接詞（由於學生的能力有限，教學過程中可提供一定的詞彙選擇。）；
- 4 觀察人物的表情作出適當的說話表達或表情描述：鼓勵學生把曾學過的「人說句」、「人想句」豐富人物的描述；（已有知識）
- 5 最後表述一下個人感想（以一句說話表達自己對故事的整體看法）。

由於要處理的學內容較多，老師決定分為兩個課堂來進行：第一部分是教授四格漫畫的說話要點；第二部分是訓練學生通過自學的方式掌握四格漫畫的說話技巧。以上安排目的是除了讓所有學生掌握說故事時要包括那些內容之外，也希望讓學生親自體驗如何掌握說故事的技巧。基於上述的原因，老師特地在第二教節讓學生以同儕及自我

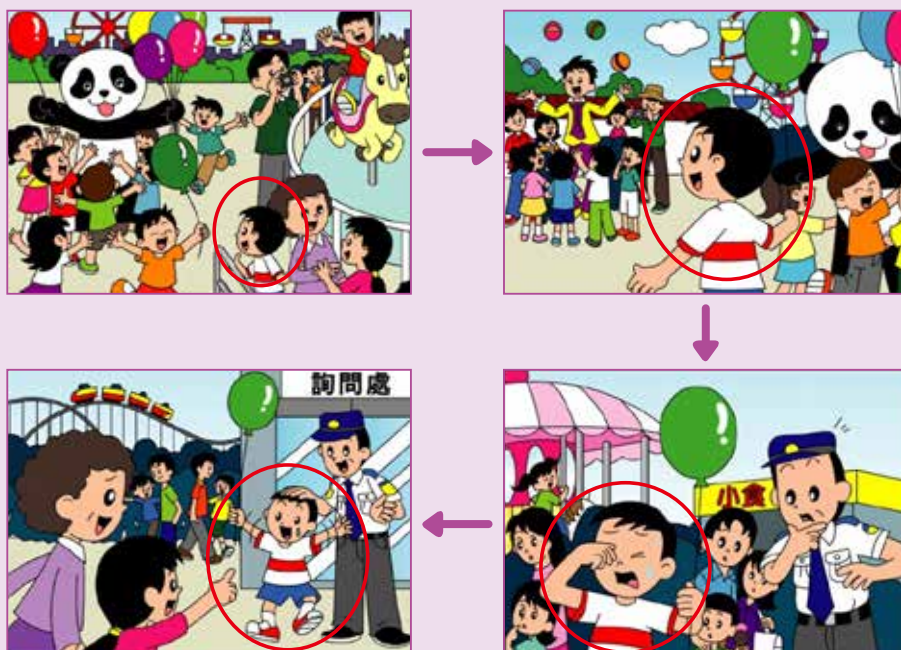
評估的方式來學習，並利用電子工具讓他們在自學的過程中調適自己的學習進程，處理學生的學習多樣性。本研究課有兩個教學循環，在觀摩第一循環的過程中，老師特別關注學生的學習表現，以學生的學習表現作為反思教學的依據，並在第二循環的教學時加以優化。

利用「促進學習的評估」(assessment for learning) 優化教與學

課堂教學第一部分：

發展（一）：掌握故事的脈絡

老師提示學生若從眾多人物中找出主角，關鍵的方法是觀察有那一個人物每次都出現在四幅漫畫中，然後再根據他的活動和表情以及周圍環境的情況初步構思故事的發展（見圖 1）。老師並提供多一套四幅漫畫讓學生嘗試找出主角，以評估學生的觀察力。



◀ (圖 1)

發展（二）：教學示範

老師通過提問向學生示範如何交代第一幅圖畫的時、地、人和事情 / 活動，然後利用基本行為句豐富說話內容，並把老師的說話錄音，然後利用設計的「評審四格漫畫說話評估標準」，向學生示範如何利用這些評估標準來評審說話內容。（見圖 2 和 3）



◀ (圖 2)

二年級 中文科觀摩評分表

姓 名：() 姓 名：() 日 期：()

評分準則：把聽到的六個行為句在表格內加上✓

	第一	第二	第三	第四
人看句	✓			
人動句	✓			
人聽句	✓			
人說句	✓			
人感句	✓			
人想句	✓			
把聽到的過渡句在 () 內加上✓	過渡句 ()	過渡句 ()	過渡句 ()	過渡句 ()

◀ (圖 3)

老師示範：

一個晴朗的星期日下午，媽媽帶我來遊樂場遊玩。遊樂場有很多小朋友，有人騎木馬、有人拍照，還有很多人圍著大熊貓，要求大熊貓給自己一個氣球。我看見大熊貓有很多五彩繽紛的氣球，我想：那些氣球那麼漂亮，如果能拿到一個就好了！於是我急忙跑去領取氣球。

發展（三）：分組學習

學生分組討論如何把第二幅圖畫的故事內容說好，然後每組向全班同學分享（見圖 4），老師並且即時利用評估表格進行評審，再展示評估結果以提點學生說話時需注意的要點。接著學生再討論第三幅圖畫的故事內容（見圖 5），當老師邀請一位同學出來分享的時候，就把說話錄音，然後播放，其他組別的同学利用評估表嘗試評審同學的錄音，老師並利用不同組別的評估表來檢視學生的學習情況。最後，老師展示第四幅圖畫，進行集體討論，鼓勵學生說出自己對故事的感想。



▲ (圖 4)



▲ (圖 5)

從「作為學習的評估」(assessment as learning) 中進行自主學習

課堂教學第二部分：

發展(四)：學習與評估的兼容並蓄

承接上一個教節，老師展示學生學過的兩幅圖畫，提醒學生細心觀察圖與圖之間有什麼變化，並運用適當的詞彙描述。譬如當地點或時間改變了，或從一幅圖轉去另一幅圖的時候就必須加上適當的時間／方向介詞（從、向……）或承接詞（於是、然後……）。鑒於小學生的能力所限，老師提供兩個固定的詞彙讓學生選用。接著，老師示範利用電腦軟件 iMovie 錄音，然後利用評估表自評。之後學生再分組，把第三、四幅圖畫的內容聯繫起來並錄音，再利用評估表進行同組集體評審（見圖 6）。

評估準則	老師	學生	學生	學生
內容	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
人物	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
地點	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
事情	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
人物名稱	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
人物動作	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
環境	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
學生與他人	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
個人感想	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

老師示範評審 學生分組評審

▲ (圖 6)

發展(五)：從評估中調適學習

最後，每位學生以每人一機的形式，把四幅圖畫從頭串連起來說故事和錄音，然後重聽及利用評估表進行自評（見圖 7）。如果不滿意，就再錄音和再評審，直至滿意為止。從學生在課堂上的表現可見，由於提供了評估標準，學生對評估的操作方式，不會有太大的困難。無論是進行自評或同儕互評，由於有不斷修正的機會，學生也十分願意嘗試。最後老師揀選學生的說話錄音與全班同學分享，總結課堂。



▲ (圖 7)

