Research Forum on Using Assessment Data

for Better Learning and Teaching

善用考評數據促進學教質素研究論壇

Abstracts

演講摘要

Abstracts 演講摘要

Keynote Address 1 主題演講（一）

Half a Lifetime of Engagement with Public Examinations
Prof. David CONIAM 龔大胃教授
Head of Department of Curriculum and Instruction, The Education University of Hong Kong
香港教育大學課程與教學學系系主任

In this talk, I present a picture of my involvement and engagement with the HKEA(A) over a period of more than 35 years. I outline my first contact with the HKEA in the early 1980s, after which I list the different roles and tasks I have been engaged in with the HKEAA: from setter to subject officer to researcher to research committee member. An examination of my own publications indicates that a lot of my own 'success' has come from involvement with the HKEAA, with over a third of my publications being HKEAA-related in some way. I describe three types of engagement with the HKEAA: (1) major project involvement, where the HKEAA has supplied actual data; (2) 'supporting' use of data, where an HKEAA test is used as an anchor in a researcher's own test, for example; (3) background, or 'sideline', support, where the HKEAA helps to facilitate a project, e.g., by sending out questionnaires to markers. I then give a picture of the key projects I have initiated with the HKEAA, after which I give an example of each of the three types of engagement listed above. I close with the observation that, unlike the old days, the HKEAA is now much more willing to open up its resources and data to outside researchers and teachers – a situation which has the potential to have positive impact on learning and teaching as well as on assessment practices. The HKEAA is a robust operation with full integrity, and has nothing to be afraid of or to hide. I therefore make a call for us to access what the HKEAA has to offer. Making use of their data and acknowledging them is good for the HKEAA's, Hong Kong's reputation as well as our own as researchers.

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Plenary Session 1 專題分享（一）

A Whole-school Approach in Utilizing Assessment Data to Inform Learning and Teaching
Dr. HO Yuk Fan Esther 何玉芬博士
Principal of Carmel Alison Lam Foundation Secondary School
迦密愛禮信中學校長

Assessment data are available through internal and terribly-wide assessments, in quantitative and qualitative forms. The current presentation describes how an emerging culture of assessment literacy in a local secondary school, through strategic use of assessment data from the above sources, from junior to senior secondary levels, within subjects and at whole-school level, to inform and to improve L&T, curriculum planning and academic advising/career guidance. Relevant examples would be drawn from practices in Chinese Language, Liberal Studies, and transition support.

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Plenary Session 2 專題分享（二）

提升教師評估素養 推動評估促進學習
Mr. YIP Kai Kwan Julian 葉介君先生
Assistants to the Episcopal Delegate for Education, Catholic Education Office
天主教教育事務處教育事務主教代表助理

　　教、學、評三者環環相扣，互相影響。由於「評估」是課程的一部分，因此它是三者中的重要一環。其主要功能是協助教師了解學生的學習情況、進展和需要，作為策劃課程、設計教學，從而改善課堂教學，提高學與教的成效，幫助學生更有效地學習。

　　科技的應用讓學校有更多機會利用數據支持決策。評核質素保證平台 (Assessment Quality-assurance Platform，AQP)是一套由香港考試及評核局開發的自動化網上系統。AQP 開發初期，天主教教區已鼓勵中小學全面參與支持，目前有 23 所小學和 5 所中學付費使用。由於 AQP 以客觀科學的方法分析學生的得分模式，計算出各種指標。老師可利用這些指標深入分析學生的學習差異，從而修訂教學，實踐「評估促進學習」。這些指標亦可幫助老師辨認出存在缺陷的題目或試卷，以便改善日後的命題和評核設計。總括來說，我們認為 AQP 是幫助學校提升評核質素的有效工具。

　　考評局在 2008 年推出「優質評核管理認證計劃」(QAMAS)，目的為提高學校在考評管理工作的水平，並嘉許已達專業要求和願意承擔的學校，肯定他們為提供優質考評管理的努力。此計劃有助學校確定、提升和監察考評管理工作範疇的知識，並為學校訂立一套公平、公正和可靠的評核制度，為學生提供一個優質的評核機制，推動「評估促進學習」的文化，從而達到優質考評管理的要求。目前有 27 所天主教教區小學獲得認證。

