

香港教師中心學報

Hong Kong Teachers' Centre Journal



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Education Bureau

香港教師中心

香港教師中心（教師中心）是根據1984年教育統籌委員會《第一號報告書》的建議而於1989年正式成立的。教師中心成立的目標是不斷促進教師的專業發展和在職培訓，並為他們提供一個富鼓勵性、中立及沒有階級觀念的環境，使他們更能團結一致，發揮專業精神。此外，教師中心亦致力為教師提供互相切磋和交流經驗的機會，推動課程發展，鼓勵教師設計及試用新教材和教學法，協助發放教育資訊和宣傳教育理念，並配合教師興趣，組織各類社交與文娛活動。

教師中心不單為教師而設，也由教師管理。他們可以通過三層管理架構參與教師中心的管理工作。這管理架構包括一個諮詢管理委員會（諮管會）、一個常務委員會（常委會）和六個工作小組，負責教師中心的決策、監察和執行教師中心的不同工作及活動。

諮管會的工作主要是決定教師中心的策略和監察它的運作。諮管會由72名委員組成，其中35位由教育團體提名及選出，35位由教師提名及選出，另外兩位由教育局常任秘書長委任。

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各工作小組負責教師中心內不同範疇的工作，包括專業發展小組、出版小組、活動小組、教育研究小組、章程及會籍小組和推廣小組。各小組的成員均是諮管會的委員。

教師中心位於教育局九龍塘教育服務中心內，交通便捷，毗鄰港鐵九龍塘站，另有多條巴士及小巴專線可直達。中心設施齊備，內有電腦服務、時事及消閒雜誌、閱報室和專題展板等，歡迎各位教師使用教師中心的服務。

詳情請瀏覽本中心的網頁：www.edb.gov.hk/hktc。

Hong Kong Teachers' Centre

The Hong Kong Teachers' Centre (the Centre) was formally established in 1989 in accordance with a recommendation of the Education Commission Report No. 1 published in 1984. The Centre aims to promote continuous professional development and enrichment among teachers, and to foster among them a greater sense of unity and professionalism in an encouraging, neutral and non-hierarchical environment. Specific objectives of the Centre include the provision of opportunities for teachers to meet and exchange ideas and share experiences; the promotion of curriculum development; the development and trying out of new teaching aids and approaches; the dissemination of news and ideas concerning education; and the organisation of social, cultural and recreational activities for teachers.

The Centre has a three-tier management structure to help plan and run its activities - an Advisory Management Committee (AMC), a Standing Committee (SC) and six Sub-committees. They are responsible for policy-making, monitoring and implementation of various duties and activities.

The AMC is a policy-making and monitoring body with a total membership of 72. These include 35 members nominated by and elected from education organisations, 35 members nominated by and elected from teachers, and 2 members appointed by Permanent Secretary for Education.

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For more details, please browse our website at www.edb.gov.hk/hktc.

香港教師中心學報

Hong Kong Teachers' Centre Journal

《香港教師中心學報》（《學報》）乃香港教師中心一年一度出版的學術性刊物，內容以教育研究、教育行動研究及教學經驗分享為主。《學報》的投稿者多來自本港及海外的教師、師訓機構的導師、教育研究人員及學者。《學報》主要分發給本港各幼稚園、小學、中學及大專院校，而公眾人士亦可到教師中心網頁（www.edb.gov.hk/hktc）閱覽《學報》電子版。

以下為《學報》之顧問及編輯委員名單。

The Hong Kong Teachers' Centre Journal (HKTC Journal) is an annual refereed publication of the HKTC. It publishes articles on areas pertaining to educational research, action research and teaching practice in schools. Our contributors include school teachers, teacher educators and academics researching on education from Hong Kong and other places. The HKTC Journal will be distributed to kindergartens, primary and secondary schools and universities in Hong Kong. Its electronic version can also be accessed from the HKTC website (www.edb.gov.hk/hktc).

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主編序

一直以來《香港教師中心學報》得到很多學者及教師的支持，使學報能順利出版，今期也不例外。本期主題「課程改革的回顧與前瞻」，同樣得到各方熱心教育人士提供寶貴的研究及分享文章，連同特邀稿文，本期共選刊了十四篇。

經評審後，第一部分共收錄了五篇專題文章，內容包括：「人人皆可成才」的原則在少數族裔學生的情況、中文科教師課程決定個案研究、中文科課程改革與教師專業發展、對中國大陸高中語文課程改革的多維審視、同儕評估在香港小學常識科的運用。這些稿文都是研究教育的學者及前線教師的課堂行動研究所得，除體現了教育工作者的鑽研精神外，也能體現他們資源及成果共享的豁達。通過文章及實踐的經驗分享促進了與讀者交流，這是個難能可貴的平台。

第二部分是關於理論及政策評論的文章共有五篇，內容包括：校本研究統計錯誤的個案、中間選項在李克特量表中的應用、探討高階思維的意涵以改革學校課程與教學、教學內容知識的定義和內涵、香港新高中通識教育科之批判思考能力培訓。這部分的研究集中探討學與教課程與思考能力培養的關係。香港是一個國際都市及知識型的社會，我們要培養怎樣的學生才能適應千變萬化的知識世界？思維判斷力是其中關鍵項目之一。這部分的研究篇章正帶領讀者深入思考這個問題，很值得一讀。

第三部分是教育實踐與經驗分享，共有四篇文章。內容包括：於小說教學時利用小組討論為介入策略觀察學生態度轉變、「多科系學院」取向之國小師資培育、香港教師情緒技能的內涵研究、優化學校行政的行動學習。這部分的分享篇章探討教學法與課堂成效的關係，通過不同的教學法觀察學生反應及學習情況。這些教學法也包括了調整教師本身狀況及學校行政等等的措施。因此，這部分篇章不是單向的研究，而是方方面面的探討與歸納及總結，閱後能給予讀者多角度思考課堂高效的成因，值得細味！

最後，我每次想到《學報》能順利出版，評審員實功不可沒，當中包括申龐得玲博士、何景安先生、李偉雄先生、林偉業先生、林碧霞博士、胡少偉博士、胡飄博士、徐國棟博士、徐慧旋女士、秦家惠教授、梁兆棠校長、梁雪梅女士、梁燕冰博士、郭禮賢博士、麥謝巧玲校長、彭新強教授、馮潔皓教授、黃鳳意女士、楊沛銘博士、楊思賢博士、雷其昌先生、廖佩莉博士、趙淑媚博士、劉瑞珍女士、蔡若蓮博士、鄭志強博士、龍精亮博士、鍾銑玲博士、羅天佑博士、羅家怡博士、羅耀珍博士及蘇詠梅教授。在此，我謹代表《學報》編輯委員會再一次表達我們衷心的謝意！

《香港教師中心學報》主編

簡加言

二零一二年十二月

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The 'No Loser' principle in Hong Kong's education reform: Does it apply to ethnic minority students?¹

香港教育改革「人人皆可成才」的原則，
是否適用於少數族裔學生？

Kerry J KENNEDY

The Hong Kong Institute of Education

Abstract

An important feature of Hong Kong's education reform over the past decade has been the articulation of the 'no loser principle.' It was meant to signal that all students are valuable and will benefit from both basic and senior secondary education. Yet barriers remain for the 2.9% of students under age 15 who can be classified as ethnic minorities. There is a declining participating rate as students move from primary to tertiary level, the medium of instruction remains alien to most of these students, and there are no curriculum provisions to meet their special needs. This paper will examine both the policy context in which provisions for ethnic minority students have been made in Hong Kong schools and also classroom practice that operationalises this policy on a daily basis. The purpose is to make an assessment of the extent to which the 'no loser principle' can be said to apply to ethnic minority students.

¹ The research to be reported here is drawn from the General Research Fund project, *Exploring Cultural Diversity in Chinese Classrooms: Can Assessment Environments Cater for the Needs of Ethnic Minority Students in Hong Kong*, [GRF-HKIED840809] funded by the Hong Kong Research Grants Council. The views expressed here are those of the author.

Keywords

ethnic minorities, non-Chinese speaking students, Chinese curriculum, Chinese as second language, racial discrimination

摘要

香港教育改革在過去十年的一項要點，乃明言以「人人皆可成才」為宗旨，意即每個學生都有其價值，他們將受惠於基礎和高中教育的改革。然而，對於教育制度中僅佔百分之二、被歸類為少數族裔的學生來說，障礙仍然存在。在小學至專上教育的過程中，他們的整體參與率逐步下降；教學方面始終存在語言隔閡，亦未能提供切合他們需要的課程。本文將檢視香港少數族裔教育的政策背景和課堂實務，旨在評估這「人人皆可成才」的原則對少數族裔學生的適用程度。

關鍵詞

少數族裔，非華語學生，中文課程，中文為第二語言，種族歧視

1. Introduction

In its first consultation document on the education reform, the Education Commission (1999) enunciated what was to become a dominant theme:

There is an urgent need to introduce fundamental reforms to our education system. Reforms in education should bring new learning opportunities to every citizen, and should bring new opportunities for the future development of Hong Kong. This should be the guiding principle for education reform in Hong Kong.

This idea was eventually formulated as one of the five principles of the reforms – the ‘no loser’ principle (Education Commission, 2000, p.9):

There should not be, at any stage of education, dead-end screening that blocks further learning opportunities... Teaching without any discrimination" has been a cherished concept since ancient times. We should not give up on any single student, but rather let all students have the chance to develop their potentials. The aim of the education reform is to remove the obstacles in our system that obstruct learning, to give more room to students to show their initiative and to develop their potential in various domains.

The 'no loser' principle has been addressed in different ways throughout the reform process. The 'through train' concept, reform of the primary and secondary admissions system, a full six years of secondary education for all students, support for students with special needs, a core curriculum for all students and the reduction in public examinations. These are all important reforms and I do not want to underestimate them. Yet in this paper, I want to raise a question about the extent to which the "no loser" principle applies to all students in Hong Kong schools. In particular, I want to focus on ethnic minority students. I shall examine three broad areas:

1. The policy context for ethnic minority education in Hong Kong – contested terrain.
2. Who are Hong Kong's ethnic minority students and what do they think about learning?
3. Can the 'no loser' principle work for ethnic minority students?

In focusing on these areas, I do not want to underestimate the role of schools, teachers and NGOS in supporting ethnic minority students in Hong Kong. They all play an important, and indeed vital, role. But the focus of this particular paper is on the broader policy context that influences ethnic minority students.

2. The policy context for ethnic minority education in Hong Kong – contested terrain

The policy context related to the provision of education for ethnic minority students in Hong Kong can only be described as volatile and contested. In what follows I shall try to present two sides of the policy debate – the practical issues and the theoretical underpinnings.

2.1 Practical policy and its contexts

In a report prepared last year, the relevant Working Group of the Equal Opportunities Commission (EOC) was highly critical (Equal Opportunities Commission, 2011, pp. 10-11):

Having considered EDB's current education policies and having examined the problems with the relevant stakeholders, the PARC/WG is of the view that while a number of accommodation measures have been adopted by EDB in recent years, they are far from adequate in fulfilling its policy goal of providing equitable and quality education for EM students. The PARC/WG therefore urges the EDB to carefully examine its current policies and practices to ensure that they are effectively fulfilling the policy goals as declared on the one hand and that they do comply with the spirit and legal obligations of the anti-discrimination legislation on the other. There is a strong body of opinion within the PARC/WG that should there be no committed improvement to current policies and practices on this issue by the Government, action under the RDO might have to be instigated.

At about the same time, EDB provided an update on its policies and measures taken to support ethnic minorities (Legislative Council, 2011) but its tone and focus were quite different from the EOC report. There is no reference at all to the kind of issues raised by the EOC but rather a catalogue of the support measures provided by the government for ethnic minority students. This kind of policy debate – where each side seems to ignore the existence of the other – has characterized this area since the early part of this century when the issues first started to gain public prominence (Kennedy, 2011). It is thus difficult to get an objective picture or at least a detached picture – but let me try to provide that because it is important.

There is little doubt that the government has provided resources and support for ethnic minority students in Hong Kong (Kennedy, 2011; Legislative Council, 2011). This has ranged from language support for new arrivals, grants to schools where there are concentrations of ethnic minority students, the designation of specific schools that receive professional development support and other kinds of resource support and direct front line support to teachers through professional development programmes, especially for the teaching of Chinese. Thus there is a public record of support measures. But these measures are often seen differently by different groups in the community and this is where the perceptions developed of lack of support and, at times, even antagonism.

Take, for example, the 30 designated schools endorsed by EDB for ethnic minority students. The rationale, from EDB's perspective, is very clear (Education Bureau, 2011, p.8):

The objective of providing focused support in the “designated schools” is to facilitate schools’ accumulation of experiences and development of expertise in the learning and teaching of NCS students so that these schools may serve as the anchor point for sharing experiences with other schools which have also admitted NCS students through a support network formed for all NCS students in the local schools to benefit from the arrangement

Yet a contrary view was reported to the Equal Opportunities Commission (2011, p.7),

There is a view that the policy of allowing designated schools for EM was itself discriminatory because it reinforced segregation rather than encouraged integration.

This view is not attributed in the report but there is evidence elsewhere of community dissatisfaction with some aspects of designated schools. Hong Kong Unison (2009, p.2), for example, pointed out in its response to the government’s report on the International Convention on the Elimination of All Forms of Racial Discrimination that “given their lower Chinese language standard, they (i.e. ethnic minority students) have been put in a disadvantageous position under the existing secondary school allocation scheme. Usually they end up studying at either designated schools, or those schools admitting most students from the lowest banding”. This view was expressed even more strongly in a media report that linked designated schools to a form of racism (Zhao, 2011):

“It’s racial segregation,” says Fermi Wong Wai-fun, executive director of Hong Kong Unison, a non-governmental organisation focusing on helping minority groups. Wong says up to 80 percent of minority students attend designated schools – but, she claims, some Hong Kong parents become unwilling to choose these schools for their children. “They [minority students] have been living and studying in a very narrow social circle and have become disconnected with the mainstream society. It will harm social integration,” says Wong.

The point I want to make here is that the same initiative can be viewed in different ways, depending on the perspective taken. The same can be seen with what is perhaps the most controversial issue, the teaching of Chinese.

There is no disagreement between EDB and ethnic minority groups, including NGOs such as Unison, that it is important for ethnic minority students to learn Chinese. But after that the agreement quickly evaporates. EDB has insisted for many years now that

this should be done through a standardized Chinese curriculum for all students. Their one concession has been the production of a Supplementary Guide to the Chinese Curriculum and encouragement for school based adaptations to meet the special needs of ethnic minority students. Yet this approach has been criticized loudly and publicly.

The alternative proposal has been to develop a Chinese as a Second Language Curriculum tailored specifically for the needs of second language learners. Such a curriculum is seen to meet the needs of ethnic minority students in terms of both the content and the pedagogies associated with second language learning. Of course, it also means different kinds of assessment, different pacing of content and indeed different content that would be more relevant to the backgrounds and cultures of ethnic minority students. EDB will not give in on this issue and therefore it remains contested and becomes a ground for claims that the government is not supporting ethnic minority students. The key issue is that the government is supporting ethnic minority students in one way but it is not the way preferred by many in the community; and so it causes concern and public debate. Hong Kong Unison (2010, p.2) put it this way:

*Despite repeated requests from a wide range of parties including education sector, concern groups, law makers and even the international society, the Government has refused to adopt “**Learning Chinese as a second language policy**”. Your Bureau insists the current Chinese curriculum is suitable to EM students, so long as certain adaptations have been made by teachers. The reality is teachers in primary and secondary schools have been struggling in developing their own curriculum and teaching materials, without adequate references and support. A survey conducted by the Unison and the Hong Kong Professional Teachers’ Union in July 2007 revealed that about 75% of teachers considered the current central Chinese curriculum designed for local Chinese students was not suitable to NCS (non-Chinese speaking) students.*

There has been no resolution to this issue and it remains contested ground.