總結

張淑賢（2007）指出評估第一個原則是連結教與學，她認為評估內容應該能反映教學內容，而評估任務的釐訂也能反映學生在學習上所需的技巧。本案例以評估學生的學習難點為切入點，老師從前測訪談中了解到學生看圖說故事時表現欠佳，並非完全因為說話內容的貧乏，而是觀察圖畫時缺乏技巧，尤其是當要把多幅圖畫的內容組織成連貫性的故事時，如果學生在眾多人物中找不到故事主角，或沒有細心觀察圖與圖之間的細節和事物的變化，說故事時便會毫無頭緒，也欠缺起承轉合。老師訪問學生的時候，從學生在觀察四格漫畫時的難點得到教學啟發，再從四幅漫畫故事的縱向與橫向劇情發展，尋找靈感設計合適的評估任務——「評估表」，並通過循環式的觀課評課來優化評估表的使用、改善學生運用評估表的準則來監控自己能否達成學習目標的能力。此外，學生通過電子工具進行多次錄音來修訂自己說話的質素的活動，可以由同儕互評，也可以由學生自評。由於教學過程讓學生經歷自行修正

自己的說話內容的優化過程，這種形式的學習不單自主性強，也能鼓勵學生不斷改進。此外，筆者認為一般低年級學生可能不太懂得運用評估的回饋來反思自己的學習表現，因此，縱使有適當的評估工具，老師在教學過程中必須作示範，誘導學生如何進行評估，循序漸進把學習與評估融合，適時利用「促進學習的評估」和「對學習的評估」來調整自己的教學，同時提升學生運用自我評估的工具的能力，從而達到「作為學習的評估」的最終目的。總而言之，「對學習的評估」、「促進學習的評估」以及「作為學習的評估」三種評估固然能優化教與學，但回歸學與教的基本，還是需要理解學生在學習前和學習過程中的難點，評估才能發揮功能。「授人以魚」時，老師是必然的主導者，而當「授人以漁」時，雖然主導的是學習者，但老師也是策劃者以及監察者，而引導學習者渴望學習「釣魚」和理解學習者對「釣魚」的有什麼獨特的看法或困難，皆是「授人以漁」能否達到目標的關鍵。

參考資料：

張淑賢（無日期）：《促進學習的評估原則及指標。評估與學習》，第3期，17。2019年10月30日，取自 wlts.edb.hkedcity.net

張淑賢（2007）：以評估促進學習，載於梁佩雲、張淑賢編《導向學習的評估：教育實務匯編》，（頁7-19），香港，香港大學出版社。

晏子（2019）：《評估素養：理論與實踐》基督教香港信義會禾輦信義學校工作坊（一）。

Isn't It Better to Teach One to Fish Rather Than Giving Him a Fish?

Dr Lai Meng-choo

Project Consultant, Centre for Excellence in Learning and Teaching

It has always been believed that if teachers want to ensure effective teaching and learning, they have to conduct appropriate assessment of students' learning to provide effective and reliable evidence to facilitate teaching and learning. Hence, it is believed that teachers have to play a leading role in assessment. However, Berry (n.d.) pointed out that "assessment is not necessarily be solely conducted by teachers (in fact, it is not or should not be). Students can use self-assessment and peer assessment to facilitate their learning. Students should be the insiders rather than outsiders in assessment and learning". In other words, teachers should allow students to master the assessment skills, to take the initiative to conduct assessment, seek feedback and reflect on their learning. Students take an active role in assessment to facilitate their learning (that is, assessment as learning) (Yan, 2019). Therefore, to enhance students' learning, it is necessary to integrate assessment into the learning process, provide opportunities for students to conduct assessment by themselves or with their peers collaboratively, and cultivate a positive attitude of

autonomous learning in the assessment process. If we use the metaphor of 'teaching a man to fish is better than giving him a fish' as an analogy for assessment, we can say that to facilitate student-led assessment is more important than promoting teacher-led assessment. In fact, if teachers could plan and carry out assessment tasks in a systematic manner, it should not be difficult for teachers to achieve effective assessment and feedback. With regard to students, they may have difficulties in conducting assessment as they are still in their schooling. For example, due to the diversity of students, they may not be able to reflect and adjust their learning strategies in the self-assessment process so as to improve their learning if the assessment criteria exceed their assessment competence. In view of this, this article attempts to use the following case study to review, from the perspective of instructional design, how teachers conduct different modes of assessment in a series of Primary Two speaking lessons, to explore the relationships between the different modes of assessment used in the lessons, as well as how to enhance students' assessment literacy.

Using 'assessment of learning' to identify learning difficulties

The case study school intends to enhance the speaking skills of the junior primary students, and it is expected that through effective teaching, students' ability of reading pictures and story-telling can be trained. However, few lessons have been allocated for speaking skills due to the arrangement of the curriculum. Hence, the school hopes to design

some self-learning tools to enable students to have self-training. Moreover, the school has been using a school-based speaking assessment form designed with reference to the Hong Kong Chinese Language Curriculum Guide (Key Stage One – Basic Competency – Speaking) as shown below.

Speaking assessment form

Assessment criteria	Grading scale				
Able to clearly describe the story in the picture	0 - 4%	5 - 8%	9 - 12%	13 - 16%	17 - 20%
Able to briefly describe the events in the right sequence					
Able to apply daily life expressions to convey ideas					
Able to master the pronunciation of vocabulary acquired					
Able to speak loudly and clearly					

Given that the scope of the assessment criteria cover a wide range, it is not easy for teachers to conduct focused assessment tasks in the classroom, and to follow-up on students' learning effectively. Therefore, the teachers expect that their teaching could be optimised and more effective assessment models could be devised through a Primary Two speaking research lesson in which co-planning lessons, lesson observations and evaluations would be conducted so as to explore how students learn speaking through reading pictures.

In order to understand students' difficulties in speaking, the teachers invited three students with different learning abilities (high, medium and low) to conduct a pretest on telling a story based on a four-panel comic strip. Below are some of the common findings of students' learning difficulties.

- ◆ Students did not know who the main character was if there were too many characters in the pictures. They did not know which event to start with.
- ◆ Students would not mention the related content if there were no hints of time/place in the pictures.
- ◆ Students did not pay attention to the changes of place or time between pictures.
- ◆ Students spoke in a plain, straightforward manner without imagination because they did not know how to observe the objects in the pictures closely.
- ◆ Students did not know how to link up the set of pictures into a complete story.

The above analysis indicated that the Primary Two students would encounter a lot of problems if they were asked to link up four pictures into a complete story due to their limited language ability. If teachers set too many learning objectives, the assessment content would increase. Hence, teachers have to make choices in terms of the learning content or prioritise the learning objectives that need to be addressed.

Finally, the teachers confirmed the object of learning of describing the four-panel comic strip based on students' views and learning difficulties.

- 1 Identify the main character in the four-panel comic strip, and grasp the context and development of the story through the activities of the main character. As the main character is the main line of the story development, highlighting the main line of story development along the activities of the main character is one of the skills of story-telling.
- 2 Try to talk about the time, place, people and events in each picture. The time, place, people and events are the four basic elements of a narrative. As long as students are able to observe the pictures carefully, it is not difficult to identify the rich content of the four elements from the events and background of the pictures.
- 3 Use appropriate vocabularies to describe the changes of place, time and events between pictures; add appropriate time expressions or connectives when the topic changes from one picture to another; (due to limited language ability of the students, some vocabularies can be provided for students' selection during the teaching process).
- 4 Observe the expressions of the characters and make appropriate description; encourage students to use their acquired sentence patterns of 'someone says' and 'someone thinks' to enrich the story description (prior knowledge).
- 5 Finally, express one's personal opinions in a sentence to express his/her overall view of the story.