　　全港性系統評估（TSA）施行多年，政府於 2016 年也有就評估內容提出優化措施，包括試卷及題目設計的調整，以配合課程及學生學習的需要。作為教育專業的團隊－天主教教區學校均認同及肯定評估數據有助回饋學與教的成效。因此，教區學校選擇了小三全級參與 TSA，而教區亦強調屬校毋須提交學校層面報告，以釋除他們擔心把成績作比較的疑慮及面對的總總壓力。

　　期望學校重視提高教學團隊的評估素養，並鼓勵老師持續學習新的評估理論及策略。

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Abstracts 演講提要

The Use of Assessment Rubrics for the Teaching, Learning and Assessment of English

Dr. Alan URMSTON
Assistant Professor of the English Language Centre, Hong Kong Polytechnic University
香港理工大學英語教學中心助理教授

Assessment rubrics, sometimes called band descriptors or assessment scales, have been in use mainly as a tool for the assessment of productive language skills for a considerable time, going back as far as the mid-1950s with the development of the Foreign Service Institute language proficiency scales (Lowe Jr., 1988). Assessment scales were designed to provide assessors with descriptions of the characteristics of language use demonstrated by learners when performing tasks at different, pre-determined levels.   With the move towards more descriptive determinations of language proficiency and the adoption of a criterion-referenced approach (Brown, 1998), rubrics have become more than simple scales, they now can include six, seven or eight criteria across nine or more levels, making them a complex matrix that may require substantial training or at least familiarization to use. At the same time the uses of rubrics has expanded from simply being used to assess writing or speaking proficiency on a particular scale, to a more fine-grained approach to assessment considering the various components of the main construct, and more detailed reporting of performance that can serve diagnostic purposes. This means that rubrics have become a useful, if not essential tool for use in teaching and learning as well as assessment.

In this talk, I will look at the how the changes in the potential uses of rubrics have been adopted at a university English language centre in Hong Kong by teachers, learners and administrators. Changes in university policy regarding the use of rubrics for major assessments meant that a more inclusive approach to rubric use was required, involving students more. A total of 85 English teachers teaching 380 classes approximating to 5000 students made full use of the 80 redesigned rubrics for the first time in the first semester of 2018-19. As a part of ongoing research into the validity and use of these rubrics, I will report on teacher and student feedback on the use of the rubrics plus empirical data to examine their validity and reliability as assessment instruments. It is anticipated that the findings of this research can inform teachers in particular of the value of assessment rubrics as teaching and learning tools.

Alan Urmston is an Assistant Professor in the English Language Centre at the Hong Kong Polytechnic University, where he teaches and also coordinates assessments for credit and non-credit-bearing courses at the undergraduate and postgraduate level. He has extensive experience as a practitioner and researcher in English language assessment at the secondary and tertiary levels.

Brown, S. (1998). Criterion-referenced assessment: What role for research. In H. Black & W. Dockerell (Eds.), New developments in educational assessment. *British Journal of Educational Psychology, Monograph Series No. 3*, 1-14.

Lowe Jr. P. (1988). The unassimilated history. In: P. Lowe Jr. & C. W. Stansfield (Eds.), *Second language proficiency assessment: Current issues* (pp. 11-51). Englewood Cliffs, NJ: Prentice Hall Regents.

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Abstracts 演講提要

Findings from the HKDSE Corpus of Spoken English

Dr. Cameron SMART
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香港考試及評核局評核發展部經理

This paper will present the findings from the Hong Kong Diploma of Secondary Education Corpus of Spoken English (the HKDSE corpus). The HKDSE Corpus is a learner corpus comprising transcripts of test takers' oral performance in the Hong Kong Diploma of Secondary Education (HKDSE) English Language examination, the secondary school examination taken by school leavers in Hong Kong. The performances represent test takers judged to be typical of one of the six different HKDSE grades (from levels U to 5). The corpus comprises test taker performance in two different peer group interactive speaking environments: firstly, the peer group interaction of the public examination component, where test takers are grouped and interact with three other unknown test takers from other schools, and secondly, the School-Based Assessment (SBA) component, where test takers interact in a small group with students from their own school.

The HKDSE Corpus data has been tagged employing the UAM Corpus Tool using a model of Linear Unit Discourse Analysis (LUDA) (Smart 2016). A linear approach to discourse analysis is one in which the language is 'expressed as far as possible in a linear succession of units' (Sinclair and Mauranen 2006: xix). LUDA attempts to describe how '[p]eople experience language as a linear phenomenon, that is, arranged along one dimension' (Sinclair and Mauranen 2006:5), i.e. time in the case of spoken language. LUDA represents the operationalization of John Sinclair's proposed models of discourse analysis for both spoken and written discourse from the early 1990s.