2.2 Policy and theory

There are a number of broader policy issues that also need to be recognized. The government has labeled ‘ethnic minority students’ as ‘non-Chinese speaking students’ as though their language deficit is the only characteristic that defines them. It is not entirely clear when this slippage from one to the other took place. Early Legco debates refer freely to ethnic minorities but since around 2009 the focus shifts to non Chinese speaking

students. The change is not just one of linguistics – it signals an attitude to difference and probably an objective of not highlighting differences in Hong Kong society. This view is consistent with concepts of 'harmony' and 'the harmonious society' yet to comes at the expense of recognizing the contributions that diversity can make to a pluralistic society – multilingualism, multiculturalism and multi religions. By focusing on language deficits in ethnic minority students, the government misses the opportunity to provide a broader framework in which its own work can be better appreciated and understood. At the same time, schools could better appreciate the contribution of ethnic minority students within this broader framework of contributions that can be made by different groups in the community to a more inclusive Hong Kong society.

Another way of valuing the contribution of ethnic minorities is through a commitment to multiculturalism and multicultural policy. This is entirely lacking in Hong Kong so that support for ethnic minority students has been pursued within an integrationist framework that regards all members of society as being the same. This has implications for the way the school curriculum is viewed. Skerrett and Hargreaves (2008) identified different orientations to educational diversity and it is possible to sue this framework to analyze Hong Kong's approach to education for ethnic minority students. They identified three orientations to diversity within schools and while the framework was meant to apply to the United States, we can apply the categories to the Hong Kong context. In doing so it will also be possible to account for community tensions on the issue of ethnic minority education. The Hong Kong government's support and actions reflect a monocultural view of educational provision: students are referred to as "NCS students", the aim of support is to facilitate the integration of these students into Hong Kong society, the key issue is to support the learning of Chinese since language is seen as the best way to achieve integrationists goal, particularly in relation to workforce integration. The views of community groups, however, and in particular Hong Kong Unison, reflecting a desire for multicultural education and at times come close to reflecting the values of critical multiculturalism. This policy tension is a significant one – it is reflected particularly in the recent report of the Equal Opportunities Commission and its resolution will not be easy given the underpinning values of the different view.

Table 1: Skerrett and Hargreaves' (2008) Orientations to Education Diversity

Orientation	Description	Proponents
Monocultural education	All students benefit from the same curriculum, instructional strategies and assessment practices.	Edmonds (1970); Gilborn (2004)

Multicultural education	Schools and the school curriculum reflect the knowledge, values, skills, pedagogies, assessment practices, policies etc that recognize, support and celebrate the contribution of all groups represented in the school community	Banks (1986)
Critical multiculturalism	Teaching against all forms of racism is explicit and eliminating all forms of discrimination is a key goal.	Troyna and Carrington (1990)

To get a better understanding of ethnic minority students themselves, the next section will examine census data to highlight the range of ethnicities in Hong Kong schools and how these students think about their learning.

3. Who are Hong Kong's ethnic minority students and what do they think about learning?

3.1 Identifying ethnic minority students

Data on ethnic minority students is very recent and not always readily available. The first formal census was in 2006 and provided these details (Census and Statistics Department, 2007):

Table 2: Ethnic Minority Students at Full-time Courses by Age-Group in 2006

Level	Ethnic Minority Age < 15		Ethnic Minority Aged 15 and over		Whole population	
	Age group total	at full time course		at full time course	< 15	15 and over
Pre-primary		6,777			166,364	30
Primary		12,819		60	439,630	1,484
Lower Secondary		3,550		955	189,183	78,897
Upper Secondary		298		2,233	1,926	187,454
Sixth form				737		62,549
Post-secondary				1,293		147,014
Total	32,289	23,444		5,278	79,7103	477,428

A number of points can be made about these figures:

1. There appears to be a large number of 'out of school' ethnic minority students under the age of 15 – well over 8,000. It is not clear who these are but probably they can be accounted for at the pre-primary and sixth form levels. Thus not all ethnic minority students seem to benefit from pre-primary education. Assuming that the numbers entering primary school are stable over time,² Table 2 indicates that only 52% of ethnic minority students have access to pre-primary education. Assuming that the 2006 figure for primary enrolments has been stable over time, then just over 6% of ethnic minority students make it into Form Six.
2. There appears to be a major transition issue for ethnic minority students under the age of 15 in the move from primary to lower secondary. Just 27% of the primary cohort appear to make the transition (assuming that the figure for 2006 is stable over time).
3. It can also be noted that the participation rate for post secondary education is also very low – just 10% of the primary age cohort - again assuming a stable primary cohort size over time.

These data need to be treated with some caution because the ratios make assumptions about the stability of age cohorts over time. Yet there are also other reasons for treating the data with some caution. In a paper submitted by the government to the Legislative Council's Bills Committee on the Racial Discrimination Bill (Hong Kong SAR Government, 2008, pp. 6-7), a quite different set of figures is provided indicating that in September 2007 there were 5,671 ethnic minority students in primary schools and 3,097 in secondary schools. The primary school figure differs by over 7,000 from the official figures and by several thousand for secondary figures (depending what is included in the secondary figures). It is not clear why there is this discrepancy but it does seem when EDB refers to numbers it is often their own rather than the Census Bureau's that they prefer. EDB, of course, is much closer to schools and is in a good position to conduct an on-the

² The assumption of the following statistics is that the figure for primary enrolments in 2006 would be stable over time. In reality, students entering primary school in 2006 would not reach lower secondary until 2012, Upper Secondary in 2014 and Sixth Form in 2016. The projections made here, therefore, are based on assumed future enrolments not actual enrolments.

ground survey but we shall need to wait until the finalization of the 2010 census to get a better picture.

In the government paper referred to above (Hong Kong SAR Government, 2008, p.7) there is a good picture of the spread of ethnic groups in Hong Kong schools. The table is reproduced below. Because DSS schools have been included as well it is not possible to see if there is a different distribution of ethnic groups between these two types of schools which in all possibility cater for different groups of students. Neither is it possible to tell from this data whether ethnic minority students are concentrated in CMI or EMI schools. As I said at the beginning of this section data sources are relatively new and there are considerable gap. Nevertheless Table 3 does provide an interesting picture of the range of ethnic groups, especially the concentrations of particular groups such as Pakistani, Indian, Nepalese and Filipino. But what else do we know about these students, particularly in relation to education?

Table 3: Distribution of Student Ethnicities in Hong Kong Government and Direct Subsidy Schools, 2007-08

	Primary Schools	Secondary Schools
Filipino	1025	620
Indonesian	71	38
Japanese	68	49
Korea	23	19
Thai	133	76
Indian	870	457
Pakistani	1948	833
Bangladeshi	43	29
Sri-Lankan	15	12
Vietnamese	75	37
Nepalese	885	538
Other Asian	64	39
Other ethnicities not classified above (including mixed)	451	350
Total	5671	3097

From: Hong Kong SAR Government (2008, p.7)

3.2 Ethnic minority students and learning

As part of our research project on ethnic minority students and assessment

environments³ we have developed a new instrument. For the purposes of this paper I shall draw on selected results that include some scales from McInerney's (1992) Inventory of School Motivation (ISM) and one scale from Brown and Hirschfield (2007, 2008) Students' Conceptions of Assessment (SCoA).

3.3 Instruments

ISM Scales

1. Students' attitudes to school work – particularly task orientation (4 questions) and effort (7 questions)
2. Students attitude to affective aspects of learning – particularly praise (5 items) and affiliation (3 items)

SCoA Scale

3. Students' attitudes to assessment (8 questions)

Students responded to each question using a five point scale (1=strongly disagree, 5=strongly agree).

Sample

106 Students in Grades 5 (61%) and 6 (38.1%) from two primary schools completed 106 surveys. Two were unusable leaving 104 to be analyzed. The average age of the sample was 10.85 years (SD=1.13) Of these, 47% were female and 53% were male. 56.7% were Chinese students with the remainder from ethnic minority students. Amongst these, 12.5% were Nepalese, 8.7% Pakistani, 7.7% Indian, 5.8% Filipino 1.9% American and 1% Thai with 4.8% represented by other ethnicities.

Analysis

Descriptive statistics were computed for each item and Cronbach's reliability coefficient (α) is reported for each scale.

³ Exploring Cultural Diversity in Chinese Classrooms: Can Assessment Environments Cater for the Needs of Ethnic Minority Students in Hong Kong, [GRF-HKIED840809]

Results

Students' attitudes to school work

Figure 1 shows student orientation to tasks – all the questions are measuring much the same construct ($\alpha=.73$ for Chinese students and $.62$ for ethnic minority students). Ethnic minority students scored slightly higher ($M=5.46$, $SD=.66$) than Chinese students ($M=5.34$, $SD=.68$) but these differences are not significantly different ($t=.881$). Two important points can be made about these results. First, ethnic minority students have very positive attitudes to work – these are not lazy students. Second, if we regard ‘orientations to school work’ as a single latent construct then ethnic minority students tend to endorse either end of the scale more positively than Chinese students. The most strongly endorsed aspect of the scale is ‘I like to see that I am doing better in my school work’ and this aspiration is shared by both Chinese and ethnic minority students.

Figure 1: Students' orientation to tasks

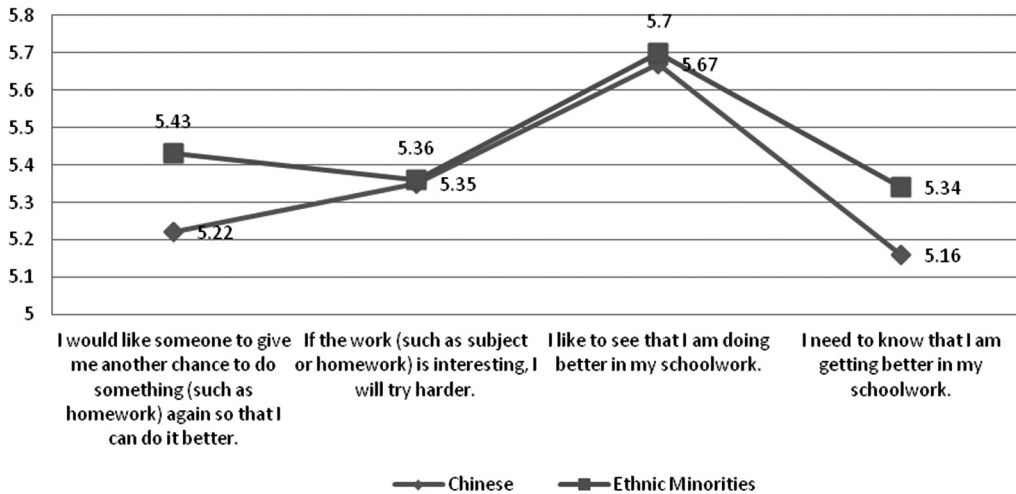
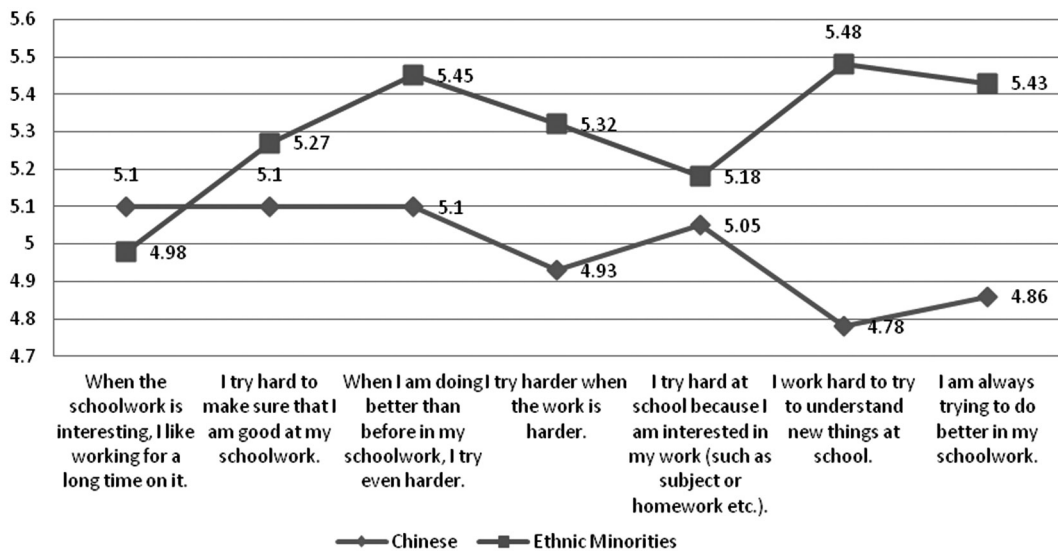


Figure 2 shows students' attitudes to the effort they put into their work. The student responses to these questions are very consistent ($\alpha=.76$ for Chinese students and $.82$ for ethnic minority students). Ethnic minority students scored slightly higher ($M=5.30$, $SD=.79$) than Chinese students ($M=4.99$, $SD=.71$) and the differences are statistically significant ($t=2.06$, $p<.05$) and the size of the difference is moderate ($d=.41$). Yet these differences should not mask the fact that for both groups of students, effort is important. What is surprising, given the extent to which Chinese learners often attribute

effort rather than ability to their academic success, is the strength of the endorsement of ethnic minority students for the importance of effort in their learning. The largest difference along the latent construct is on the item, 'I am always trying to do better in my school work' suggesting that this is a very important learning attribute for ethnic minority students.

Figure 2: Students' attitudes to the effort they put into their work



Students' attitudes to affective aspects of learning

Figure 3 shows students' attitudes to praise as a feature of classroom life. The student responses to these questions are very consistent ($\alpha = .91$ for Chinese students and $.88$ for ethnic minority students). Ethnic minority endorsed these items more strongly ($M=4.93$, $SD=1.09$) than Chinese students ($M=3.97$, $SD=1.33$). The differences are statistically significantly different ($t= 3.97$, $p < .001$) and the size of the difference is strong ($d=.78$). Ethnic minority students require praise to enhance their learning but it should be noted that Chinese students also endorse these items positively – just not as positively as ethnic minority students. These students require praise from teachers, friends and family – with the latter rating very highly. This suggests the need for a particular kind of classroom and school environment for ethnic minority students – one characterized by positive feedback and regular encouragement both inside and outside the classroom. It could be assumed that where such environments do not exist, student learning will be negatively affected.

Figure 3: Students' attitudes to praise as a feature of classroom life

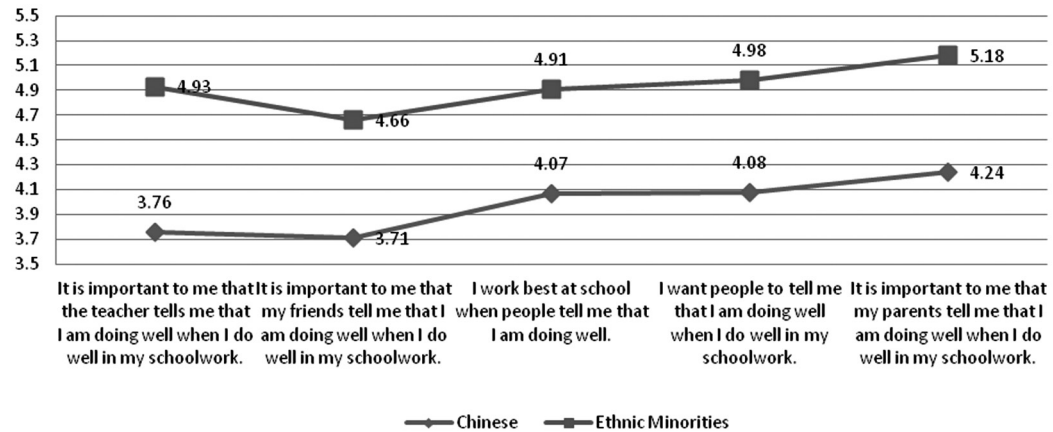


Figure 4 shows students' attitudes to working together as a learning process. The ethnic students' responses to these questions are very consistent ($\alpha = .80$) but for Chinese students there is little consistency in their responses ($\alpha = .33$). This suggests that these items function differently for these different groups of students. For ethnic minority students working together is a more important part of their learning than it may be for Chinese students. We cannot compare the scale scores of the two groups of students because of the lack of scalability for the Chinese group. But it can be noted that ethnic minority students have responded very positively to these items while Chinese students are less positive although by no means negative on the individual questions. Further work is needed on both the construct itself (often referred to as 'Affiliation'), the cultural contexts in which it is manifested and its impact on learning.