Due to the scope of the teaching content, the teachers decided to use a double lesson for teaching the story-telling skills. The first part of the double lesson focused on teaching the key points of describing the four-panel comic strip. The second part of the lesson trained students' speaking skills through self-learning. The above arrangements aim to enable students to master what content they should include in story-telling, and also enable the students to experience how to master the story-telling skills. Hence, in the second lesson, the teachers deliberately used peer and self-assessments to

help students learn, and use electronic tools to enable students to adopt self-monitoring mechanism to regulate adjust their learning progress. This could cater for learner diversity if handled appropriately. There were two teaching cycles of the research lessons. In the first cycle, the teachers paid special attention to the learning performance of the students. Using students' learning performance as the criteria for reflection, teachers refined their instructional design for the second cycle of teaching.

Using 'assessment for learning' to optimise teaching and learning

Part one of the double lesson:

Step 1 : Understanding the general gist of the story

The teacher reminded the students the key way to identify the main character was to observe whether a certain character had appeared in all the pictures of the four-panel comic strip and then initially constructed the development of the story based on his/her activities, expressions and the surrounding context (see figure 1). Teacher also provided an extra set of four-panel comic strip for students to identify the main character so as to evaluate their observation skills.



▲ (Figure 1)

Step 2 : Teaching demonstration

The teacher first demonstrated how to describe the time, place, people and events/activities of the first picture through questioning. Then the teacher showed how to use simple action sentences to enrich the content of speaking. The process of the teacher's story description was recorded. The teacher then demonstrated how to use the self-designed 'assessment criteria for the four-panel comic strip speaking activity' to evaluate the content of her story description (see Figures 2 and 3)



◀(Figure 2)

二年級 中文科說話評分表

由 別：2 () 姓名： () 日期： _____

評分準則：把聽到的六個行為句在方格內加上✓

	第一	第二	第三	第四
人看句	✓			
人動句	✓			
人聽句	✓			
人說句	✓			
人感句	✓			
人類句	✓			
把聽到的過渡句在 () 內加上✓	過渡句 ()	過渡句 ()	過渡句 ()	過渡句 ()

◀(Figure 3)

Teacher demonstration: On a sunny Sunday afternoon, my mother took me to the playground. There were many children in the playground. Some children were riding wooden horses, some were taking photos, and many were surrounding the big Panda asking for balloons. I saw that the panda was holding a lot of colourful balloons. I thought that it would be good if I could get one. So, I ran to the panda to get a balloon.

Step 3 : Group learning

Students were divided into groups to discuss how to describe the second picture. Each group then shared their views with the whole class (see Figure 4). The teacher used the assessment form to evaluate students' performance and then displayed the assessment results to remind students about the key points that they had to pay attention to when speaking. After that, the students discussed the story content of the third picture (see Figure 5). When the teacher invited a student to share his/her idea, his/her sharing was recorded. The recording was played again while other students evaluated their peer's performance by using the assessment form. The teacher reviewed students' learning by referring to the assessment forms completed by different groups. Finally, the teacher showed the fourth picture for a whole class discussion to encourage the students to share their feelings about the story.



▲(Figure 4)



▲(Figure 5)

Achieving self-regulated learning through 'assessment as learning'

Part Two of the double lesson:

Step 4 : Integration of learning and assessment

As a follow-up of what had been acquired, the teacher showed the two pictures that students had learned in the previous lesson and reminded them to observe the changes of the pictures carefully, and use appropriate vocabularies to describe the pictures. For example, if there was a change of place or time between pictures, they had to add appropriate time expressions / prepositions of directions (from, to...) or connectives (then, afterwards...). In view of students' limited language ability, the teacher provided students with two vocabularies to choose from. Next, the teacher demonstrated how to use the computer software iMovie/Padlet to make recording and how to use the assessment form for self-assessment. After that, the students were divided into groups to work on the third and fourth pictures. They linked up the content of the two pictures and made recordings of their story telling. They then conducted collective assessment within the same group using the assessment form (see Figure 6).

	第一	第二	第三	第四
時間	✓	✓	✓	✓
人物	✓	✓	✓	✓
地點	✓	✓	✓	✓
事情	✓	✓	✓	✓
人物/時間	✓	✓	✓	✓
地點/時間	✓	✓	✓	✓
連貫性	✓	✓	✓	✓
變化/轉大人事	✓	✓	✓	✓

Demonstration of teacher assessment Student group assessment

▲ (Figure 6)

Step 5 : Adjusting learning through assessment

Finally, students linked up the four-panel comic strip in sequence for individual story-telling and their story telling was recorded with an iPad. They listened to the recording again and self-assess their own performance using the assessment form (see Figure 7). Students could make recording and do the self-assessment again until they were satisfied with the outcomes. It can be seen from the students' learning performance in class, students did not have great difficulties in conducting assessment. Whether it was self-assessment or peer assessment, students were willing to try and felt contented because there were lots of opportunities for refining their performance. At the end of the lesson, the teacher selected one or two recordings to share with the whole class as the conclusion of the lesson.



▲ (Figure 7)

Conclusion

Berry (2007) has pointed out that the first principle of assessment is to link up teaching and learning. She believes that the assessment content should be able to reflect the content of teaching. The design of the assessment tasks should also reflect the skills that the students need in their learning. This case has taken the assessment of students' learning difficulties as the entry point. Through the pre-test and pre-lesson interviews, the teachers learned that students did not perform well in story-telling based on a set of pictures not entirely because of the lack of the speaking content, but their observation skills, especially when they had to construct a coherent story based on the content of several pictures. If students are not able to figure out the main character of the story or to observe the details and changes of the objects or events between the pictures, they would have no ideas to tell the story, let alone the schematic structure of a narrative. Through conducting pre-lesson interviews with the students, the teachers got inspired from identifying students' difficulties in observing the four-panel comic strip. From the vertical and horizontal story lines of the four-panel comic strip, teachers looked for insights to design an appropriate assessment task - 'assessment form', and refined its application through cycles of lesson observations and evaluations so as to improve students' skills of applying the assessment criteria to monitor whether they could achieve the learning objectives. Moreover, through using electronic tools for multiple recordings to refine the quality of their speaking, students were able to have self-assessment and peer assessment. As the teaching process enabled the students to experience the optimisation process

of fine tuning their speaking content, this mode of learning not only offered students strong autonomy of learning but also encouraged them for continuous improvement. In addition, the author believes that students of lower primary might not be able to use the assessment feedback to reflect on their learning performance. Therefore, even though there is an appropriate assessment tool, teachers have to demonstrate how the assessment tool could be used in the teaching process, guide the students how to conduct the assessment, and integrate learning and assessment in a gradual manner. Using 'assessment for learning' and 'assessment of learning' appropriately could help teachers refine their teaching while enhancing students' ability to use self-assessment tools to achieve the ultimate aim of 'assessment as learning'. In conclusion, the three types of assessment, namely 'assessment of learning', 'assessment for learning' and 'assessment as learning', can definitely optimise teaching and learning. But back to the basics of teaching and learning, it is still necessary for teachers to understand students' learning difficulties prior to their learning and during the learning process so that assessment could function effectively. When 'giving one a fish', the teacher is inevitably a leader. Although when 'teaching one to fish', the leading role falls on the learner, the teacher still plays the significant role of a planner and supervisor. To facilitate learners to have the desire to learn 'fishing' and to understand the learners' unique views or difficulties in 'fishing' are crucial in determining whether the teacher could achieve the objective of 'teaching one to fish'.