This paper will, therefore, present a quantitative and qualitative analysis of the interactional linear structure in the discourse produced in peer group interaction in the HKDSE and how this varies between test takers who were awarded different grade levels and in terms of the two different examination environments. Conclusions regarding speaking examination design will be drawn.

Key words: speaking examination; interaction; linear unit discourse analysis.

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香港中學文憑試中國語文卷一（閱讀能力）與中國文學卷二（文學賞析）評核重點比較

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宏恩基督教學院中文系助理教授

香港的中文教育，一直是語文、文學分家。新高中學制設中國語文為必修科，除了訓練學生聽說讀寫等能力外，亦包括文學、中華文化等範疇；中國文學則為選修科目，旨在提升學生對文學的理解和鑒賞能力。兩者的評核雖各有側重，卻又有所重疊。本文旨在比較歷屆文憑試中國語文卷一及中國文學卷二評核重點之異同，分析兩科教學及評核如何能做到相輔相成，並初步反思語文、文學分家之利弊。

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Abstracts 演講提要

Blended Learning Approach in Learning and Teaching
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香港理工大學會計及金融學院專任導師

Blended learning is to build an interactive and efficient hybrid-learning environment with technology support for carrying out learning and teaching activities under an active learning atmosphere to encourage students becoming self-motivated learners. It is applied to the practice of using both online and face-to-face learning experiences when teaching students.   Under blended learning approach, students not only attend classes in traditional classroom settings, but also independently complete online components of the subject without any limit as on classroom boundary.

One of the aims of blended learning approach is to encourage student engagement for the learning and to encourage them becoming an active learner.   This presentation shares learning and teaching examples of accounting students by blended learning approach at university level.

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Abstracts　演講提要

Parallel Session 2　分題研討（二）
New Approaches in Learning　創新的學習方法

Incorporating Moodle-Wiki and Moodle-Digital Badges into Undergraduate Courses at HKU: Impact on Students' Collaborative Learning, Motivation, Behavioral Engagement and Academic Performance

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Shirley S.M. Fong[1,2], Samuel K.W. Chu[3], Dana Vackova[1], & K.F. Hew[3]
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[3]Division of Information and Technology Studies, Faculty of Education, The University of Hong Kong

Objective: This pilot study aimed to investigate and compare the effects of Moodle-wiki and Moodle-wiki-digital badges on students' collaborative learning, motivation, behavioral engagement and academic performance in HKU BSc (Exercise and Health) courses. It was anticipated that incorporating Moodle-wiki-digital badges into BSc (Exercise and Health) courses may better improve students' collaborative learning, motivation, behavioral engagement and academic performance than incorporating Moodle-wiki alone.

Methods: Sixteen HKU BSc (Exercise and Health) students participated in the study in academic year 2017-2018. During the first semester, students participated in online group discussion and co-constructed knowledge on the Moodle-wiki platform. In the second semester, students participated in a similar online group discussion on the Moodle-wiki platform. In addition, they were awarded gold, silver or bronze digital badges based on their performance online. All students attended face-to-face lectures and tutorials in both semesters. Data was collected at the end of each semester. Outcome measures included collaborative learning measured with the Group Process Questionnaire (GPQ); motivation and behavioral engagement as reflected by the Moodle activity log; and the overall course performance. Paired t test was used to analyze the data. A two-tailed alpha level was set at 0.05.

Results: BSc (Exercise and Health) students scored higher in examinations and assignments after participating in the Moodle-wiki-digital badges activities than participating in Moodle-wiki activities alone ($p = 0.004$). However, the GPQ positive independence ($p = 0.037$), social skills ($p = 0.036$) and composite scores ($p = 0.022$) were higher after participating in the Moodle-wiki activities than participating in Moodle-wiki-digital badges activities. No significant changes were observed in Moodle activity log, GPQ individual accountability and equal opportunity scores throughout the study period ($p > 0.05$).

Conclusions: Moodle-wiki-digital badges may be used to improve academic performance while Moodle-wiki may be used to improve collaborative learning of BSc (Exercise and Health) students. However, both Moodle-wiki-digital badges and Moodle-wiki may not be useful in enhancing motivation and behavioral engagement among these students.