Figure 4: Students' attitudes to working together as a learning process

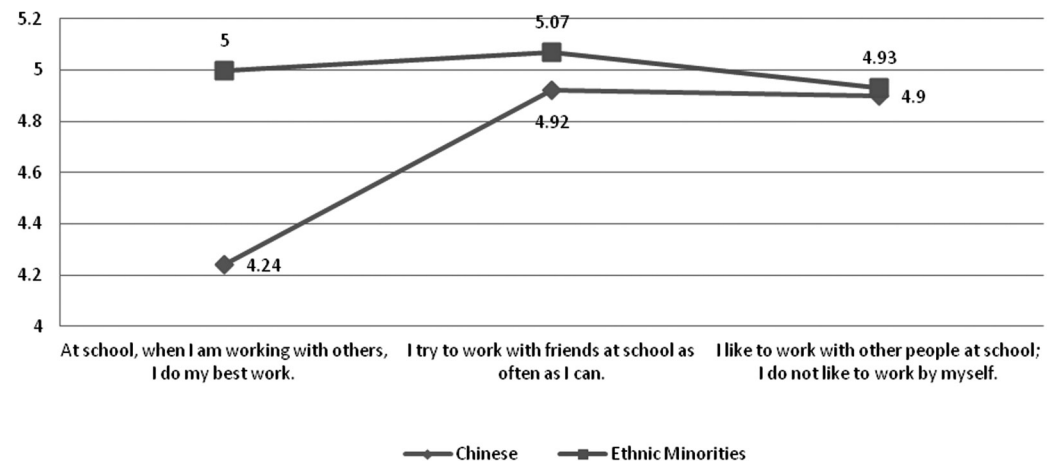
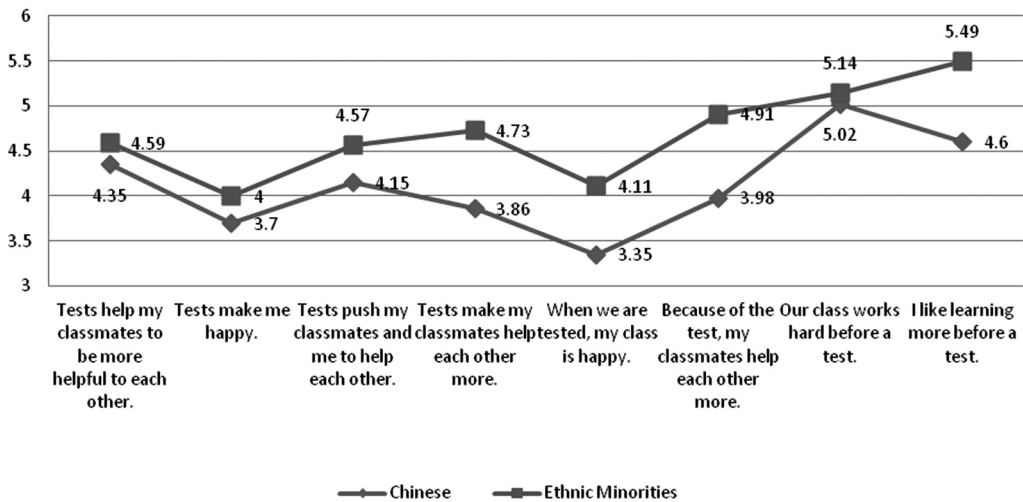


Figure 5 shows students' attitudes to assessment, and in particular the use of classroom tests. The student responses to these questions are very consistent ($\alpha = .91$ for Chinese students and $.88$ for ethnic minority students). Ethnic minority endorsed these items more strongly ($M=4.69$, $SD=.84$) than Chinese students ($M=4.19$, $SD=.99$). The differences are statistically significantly different ($t= 2.48$, $p < .05$) and the size of the difference is moderate ($d=.53$). Ethnic minority students 'moderately' or 'mostly agree' with these questions while Chinese students agree 'slightly' or 'moderately' agree. Thus the differences between the two groups is one of emphasis rather than any substantive disagreements. Given the predominance of testing in Hong Kong classrooms, these results indicate the relationship between testing and learning and I all probability effort given to learning as well. Thus the two most highly endorsed items for both groups of students are 'our class works had before a test' and 'I like learning before a test'. The least strongly endorsed items for both groups relate to whether tests make students happy ('tests make me happy' and 'when we are tested my class is happy'). According to Brown and Hirschfield (2008) this is not a bad thing since in their study when students thought assessment was fun they tended to perform poorly on mathematics achievement tests!

Figure 5: Students' attitudes to assessment



While the data reported above cannot be taken as representative, since it is based on a small sample of primary school students, it does start to build a picture of ethnic minority students who want to learn, want to work with other students and who are not at all negative towards classroom testing practices. At the same time it is clear from these data that ethnic minority students, more so than Chinese students, require a learning

environment in which there is positive feedback on their performance and where they like to work with other students. That is to say, ethnic minority students' orientations to learning are very positive and provide a good basis for academic achievement. A similar view of Hong Kong's ethnic minority students was highlighted by Hue (2011) in his qualitative studies of ethnic minority students and their families. Yet what is also clear from the demographic data presented at the beginning of this section, learning opportunities are not always available. This may be at the pre-primary or senior secondary level where the participation rates are lowest. Increasing participation rates at these levels will be important but probably of greater importance is the quality of education provided at the primary school level where the great bulk of ethnic minority students gain their educational experiences. These experiences can build on preprimary education and can prepare students for secondary education. How the quality of primary education for ethnic minority students in Hong Kong might be improved will be the focus of the final section of this paper.

4. Can the 'no loser' principle work for ethnic minority students?

There are three levels at which this question can be addressed: policy, curriculum and pedagogy. Finally, the important area of teacher professional development will be considered.

4.1 Policy

Previously the tension between different views of current policy for supporting educational provision of ethnic minority was described. Basically this tension is between providing support within a basically monocultural framework where ethnic minority students are expected to adopt the values of the dominant culture or recognizing the multicultural nature of many of Hong Kong's schools and building policy that respects these multiple cultures and seeks to build them into more inclusive educational provision. It is important to recognize that at the school level this latter approach has already been adopted by individual schools although this is not a common practice. But what would it involve at the system level? What would multicultural education policy look like and what difference would it make?

It is important to state at the outset, that in moving towards multiculturalism as a policy driver it is not necessary to adopt slavishly Western notions of multiculturalism. Will Kymlicka (1995, 2007) , the great advocate of liberal multiculturalism, has made

the point that his views were formed in the context of particular issues in Canada and may not be applicable in all contexts. He has acknowledged the distinctive Asian traditions related to diversity and the importance of these to framing local approaches to multiculturalism (Kymlicka & He, 2005). One such approach has recently been suggested in Singapore where the policy objective was seen to be better expressed as "social resilience" rather than multiculturalism per se because of "fears of social fragmentation along ethno-religious lines (that) have compelled governments of multicultural societies to devise policies and strategies to ensure their nations' ability to cope with attacks on their social fabric" (Ramakrishna, 2008). This may seem like a somewhat extreme way of viewing the issue but it has to be recognized that international policy discourse since the unfortunate event of 11 September 2001 has not been in favour of an unbridled multiculturalism. Such an approach has the potential to break society into distinct and often oppositional social groups that can to undermine social cohesion and, in the worst case scenario lead to explicit conflict. Defining the balance between support for ethnic minorities and maintaining a cohesive society is now the challenge for twenty first century multiculturalism.

For the Hong Kong government, the issue is to recognize that integration and assimilation may be better replaced by goals such as social resilience (Vasnu, 2007) and respect for diversity. Ethnic minorities have much to contribute to Hong Kong – socially and economically. They can work alongside the Chinese community to contribute to the development of a resilient society that values the common good, where there are no threats to the existence of any group, where there are equal opportunities for all groups and where the benefits of society can be shared. There is not time in this paper to look more deeply into the concept of social resilience but Vasnu (2007) and his colleagues have done that in the Singapore context so they are able to argue that political participation, the development of social capital and the development of a sense of rootedness all contribute to social resilience (Goh, 2007, p.36). Alongside social resilience, and complementary to it, must be respect for diversity. That is, difference in a socially resilient society must be valued. It may be racial, linguistic, sexual or religious difference but it must be seen as positive. The interaction between social resilience and difference will constantly bring society to a new level of awareness and understanding of its strengths, its values and its priorities.

Thus multiculturalism does not have to be constructed in a way that automatically leads to social fragmentation. Social systems can change and adapt to new ways of thinking while maintaining structures and institutions that work in the interests of all citizens. This is the basic idea of social resilience that can support a diverse society with common goals and aspirations. It would provide a sound foundation for an inclusive

multicultural society in Hong Kong and could be considered as the basis of a new multicultural education policy. The implications of such a policy will be explored in relation to the school curriculum and its pedagogies in the following sections.

4.2 Curriculum

The most pressing curriculum issue concerns the provision of Chinese language skills for ethnic minority students. The current approach as referred to earlier has championed a single curriculum for all students with the rationale that such an approach will provide the much needed language skills. At the same time such an approach reflects a commitment to monoculturalism rather than multiculturalism – it assumes that all students are the same and can be taught at the same pace and in the same way. Yet, in a socially resilient society, it would be recognized that a major curriculum change, such as introducing a Chinese as a Second Language Curriculum, would not be catastrophic and could be easily managed. Having two pathways to language competence for Hong Kong's students will cater better for entry level skills, structure learning opportunities in a way to meet the needs of a group for whom Chinese is not a native language and send a message about the importance of language skills for all students. In a socially resilient society, the purpose of ensuring ethnic minority students have access to a sound Chinese curriculum is not so much to facilitate integration but to provide skills and capacities that will ensure ethnic minority students are able to contribute to their own future as well as that of Hong Kong. Socially resilient societies are prepared for change, for stress and for adaptation in a rapidly changing world.

The relationship between language skills and competence in other curriculum areas is also an area that needs some exploration. Hau (2008, p. 11), for example, found that when ethnic minority students entered P1 with a high level of mathematical competence, they tended to do well in mainstream schools and often better than Chinese students. Yet many students who started out with poor competency levels showed no positive improvement at all. At the same time Hau (2008) reported low levels of Chinese competence amongst ethnic minority students. Could it be that when Chinese is the MoI in mathematics lessons for students whose language competence is already problematic, that this in itself would make progress very difficult? Hau (2008) does not make reference to this kind of interaction but since his report focuses on mainstream primary schools it can be assumed that the MoI for all classes is Chinese. This is an area worth investigating and I shall make some reference will be made to it in the following section.

4.3 Pedagogy

The results of students' preferences for classroom environment discussed earlier help us to understand better what might work better for ethnic minority students. Two aspects that stand out the importance of feedback and working together. This may mean that ethnic minority students will have more opportunities for learning in these kinds of environments. This requires teachers to think about the kind of learning environments they create in their classrooms and modifying them to especially meet the needs of ethnic minority students. Such environments, of course, will also support Chinese students – but they will be particularly helpful for ethnic minority students.

In considering the kinds of interactions that go on in classrooms, some consideration needs to be given to Medium of Instruction (MoI). In the example provided above of ethnic minority students starting off with poor mathematical skills, it may be that where the MoI for the class is Chinese, some feedback and questioning could be in English since this is often a stronger area of competence for ethnic minority students than Chinese (Hau, 2008). That is to say, MoI can be differentiated to ensure that ethnic minority students receive the feedback they prefer in a language that they are sure to understand. This suggestion is likely to be controversial because it can equally be argued that complete immersion in Chinese is important – at least in the longer time term. Yet this is where the teacher's judgment is so important. Do the students understand? Do they need more reinforcement, practice? Do they need to ask questions? Varying the MoI can thus help teachers find out about their students' learning and then develop appropriate strategies and responses to follow up.

If what students are telling us about classroom tests is indicative of attitudes to assessment, then teachers need to take advantage of what seems to be a positive attitude to testing and learning. Tests are not just ends in themselves – they are linked to learning in the minds of students. This link can be reinforced with students and it create an assessment environment that values student learning above all else. If such environments are also characterized by feedback and praise for achievement, then they will support ethnic minority students in particular but they will also support Chinese students. Assessment plays such a large part of life in Chinese classrooms that every effort needs to be made for assessment to be meaningful and relevant building on students desire to learn and providing feedback on the progress they are making in their learning journeys.

Would classrooms look different if they adopted the kind of strategies mentioned

above? I think they would – more cooperative, more feedback, multilingual, focused on learning and achievement. These are classrooms that will meet the needs of all students but in particular they will support ethnic minority students who are committed to learning and need an appropriate environment to ensure they can reach their goals.

5. Conclusion

There is a need to bring together policy, curriculum and pedagogy in a real attempt to ensure that the no loser principle will also apply to ethnic minority students. In a socially resilient society change should not be threatening and the contributions that all individuals and groups can make should be nurtured and valued. Cho, Willis & Stewart-Weeks (2011, p. 6) have pointed out that “the struggle for resilience will not be won within the walls of government agencies, but rather in the broadly distributed communities that they serve and with which they interact”. This means that all communities must be valued and must have a role to play in the development of the social fabric. Communities must be connected in meaningful ways since “the point of resilience is enabling people to maintain and improve the quality of lives they lead and the strength and capability of their communities in times of transition and risk. Resilience, in those conditions, relies heavily on the widespread capacity to connect for deep and authentic collaboration (Cho, Willis & Stewart-Weeks, 2011, p.9). Only communities that are equally valued will be able to connect and work together. Schools play a key role in contributing to connectedness in any society – ensuring that all students are treated fairly and provided with relevant curriculum and learning and guaranteed outcomes that will help them contribute in a productive way. This paper is a start in the direction of supporting greater connectedness for Hong Kong’s ethnic minority students by rethinking current educational provision. It is only in this way that the ‘no loser principle’ can be applied to ethnic minority students who, if allowed, can play an important role in contributing to Hong Kong as a resilient society. But the paper is only a beginning and hopefully action in terms of policy, curriculum and pedagogy can follow to make the ideas outlined here a reality.

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中文課程改革與教師工作文化的轉變—— 中文科教師課程決定個案研究

Chinese Language curriculum reform and the change of teacher working culture: Case studies of curriculum decision- making of Chinese Language teachers

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摘要

在學校層面，教師是課程決定的核心人物，教師在教學前或教學時必須做決定。香港中學中文科新修訂的課程自 2002 年 9 月在全港各學校推出。整體上，新修訂的中文科課程擴展了教師在課程與教學決定的範圍，亦增加教師參與協作及進行課程決定的機會。

本文是通過五所學校中一級教師參與課程決定的質性研究，了解教師在中文科組內如何參與協作式的課程決定及受哪些因素影響課程決定。初步結果顯示，教師對協作的觀感影響教師參與決定的投入程度，亦間接影響決定課程內容的深度。

關鍵詞

課程決定，協作，課程改革，教學計劃

Abstract

In an education system, teachers play a crucial role in making curriculum decisions prior to, or during teaching. The New Edition of the Chinese Language Curriculum was introduced in all secondary schools in Hong Kong in September 2002. The New Edition has extended the work scope of the teachers in their curriculum and teaching decision making. In addition to this, it provides more opportunities for teacher collaboration and curriculum decision making.

The present research started in the second year after the introduction of the New Edition of the Chinese Language Curriculum. By applying qualitative research methods, five schools were chosen as case studies, with the teachers of Secondary One as key informants, to explore the state of teachers' participation in the curriculum decision making, to understand how the curriculum decisions were made within the Chinese Language panels, and to investigate the factors influencing the decision making. The initial findings revealed that teachers' perceptions of collaboration may influence the degree of contribution and involvement of the teacher. It will also indirectly affect the decision making of the depth of content.