References:

- 張淑賢（無日期）：《促進學習的評估原則及指標。評估與學習》，第3期，17。2019年10月30日，取自 wllts.edb.hkedcity.net
- 張淑賢（2007）：以評估促進學習，載於梁佩雲、張淑賢編《導向學習的評估：教育實務匯編》，（頁7-19），香港，香港大學出版社。
- 晏子（2019）：《評估素養：理論與實踐》基督教香港信義會禾輦信義學校工作坊（一）。

不一樣的 STEM 課堂

王錫清老師

高雷中學

2012/13 年於「科學教育學習領域」獲嘉許狀

不是教 STEM 而是讓學生利用 STEM 去解難的食物的研發工作坊

在 2018/19 學年間，學校參與了一個由本港一個社福機構提供^{註1}、別開生面，名為「營養探索之旅 — 食、知、源體驗計劃」，這是我近年遇過最有新意的活動。課程的每個單元都有亮點，單看名稱，很多時都會估計不到當日課堂會進行什麼探究活動。課程最令我欣賞的原因有二：一）是課程的活動設計令同一個問題，答案可以有所不同，學生如何演繹自己的實驗結果才是重點；二）則是所有活動都給學生提供多感官和動手做的學習歷程。導師幾分鐘的簡單課題介紹後，學生便跟著指引去進行探究活動，課堂少

了長篇大論的教學，學生便有更充裕的時間進行自主的探究。由於課堂的製成品大多數都是可以品嚐，所以每位同學每堂都期盼會有什麼食物可於活動期間享用，這間接提升了學生的學習動機，令他們對所探討的挑戰產生擁有感，從而啟動他們的學習興趣。我認為這樣的課堂活動最終可培養學生的自主學習態度和創造力。在現今這個科技發展一日千里的數碼化世代，學習態度和創造力相信會是應付未來很多未知的挑戰的重要素質。

研製食物過程中的 STEM 元素

藉此專欄，我想跟大家分享「食物研發工作坊」活動的一些有趣觀察。記得第一堂的課題是自製雪糕，聽著導師（同學都稱呼他做 Henry sir）說只需用冰塊、糖、鹽和維他奶便可製造雪糕，可能也曾有人在 YouTube 示範過類似的東西，但親身體驗感覺又似是很不同。整個課堂，看著學生利用毛巾包裹着盛載了調校好味道的飲料的密實袋用力搖晃，令到袋內的液體變成雪糕，過程看似簡單，但卻教學生難忘。最終不是所有組別都能做到美味可口的雪糕，原因是有些同學的密實袋在搖晃過程中破裂，另一些組別又有遇到別的問題。到最後，大家都知道只要步驟恰當，加上多些試驗，最後必可成功。



▲ 學生利用毛巾包裹着盛載了調校好味道的飲料的密實袋用力搖晃，嘗試製作雪糕



▲ 薯片製作工程的課堂活動情景

還有一堂課名為「薯片製作工程」，那是透過找尋三個因素的最佳組合，去製作一件可口又味美且外觀好看的薯片。三個因素分別是微波爐的火力、薯片厚度和時間。利用三大變數去試驗那個組合才能產出一件色、香和味均佳的手工薯片，真的教人感到興奮。其實活動還有另一個目標，就是讓同學知道可以自製薯片，而自製薯片除了無添加有害物質外同時不經油炸，相對健康。我看到學生在課堂都表現得很雀躍，不只測試微波爐的火力、薯片厚度和時間對薯片品質的影響，還十分認真地測試薯片出爐後要放涼多久薯片才是最好吃，過程儼如為一個新品牌發新的食品般認真。

食物與環保

薯片製作工程完結時，導師預告將會製作蔬菜麵，起初覺得很普通，以為只是市面上一般傳統的什麼菠菜麵又或者是紅蘿蔔麵那種，到了上課時看見材料只有不同的蔬菜卻沒有麵粉，才知道原來所謂的製作，原來只需要用特別的工具，把青瓜、紅蘿蔔刨成絲狀，便可製成蔬菜麵。期間導師亦要求學生在製造蔬菜麵時，比試麵的長度。那次活動的重點似乎著重於技巧，但亦為學生帶來了蔬菜麵這種在外國已經開始流行的，既健康又環保的飲食新概念。

無肉的肉亦是近年熱門話題。其中一堂課名為「肉食問題」便透過測試不同肉丸的色澤、味道、質感和口感，判斷那些肉丸是含有真肉，哪些是人造素肉。過程不會太難，卻是實實在在的令學生觸及生活中的真實問題，過程儼如在家中做飯



▲ 透過品嚐去判斷哪些肉丸是含有真肉，哪些是人造素肉，過程應該是件樂事

般，只是用了有系統的方法去探索。活動背後是想帶學生去思考科技如何解決糧食問題及其相關的議題，例如少食肉、減少排碳量和減少吸收蛋白質等，從而帶出飲食文化的新路向。

出外交流 教學相長

早前我參與「賽馬會教師社工創新力量 (InnoPower@JC)」的活動，去了丹麥和荷蘭進行兩個多星期教育交流，體會到歐洲的教育重視學生自主學習，課時的分配是老師講授的時間較少，學生自己動手做的時間則較多。曾經有一位來自丹麥的校長告訴我，一堂課六十分鐘課時，她只會用五分鐘去講解，之後便讓學生進行課堂的學習活動。在丹麥的另一所中學，我亦聽到老師分享，說老師們不是在教數學，而是讓學生用數學去解決課業上的難題。回顧今次「食物研發工作坊」的內容和形式，真的和歐洲的教學理念相似。今次參加的學生來自中三級，相信他們經歷了十三堂不同的創新活動，定會為他們帶來很多難忘及寶貴的回憶，更期望他們能保持那種自主的求學態度和對新事物保持著一顆強烈的好奇心。

這次的計劃亦令我有些新啟發：第一，我從協作夥伴的課堂看到創新的教學可以很生活化又有趣味。如果老師能夠有更多的機會與外間機構真誠交流，除了教學可相長，對教育氛圍也有正面及積極影響。第二，從學生層面看，讓學生通過「解難」來學習，在他們遇到問題後，先思考如何解決，之後老師才提供工具讓學生選擇來解決問題，這確實令學生更有動機學習及能牢記着所得的知識，這樣的學習過程會有較好的成效。最後，我認為 STEM 教學，其實包含了不少生活技能以及應用工具的能力，因此應「以人為本，從心出發」，科技只是協助我們改善生活、幫助我們解決生活問題的工具。倘為了科技而科技，課堂以追求高科技產出為主要目標，就有點本末倒置。