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Abstracts 演講提要

Parallel Session 2 分題研討（二）
New Approaches in Learning 創新的學習方法

Using Meaningful Gamification in Primary and Secondary School Students and HKU Students: Impact on Student Engagement
Dr. Timothy HEW 丘琪鴻博士
Associate Dean (Research Higher Degrees) of Faculty of Education, The University of Hong Kong
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Meaningful gamification can be defined as the use of game design elements to provide not only extrinsic incentive but also student-centered activities to make a course meaningful to participants. The primary purpose of using meaningful gamification in educational context is to engage students in some lesson activities such that their likelihood of completion is increased. But how actually effective is gamification? Despite the buzz around gamification as an exciting new method to engage individuals, it has also attracted considerable controversy. Some derogatory labels that have been used to describe gamification include "gamification is bullshit", and "gamification backlash". Drawing upon several studies in the primary, secondary, and university contexts, I will present a theory-driven gamification model. This model has been tested in several courses. In this presentation, I will highlight some of the important principles learned.

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Abstracts 演講提要

Parallel Session 3 分題研討（三）
Use of Assessment Feedback 評核反饋的使用

The Use of Value-added Information in School Development 運用學業增值資料促進學校發展
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Principal Inspector (Indicators), Education Bureau
教育局首席督學（指標）
Mr. LAM Hiu Fung Willis 林曉峯先生
Statistician (Indicators), Education Bureau
教育局統計師（指標）

The Education Bureau (EDB) promotes the use data and evidence to conduct school self-evaluation. The EDB provides secondary schools with value-added (VA) information, which is a set of quantitative and objective data on students' academic performance. In conjunction with other school-based data, VA information can facilitate schools to understand more clearly the academic performance of students and to devise measures to enhance student learning. In this session, the background of VA information and how to make use of VA information to facilitate continuous school development will be introduced.

教育局推動學校運用數據和憑證進行自我評估。教育局向中學發放學業增值資料，為學校提供量化和客觀的學生學業表現數據，結合其他校本數據，增值資料可以讓學校更清楚掌握學生的學業表現，從而訂定提升學生學習的措施。本環節將會介紹增值資料的背景，以及如何運用增值資料，促進學校持續發展。

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Use of AQP to Improve Item Designs in Chinese Language, English Language and Mathematics
利用評核質素保證平台優化中國語文、英國語文及數學科試題設計
Ms. LEUNG Wing Shan Susanne 梁穎珊老師
Ms. CHUI Shin Tung 崔善彤老師
Sau Mau Ping Catholic Primary School
秀茂坪天主教小學

本校秀茂坪天主教小學於較早前開始利用評核質素保證平台(AQP)分析校內考試數據，初期以數學科的其中一個年級作試點利用 AQP 作數據分析，試用後的效果理想，及後更推展至中國語文及英國語文科。於每次評估後，本校會利用 AQP 仔細分析學生於每份試卷的表現及試卷的可靠度，老師能通過分析結果改善日後的命題和評核設計，以提昇評估的素質。AQP 利用古典測驗理論和題目反應理論中的各種模型與參考指標，分析學生對每道題目的回應，並以試卷、題目及學生三個層面報告分析結果，以讓老師更能了解學生學習狀況，從而在教學上作出適當調節、回饋及反思。本報告以小學中國語文、英國語文及數學科的具體試後分析例子說明分析結果如何提示老師改善題目設計與跟進個別學生的學習需要。同時，期望更多學校能有效的運用 AQP 系統，從而優化學與教。

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Abstracts 演講提要

Developing an Intranet Exam Communication and Support System

Mr. KEE Chi Wai Tony 祁志偉老師

Ms. WONG Yi Ni Enid 王沂妮老師

Ma Kam Ming Charitable Foundation Ma Chan Duen Hey Memorial College

馬錦明慈善基金馬陳端喜紀念中學

由本校資訊科技小組王沂妮老師設計的監考通報系統，當監考老師需要支援時，可以利用本系統，迅速通知校務處，並得到準確和快捷的幫助，從此不用工友在走廊當值。學校只需要用利用現有的電腦網絡，編寫程式，便可以讓校務處支援監考老師。

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Abstracts 演講提要

Parallel Session 4 分題研討（四）
Research Issues in Assessment 評核研究議題

Exploring the Characteristics of Level 4 and 5 Candidates in HKDSE Chemistry Examination through Analysing the Questions and Scores Statistics

Dr. MAK Chi Keung 麥志強博士
Research Fellow of Department of Chemistry, City University of Hong Kong
香港城市大學化學系研究員