Keywords

curriculum decision making, collaboration, curriculum reform, teaching plan

甲、研究背景

二十一世紀香港課程改革由提升教師專業能力及建立教師協作文化作為序幕，而中學中文科新修訂的課程，自 2002 年 9 月在全港各學校推出，迄今已超過十年；有關中文科的課程與教學研究不少，在新課程推出初期，有蔡若蓮、周健、黃顯華等（2002）整理了部份中文科教師對試行計劃的經驗；在課程實施了一段時間後，有黃顯華、李玉蓉等在 2006

年（2006a，2006b，2006c，2006d，2006e，2006f，2006g）出版了一系列總結中學中國語文課程實施評鑑研究的成果。在課程推出五年後，教育界及學者則希望進一步了解，有哪些因素影響教師參與學校層面的課程改革？劉潔玲（2006）認為若教師對新課程有較多的知識和實踐經驗，對他們採用能力導向的教學模式有正面的幫助。譚彩鳳（2010）指出，教師進行校本課程決定時，受個人因素（意願、信念、知識、能力）及外在因素（教學的文化、課程領導、公開考試及時間）影響。上述研究指出教師個人的專業知識、信念及改革經驗對參與課程改革的積極性都有影響；但除了個人因素之外，教師同時受情境脈絡的影響，目前中文科課程的轉變，從編選多樣化的學習材料，到組織有效的課堂及設計多元化的評估方式，單靠個別教師自己一個人去做，未必能夠應付，所以有效的中文科新課程實施有需要結合教師的團隊協作和集體決定。

理論上如果增加教師協作，有助教師解決在新課程改革時面對的挑戰。然而一般中文科教師在舊課程的運作期間，很少參與學科層面的決定，如今需要在新修訂課程的脈絡下與同儕協作，對教師來說是一種文化的轉變（黃顯華、李玉蓉，2006a）；但過往十年有關科組如何協作的探究相對較少。教師在改革過程如何協作及參與課程決定，是香港課程改革繼續深化及整固的一個重要議題。

高慕蓮與李子建在 2001 年的研究指出，協作有助教師共同解決在新課程推出時所面對的問題。當時個案學校的中一級教師參與中文科新課程的試行計劃後，通過教師參與、投入及合作的工作關係，在實踐過程中解決了很多困難，令教師對新課程的推行比前有信心。不同學者及研究都指出「變革」涉及學習新的事物，而互動是社會學習的基礎，因此如果教師間能多交換心得，互相幫助，以及建立對工作的熱誠，課程創新的實施便有較高的成功機會。若教師孤身作戰，與同事間缺乏坦誠溝通，欠缺互相支持和幫助，學校改善便會裹足不前（Sarason, 1982；李子建、黃顯華，1996，頁 331；高慕蓮、李子建，2001，頁 44）。

黃顯華、李玉蓉（2006a）也在新課程推出後進行課程實施的評鑑研究，研究指出教師對新課程最關注的是「結果／協作」階段。教師對同事之間的協作表示出頗強的要求，希望與同事建立工作上的關係，特別在教學工作協調上，以取得更佳的實施效果。

上述的研究都認同科組需要建立協作的文化；同時通過群體參與決定，有助推動課程的發展；但協作需要哪些條件？教師在新課程推出後，理論上要結束習慣多時的個人化、單打獨鬥式的工作文化；通過正式或非正式的協作方式，共同解決課程轉變過程中出現的種種教與學的問題；但教師對協作有甚麼看法？在科組內教師的協作關係如何影響課程決定內容的深度及廣度？這是教育界關注的焦點，研究者擬通過本研究所得出的研究成果，希望為香港未來十年的課程改革提供持續發展的方向。

乙、文獻探討

一、課程決定的意涵

有些學者將“decision making”譯作「決定」也有譯為「決策」；本研究就選用「決定」一詞。所謂「決定」，是指一個人或一群人，就課程中的分析、計劃執行、評鑑等問題，研究可行的方案後，從其中做合適的選擇（杜美智、遊家政，1998，頁 76；高新健，1991；黃政傑，1992）。不同課程計劃層級的工作者，都承擔著課程決定的責任（蔡清田、雲大維，2007，頁 93；甄曉蘭，2004）；所以中央課程落到學校層面或課室層面，教師就要從課程籌劃（plan）到實施（implement），由表面的改革到深層的改革等進行一連串的解難和選擇過程。

決定是選擇、篩選、判斷、解難的思考過程。在課程改革的過程中，教師會經常面對種種有待解決的問題，課程與教學是影響學習成果的關鍵因素；只有選擇或發展合適的課程，同時靈活運用各種教學法將課程內容呈現給學生，才能順利達成目標（徐世瑜，1998，頁 1）。

至於課程決定大致可歸納為教學計劃、教學實施和教學評量等三個階段；而課程決定的範圍則包括：教學目標、教材選擇與組織、教學活動設計及教學評量等課程元素（杜美智、游家政，1998，頁 80-85）。簡良平（2002）則認為課程決定內容是意指「應該如何」（what should be），包括應該教甚麼內容，受教的人是誰，哪些知識應該被傳遞與傳遞的方式，教學原則應該如何等等；每個部份經判斷後都有所抉擇，即課程決定。決定過程不可避免是以「人」為決定的主體，因而會有不同的考量和權衡，且涉及觀念差異與價值不

同的抉擇。

二、影響課程決定的因素

杜美智（1997）認為影響課程決定因素可分為個人因素及情境因素。教師知識、能力；個人因素大致與教師專業素養及信念有關，包括教師一般知能、教師知識、能力；教師的教育信念、價值、興趣和嗜好。情境因素包括學校層面、社區層面及社會層面，在學校層面的教學方面有師生互動、同事間的討論；在行政方面有教學支援的提供及行政的干涉（劉雅心，1998，頁48）。

1. 個人因素

教師的知識能力在教師面臨選擇做決定時，是一項重要的決定因素（陳伯璋，1995）。具備豐富的一般知識，有助於選擇多元化的教材；具備良好的溝通能力，有利於獲得社區人士的支援；具有良好的統整、批判能力，能協助教師做課程決定。教師的專業知能，會影響教師的教學效果。教師如果重視教育工作的過程績效，則會注意教學方法的改進，熟悉教材內容、留意學童的學習，追求最好的教育成效（吳清基，1989，頁115）。教師要為所做的教學決定（instructional decision）負責，因此教師必須瞭解教學目標才能掌握教學，瞭解教學的環境，才能客觀的看待教學行為。此外還要瞭解學童的發展、教學的內容及運用教學資源的能力（李俊湖，1992；Tye, 1971, p.462-465）。教師的教學成效良好，則表示教師能有效的達成教學目標，另一方面則意味着教師在教學過程中所做的課程決定是有效的。因此，教師要相信自己就是專家，加強進修、研究，探究課程的新理念、目標精神及實施的方法（歐用生，1992，頁49）。有良好的專業知能才能做出適當的課程決定。而Hawthorne（1992）認為教師具備專業的知識也是重要的，因為這種專業的知識、能力，使不同教師在處理某些課題，或採用教學技巧時出現程度的差異。

2. 情境因素

這裏主要是探討科組層面及學校的行政支援層面兩方面。科組層面方面，Hawthorne（1992, p.124）的研究顯示科主任及同事之間的支援及關懷的關係，提供了教室與學校的之間保護及非正式的社會制度，成為課室與外在管理環境的緩衝（buffer）及職責（obligation）。Brown, Boyle & Boyle（1999, p.323）提出科組可以積極參與學校層面的工

作，令學校的政策措施更配合學科的發展及容易學科有更大的專業自主空間。學科或學校可以通過機制、文化的推動，讓教師增強協作，產生共力；將個人的力量凝聚，讓團隊逐步發展成互相學習的專業社群。本研究擬探討中文科教師，在一個級組內如何進行互動及如何作課程決定？同時希望了解教師對協作的觀點和看法，如何影響課程決定內容的深廣度？

在學校的行政制度的支援方面，在黃顯華、李玉蓉（2006a）的研究資料顯示，無論科組是有意識地改變工作文化，還是為應付實際需要，不少都以建立制度的方式，希望教師能透過交流和協作，從而更有效地實施新課程，較為普遍的做法是引入共同備課節及同儕觀課的措施。

丙、研究特色

過去的研究單位多是個人、學校、科目甚至整個課程，但較少探討一個科組內教師之間進行的互動情況。本研究是有關一個級別的中文科教師，在進行單元教學前計劃的質化研究。這裡提到的教學計劃應該是一個單元完整的計劃，包括配合單元目標，選擇合適的教學內容與教材；組織學習內容、經驗，以至評估；有關整體單元的教學構思與過往中文科的單篇範文教學年代，教師可以拿著教科書就可以進入課堂的情況有很明顯的差異，如果每個單元都只由一位教師承擔調適教材及設計教學活動等工作，教師會感到非常吃力。

課程實施能否成功固然教師是一個關鍵的人物，面對改革的任務，希望教師能共同協作。協作可能是一組人、一個學科。本研究的焦點是中一級，一個級組內的協作及參與決定過程。研究者相信，教師在單元教學前進行仔細的計劃時，有助級組內所有成員解決級組內的教學問題，增加實施時的信心，同時有助提升教學的質素。

本研究主要搜集科組教師參與課程決定資料的時間 2003-2004 年。這段時間剛好是中學中文科新課程剛實施了第二年，屬於課程變革的第一階段；而課程決定步驟則選教師進入課室前教學計劃階段的決定，對教師而言，在改革的初期，較多關注的是對教材的調適，較難兼顧教學及評估方法的轉變。當年課程改革只在起步的階段，學校配合課程轉變而作

出的行政支援尚在發展的初期，很多的學校仍未有備課節，就算有，也未必安排在上課時間及計算在教師工作量內。

今天，課程改革已經實施超過了十年，很多學校在行政方面可以作出備課節的安排，但有了時間未必能保證教師能善用時間進行專業交流及積極參與課程決定。學校提供備課節，的確增加了教師的互動及協作的機會，但一般教師長期習慣了個人工作的模式，忽然之間在行政安排下一起進行教學規劃；有了協作的空間，也同時增加衝突、矛盾的機會；究竟哪一種協作方式較有效益？在過去十年，這方面的研究不多。其實在 2004 年前後，研究者為了研究中文科組教師參與課程決定的情況，曾走訪超過十所學校，但最後只能選取五所學校作為研究對象，原因是部份學校及科組教師保護性很強，不想坦誠交流；要長期、深入探索香港學科成員之間的工作文化及互動的情況並不容易；故此本研究所得的資料彌足珍貴，相信不只對中文科的科組如何建立協作文化及提高教師參與課程決定意欲具啟發意義，也能作為其他學科發展的參考！

丁、研究設計

一、研究問題

本研究原先共有四個問題，基於篇幅關係，現集中處理和討論以下研究問題：
教師的關係如何影響教師對協作的觀感及課程決定內容的深廣度？

二、研究方法

本研究選用目的性抽樣關鍵個案（陳向明，2006，頁 44），研究取樣是選擇有備課節及沒有備課節的學校。為什麼會將備課節作為關鍵元素？原因是以往教師較多參與課室的教學決定，新課程要求教師較多參與整體的課程規劃，本研究是探討教師如何通過協作，為進入課室前做教學的計劃；另一方面是次課程改革較前複雜，既要講求發展校本特色的單元或課程，又要改變現有的教學模式及評估方法；在課程計劃、資料蒐集、教材編寫、課程評鑑等規劃的過程中，需要時間討論及協商。

如果利用課餘時間，不僅時間不夠，也會遭致教師的不滿。研究者相信學校如果能為

教師創造空間，讓他們有較固定的時間對課程及學習內容的轉變有更多作討論及思考機會，對解決中文科新課程種種教與學的問題一定有幫助。研究者認為備課節可以提供一個協作的機會，也可以讓教師從個人的、孤獨的工作習慣走出來，與科組成員共同尋找有效的教與學策略。在 2003-2004 年質素保證視學周年報告¹第 4.5 節中文科視學部份，提到學校中文科為配合課程發展趨勢推展課程新措施學校，已初步開展集體備課及同儕觀課，以促進教師的交流和協作（頁 45）。該報告內雖然沒有指出共有多少所學校設有集體備課節，但經研究者非正式觀察及網上的資料記載²有些學校在當年已開始安排共同備課的時間，讓教師進行交流；因此，本研究選樣的時候就包括這兩種學校，一種是有備課節的學校，一種是沒有備課節的學校。

1. 個案選擇及搜集資料方法

本研究的焦點是中一級一組教師在新課程推出後，在校內，為課程實施前作計劃的課程決定，這是屬於學校層面的決定（Goodlad, 1979）。教師參與課程決定的形式可以通過正式的備課節，也可以通過非正式的溝通時間，例如在課間召開非正式的會議討論與課程發展問題相關的課程決定。研究者從學校和教師的典型性、差異性等特徵考慮；在研究過程中，第一輪共選了十一所學校，在十一所學校中再由所得的資料豐富程度（包括文件資料、會議密度、訪談內容）及參與協作決定的情況的獨特性再選取五所學校的資料作進一步分析（個案一至五）。第二輪學校篩選是一個逐漸聚焦的過程（progressive focusing）（Stake, 1995；黃顯華、李玉蓉，2006g，頁 39）；而所選的五所學校，則形成嵌入式多個案研究設計（Yin, 2003, p.40）。

在個案典型性特徵方面，五所學校的收生情況接近、資料呈現的資料相對豐富及完整、對學科如何準備新課程、教師在參與決定時的影響因素及課程決定的內容等相關材料都有清楚展示，這些資料有助進一步分析教師的協作關係、如何做課程決定及影響課程決定的因素。

¹ 連結：http://www.edb.gov.hk/FileManager/TC/Content_756/qa_annualreport_03-04_chi.pdf

² 連結：http://www.bmf.edu.hk/lys/lesson_study/lesson_study_resources02-03/doc/handbook.doc

研究者亦會嘗試找出學校之間的差異性，如地區、校齡及不同教師組合的差異；另一方面也考慮不同學校的脈絡之間的差異，如科主任帶領、備課節的安排、協作文化、學科改革經驗、使用教科書抑或進行校本教材設計等，以增強研究資料的外部推廣性（external generalize ability）（Yin, 2003, p.53）。

至於搜集資料的方法則採用了觀察、半結構式訪談及分析單元教學設計文件等方式，探討教師對協作的觀感及其對課程決定內容的影響。

2. 個案學校的特色

表一 五所學校的基線資料

	個案一	個案二	個案三	個案四	個案五
學校區域	香港島（南）	香港島（東）	新界西	新界東	新界東
校齡	超過二十年	超過二十年	十年之內	超過二十年	超過二十年
教齡	新舊混合	有一定教齡 十至二十年之間	相對年輕，級內有 三人第一年出來工 作就在這所學校	全部十年以上	新舊混合
科主任帶領	科主任任教中 一，主持備課 節	副科主任沒 有任教中 一，出席備 課節，傳播 經驗	科主任任教中一， 參與備課節，但只 是其中一位成員	初中科主任 任教中一， 責任是召集 教師開非正 式會議	初中科主任第 一年任教中 一，對教科書 及新課程尚在 摸索階段
備課節	有（計算教 節）	有（不算教 節）	有（計算教節）	沒有	沒有
教師關係／ 溝通形式	工作關係良 好，有正式時 間溝通及非正 式時間溝通	關係疏離， 只有正式時 間溝通	工作關係良好，有 正式時間溝通及非 正式時間溝	教師私下感 情良好，有 非正式時間 溝通	人際關係良 好，有非正式 時間
使用教科書／ 校本教材	使用教科書	使用教科書	使用教科書	使用校本教 材	使用教科書
課程決定內 容、範圍（深 廣度）	減少使用教科 書，單元調適 考慮不同的課 程元素	以教科書為 主導，單元 調適多刪少 補	第一年使用教科 書，以教科書為 主，內容少增刪， 單元調適補充資 料（如課後練習） 及考慮教學方法； 學科配合學校的 制度，有進行教 學探究活動	以校本教材 為基礎， 單元調適主 要是補充教 學資料（練 習、文章）	以教科書為主 導，單元調適 多刪少補

戊、資料分析與討論

本研究通過從訪談觀察及文件所得的資料進行分析。研究者共訪問了 24 位教師，了解教師對新課程的看法、對協作觀感；在正式、非正式的溝通時間進行哪些課程決定？教師認為科組及學校哪些因素影響級組內教師的課程決定？由於篇幅所限，本文只集中分析教師的協作觀感與影響課程決定的因素。