註¹：聖雅各福群會

An Unusual STEM Programme

Wong Sek-ching

Ko Lui Secondary School

Awardee of the Certificate of Merit for 'Technology Education Key Learning Area' (2012/13)

A food-making workshop to help students use STEM for problem-solving

In 2018/19 academic year, our school participated in an extraordinary and insightful workshop entitled 'Nutrition Discovery Journey - Food, Knowledge, and Source Experience', organised by a social service agency in Hong Kong¹. Every unit of the programme has its highlights. It is difficult for us to guess what kind of inquiry activities would be conducted by merely looking at the titles of the units. There are two reasons that make me appreciate the programme. Firstly, the activity design of the programme allows multiple answers for the same question. The main focus is on how the students interpret the results of their experiments. Secondly, all activities of the programme provide students with multi-sensory and hands-on learning experience. The lesson started with

a brief introduction of the topic by the tutor, followed by the guided students' inquiry. As the teaching time was shortened, there would be sufficient time for students to carry out self-inquiry learning. Since students would usually have a chance to taste the food they had made at the end of each lesson, everyone was expecting what food they could be tasted, thus implicitly enhancing their motivation and interests to learn, and also increasing their ownership of exploring the challenges. I believe that these learning activities could ultimately help students develop self-regulated learning and creativity. Such learning attitude and creativity are important attributes that could help students meet the challenges of the ever-changing technological and digital era.

STEM elements in the food-making process

I would like to share with you some of my interesting observations in the food-making workshop. I remembered the topic of the first lesson is 'ice-cream DIY'. The tutor (students called him Henry Sir) told us we could simply make ice-cream with ice, sugar, salt and Vitasoy. Maybe we could find similar demonstrations from YouTube. However, when we made the ice-cream ourselves, the experience would be different. When the students shook the ziplock bags filled with mixture of ingredients to make it into ice-cream, the process seemed to be simple but it was an unforgettable learning experience for the students. It was because not every group could make delicious ice-cream successfully. The ziplock bags of some groups were broken during the shaking process



▲ Students tried to make the ice-cream by shaking the ziplock bag filled with mixture of ingredients, which was wrapped with a towel

while some other groups had other problems. Finally, students realised that as long as they followed the appropriate procedures and made several attempts, they would succeed eventually.

Another lesson was on 'potato crisps making'. Students were required to make tasty and good-looking potato crisps through identifying the best combination of three factors. The three factors were the power of microwave oven, the thickness of potato crisps, and the baking time. Students needed to test which combination of the three variables could make hand-made potato crisps with the best colour, aroma and taste. It was really an exciting experience for the students. In fact, the activity also aimed to let the students know they could make the healthy hand-made potato crisps by themselves, which did not have any additives and oil. Students felt excited to test out the impact of the different



▲ Potato crisps making

combinations of the three variables on the quality of the potato crisps. They also needed to find when was the best time to serve after the potato crisps were baked. Students were as serious as if they were inventing a new kind of food for a new brand.

Food and environmental protection

At the end of the 'potato crisps making' lesson, the tutor told us we would make vegetable noodles in the next lesson. We thought that it was nothing special, just like the traditional vegetable noodles or carrot noodles we could find in the market. When we came to the lesson, we realised that we only had different types of vegetables but no flour to make the noodles. We then learnt that we had to use a special tool to cut the cucumbers and carrots into thin shreds to make vegetable noodles. During the process, the tutor requested the students to compare the length of the noodles. The activity aimed to focus on skills of noodle-making. It also introduced to students a healthy and environmental friendly dietary concept of eating vegetable noodles, which has become popular in the foreign counties.

'Flesh-free' meat is a hot topic in recent years. One of the lessons was about 'meat problems'. Students were required to determine which meatballs contain real meat or artificial meat through testing the colour, taste and texture of the meatballs. The process was not too

difficult, just like cooking at home, but it really enabled students to explore the real-life problem through systematic inquiry. The activity aimed to guide students to think about how technology could help solve the food problems, and to explore other issues, such as the reduction of meat consumption, reduction of carbon emission and reduction of protein intake, etc., that bring about a new direction of dietary culture.



▲ It should be fun to determine which meatballs contained real meat and artificial meat.

Teacher professional development through overseas exchange

I joined the 'InnoPower@JC' programme for a two-week educational exchange in Denmark and Netherlands. I have learnt that the education in Europe puts emphasis on students' self-regulated learning with less class time allocated to teaching. Students have more time for hands-on learning experience. A principal from Denmark told me that she only spent 5 minutes on teaching in a 60-minute lesson. The rest of the lesson was spent on classroom learning activities. Another secondary school teacher from Denmark also shared that instead of teaching Mathematics, teachers would allow students to use Mathematics for problem-solving. When reviewing the content and nature of the 'potato crisps making' workshop, it is found that the rationale is similar to that of the education in Europe. The student participants of the workshop are Secondary Three students. I believe that the 13-session programme with innovative activities has provided these Secondary Three students an unforgettable and valuable experience. I hope that they could keep up with the self-learning attitude and have strong curiosity to learning.

I have gained some insights from this programme.

Firstly, I learnt that innovative teaching can be interesting and closely related to our daily life. If teachers are able to have more opportunities for genuine exchanges with the external organisations, it would not only be beneficial to teaching and learning, but also have positive impact on the education atmosphere. Secondly, it enables students to learn through 'problem-solving'. When they encounter problems, they have to think how they could solve the problems first before the teacher suggested ways and appropriate tools for them to choose in solving the problems. This approach would enhance students' motivation to learn and have longer retention of the knowledge they have learned in the learning process, and results in greater effectiveness of learning. Finally, I think STEM teaching involves a variety of life skills and skills in applying different tools. Therefore, we should adopt a 'human-oriented' approach and be 'passionate about teaching'. Technology is solely a tool to improve our life and help us solve our daily life problems. If we merely use technology simply for the sake of technology and look for high-level technology output as our major goal, that would be like 'putting the cart before the horse'.

Note¹: St. James' Settlement

教育重歸以「人」為本 發揮卓越教學果效

關呂佩玲老師

鄧肇堅維多利亞官立中學

2016/17 年於「藝術教育學習領域」獲卓越教學獎

2011/12 年於「藝術教育學習領域」獲嘉許狀

這篇文章下筆的時候，正值香港面對嚴峻政治挑戰的期間，我不禁反思作為一個踏足教育界三十多年的資深教育工作者，應該怎樣回應這個時代的教育需求。

香港的老師是專業的，自 2000 年教育改革推行至今，老師為新高中改革而忙得不可開交，從研究教學法到撰寫校本課程；從校內追趕課業到校外全方位學習活動，凡此種種皆為提升學與教效能而努力。由於每間學校的校情不同，因此衍生出不同的教育策略和學習模式，五花八門的活動往往令老師疲於奔命，令不少具能力和理想的老師因工作壓力也感身心疲憊，嚴重的甚至產生情緒病。老師們一直堅守崗位，可是為何今天一場社會運動卻令教育界成為眾矢之的？到底香港的教育應該怎樣走下去？又如何以卓越教學成就香港的下一代？