The HKDSE Examination has adopted Standards-referenced Reporting since its first administration in 2012. In 2016, a **preliminary** and **empirical** study was launched aiming at gaining further understanding on the performance of candidates at different level boundaries from 2013 to 2015 for the HKDSE Chemistry Examination.   For each examination year and for each question item, the raw scores of candidates at the level boundaries were analyzed individually.   Each question item in the examination papers from 2013 to 2015 was analyzed by adopting the basic rationales from Webb's Depth of Knowledge as well as criteria based on reports from other studies. In the study, the researchers developed a classification system for the question items.   The system developed could classify the items into three categories of increasing expected difficulty, namely Categories 1, 2 and 3 (expected to be most difficult).   Each of the classified items was then matched with its raw scores, and statistics were worked out for candidates at the level boundaries as well as for the whole candidate population for each examination year.   The results of the study revealed that candidates at Grade Levels 4 and 5 outperformed those at other Grade levels in question items of higher difficulty level i.e. Category 3.   In general, question items in Category 3 are those that required a larger number of connected knowledge points, questions set on unfamiliar context, questions requiring integration of knowledge from different sections of the curriculum and/or different disciplines, questions requiring reversed thinking, and/or other special skills.   The researchers will share in the presentation the background, experience gained and the potential for further investigation derived from this preliminary and empirical study.

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Making Assessment Easy

Mr. WONG Kin Wai Albert 黃健威先生
Ying Wa College
英華書院

Regard the need of continuous assessment, quality assurance and accountability, workload for teachers nowadays increased   tremendously. Task setting, marking, score recording, performance analysis and reporting cost a lot of time from teachers. How can technologies help teachers to reduce the workload without decrease the quality of assessment, and at the same time, help students better organize their works?

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Abstracts 演講提要

Parallel Session 4 分題研討（四）
Research Issues in Assessment 評核研究議題

'What is Assessed' vs 'What is Important to be Assessed'
Mr. NG Chi Keung 伍志強先生
HKUGA College
港大同學會書院
Dr. Kennedy CHAN 陳錦河博士
Assistant Professor of Faculty of Education, The University of Hong Kong
香港大學教育學院助理教授

Assessment of practical work has been an issue of intensive debate in the science education literature (Abrahams & Reiss 2015). This mixed-method study focuses on the written assessment of practical work in Hong Kong. Specifically, the aims are two-fold, (1) to analyse the Hong Kong Diploma of Education (HKDSE) written examination to reveal what is assessed in the public examination, and (2) to examine in-service biology teachers' perceptions on what should be assessed regarding assessment of practical work.

The research is theoretically informed by the seminal work of Roberts and her colleagues (Gott and Murphy (1987); Roberts and Gott (2003)). These researchers argued that solving practical work-related problems entails more than the use of skills, but a distinct body of understanding which they call 'concepts of evidence'. Concepts of evidence are ideas which underpin the collection, analysis and interpretation of data that should be understood such that students can engage in scientific inquiry effectively. The concepts of evidence informed the design of the research as detailed below:

In the quantitative stage, a content analysis on 2012 –2016 HKDSE biology written paper was conducted to identify what is assessed with regard to concepts of evidence. Alongside with this analysis, questionnaires were distributed to 40 in-service biology teachers to identify what concepts of evidence the teachers considered as important to assess. In the qualitative stage, 15 follow-up semi-structured interviews were conducted to explore in-depth teachers' assessment reasoning concerning the assessment of concepts of evidence in the public examination.

The study revealed several important findings. First, the quantitative stage revealed an uneven distribution of assessment of concepts of evidence in the public examination. For example, much more attention was given to concepts of evidence related to data handling and variable structures while little attention was given to decision and trials. Second, the study uncovered some discrepancies between the concepts of evidence assessed in the public examination and those considered important for assessment by teachers. Third, qualitative data suggested that the discrepancies were partly originated from teachers' perception that only basic concepts of evidence (e.g., fair test, variable types) in the junior science curriculum should be assessed in the public examination.

The findings shed important implications. First, they challenge educational professionals to devise ways to address gaps in what is assessed in public examination and teachers' perception of what needs to be assessed in terms of concept of evidence. Second, it illuminates the need to better support teachers to extend their scope of teaching of concepts of evidence that goes beyond what is intended in the junior science curriculum to ensure student progression in learning of the concepts of evidence that are requisite for successful engagement of scientific inquiry. The findings and implications are particularly important when concepts of evidence are increasingly recognised in framework of large-scale international comparative studies such as PISA.
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