研究者在訪談時征得教師的同意才錄音，錄音後，將整篇訪談資料作文字轉譯，然後將資料編碼及按研究問題歸納、分類。將資料分類後，將分析焦點放在影響課程決定的因素及課程決定內容、質素（深度、廣度）。將資料分類後，並參考文件分析結果及會議紀錄，尋找資料中所呈現的主題、共通點及個別學校的特殊情況（黃顯華、李玉蓉，2006a，頁 9）。至於觀察，研究者會參加三所學校（個案一、二、三），在正式課堂時間的會議。研究者由 2004 年 2 至 5 月期間，選學校其中一個單元參與中一級內的備課節會議。沒有正式備課節的學校由於教師隨時有空就召開非正式會議，基本上很難預先知會研究者，所以研究者沒有參與個案四、五學校的非正式會議。至於有安排正式備課節的學校，一個單元內，研究者會參與一至兩次會議，觀察的對象，主要是與會的級組教師的互動情況、級組會議的氣氛及選擇哪些課程議題討論等。在會議過程中，為了減少教師對研究員的戒心及顧慮，研究者沒有錄音，每一次會議均全程用紙筆紀錄重點，做筆記；在離開場景後盡快整理資料。觀察的資料對引證教師的訪談內容很有幫助。尤其是描寫級組成員的關係及教師參與課程決定的意願，會將研究者在觀察過程中的所見所聞描述出來。

除了 2003-2004 年系統搜集資料的時間，研究者於 2007 年 2 月至 3 月，研究者第二次進入場景以確認資料。研究者將個案資料整理後再到學校與部份教師會談及核實資料（經教師簽署並確認）；研究者亦通過訪談，了解過去兩年學科的發展狀況，雖然這不是本研究的範圍，不過研究者也能掌握最新的學校信息，令人憂慮的是一般學科的發展仍是比較緩慢，實際的教學環境沒有多大變化。不過令研究者有意外發現的是教師的價值觀及信念原來不會因為時間而有很大的轉變。在 2007 年 4 月至 5 月，研究者第三次進入場景，這一次是要找出資料所呈現的主題；因為在撰寫討論及結論過程中，就有關核心問題，如影響課程決定的因素，教師對某些重要概念的觀感，例如在參與決定階段教師是分擔工作抑

或是賦權承責？教師的調適概念是純粹是教科書的調適抑或包含新舊課程的調適；研究員在下結論之前，再次與個案學校部分教師在電話及訪談中討論（同時經錄音及文字轉譯處理），希望能進一步引證研究者的推論。

從不同教師對同一個訪談內容所表達的意見收集後，研究員會將各人提供的資料作參考、對照及比較，以作為三角檢證之用；有些時候，研究者亦會對比訪談的內容與會議觀察作印證。三角檢證（triangulation）是質化研究保證效度的慣用策略。本研究採用的是資料三角檢證。研究員會在同一所學校，向不同的教師問相同的問題，試圖從不同人身上了解他們對相同問題的看法。這一類的問題，多數是課程決定的觀感及影響課程決定的因素。有些時候，研究者亦會對比訪談的內容與會議觀察作印證；如教師對協作觀感與她／他在集體備課會議時的表現是否一致？研究者亦會在不同時間，向同一個人，問相同的問題；以尋求教師對相同的問題是否有一致的看法，而這一類的問題多數涉及教師價值判斷及重要觀念，例如對語文教與學的看法。

研究資料初步顯示，教師協作觀感與教師對課程理解有直接關係，與課程決定形式及內容有間接關係。要是教師認為新課程的改革幅度大，轉變的範圍廣，他們就較認同教師需增加協作；相反，要是教師認為是次課程改革仍只屬於教科書層面的改革，其他的教學範疇沒有明顯的轉變，教師未必有強烈的協作需要。

一、教師對協作的理解影響對參與協作的態度

綜合個案的資料顯示，個案一相信集體的力量的確比個人的力量大。教師認為新課程需要教師參與協作。通過協作，可以減少孤獨，可以互補。通過協作，教師得出啟示，就是不一定要跟共同意見的人才可以合作。備課節提供協作平台。

科主任也利用學校開放日及外評等機會，讓教師參與協作。由於經常溝通、合作，拉近教師之間對一些觀念的看法，例如要實施課程時有理想的效果，就要先管好學生的秩序。持續的協作和溝通，有助建立和諧的同儕關係。教師協作的範圍包括共同進行計劃，分享教學資源及教學經驗。

個案二教師對協作的理解是單方面的支援。有經驗的教師覺得自己有責任將經驗傳給新任教中一的教師；學校安排教師的共同備課節時間，這是提供協作的平台，但教師除了分享教學資源，沒有其他協作的範圍。教師之間只有工作關係，同儕的關係一般，沒有開放、坦誠的溝通，只能進行有限度的協作。

個案三教師普遍認同新課程需要教師參與協作。教師對協作的理解是主動分享及互相支持。一方面因為學校的政策又需要教師協作，例如課堂觀摩探究、啟導計劃。學科的文化，也是鼓勵教師一起合作以解決問題，教師有緊密的工作關係，能夠進行開放、坦誠的溝通。教師協作的範圍包括分享教學資源及教學經驗。

個案四教師對協作的理解是有需要就伸出援手，提供支援。主要是因為教師基本上掌握新課程，在正常的情况下大家可以各自處理自己的問題。沒有備課節，教師很少正式協作的機會。不過教師之間有穩定的感情基礎，故此協作的範圍可包括分享教學資源及教學經驗。

個案五教師視協作等於求助而不是互相依賴。教師是意識到新課程需要教師參與協作，不過沒有備課節，教師沒有正式協作的機會。協作是隨機的，有限度的；故此協作的範圍主要是分享教學資源。由於同儕關係不錯，關係算融洽，偶然也會分享教學經驗。

二、影響教師對協作觀感的因素

視協作為單方面的支援，教師只會進行隨機、有限度的協作；分享的範圍主要是教學資源。視協作為互相支持、互補，教師才会有不同層面的協作，如共同計劃、進行專業溝通，也會主動分享不同的經驗，包括成功、失敗的教學經驗。

表二 影響協作觀感的校內因素

	個案一	個案二	個案三	個案四	個案五
協作理解	認同協作	部分人認為有需要協作，協作是單方面的支援	認同協作願意分享	認同部分範圍需要協作，其他的時間基本獨立，但有需要就會互相支援	平時獨立，有需要就伸出援手，協作是有需要的支援
過往經驗	新課程實施前，開始有協作機會（說話能力培訓、校本單元設計）；在新課程推出後，協作可以解決單元調適及課堂教學問題	新課程實施前少合作機會	學校有協作文化，不同科組之間也有合作機會	在新課程實施前有參與訂定校本教材的經驗；有機會合作	在新課程實施前少合作，個別教師教同一級就有合作機會
同儕關係	從工作建立互信關係，比較和諧、開放	純粹是工作關係，平時少交往、溝通，人際關係比較疏離	有一半教師通過工作建立緊密的協作關係，有默契、互相體諒	有感情基礎，關係良好	工作關係，平時會交談，有商有量
政策、措施	有備課節，有固定的溝通時間	有備課節，但只限於固定時間才接觸	a. 學校工作多、變革多，令教師習慣要一起合作 b. 科組內有協作文化，就算新的教師也容易受感染 c. 有備課節 d. 有教研部推動教學探究	沒有備課節，隨機協作，有時間就溝通	沒有備課節，有事就隨機協作
領導能力	大力推動協作，建立工作常規，給予教師清楚的目標及權責，鼓勵教師積極協作，一起解決問題	欠清晰的目標及指引，教師的權責不清楚	訂定常規，給予清楚的權責	有需要就主動召集會議，一起商討解決補充教材問題	欠清晰目標，無規定權責
其他	友校分享過程中得到認同，知道團隊協作能夠做更多的工作，例如設計全級的學習活動、計劃完整的單元	少非正式的溝通，也少互相了解增進感情的機會	非正式溝通機會多，例如一起參與專業發展活動	爭取非正式溝通時間	工作量多、工餘少非正式接觸

教師在科組內與同級或科內的同儕在新課程實施前是否有合作機會或成功經驗，影響教師對協作的觀感及參與協作的意願。個案一、三、四的教師在新課程前也有或多或少的合作機會，教師比較容易認同協作的需要；教師有合作機會，則是因為有改革項目，或者跨科組的合作課題；至於個案二、五的教師學校及學科層面的改革相對較少，教師也較少合作的機會。

教師的關係則影響教師參與協作的積極程度，間接影響教師討論問題的開放程度及課程決定的深度。教師之間未必一定要有感情關係，如個案一、三教師通過工作建立互信關係及緊密的夥伴關係也可以令教師在較開放、自由的環境下討論不同的課程議題；相反，個案二的教師因為過往少合作、少溝通及聊天的機會，教師的關係比較疏離，他們不容易敞開胸懷討論深層的問題，以及一起進行大膽創新的嘗試，因此課程決定的深度受限制。關係是了解中國人社會行為的核心概念（黃懿慧，2001，頁21）。關係，在黃光國（1988）的「資源」意義下，亦可稱為「人情」。（黃懿慧，2001，頁31）。對中國人而言，關係的密切程度，與對別人信任程度成正相關（Greif and Tabellini, 2012）。本研究發現，中文科內級組成員的關係建基於教師長期積累的倚賴、信靠的基礎；建立和諧、友善、開放的關係，使教師一起工作會比較輕鬆、投入；反之則相對拘謹、疏離。關係不是靠正式的溝通時間及制度連繫；關係是對人的可靠、信賴的持續考驗，沒有共同經歷，很難建立深厚的關係。

如果有政策及措施推動協作，會為協作及參與課程決定創造良好的土壤；個案一、二、三學校有備課節，教師可以在正式、固定的時間溝通，可以增加協作及溝通的機會，令彼此增加了解。不過有政策也要配合適當的工作常規，有清楚的權責分配，令教師知道自己在科組內參與的角色，否則會像個案二一樣，教師只認為自己有責任出席備課節會議，但沒有清楚要完成的任務，部分教師就會變得被動、倚賴；個案四、五教師的關係不錯，可惜學校沒有安排正式的備課節，只能靠隨機的分享、合作，有需要的才走在一起，未必能充分利用團隊的力量。

政策、措施提供環境，領導（如科主任）就要做推動的工作。在科內如果有清楚的目標及任務，有互相默認的常規，再加上領導的帶領，就容易凝聚眾人的力量，發揮共力。

個案一領導的推動是一個成功的例子；個案一、三由科主任建立工作的常規，令所有教師既有分工，又有合作的機會；個案三的教研部推動很多革新項目，需要教師與人一起工作及完成計劃；個案四的初中科主任在有需要時召開會議，也令教師能在非正式的時間走在一起，共同解決問題；沒有時間、沒有領導支持的個案五，教師縱有良好關係，也不容易經常走在一起，解決教學問題。

故此，教師的個人層面對協作的觀感是受過往經驗、關係、科組及學校層面的互動影響；科組是建立常規、凝聚個人，推動協作的中介者，尤其是（科主任）領導；而學校則是提供協作的重要環境。

另一方面教師對協作的理解也影響科組內的合作模式，如屬單方面的支援（如個案二），基於這種協作的理解，級組內只有部分人付出，不是人人參與，未必能長久。

有需要才支援（如個案四、五），有這樣的協作理解，證明教師仍然擺脫不了個人主義，協作只是當教師面對困難或未掌握所需技巧時，大家才需要走在一起；問題解決了，大家又可以走向自己的課室內，很少需要與人一起工作。

感覺同事一起工作是互相倚賴及互補（如個案一、三），這種協作的觀感顯示了各人都要貢獻力量，又能借助其他人的強項解決自己的問題；相信在課程改革過程中，大家在一個平等參與的狀態下，最能保持長久的協作關係。

三、教師的協作對課程決定內容的影響

當教師視協作為單方面的支援，教師只會進行隨機、有限度的協作；分享的範圍主要是教學資源；課程決定內容跳不出教科書的框框。以教科書主導的學校中，教師只著重教甚麼的問題，在備課節的會議內重點討論的是篩選、刪減那些教學內容，而很少考慮不同的課程元素，如多元的教學法及評估方式等；課程決定的內容就傾向較為狹窄、表面。

視協作為互相支持、互補，教師才会有不同層面的協作，如共同計劃、進行專業溝通，也會主動分享不同的經驗，包括成功、失敗的教學經驗；教師在參與課程決定時，著眼於

如何教、甚至是為什麼這樣教等問題上。在備課節的會議內，重點討論的是學生如何學得好，以及怎樣教得有效的問題。教師會考慮不同的課程元素，如選擇及組織學習內容，考慮多元的教學策略及評估方法等，課程決定的內容可拓展至深、廣程度。

己、總結

學校政策引入協作的機制只是團隊發展的第一步，它既可以是強迫協作，也可以轉向進化成互相倚賴的團隊協作（Grimmett & Crehan, 1992, p.79-80），問題是學校是否善加利用這個機制。在一個級組內如果能及建立信任及和諧關係能為課程決定提供有利的條件，劉冠華（2010，頁 163）的研究得出以下的結論：和諧的工作氣氛及工作愉快的感覺影響教師的留職意願、組織認同及努力意願。不同的同儕關係，對參加課程決定的影響如下：以感情基礎為主的同事關係，關係較深；再加上大家都有接近的性向、價值，教師能動性較大。教師參與協作及進行決定的意欲也相對強，因為朋友的事，也是自己的事；有人情的元素，萬事好商量。這與黃懿慧（2001）描述中國人的關係因為有了人情面子，可以增進合作機率的說法是一致的（頁 30-31）；成功夥伴的基本特徵是包括承諾、合作、信任、溝通質量、參與以及共同解決問題等要素（朱吉慶、李金早，2006，頁 147）。所以學校就算沒有正式的溝通時間，教師自己也會想法解決問題；由級組成員自己安排非正式的溝通時間交流，無礙教師進行討論及決定。

另一方面互相信任亦是促成課程決定的要訣，Johnston（1995）、簡良平（2001）、Meier（2005）及 John（2001）都同時指出不管是小組層面、學校層面的決定，建立互信及和諧的關係都是一個重要的因素；信任加強體諒，可接納多元的意見。培養信任的基礎，有助個案學校討論及決定不同課程議題。有信任，可以面對複雜的議題，減少磨合的時間；有信任，也有利學校推出創新的措施，讓教師參與創新的決定、同時願意接受較具挑戰的任務；故此信任的基礎也有助教師願意承擔額外的任務。

至於信任的元素包括可靠、有能力（Tschannen-Moran, 2000; Tzafrir, 2005）及開放（Tschannen-Moran, 2000; Tzafrir, 2005; Mishra, 1996）；同時相信對方有良好的意圖（Chou et al., 2006; Meier, 2005）。坦誠的溝通基於信任，信任令級組內教師對其他人的意見都很

尊重，從沒有人對一些不成熟的意見或者對某些人的說話表現出不耐煩。基於互相信任、尊重和和諧的協作關係，就能幫助組教師拉近在課程實施的距離。

由於時間、資源及複雜的學校微政治因素限制，本研究只能針對中一級一個級組內的教師，就其中一個單元的教學計劃過程及內容進行觀察及分析；而課程決定的過程複雜，除了小組協作的層面外，亦涉及個人的信念、領導及學校等範疇，研究者未能對所有影響教師課程決定的因素進行深入探究。

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回顧學校中文科課程改革—— 談課程改革與教師專業發展

A review of the Chinese Language curriculum reform in a school - Curriculum reform and teachers' professional development

簡加言

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摘要

本文是一篇教學經驗分享的篇章，以作者曾任教的學校為例，分享老師參與教育局推行的「課程改革」後的成效。內容集中談教師在編寫課本和試教中總結出一套教學法；課程改革的成果得到了各方面的肯定，參與的老師在過程中鍛煉了一種「研究」的能力和面對「變更」的能力。不經意間把整個課程改革的過程變成了教師專業成長和發展的過程。老師總結了成功的經驗，並與其他前線教師分享，促進交流。文章最後更寄語同行繼續努力，輕鬆面對變動。

關鍵詞

課程改革，教師發展，教育專業

Abstract

This article aims to share the teaching experience of the author. Taking her school as an example, the author shares the achievement after participating in the “Curriculum Reform”

of Education Bureau. The content focuses on the process from writing textbooks to practical teaching, and eventually forming a series of teaching methods. The effectiveness of “Curriculum Reform” has been generally agreed and appreciated. Through the relevant training, all participants have built up the ability to “research” and face the “change”. Without much awareness, the process of reform has become part of teacher professional development. The participants have consolidated experiences and successful stories to share with other frontline teachers, and encourage knowledge exchange. Finally, also it is encouraged that teachers carry on with the good work and face the curriculum change without fear.