現時社會上不少核心家庭崩壞，家庭問題使教育子女的重責從家庭轉移給學校，可是老師沉重的教擔似乎令輔導學生的空間變得愈來愈少。未來是否應

該為老師創造更多空間，以加強輔導和關顧學生的內在自我成長，並且透過更好的課程規劃灌輸正確的價值觀呢？實在值得深思。

在廿一世紀，我們需要有應變能力高、具有批判及獨立思考能力的人才，以應對社會急速發展的需要。透過教育培養學生正確的價值觀和做人態度，使學生邁向美好人生，為社會建立正面的力量也同樣重要。今日的香港經歷嚴峻的時刻，教育焦點更應突破固有框架，跨越科目界限，貫穿價值觀和知識領域作教學設計，並以關愛和時間重建人與人之間的尊重、包容與信任，讓學生建立更好的品德素質，使社會得以繼續向前邁進。

香港獨特的地理位置，長久以來擁有轉口貿易先機，其中「買辦」文化對本地價值取向，影響甚深。可是教育又豈是純粹講究投資回報？此時此刻，我們是否應該反思教育已不應是以「客」為本，而是以「人」為本呢？

創造適合「人」的學習環境 讓學生發現學習是快樂的

人本主義心理學家羅傑斯（Carl Ranson Rogers）認為，人類潛能和學習動機都是與生俱來的，但它們需要合適的學習條件才會誘發出來。老師須為學生營造一個「合適的學習環境」，順應學生的興趣、需要、經驗以及個別差異等的學習條

件，營造自由、寬鬆和快樂的學習氣氛，以激發他們主動學習的環境。

以下將歸納如何在視覺藝術課應用以「人」為本的教學法，達至卓越教學的目標。

1. 以遊戲教學活化課堂

遊戲可激發學生自主學習，自我反思改進。人本主義提出學生會在好奇心驅使下主動地學習有趣和有需要的知識，而遊戲是最能引發好奇心的一種工具。把艱深的知識轉化為遊戲或學習活動，學生便自然愉快地學習。



▲ 學生正進行造字遊戲，以表達對事物的看法

2. 打破時間表框架 藉專題跨科讓學習變得有意義

以吸引又生活化的專題切入，讓學生透過跨科目的學習，發現學習與自己的關聯和意義。這樣不但提升學生對身邊事物的敏銳度，還能建立「人」的感覺和對事物的關懷。對人文的關懷能促進學生自主學習，過程中更可掌握多種共通能力，培養正確的價值觀。

跨科目能促進自主學習，將學習主導權回歸學生，而老師擔當「促進者」的角色。課題是學生喜歡的、感興趣的，學習才会有果效。再者，創造自由的學習環境，不論老師與學生教與學都更愉快。讓學生喜歡學習，繼而學會學習，然後才可終身學習。

現時看重分數等級的情況仍深深地影響著整體教育的發展，每個科目都少不免要爭取最多的課時。要打破時間表的框架和限制，老師必定遇到不少阻力，不過大家若定睛培育學生，長遠必定能衝破各種障礙。雖說面對公開考試壓力不可無，可是小學至中學四年級的課程，相信仍可多加彈性，加入專題學習或跨學科學習。不過，學習活動必須貴精不貴多，以免師生皆疲於奔命，適得其反。



▲ 以短文或詩句描述食物，繼而在通識課認識香港的農業發展情況，反思城市農耕的情況



▲ 學生在藝術家帶領下學習耕作，他們天天主動以攝影記錄蔬菜生長情況，悉心照顧小菜苗



▲ 學生在視藝課品嚐食物，學習提升五感敏銳度，認識食物的成份

3. 提供選擇 讓學生發揮多元潛質

每個學生都是獨特的，他們的潛質和喜好也各有不同。老師若能多花時間觀察了解學生的特性和差異，根據學生的能力和興趣設計適切的課程，讓他們有自由發揮的空間。如此因材施教，定可發掘學生多樣的藝術和設計潛質。



▲ 學生在街道上拍攝裝置作品



▲ 學生向同學介紹個人創作的建築設計



▲ 穿上自己設計的T恤顯得自信滿滿



▲ 學生以立體創作表達求學不求人的態度

4. 經驗學習法 (Experiential Learning)

利用經驗學習法或稱「由做中學習」(learning by doing)，使學生從錯誤中反思，學習自己主動解決問題。每一次的錯誤都成為學生重要的經驗，也是促進成功的重要過程。



▲ 大家群策群力一起解決困難



▲ 創作完成大家臉上都掛着滿足的微笑

5. 以時事議題提升學生的批判思考能力

多以生活議題切入，發學生探究和思考自己、別人，和社會之間的互動關係，並且透過評賞和創作，鼓勵他們關心社會，培養同理心，學習以藝術媒介作批判及反思，抒發感受。



▲ 學生以繪本的連環故事諷刺現今的扭曲世界

6. 以藝術回饋社會 關心社會上不同人士需要

透過義工活動提升學生對社會的關注和承擔感，培養學生同理心。視覺藝術學習與生活社區情境接連，能發揮藝術治療功能，讓生命影響生命，發揮正向果效。



▲ 學生為小店設計包裝袋，並送贈老闆作禮物



▲ 學生在聖雅各福群會進行藝術義工服務

香港老師在本地先天條件的限制下，例如班級人數比不少西方國家多、校舍也較為狹小等，卻一直能夠努力不懈地發展出各式各樣有效的教學策略，令香港的莘莘學子蒙福。相信即使今天經歷過社會動蕩，老師們仍會不忘初心，用無比的愛心和毅力，以育「人」為目標，攜手培育出懂得感恩、自省和自主學習的下一代。當下，政府也須積極思考如何帶領香港的年青一代，讓他們在其他周邊城市甚至國際社會的年青人比較下，仍然能取得優勢，並訂定更適切長遠的教育政策，讓年青一代能發揮所長。

教學必須重返以「人」為本，才可發揮正向教育功效。

Re-emphasis on 'Human-oriented' Education to Achieve Teaching Excellence

Kwan Lu Pui-ling

Tang Shiu Kin Victoria Government Secondary School

Awardee of the Award for Teaching Excellence for 'Arts Education Key Learning Area' (2016/17)

Awardee of the Certificate of Merit for 'Arts Education Key Learning Area' (2011/12)

This article is written at a time when Hong Kong is under severe political challenges. As a veteran educator for more than 30 years, I am reflecting on how I should respond to the education needs of this era.

Teachers in Hong Kong are professional. Since the implementation of the education reform in 2000, teachers have been extremely busy in preparing for the new senior secondary academic structure, from refining teaching pedagogies to writing school-based curriculum; from catching up with the teaching schedule in school to engaging in external life-wide learning activities. Efforts have been put on various initiatives to enhance the effectiveness of learning and teaching. As the context of each individual school varies, different educational strategies and learning modes are generated in response to different needs of the schools. Such a variety of teaching and learning activities not only exhaust teachers but also stress some capable or passionate teachers. Some of them may even suffer from depression. Teachers have been serving the community with dedication, professionalism and perseverance, and providing quality teaching all these years. However, why does the education sector become the target of public criticism due to the current social movement in Hong Kong? How exactly should the education in Hong Kong be carried forward? How could we nurture our next generation with teaching excellence?