Keywords

curriculum reform, teacher developments, education profession

引言

課程發展議會（1999）在香港學校課程的整體檢視報告中指出幾項課程改革的目的：

- （1）為香港學生提供一個知識建構的學校課程，使他們能以全球視野的胸懷，面對信息萬變、相互依存的廿一世紀社會；
- （2）為配合新的教育目標，培養我們的下一代成為「樂於學習、善於溝通、勇於承擔、敢於創新」的終身學習者，在今後知識為本經濟體系的社會中，貫徹終身學習。
- （3）為未來的學校課程定出大方向，設計一個以靈活、開放、連貫為課程架構骨幹的「廿一世紀新課程」，透過高效能的教與學，全面提升學生的素質。

張嘉育（1998）在台北一次研討會裏談到課程時，提出了七個見解：

- （1）學校本位課程發展雖以學校為主體，但也重視校內外各種人力、資源的運用結合；
- （2）學校本位課程發展採廣義課程定義，課程是指學校指導的一切學習經驗；
- （3）學校本位課程發展既重視課程發展成果，也強調過程中學校社區的參與與學習；
- （4）學校本位課程發展新定位學校於課程發展中的角色，使「社會——社區、學校——教師」發展成為一種關係夥伴；

- (5) 學校本位課程發展重心定義了教師與課程的關係，重視學校教育人員的自主與專業，將課程研究、課程發展與課程實施結合為一體；
- (6) 學校本位課程強調多樣化、地方化、適切性，可立即回應社會、社區、學校與學生需要；
- (7) 學校本位課程發展是倡導「參與」、「由上而下」、「草根式」的課程發展理念。

總的來說，「課程」(curriculum)就是所謂的「學習進程」(王文科，1990)；課程不是將由教師實施的計劃，而是引導教室實驗的架構，是由教師實施的一種教育實驗設計。課程是教師在教學過程中，對整體的計劃加以考驗、重新建構後發展出來的(歐用生，1999)。因此，課程改革的主題曲是改進師生的學與教行為；課程改革的目的是要增大學與教的效能。要全面提升學生的素質，課程固然重要，老師才是關鍵。陳伯璋(1999)指出教師是課程改革的推動者、設計者，研究者、協調者；但筆者卻認為教師也可以是課程的創造者、計劃者、撰寫者、施行者、試驗者。故此，教師在多重角色中能達致專業發展。

2000年香港為了順利推行課程改革，事前做足準備。1998年12月至1999年9月第一階段檢視：由課程發展議會啟動，與教統會的教育目標及教育制度檢討同步進行；成立核心小組、工作小組(成員包括教師、校長、大專學者等)，進行關注小組會議、研討會，建立非正式網絡聯繫。1999年9月至12月作廣泛改革方向的諮詢，並討論學校課程將面對的具體轉變；1999年10月至2000年4月舉行公開論壇，諮詢各界，並定期舉行有關會議。2000年1月至6月第二階段：檢視及發展「廿一世紀課程」的課程架構與教統會教育制度檢討的最後建議相配合。2000年6月提交終期報告／建議作公開諮詢，並向課程發展議會提交終期報告。2000年9月至2002年8月試行不同的課程模式(課程發展議會，1999)。眾所周知，課程改革是世界潮流，大家都有共識，面對二十一世紀，全球一體化成為大趨勢，社會經濟結構急速轉型；面對如此急劇轉變的大環境，教育制度和措施必須與時並進，才能使香港得以持續發展。教育統籌委員會(教統會)經過廣泛諮詢，於2000年向政府提交了《香港教育制度改革建議》。行政長官於同年10月發表的施政報告中，接納了所有建議，香港的教育改革正式揭開序幕。教育改革的整體精神是以學生為本，目標是「讓每個人在德、智、體、群、美各方面都有全面而具個性的發展，能夠一生不斷自學、思考、探索、創新和應變，具充分的自信和合群的精神，願意為社會的繁榮、進步、自由

和民主不斷努力，為國家和世界的前途作出貢獻。」（中華人民共和國香港特別行政區，2006）

福建中學（小西灣）1998年建校，一直重視課程改革：為了學生，任何科目都可調適改動。筆者有幸從一開始就參與了中文科的課程改革：全程參與了科目的理論探索，建構教學模式和編寫教材的活動；並見證着老師在參與課程改革中的專業發展與成長。自2000年改革至今，我校是唯一一所參與改革後仍使用自己課本的學校，也是唯一一套有理論、有教法及有完整配套的課本（中一至中六）。這除了是教師個人的成就外，也展示了學校及香港教育界的成就，因為這套課本曾分別在2004及2010年獲行政長官卓越教學獎項；也獲得中國教育學會「十一五」科研一等獎；課本在台灣也備受關注，彰化縣教育處向本校購買了50套課本送往各學校；並邀請學校老師赴台主持縣市的講座，分享教研成果。可見學校參與課改所得的成效與影響力不止於香港；更擴展至其他地區。從教師參與課改所獲得的專業發展和成效，說明了教師的專業發展與課程改革成效有密切關係（霍秉坤、馮育珊，2005）。本文嘗試總結、分析學校老師如何通過課程改革及分享教改成效，逐步促進教育事業的專業發展與成長。

學校傳遞意念 老師主動承擔

教改是一項重大的教育工程，而課程是學校教育的核心所在，所以課程改革與教育改革密不可分。福建中學（小西灣）建校以來一直很重視課改；但改革不易，不能說「改」就「改」。需要教師接受下達的意念，然後深思熟慮作出回應——是否要「改」。開校初期，學校提出兩個重要信息：（1）學校要培育學生成才；（2）學校要培養學者型教師。校長清楚傳遞信息：需要通過課程改革達到目標，尋找合適教材，鑽研有效教學法是成功關鍵；能找到教材就好，不然可考慮自擬或調適。校方傳遞意念，卻從不勉強，從不強迫；只讓老師自己想，自己酌量，是否要「改」則由教師決定。在一年醞釀期間，校長經常提學校以全人教育為宗旨；因此，以學生為主體，可以體現學校的教育理念；這一取向與「香港課程改革為學生規劃一個寬廣而均衡，以學為主的課程」的改革目標一致（香港課程發展議會，2000）。所以教師群中開始權衡利弊；思考以學生為主體即意味着課程要為學生「量體裁衣」，要與學生的需要相適應；因材施教，教法要重啟發，讓學生充分參與學習過程，

變講堂為學堂，杜絕「填鴨」；教學要重視回饋，並要適時調整。這些都是教師一直堅持的教學理念，因此，我們的老師就義無反顧接受了「課改」的使命；而且深切理解：課程改革雖然以學生為主體，但並不是放任學生自生自滅，否定教師的作用。我們的老師堅持以學生為主體，教師為主導，帶引學生，向高處攀登。我們的課程改革就由願意「試驗」的科組展開。筆者認為在這個磨合過程中，學校需要清礎傳遞意念；若要成事，必須有老師主動承擔；兩者缺一不可。Wideen 和 Andrews (1987) 認為教師是改革的中心，這話是有道理的。

福建中學（小西灣）中文科是課改先鋒，2000 年先參與教育署（現教育局）的試驗計劃，經過一年學習，便決定自行編寫課程。這膽子可大，坊間的課本編著背後說的是一支專業編輯隊伍，有整個機構的專業支援作後盾。學校怎能與之相比？一般人想像的課改大概就是「剪剪貼貼」罷了。沒想到本校花了五年時間編寫了初中課本（1-6 冊）、再花五年完成了高中課本（7-10 冊）。改革動力從何來呢？從學生而來。老師在編寫和試教中，發現課本和教法對學生有利。所以「改革」就停不了。我們的學生與全港情況一致，學語文的效率不高；歸究其原因：一是閱讀量偏低；課內讀得太少，沒有足夠輸入，自然不可能有高水平輸出；其二是中文課語言訓練不足；過去中文課比較注重精讀課文，教學偏重內容分析，把時間花在作者、題解、文體講解上，少針對語言本身，不利於養成能力。其三就是對學生要求太低，結果是學生做得愈少，水平越低；水平低，則要求再降，反覆下調。所以為學生編一套合適的教材就成為福建中學（小西灣）語文科老師的使命了。Glatthorn (2000) 認為課程領導應當發揮作用，使學校系統以及學校達到確保學生學習質量的目標。Sergiovanni (1995) 也指出，課程領導應為學校成員提供必要的支持，進而充實教師的課程專業知識和能力，促使學校形成合作與不斷改進的文化，最後把學校發展成課程社群，達致卓越的教育目標。筆者深切體會因為學校的最高領導人，包括校長以及校董會，他們給予我們的支持是充足的；在校長和校董會大力支持下，學校展開了漫長的「改革路」。老師意識到使用的課程，必須要大幅度增力，學生才能有大進步。要增大閱讀量；要重語言的比例，改變過往重「道」輕「文」的傾向，做到「文」、「道」協調，工具性與人文性統一。然而市面上並無合適的教材，這促使我們確信我們應當致力編一套對學生有利的課本。比較理想的教材架構應該是立體的，而不是平面的，於是精選名家篇章，在初中三級組成一個立體的閱讀系統：即中一在小學的基礎上著重培養語感和語文的基礎能力。中

二著重認識文體及培養閱讀文章的五種能力。中三著重培養閱讀和鑒賞文學作品的的能力。每一階段都是前一階段基礎上的提高，有利於提升學生的閱讀能力，也同時避免重覆沉悶。閱讀教材採用能力及內容主題雙線結構，除能力主導外，選讀課文又按生活主題選編。每年選文一百篇，中一至中三共選文三百篇。以期有效奠立初中學生的語文基礎。每單元也列有「圖書館」，因應學生水平介紹名著，縮微作品，摘編精彩片斷，以期利用課內的「精彩片斷」，吸引學生課餘追看整本名著。做到每年閱讀名家美文不少於十萬字。這個突破性的意念與創舉是老師在課改的研究中發展出來的；可見課程改革是促進教師成長與發展的催化劑。

堅持響應課改 猛力追求突破

學校自響應教育署（現教育局）的課程改革後，全面投入編寫校本課程。當時坊間議論課程改革的聲音此起彼落，我們的老師卻埋頭苦幹，只想着把最合適學生的教材得盡力搞成、寫好。十年過去了，我們出版了中一至中六整套課本（共十冊）；500 篇文章，500 個教案，漢語拼音（初中）、普通話朗誦光碟（初中）、三個選修單元（高中）與課本配套的作業、寫作、說話訓練等教材；並總結出一套包括課程理論、教學模式及教材教案所組成的「簡式單元教學法」。為編撰高質素教材，老師們均博覽群書，到內地重點中學求教，並專訪本地和外地有經驗人士，書成以後，送予本港和內地多位專家，反覆修訂，數易其稿。一面實踐，一面總結，一面作理論探究，一寫就寫了十年。在這猛力追求課本完整的十年裏，老師能不成長嗎？在專業上能不發展起來嗎？老師獲得的不止是外界給予的肯定與成就，更多的是通過編寫課本，自己讀了很多書。沒有大量輸入，怎能寫得出整套完整的課本與課練呢？這意外的大收穫促成了老師的專業發展。更重要的是在試教的過程中，老師為了要建構有效的教學法而不斷進行課堂研究，基本上已掌握如何「上好一節課」的竅門了。所以總結了一套教學法，提升了課堂學與教的效能。儘管在課改期間，老師忙於寫理論、寫課本、寫教案；忙於試教、忙於修訂，再修訂；但能發展出一套有理論、有數據、有實效的教材和教學法，這太值了！所謂十年磨一劍，是甚麼成就了這群追求在教學上有突破的教師呢？一切都是從「課改」開始。

Sparks 和 Hirsh（1997）指出學校是教師發展的重要地點；吳剛平（2002）說校本課

程開發在大多數學校中一直在進行，如果做得好的話，它將成為學校教師專業發展的途徑。福建中學（小西灣）的老師就是明證了，筆者有幸參與了這盛舉，在專業發展上的確有了長進。

霍秉坤（2000）曾為香港的課程決策提出幾點建議：

- （1）改進課程決策的參與模式，應有更多的民主成分，有更多的參與者；
- （2）課程發展需要鼓勵學校為本的課程設計，避免單純應用統一課程設計的理念；
- （3）要重視課程的決策，重視課程專家在最高層架構的意見；
- （4）重視專業教師的參與，使他們成為課程改革的中心。

筆者認同專業教師的參與是重要的，Blackman（1989）說：課程發展是人的發展之外，更體驗了在課程改革下的成長和發展。筆者認同霍秉坤（2000）談的「參與模式」和「民主成分」；我們重視學生的參與，也重視學生對教材的意見。才讓措（2007）認為要樹立課程為學生而存在的觀念，應該對學生的需求進行評估，了解和研究每一個學生的需要及其發展的可能性，尊重學生的不同選擇。我們在新課程中剔除了不受學生歡迎的篇章，在文字規範可學的前提下，新選文盡力切合學生興趣。我們同意 Elliott（1991）的看法，課程是指師生共同建構價值與知識的歷程。所以我們的老師很願意了解，並深入探討學生的學習難題，比如學生多厭惡文言文，覺得文言文難學又沒有實際用途，中一同學更因陌生而害怕學文言文。於是我們針對這一情況，在文言文教學中特別注意古今貫通，優先選用仍有生命力的文言文，充分利用粵語中有較多文言色彩詞彙的特點，打破「文」「白」隔膜。在中一課程中，文言文全部選用成語故事（原典）和詩詞，由於成語和詩詞篇幅都比較短小，易於誦讀，不易嚇怕中一級新生，而且成語和詩詞中名句也比較容易運用於現代文中，使現代文生色，這就化不利為有利，使學生樂於學習文言文。從實踐證明了新教材有效提高學生的閱讀能力，有效提高學生的語文水平。我們的老師認為學生的成就反映了老師的成就；只有猛力追求突破和學習的老師才會從學生的角度想問題，且認真努力地解決學生的學習障礙。因為響應和掌握了「課改」的契機而追求教學的突破，這就是我們的老師了。

思維敢於創新 膽大眼界高遠

課程改革是要以學生為主體，為學生開拓「學習空間」（課程發展議會，2001）；提高學生的學習動機。因此，必須保證我們的教材能引起學生興趣。我們追求的是學中求樂，愉快學習，不同意以漫畫取代閱讀，不認同以鄙俗文章代替經典範文，更不容許以粵方言入文的中文教學取向；我們認為不管是講故事或戲劇活動等學習方法都不能代替「讓學生在書海中尋找樂趣」的做法。所以我們大膽提出：以大量閱讀和探究加快提升學生語文寫作能力的設想，並挑選十名學生進行小規模試驗，經過一年的試驗，效果理想。故在第二年推廣至中一、中二兩級共四班，而第三年則推廣至中一級全體學生，到目前，這套寫作教學法已在全體老師和全校學生中進行。第一批試驗的學生，五年後取得了令人非常鼓舞的成績。會考作文卷都拿到了A至C級的成績。比較他們中一時的成績實現了「質」的飛躍。從一開始，我們的想法是：中文教學改革應以寫作為突破口，目標是通過寫作訓練，提昇學生的語文水平和能力，更通過語文能力的提高，全面提升學生的學業成績和信心，並通過老師對學生的高期望，從而最終讓學生能擁有自信心，和充實的人生。這個目標已在學生的表現中呈現出來。Beane（1995）認為課程統整的內涵及課程盡可能的更具民主性與意義性、更具效果與吸引力、更尊重學生之個別差異及尊重課程可能性之研究。以意義化、內化、類化、簡化等四項功能，強調社會學習領域統整的理由。學生能夠把所學各種課程貫串起來，瞭解不同課程彼此之間的關聯性，增加學習的意義性、應用性和效率性（黃政傑，1997）。對學生來說學習的意義莫過於能「應用」；所以學生最不愛學的就是學了沒有用的東西。例如我們都知道多讀多寫才能學好語文，這道理簡單，但香港學生就是不愛讀，也不愛寫；所以我們要了解同學喜歡讀哪些篇章，編寫有利於提高學習興趣的教材，讓學生覺得學語文是有用的，是具實效的。我們在研究課程和試驗中，盡量讓同學參與，令課程的設計變得民主性和具意義性；更重要的是通過學生的參與，評估成效，例如，我們會發調查問卷了解同學喜歡讀哪些篇章，並盡所能聽取意見；因為我們相信突破傳統，才能開創雙贏局面。

傳統閱讀教學面面俱到，事事精細，結果只見樹木，不見森林，量雖少，語文教學的質卻不高。我們共同探索建構的「簡式單元教學法」。堅持「以量求質」的原則。傳統上，多讀大多是要求學生在課外進行，但這方法在自覺自律能力較低，家庭支援較少的學生中，

卻難實行。我們提出的「閱讀教學法」，在課程和課堂內幫助學生養成閱讀習慣，將課外閱讀的指導設於課堂之內。增加課內閱讀量，學生每年最少閱讀 100 篇範文（散文、詩歌、小說和戲劇節錄），不少於十萬字名著美文。另瀏覽十本名著，而且適量背誦，積累詞彙句式。實現了由提倡閱讀到老師指導，營造閱讀氣氛，創設閱讀環境等一系列可以操作的措施。經過了多年的實踐，事實證明學生的讀寫能力有了很大的提高。我們切實堅持語文課的重點在「教語言」，使用自編教材，並作教學設計以緊扣單元重點，對文本以外的知識，只擇其最精要作簡介，以圖示板書和誦讀協助整體感悟課文，精選精講語言，點滴積累，體現學生為主體的精神，重視能力遷移與應用。從實踐效果看，的確能提高教學效能。這也是香港語文教育界創新之舉。

另外，我們探索而建構了「簡式寫作教學法」。堅持「多寫少改」——自由文只寫不改，規範文對焦略批，重在講評。這個敢於創新的寫作教學法突破了傳統的雙輪困局，開創了老師、學生雙贏的局面——首先是學生多寫而教師工作量不增，然後學生因多寫而提升了質素，教師批改變得較易，工作難度下降，形成良性循環。現時學校的同學不管能力如何，都「肯寫、敢寫」。即使是第三組別的中一學生經過約三個月的訓練，即能於 60 分鐘內完成一篇 600 字的作文。盡量讓同學覺得學語文是實用的，是有效的。而今，「簡式寫作教學法」並已結集成書。經推介，也有學校試行「多寫少改」，同樣有效。黃政傑（1991）指出課程組織的統整性應用於科目與科目之間、理論與實際間，校內活動與校外活動之間、也可用於認知、技能和情感之間。Ornstein 和 Hunkins（1998）認為統整性是指在課程計劃中，連接所有類型的知識與經驗。而統整的結果可從價值性、完全性、數量性、全體性、秩序性、和諧性與公平性等七個面向來判斷是否達成有意義的統整（楊龍立、潘麗珠，2001）。因此，課程的橫向聯繫必須使學習者將所學的概念、原理、原則關連起來，成為有意義的整體，學習才能產生效果。筆者同意在課程的統整計劃，除了重視知識，也要結合經驗。所以，我們堅持鼓勵學生多寫，而且要多寫自己的「經驗」，並結合所學習的科目一併思考；可以寫科學、可以寫音樂、可以寫體育、可以寫數學。因為我們相信學習是一個整體，科目與科目之間是生活的聯繫，是學生生活的價值點滴；學生想到甚麼就寫甚麼。我們的老師相信從「肯寫、敢寫」切入而加大寫作的「量」，就能獲得由「量」而變「質」的學習效能；這種膽大高遠且敢於創建的新思維是從「課改」開始的。

銳意追求卓越 步伐與時並進

Elliott (1993) 提出：教學是一種行動研究的表現，行動研究的理論也是一種學習理論。歐用生 (1989) 指出只有老師對自己的教學和教室實施研究，然後親自「看到」和親自「體驗」到整個變化的過程，接着重新學習，改變自己的知識觀，這樣才能解決問題。陳伯璋 (1998) 認為行動研究是結合行動與研究的一種研究方法，即是指情境的參與者（如教師）基於實際問題解決的需要，與專家、學者或組織中的成員共同合作，將問題發展成研究主題，進行有系統的研究，以講求實際問題解決的一種研究方法。這就是為甚麼我們很重視行動研究的原因；筆者同意 McNiff (1988) 說的，行動研究不只是教學過程，它是對教學過程的覺知與批判，且利用自我批判的覺知，開放一個改變的過程來改善教學。我們的老師就是執着於研究、改善課堂的學與教；所以黃政傑 (1985) 和蔡清田 (2000) 都指出「行動研究」是基於「教師即研究者」的理念，由實際操作的教師在實際的教學經驗中，根據所遇到的實際問題進行研究，並設計問題和尋求解決的策略。通過實際行動來進行反思、修正，尋求解決所遇到的困難。我們的老師為了更好的配合語文教學的改革，早於 2000 年就參與教育署（現教育局）的語文單元教學改革試驗計劃。經過了一年艱苦努力，編寫了中一級的整套單元教學校本課程，這套課程在當時 49 所試驗學校中曾獲好評，列為中上。但老師並不滿意，因為老師一面編寫，一面試教，在行動研究中發現課程不理想，進行反思，最後決定放棄了整年的心血！在掌握單元教學的概念上，再結合多寫多讀的實驗，重新編寫一套既符合本校學生需要又具向全港學校推廣價值的課程，這套課程的初中部份共六冊，300 篇文章、300 個教案及漢語拼音課本、普通話朗誦光碟；與課本配套的作業也做出初稿，並總結出一套包括單元理論、教學模式及教材教案所組成的「簡式單元教學法」。完成初中的課本後，老師仍不停步，繼續籌備編訂單元教學的中四、中五級課程；到了新高中學制落實後，隨即根據指引趕緊編寫中六語文課本及三個語文的選修單元課本。這種通過研究和實踐，銳意追求和與時並進的教學態度表現了卓越老師的特質。

我們的老師為了完善高質素的教材，除虛心向海內外的專家請教外，並在試教中進行多項的行動研究，因為有效性教學的決定因素，是取決於學生對課堂學習的積極性、主動性（陶曉彥，2008）。

李玉雙（2010）也指出有效課堂又是有效教學的重要載體，要實現有效教學就要利用好課堂 40 分鐘，要把課堂教學的立足點放到學生身上，使學生樂於學，自主學，學會學。行動研究的特徵：

- （1） 在特定的情境中診斷並解決問題；
- （2） 強調問題解決的立即性；
- （3） 重視實務工作者的研究參與；
- （4） 過程重視協同合作；
- （5） 屬發展性的反省彈性計畫；
- （6） 研究的結果可以促成專業成長；
- （7） 是一種社會化過程；
- （8） 具批判性的；
- （9） 具解放性的；
- （10） 是反省—辯證的（Bogdan & Biklen, 1982；Cohen & Manion, 1989；Kemmis & Taggart, 1998；蔡清田，2000）。

所以整個探究模式是一個循環式程序，每一個程序包括四個不同步驟：計劃、行動、觀察和反思。這幾個步驟對評估我們建構的教學法起了很重要的作用；因為我們相信理論是必須在實務中被確認的（Elliott, 1981）。我們的老師為試驗課本和教學法的可行性，一面實踐，一面總結，一面作理論探究，除了驗證我們建構的教學法之外，更為下一步研究創設條件。例如，香港回歸中國已 15 年了，兩地無論在經貿或文化上的交流亦日漸頻繁，兩地學生交流活動亦不斷增加。早年語常會推出「普教中」計劃，鼓勵學校參與；我們的老師認為從學習語文來說，普通話的表意方式與書面語更為接近，以普通話作為思考方式，自能減少文法問題。不過面對的困難可不少。首先，教師質素備受關注，另外，是學生吸收問題。我們的老師認為學校的課改已取得客觀的肯定，接下來該注入新元素，豐富及試驗教材的能耐與效能。在權衡輕重後，認為「普教中」對學生有利的；於是便參加了維持三年的「普教中」支援計畫。我們的老師在計畫中接受培訓，至今，語文科所有老師都能以普通話教授語文。這是另一項課程改革中，老師獲得專業發展的機會與收穫。我們的老師在編寫課本中成長，在課程改革中發展專業能力，在行動研究中尋求、探究教學法，驗證實效，追求卓越；我們的老師都能在課改中培養出一種能力：課堂學與教的「研究能力」。

有了這種能力，就能面對課程的任何更新與改動。這是學校參與了課程改革帶給老師的意外收穫，從收穫中也體現了參與課改教師的成長與發展的寶貴經歷。

掌握課程趨勢 推廣改革成效

傅道春（2001）認為教師必須擁有一種專業擴充能力。它的內容包括：能把自己教學的質疑和探討作為進一步發展的基礎；有研究自己教學的信念和技能；有在實踐中對理論進行質疑和檢驗的意向；有準備接受其他教師來觀察自己的教學，並能在理論和實踐兩個層面上對自己的教學情境進行意圖與效果的說明。筆者對這點是非常同意的；我們的老師在課程改革中也經歷了這個過程，並鍛煉出一種專業擴充能力。這可以通過老師在不同場合、渠道分享課改成效中體現出來的：這包括與外地先進同行交流，多次訪問廣東、上海、北京、南京、天津和台灣等地的中學。改革初期，稍有成效，2003 年學校老師就到北京主講「香港的考試與評估」專題，也有老師出席在武漢舉行的中國教育學會語文教學專業委員會第八屆年會，並分享香港課程改革經驗，接着也在南京介紹「香港的德育觀與德育實踐」。除了到境外交流外，我們的老師還積極組織香港與內地的專業交流活動。接待來訪的本地學校，介紹和觀摩學校語文教學的經驗。出版專業書籍，舉辦及親自教授公開課，促進全港語文教師的觀摩文化。在努力推動下，福建中學（小西灣）中文科在學校率先進行集體備課、相互觀課、評課，實行每級集體備課。2002 年全年，中文科開課逾 140 次，觀課者超過 380 人次，為促成這種教研風氣；學校於 2002 年率先在香港舉辦大型公開課，也是首次以香港老師（福建中學（小西灣）老師）授課，接受他校同工逾百人觀課，禮堂座無虛席，開香港交流之風。當時，這種課堂和教學開放的氛圍慢慢向全校、全港推廣，這是中文科同事參與了課程改革後的成果，這成果正體現在率教研交流之風的帶頭作用；學校在 2003 年 12 月舉辦了一次面向家長和教育同工的全校開放日。該日全校的課堂均向外界開放，接待超過 100 名來賓參觀，超過 100 多堂課。這也是史無前例的。至今，福建中學（小西灣）仍是全開放的，平均一個月至少有一所機構到校交流、座談、聽課。我們的老師推廣課改的成效是不遺餘力的。

筆者很同意傅道春（2001）所說的，教師能力是教師在一般能力的基礎上，不斷順應教育的過程的要求而形成和發展的。教師能力的發展經歷了三個階段，其中一個經歷，他

說是「生成階段」，他認為新教師走上工作崗位，均有一個從不知到知，從不能到能的過程，知識老化速度的加快和師範生在校所學知識與實踐需要的差距，使新教師面臨重新構建知能結構的任務。教師能力的生成過程是一個學習——實踐的過程，是知識技能向教育教學能力轉化的過程，也是學習與研究意識的產生過程。筆者認為這一點說得很好，可是不單是新任老師，就算是資深的老師也一樣，每一個改變都需要「實踐過程」，有了實踐就能掌握課程的得失，判斷課程的成效；因為通過親身體驗，才能透徹掌握課程，而整個實施與管理的工作就能井然有序，有了一個規律，推廣起來就具理論與實踐了。所以陳時見（1999）認為要搞好課程管理，必須遵循一定的規律，按課程的規律辦事。首先，課程是一個龐大的系統，既然它是一個系統，它的各要素之間就有聯繫，就應該是一個整體，所以課程管理的一個重要原則就是整體性原則。所以課程改革是否成功，除了具備了強而有力的火車頭之外，同事間的協作才是關鍵；我們的老師就擁有這協作特質。另外，陳時見（1999）也指出，課程管理的目的是在一定環境中，通過一系列的管理行為，使課程系統取得最好的效果，所以課程管理的另一個重要原則是最優化原則。所以我們的老師在推廣改革成效時，也不時強調「優化」是改革的重點，不是說已經很好就不改，而是要進行優化。筆者認為這是教育局多年致力推行教改的總方向；因為「沒有最好，只有更好」。教育統籌委員會於2000年在其《香港教育制度改革建議》報告中，確立了「終身學習、全人發展」為二十一世紀的教育目標，並全面推出2000年教育改革藍圖內所承諾的計劃。我們都知道教育改革是一項龐大且複雜的工程，從來都是這樣，「改革」總是帶來不安、困難和挑戰。所以我們的老師樂意分享成功經驗，毫不吝嗇分享各地課程改革的趨勢與發展等資料，和多年進行課堂研究的心得與成效呈顯與會者跟前。學校是願意老師多作分享的，因為一次分享等同一次總結；而總結是一種能力的體現，也是教師專業能力發展的過程，機會難得。傅道春（2001）也說了：隨着教育教學經驗的豐富，教師的能力開始走向成熟，並形成自己的風格與特長，增強了適應和應變力，掌握了比較過硬的教育教學本領。這一階段的教師形成了自己的「科學教育學」體系，具有一定的教學研究水平，逐步萌發創新意識。教師經過長期的學習、實踐，其能力開始進入巔峰。不僅形成了合理的知能結構，具有完備的教育理論素養和學科知識體系，而且積累了豐富的教育教學經驗，形成了自己的教學專長，具備了組織和領導教學和研究的能力，具備了進行教育創新的基本條件。我們的老師雖然說不上登鋒造極，但「推門觀課」已經難不了他們了。至於負責一個講座對我們的老師來說是學習、是發展，又是教學專長與能力的展現；學校是樂見其成的。這是

課程改革帶給老師的恩物和收穫！現在我們的老師各具風格，各領風騷。老師都各有自己的教學本領；但更重要的是：那都是對教育、對學生「有心」的老師！

總結

新一屆香港中學文憑公開考試已結束了。2004年10月，教育統籌局推出有關新學制的諮詢文件，2005年5月發表《高中及高等教育新學制——投資香港未來的行動方案》報告書，貫徹培養學生終身學習、全人發展的教育目標。為協助學校於2009年9月起在高中各級實施新高中課程，課程發展議會及香港考試及評核局於2007年聯合編訂了二十四科新高中科目的課程及評估指引，而課程發展議會亦於2009年編訂《高中課程指引——立足現在・創建未來》，讓學校建基於基礎教育的優勢和經驗，為學生提供寬廣、均衡而有多元化選擇的高中課程。334新學制正式落實，這是香港教育史上一個重要的里程碑。在整個新學制推出時，爭議的聲音此起彼落。十年課改剛停下來，隨即的變動又來了。前文說過「變」會帶來不安。但新課程內容為學生提供了寬廣、均衡和具深度的變動，例如，教育局在24個新高中科目外，為學生提供應用學習課程。課程的目標是通過真實情境，讓學生從應用和實踐中學習有關的知識和理論，從而培養他們的共通能力。這些改動的原意本來是好的，可是前線教師還是憂慮！筆者認為新學制就好像是一個課程統整，將不同學科知識加以整合，重新安排學習的方法，統整的範圍不單是學科的統整，筆者認為那是一種課程設計的意念與理論的統整。這包含經驗與社會的統整；組織課程的核心是學生經驗到的實際生活，將有關的內容聯貫起來，藉此讓學生批判性地探討真正的議題（歐用生，1996；楊家寧，2005）。

所以「改動」是一個「整合」的意念，因此，新學制可以說不「新」；所謂百變不離其宗，例如，教育局制定的政策強調學生「學會學習」的能力。為達到使學生能夠養成學會學習的能力，政府在課程指引內提出了「九種共通能力」及「四個關鍵項目」兩種概念。九種共通能力包括：協作能力，溝通能力，創造力，批判性思考能力，運用資訊科技能力，運算能力，解決問題能力，自我管理能力，研習能力。這都不是新的東西，只是把我們已知的知識重新演繹。又例如，「優化教學協作計劃」是在香港教育局資助下，由香港中文大學教育學院與學校夥伴協作中心聯合多所中小學合作開展的一項探索，目的是為不同學