Today, quite a number of core families have collapsed. The Family problems have shifted the

responsibility of nurturing children from family to the school. However, the heavy workload of teachers has minimised the 'space' of teaching on counselling the students. Should we create more 'space' for teachers to enhance counselling and cater for students' 'internal' personal development, and to inculcate students with positive values through better curriculum planning in the future? It really deserves our reflection.

In the 21st century, we need talents with high resilience, critical and independent thinking skills to meet the needs of the rapid social development. It is equally important to cultivate students' proper values and attitudes towards life through education for a 'bright future', and to build a positive workforce for society. Hong Kong is experiencing severe challenges, the focus of education should break through its existing framework, cross the subject boundaries, link up the values and knowledge area for the teaching design. It takes time and care to rebuild respect, acceptance, and trust among people. We should help our students develop better moral qualities so as to enable the society to move forward.

The unique geographical location of Hong Kong enables her being an important entrepot. The 'comprador' culture has a profound effect on the value orientation of Hong Kong. However, is education merely about investment and returns? At this moment, should we reflect on the fact that education should no longer be 'customer-oriented' but 'human-oriented'?

Creating an appropriate 'human-oriented' learning environment to help students explore the happiness of learning

The humanistic psychologist, Carl Ranson Rogers, believes that the potential of human being and learning motivation are innate qualities, but they require appropriate learning conditions to be induced. Teachers have to create an 'appropriate learning environment' to meet the interests, needs, experiences and individual differences of the students. Teachers

should also create a free, relaxed and happy learning atmosphere to stimulate their active learning.

The following examples illustrate how the 'human-oriented' teaching pedagogy is adopted in the subject of Visual Arts to achieve teaching excellence.

1. Revitalising the classroom with game teaching

Games can stimulate students' self-learning and self-reflection for improvement. Humanism suggests that students driven by curiosity would take the initiative to learn knowledge that is interesting and relevant. Game is the most powerful tool to stimulate students' curiosity. Students are able to learn naturally and happily if the difficult knowledge can be transferred into games or learning activities.



▲ Students are doing a word-building activity to express their views.

2. Overcoming the time-tabling constraint to make learning meaningful through cross-subject project / interdisciplinary project

Teacher started the lesson by exploring some attractive daily issues. Through interdisciplinary learning of exploring attractive and daily-life topics, students are able to discover the connections and relevance of learning by themselves. This would raise students' sensitivity and awareness of the contemporary issues, to develop their sense of caring for 'humanity', and to facilitate students' self-regulated learning. Students are able to acquire a wide range of generic skills and develop positive values and attitude through the learning process.

Interdisciplinary learning can facilitate students' self-regulated learning. Teachers act as facilitators and students take a dominant role in the learning process. Learning would be effective if students find the topic interesting. Moreover, creating an 'open and pleasant' learning environment makes learning and teaching more enjoyable for both students and teachers. Students would then enjoy their learning, learning how to learn and eventually adopt a life-long learning attitude.

The emphasis of academic achievement has exerted strong influence on the development of education in Hong Kong. Inevitably, every subject



▲ Food tasting in the Visual Arts lesson enhances students' sensitivity of their five senses, and their knowledge of the food ingredients.

is competing for more class time to achieve effective teaching. Teachers have to face lots of obstacles to overcome the constraint of time-tabling arrangements in schools. However, if the aim is to nurture students, teachers will certainly overcome all the obstacles in the long run. Despite that teachers and students are facing the pressure of public examinations, there is still the flexibility in the Visual Arts curriculum of the primary up to secondary four to integrate interdisciplinary project learning. Yet the emphasis should be on the quality rather than the quantity of learning activities so as to avoid overwhelming both the teachers and students, which would become counterproductive.



◀ After writing the food description in short essays or verses, students then learn the agricultural development in Hong Kong and reflect on the conditions of urban farming in Hong Kong in their Liberal Studies lessons.



◀ Students learn farming under the guidance of the artists. They take the initiative to take photos to record the growing process of vegetables and take care of the seedlings.

3. Providing choices for students to develop their multiple potentials

Every student is a unique individual with different potentials and interests. If teacher could spend more time to observe and understand the characteristics and differences of the students, they would be able to design an appropriate curriculum based on students' abilities and interests to stretch their potentials. Such way of teaching will definitely identify and develop the artistic and design potential of their students



▲ The student is filming an art installation in the street



▲ The student is introducing his own architectural design to his classmates.



▲ Looking fully confident when wearing his self-designed T-shirt



▲ Students expressing their attitude of self-learning in a three-dimensional artwork

4. Experiential Learning

Experiential learning or 'Learning by doing' enables students to reflect on their mistakes and learn to solve problems on their own. Every mistake becomes a significant experience for students and an important process of achieving success.



▲ Working collaboratively to solve the problems.



▲ Wearing a contented smile on their faces after having completed the art creation.

5. Enhancing students' critical thinking skills through current issues

Using current issues as the teaching topics could to inspire students to explore and think about the interactive relationship between themselves, others, and society. Through appreciation of art creation, students learn to care about the society, develop empathy, reflect and express their emotions through the art media.



▲ Students use the comic stories to satirise the distorted situation of the world.

6. Contributing to the society and caring for the needs of different people with Arts

Through engaging in volunteer services, students' awareness and commitment to society can be enhanced, and their empathy can be cultivated. When Visual Arts learning is connected with the social context of the community, it could perform the function of arts therapy, allow life influencing life, and have positive impact on one's life.



▲ Students have designed packaging bags for small shop-keeper as gifts.



▲ Students offer art volunteer services at the St. James' Settlement.

Despite the fact that teachers in Hong Kong are facing different constraints, including large class size, small school campuses, etc. they have spared no effort in developing a variety of effective teaching strategies conscientiously for the benefits of the students. Even when facing the social instability in Hong Kong, I believe that teachers would not forget their 'initial vision and mission' of serving the education with incomparable love and perseverance, adopting the 'human-oriented' approach in collaboration to nurture our next generation, who would know how to show

gratitude to others, able to have self-reflection and self-regulated learning. At present, our government should actively consider how to lead our younger generation in Hong Kong so that they could still possess their competitiveness over their counterparts of the nearby cities and even the international community. She should also formulate long-term education policies to help our students develop to their full potential.

'Human-oriented' teaching approach has to be re-emphasised to contribute to positive educational effects.

工作坊及校本支援計劃

小班教學專業發展活動「善用有效教學策略優化小班學與教」 15 小時工作坊（2019/20）

本學年，教育局再度委託本中心舉辦「善用有效教學策略優化小班學與教」15 小時工作坊。工作坊最大特色是理論與實踐並重，深化教師在中文、英文、數學及常識四個核心科目中實踐小班教學六項原則，以及優化三個教學主題「自主學習」、「電子學習」及「STEM」的教學設計。

工作坊分四個科目進行，每科設五節，幫助學員了解「六大小班教學原則」，掌握有效的教學方法及策略，提升教師在小班環境中擬定、施行及評估小班課堂的能力，並加強學員對教學的認知和反思。



▲ 15 小時工作坊分中、英、數、常四個科目進行

「點線面支援模式」 特殊學校專業學習社群（2019/20）

中心獲教育局委託於本學年舉辦「點線面支援模式」特殊學校專業學習社群計劃，協助八所特殊學校分別組成數學組和常識組兩個專業學習社群，透過「課堂學習研究（Learning Study）」提升參與學校學與教的成效。計劃旨在結合「課堂學習研究」的理論與實踐，通過工作坊、跨校共同備課及觀課、分析學習成效等，強化教師在課堂教學的角色，從而促進教師的專業發展，提升學生的學習效能。

計劃幫助參與教師：

- 理解課堂學習研究和專業學習社群的基本概念；
- 利用「課堂學習研究」作為平台，讓參與老師通過研究、設計、教學、觀課和評估 / 反思的過程互相合作，幫助學生學習特定的學習內容；
- 成為專業學習社群的成員，以發展及持續改善他們所確定的學生學習領域；
- 從教學實踐的轉變，透過協作過程反思如何提高學生學習效率為目標，以提升教師的專業水平。

計劃完成後，本中心將會舉辦分享會，請留意公布。

在職教師專業進修課程（2019/20）

由中心總監高寶玉教授擔任課程統籌主任、供現職教師報讀的兩個五星期專業進修課程現已接受報名。兩個課程包括於 2020 年 2 月開課的『發展有效「自主學習」課堂教學模式』及 2020 年 4 月開課的「有效的觀課與評課—以學校為本位」。課程名額有限，有興趣修讀的老師及校長請從速報名。課程資料及報名方法可掃描下面的 QR code。



▲ 『發展有效「自主學習」課堂教學模式』課程 2018-19 年度學員及導師合照



發展有效「自主學習」課堂教學模式

課程目標：

- 提升學員在自主學習的學科教學知識，及深化其對自主學習相關理論的理解；
- 發展教師運用自主學習元素，設計有效課堂教學的能力；
- 讓教師掌握利用自主學習元素評鑑教設計及教學實踐的知識和技巧，提升教師專業。

有效的觀課與評課－以學校為本位

課程目標：

- 向校長及教師介紹觀課及課堂分析的理論及其應用，以消除教改所提倡的理論（如照顧學生個別異、高階思維學習等）與教師課堂實踐之間的隔閡。
- 學員能於修畢課程後在校內建立學習社群，組織有效的觀課與評課活動，讓校長及各級的教師皆能增進課堂分析的能力，提升校內教與學的成效。



▲ 2018/19 年度「有效的觀課與評課－以學校為本位」的課堂情況



研究計劃

香港主流學校中有特殊教育需要學生的研究

香港推行融合教育至今已有二十年，融合教育的目標及好處不但讓有特殊教育需要的學生受惠，也惠及其他學生、家長，以至整個社會。過去數年，政府採取各項措施，支援錄取有特殊教育需要學生的主流學校之教與學，最新措施為分階段於每所公營普通中、小學額外增設一個編制內的教席，擔任特殊教育需要統籌主任，以加強支援融合教育。

雖然以上提及的政策措施有助支援有特殊教育需要的學生教與學，但是並未完全能夠讓他們獲得平等的學習機會和融合教育的權利。同時，有關檢討融合教育成效的研究暫時並非太多。因此，中心受平等機會委員會委託展開上述研究計劃，計劃目的包括識別主流學校中有特殊教育需要學生所面對的挑戰、評估政府現時融合教育政策的推行成效，以及收集由學校中專業人士所展開的融合教育的良好做法，藉此為往後的政策建議提供依據。

是次研究計劃的首席研究員為香港教育大學卓越教學發展中心總監高寶玉教授，副研究員為中心聯席總監晏子博士。

促進香港小學 STEM 教育的跨學科教學法

近年越來越多學校設計校本 STEM 課程及活動，當中不乏以跨學科形式推行綜合型 STEM 教育，通過整合不同學科的內容和學習目標、設計跨學科課程和各科教師合作，擴闊學生的學習層面及經歷。

本計劃為期兩年，首階段將會進行全港性的研究調查，找出在小學中推行「跨學科 STEM 教育」的現況、做法及挑戰；研究結果及建議會在第二階段中得到落實，為參與計劃的小學教師提供培訓及支援；在第三及第四階段中，本中心期望能從中總結出一套促進香港小學 STEM 教育的跨學科教學法，並透過公開課、教學論壇及編寫教材套等方式，務求幫助學校、現職及準教師理解及順利推行跨學科 STEM 課程，藉此整體地提升學生對 STEM 及其他學習領域的興趣，以及全面的 STEM 素養。

是次研究計劃的首席研究員為香港教育大學卓越教學發展中心總監高寶玉教授、香港教育大學學術及首席副校長及中心聯席總監李子建教授，副研究員為中心聯席總監葉蔭榮博士、教學科技中心總監江紹祥教授。

學校專業支援服務

中心針對學校的教與學需要，提供以下不同主題的專業支援服務。各項支援均以學習圈形式進行，協助教師建立有效的協作和交流平台，凝聚社群成員的智慧，建立協作、創新及同儕觀課的文化。

觀課與評課

以處理「學習內容」作為觀課與評課的重點，務求聚焦於學生的學習成果，達到優化學習的作用。

自主學習

與教師一起設計含自主學習元素的課堂，透過備課、觀課及評課，以提教師的專業水平，並培育學生的自主學習的能力。

STEM 課堂教學

從現有的科目／課程框架出發，與教師協作，設計能提升學生創意及解難等能力的STEM 課堂。

課堂學習研究

參與教師將經歷行動研究的過程，使能掌握優化課堂的關鍵因素，解決教與學的難點，從而帶動學校建立專業學習社群。

全方位學習

從現有的科目／課程框架出發，與教師協作，設計如何豐富課堂學習，帶領學生走出課室，讓學生透過親身體驗，深化課堂所學的知識和技能。

照顧學習差異

與教師協作，運用多元的教學策略設計課堂，透過備課、觀課及評課，以提升教師的專業水平，以照顧學生的學習需要。

合作學習

與教師一起設計運用「合作學習」組織課堂活動的課堂，並透過備課、觀課及評課，以提升教師的專業水平，並培育學生溝通及協作的的能力。

中心亦提供上述主題的工作坊。如欲了解詳情及收費，可瀏覽中心網頁或與中心行政主任林小姐聯絡（電話：2948 6398）。



卓越教學發展中心架構



總監	高寶玉教授			
聯席總監	李子建教授, JP (學術及首席副校長)		晏子博士	葉蔭榮博士
榮譽顧問	趙志成教授	陳錦榮博士	黎國燦博士	葉建源議員
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編輯委員會

高寶玉教授（總編輯）
曾靜嫻女士

陳穎欣小姐
陳俊亮先生

歡迎投稿，所有稿件請交

地址：香港新界大埔露屏路10號
香港教育大學D4-P-04室
卓越教學發展中心

電話：2948 6398
傳真：2948 8555
電郵：celt@eduhk.hk
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Editorial Board

Professor Ko Po-yuk (Chief Editor)
Ms Jannie Tsang Ching-hann

Ms Chan Wing-yan
Mr Chan Chun-leung

We welcome contributions. Please send, fax or email your contribution to:

Address: D4-P-04, CELT,
The Education University of Hong Kong,
10 Lo Ping Road, Tai Po,
New Territories, Hong Kong

Tel: 2948 6398
Fax: 2948 8555
Email: celt@eduhk.hk
Website: www.eduhk.hk/celt