習領域的教師提供專業支援，以提升教師的教學效能及專業能力，「4-P 模式」則是該計劃在促進教師專業發展方面運用的基本策略。4P：澄清問題（Problem Clarification）、計劃（Planning）、計劃行動（Progress Action）和進展評鑒（Progress Evaluation），這四個環節又構成一個不斷循環的整體流程。目的是運用「4-P 模式」改進相關科目的課堂教學，通過這個模式為教師反思及其專業發展提供一種現實的策略和工具。但老師對這四個環節是不會感到陌生的，因為沒有出現這「4-P 模式」之前，我們的老師已懂得澄清問題、計劃、計劃行動和進展評鑒；只是我們從沒有想過要把他們統整起來。李子建（2002）嘗試把個人反思和行動研究簡化成為 4-P 模式，目的是方便學校應用在校本發展的探究上。為甚麼呢？因為在教育工作上，引入個人反思和行動研究，可以更有效地在思想和行動上進行有機的整合與系統的檢視；同時，它更是學校發展其教學專業的（李子建、馬慶堂，2010）最好方法。今天有專家們把我們慣用的東西整合起來，成了理論，而且指引我們如何用得更好、更科學；又為了使我們容易掌握、便於記憶，並冠以名稱——「4-P 模式」；有理論、有實踐、有成效，那是最好不過了。所以，筆者認為如果我們抱這樣的心態面對「改動」，心情就輕鬆了。因為那些改動只是將過去零碎分立的教材或教學活動加以關聯與整合，或在兩個或兩個以上的學科領域間建立連結（Deborah, 2001）。只要我們虛心學習，熟能生巧，定能掌握竅門，使之成為我們的助力。

另外，我們還要洞悉課程統整是社會現實的需要，例如應用課程的設置讓我們想到，課程是以生活經驗、個人與社會的需求作為統整的焦點，主張統整課程不僅是學科間的聯結，而是應能反映生活，甚至把課程就視為是生活（Gehrke, 1998）。如果我們這樣想，就容易接受「改動」了。因為課程統整是教育的完整歷程，融合各個學科的新領域，以主題來組織課程核心，提供個人學習經驗與社會的整合，來增加學習的整體性。Tchudi 及 Lafer（1996）和 Beane（1997）認為統整課程的特質是學習者本身的議題和所關心的事，並能激發學生思考，引導學生學習；帶領學生進入真實世界，解決問題；並建立強而有力之學習社群的合作感。這些學者的看法與我們課程改革的目的是一致的。因此，「課改」、「改動」並非洪水猛獸，只要善用，就能通過「課改」促成學生的高效能學習，也能促進老師的專業發展與成長。Elliott（1993）認為課程改革是人的改革；課程發展是人的發展；沒有教師發展就沒有課程發展。筆者更認為課程改革是課堂的改革；課程發展是學與教的發展；沒有學生和老師的發展就沒有課程發展了。

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对中国大陆高中语文课程改革的多维审视： 问题与挑战

Analysis of the senior secondary Chinese curriculum reform in Mainland China from multiple perspectives: Issues and challenges

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摘要

本文借用技术的、文化的、政治的和后现代的视角对中国大陆新高中语文课程改革实施进行分析，探讨其在不同视角中所遭遇的问题和挑战。从技术视角来看，此次语文课改存在课程目标难以落实、教师专业素养不足、学科评价难度过大以及外部条件限制等四方面问题；在文化视角中，语文课改需要平衡中国传统文化和西方舶来文化两股矛盾的力量；从政治视角来看，语文教师的赋权之路仍然挑战重重；从后现代取向来看，学生个体的声音与力量在这次语文课改中受到了有意无意的忽视。

关键词

语文课程改革，课程实施，多元／多维视角

Abstract

This paper discusses the implementation issues in the Chinese curriculum reform of senior schools in Mainland China from technological, cultural, political and postmodern perspectives. From the technological perspective, four issues have to be addressed: educational objectives being difficult to be realized, teachers lacking professional skills, the difficulty of assessment in the Chinese subject, and constraints of supporting factors. With regard to the cultural dimension, a balance of Chinese traditional culture and western culture is needed. From the political perspective, Chinese teachers still have a long way to execute the power of curriculum. From the postmodern perspective, student voice is consciously or unconsciously neglected during this reform.

Keywords

Chinese curriculum reform, curriculum implementation, multiple perspectives

2001年6月中国教育部颁布《基础教育课程改革纲要（试行）》，标志中国大陆正式启动迄今为止“步伐最大”、“难度最高”的一次课程改革（教育部基础教育司，2002）。雷实（2002）指出在世界各国的教育改革中，母语教育占据极其重要的位置。因此是次中国大陆课程改革中语文学科的重要性不言而喻。郑国民（2003）指出，此次语文课改转变传统课程对基础知识与技能的倚重，强调语文学科的知识体系与能力训练体系，其宗旨是关注并促进学生的终身发展。以《普通高中语文课程标准（实验）》（中华人民共和国教育部，2003，下文简称“03课标”）作为分析蓝本，此次语文课程改革基本理念主要包括三方面：

1. 全面提高学生语文素养，充分发挥语文课程的育人功能；
2. 注重语文应用、审美与探究能力的培养，促进学生均衡而有个性的发展；
3. 遵循共同基础与多样选择相统一的原则，构建开放有序的语文课程。

（中华人民共和国教育部，2003）

具体来看，在课程目标上首次建构“知识和能力”、“过程和方法”、“情感态度和价值观”三维目标体系，着重培养学生的语文素养（巢宗祺，2005）。在教学内容上，设

置“必修+选修”的选课方式、强调开发多元化课程资源、关注典范性和时代性的统一、突出口语交际能力（黄显涵、李子建，2009）。在课程组织上，强调建设“开放、多样、有序的语文课程体系”（中华人民共和国教育部，2003），突出课程的统整性与选择性（李子建、尹弘飙，2005）。在教学评估上，03课标明确指出“评价的根本目的是为了促进学生语文素养的全面提高”，否定以往刻板单一的纸笔测验方式转而强调发挥评价的诊断、激励和发展性功能，采纳多元化方式进行教学评价等等（中华人民共和国教育部，2003；倪文锦，2004）。可以说此次语文课程改革尝试通过更具开放性的理念、更为多元化的方式促进学生能力全面发展、为语文课程与教学注入新的活力。

然而美好的理想并不等同于现实。

从课改参与者——教师的视角来看，情况不容乐观。一项在2010年实施的语文教师调查表明：48.6%的语文教师不知道此次语文课改的理念，39.2%的教师从没看过语文课程标准，71.5%的教师认为此次语文课程改革的实现难度较大，63.8%的教师对现行语文教材不满意，56.7%的教师几乎没有想过要利用课外语文学习资源等（屠锦红，2010）。从课改实施成效来看，调查研究表明只有30%的学生认为新课程对学生自身的发展是利大于弊的，有85%的学生认为自己基本做不到或无法做到自主学习以及探究式学习；近40%的学生对学习不感兴趣或很不感兴趣（戴斌荣、张旺，2007）。尽管这些数据仅仅代表了一所学校或是一个城市的课改实施情况，但是这些冰山一角的数据至少展示出此次语文课程改革总体成效并不尽如人意。我们不禁思考：在此次课程改革中，语文——这个身负重任的母语学科——到底都面对着哪些挑战和困境？

在探讨课程实施时，实施取向是一个不能回避的话题。Snyder等人（1992）从课程计划以及课程实施的相互关系出发将实施取向分为忠实观（fidelity）、相互调适（mutual adaptation）以及课程缔造（curriculum enactment）三种类型（李子建、黄显华，1996）。House（1979）则从阐释和分析的维度指出可以从技术观（technical perspective）、政治观（political perspective）以及文化观（cultural perspective）三种视角理解课程实施。伴随后现代思潮的日渐风行，Hargreaves等人（2002）则认为信息技术日新月异的发展以及现象学、解释学、女性主义等多元理论对课程实施产生了深刻影响，在探讨课程实施取向时

应该在 House 的理论基础上添加后现代的阐述视角（postmodern perspectives），即形成技术观、文化观、政治观和后现代四种维度。当然这些不同视角之间并非壁垒分明、相互割裂。事实上在教育视域中，政治、文化以及技术等各种因素总是交叉依附、难以分割。更需注意的是在分析课程实施的过程中，只有分别采纳不同取向对课程实施进行多元反思和审视，才更有可能全面理解真实的变革情境（Corbett & Rossman, 1989; Hargreaves, Earl & Schmidt, 2002; House, 1981; House & Mcquillan, 2005）。有鉴于此，本文将借助 House 以及 Hargreaves 等人的理论从四种视角入手对当下中国大陆高中语文课程改革面对的挑战与困境进行多维探讨。

甲、技术视角

House 认为技术视角将生产（production）作为自己的基本隐喻，它的核心性词汇主要包括效率、投入与产出、目标和任务的明确性、奖励与刺激等等。从技术视角来看，课程与教学变革唯一需要关注的问题就是如何更好的实施。在他们看来，课程与教学的变革是一种可预测、可迁移的技术性活动。因此他们更关注变革本身的特征以及构成要素。在实施策略上，他们强调透彻理解变革的运作机制、强调提升实施者对变革必要性的认可，通过培训以增强专业效能。在研究方法上，他们侧重量化；在评估方面，技术取向更关注那些外在显现或是可测量内容的成效与结果（House, 1981）。

如果采纳技术性视角分析此次中国大陆新高中语文课程改革，我们将主要审视目标设定、实施策略、教师专业素养、课程资源、教学评价等改革本身所蕴含的要素，并且关注这些要素为具体课程实施所带来的挑战：

首先，落实教学目标所面临的挑战。

Brandt 与 Tyler（2003）指出教育目标可以分为四个层面：其一，系统层面（system level），主要针对教育总体以及整个学区而笼统设定；其二，学科层面（program level），针对每个学科领域；其三，课程层面（course level），主要指某个学科在某个学期/时段所设定的目标；第四是教学层面（instructional level），即每位教师日常教学所使用的目标。

下面是对这四个层面目标的举例说明：

系统层面的目标	理解文化的多样性
学科层面的目标	学习鉴赏中外文学作品，具有积极的鉴赏态度，注重审美体验，陶冶性情，涵养心灵
课程层面的目标	学习中西方经典作品，理解中西文化的差异
教学层面的目标	对比分析庄子《逍遥游》和加缪《西西弗的神话》，探讨中西方文化在人生态度上的异同

数据源：Brandt & Tyler，2003，12（例子参考《普通高中课程方案（实验）》和 03 课标有适当修改）

从 Brandt 与 Tyler 所划分的层次来看，此次 03 课标对于教育目标的设定主要集中在学科层面，基本不涉及课程以及教学层面的目标。尽管这种整合式的目标表述配合了高中语文学科学习综合性和整体性等特征，但是从一线教师角度来看，03 课标在目标设定，尤其是“情感态度价值观”部分的阐述较为模糊和笼统（吴巧英，2008），这使得教师普遍感觉无从下手（张文娟，2007）。兰瑞平（2006）甚至指出 03 课目标模糊表述有太大的阐释空间，让一线教师产生了疑虑甚至空虚等负面情绪。与美国 2010 年提出《国家标准共同核心》（Common Core State Standards，下文简称 CCSS）相比较，CCSS 在英语学习方面首先将目标分为阅读、写作、听说三部分（03 课标分为阅读与鉴赏、表达与交流两个部分），在每一个部分都细分为几个关注领域。以阅读为例，具体的关注领域分为：核心观点与细节（key ideas and details），表现手法和结构（craft and structure），知识和观点的整合（integration of knowledge and ideas），阅读范围和文章难度层次（range of reading and level of text complexity）。在每一个关注领域中，CCSS 都给出了 6-12 年级每个年级具体需要对应的课程目标以方便教师根据标准和具体的教学材料来设计适合课堂的教学目标。与 CCSS 较为详尽的标准设置相比，03 课标显然缺乏系统、明确的区分，因此对目标本身的理解就成了一个很大的问题（屠锦红、徐林祥，2010）。毫无疑问，这种过多的不确定性固然可以为一些教师尝试积极课改提供空间，但同时也很容易让教师产生 03 课标过于笼统、难于在课堂中真正落实的观感从而放弃对 03 课目标研读与实践（鲁德民，2010；吴亮奎，2009）。

另外，03 课标强调要从“知识和能力”、“过程和方法”以及“情感态度和价值观”三方面来均衡设计课程目标。可见为了纠正以往过度强调“双基”的思维本次语文课改确

实做出了较大改善。但是朱绍禹（2006）指出整个课标关于能力的目标处处可见，但是知识的目标则少之又少。这种“厚此薄彼”的表述间接导致了教师在实际教学过程中“矫枉过正”，忽视了对知识和能力应有的关注和强调（倪文锦，2009；魏本亚，2011）。

第二，语文学科评价难度过高。

尽管 03 课标中指出评价的目的应该是促进学生语文素养全面提高，教师应该充分发挥评价的诊断、激励和发展功能。教师要能够根据不同的情况采用不同的方式进行评价（中华人民共和国教育部，2003）。但是在实际操作中，语文教师发现考察学生的阅读兴趣、了解学生的语文素养、探讨学生的阅读视域、准确评估学生的语文能力是一个难度极大的挑战（黄显涵，2011）。但是，如果教师无法在教学中进行有效的形成性评价、对学生的语文能力缺乏全面了解，那么语文课改的落实程度自然会大打折扣。

第三，教师缺乏课改所需要的专业素养。

03 课标指出教师是学习活动的组织者和引导者。此次课改对教师能力的需求明显增强，例如教师需要将笼统的学科目标具体化为课程乃至教学目标、要能够创造性使用乃至自主开发教学材料和教学内容、要能够结合课堂情境和学生特点灵活使用多元教学方式、要能够针对学生的学习过程和学习结果进行有效评价等等（中华人民共和国教育部，2003）。但是在此次语文课改中语文教师自身专业素养的匮乏却成为了一个难以突破的关键瓶颈（陈萍，2006；崔干行，2007；胡波、高光珍、王志芳，2008）。

这首先体现在语文课程与教学相关研究存在不足。李海林（2005）曾对 120 项语文教学改革实验进行分析，认为其中时间较长、范围较广、具有一定影响和研究深度的典型项目仅 18 项（例如自学辅导教学法、点评型单元教学法、‘读读、议议、练练、讲讲’教学法、情景教学法、导读教学法、注音识字教学法、作文整体改革教学法、学导式教学法等）。另外，这些教学方法主要由一线名师通过多年教学经验积累而来，在教学方法的实证研究中，研究者多数是以论证者、评价者而非实际参与者的角色存在。这直接影响了这些教学方法的持续研究和推广；其二，大陆语文课程与教学论学者对语文课程与教学实证研究十

分有限（陈晓波，2009；黄显涵，2011），这种相关研究的匮乏自然导致一线教师在课改过程中难以获得足够的支持力量。

另外，教师专业培训效果不佳。为了加强教师对课改理念的深刻认识、提升教师的专业素养，伴随着课改不断推进大陆各省市都相继举办了不同规模、不同级别的课改培训或教研活动。但是从实际情况来看收效甚微（杭州市教育局调查组，2007；马云鹏、唐丽芳，2004）。教师普遍认为相关培训“太多术语”、“与一线教学落差较大”，因此对实际课堂教学难以起到实效（陈玉华，2011；卢乃桂、陈峥，2008）。

第四，外部条件的限制。

一些课程实施调查发现在众多的限制性因素中课程资源以及教学时间两个因素尤为重要。首先是课程资源短缺。很多教师认为学校课程资源不足，限制了他们进行课程改革（胡波、高光珍、王志芳，2008；马云鹏、唐丽芳，2004）。而由老师来开发课程资源，那么教师就不得不面对时间和精力上的巨大挑战，这对工作已经较为繁重的语文老师来说无疑难度极大。另外，在教学课时已经固定的前提下，教师需要既保证完成繁重的教学任务，同时还要尽可能为学生自主、探究学习提供时间，这让许多教师在具体教学中只能忍痛割爱（万伟，2009）。

总体而言，技术视角更关注怎样让此次语文课改落实得更为有效。具体来看，课程目标过于模糊、学科评价难度过高、教师专业素养不足以及外部条件的限制四方面仍然有待改善，这成为了下一步课改需要关注的焦点。

乙、文化视角

House（2005）认为文化视角主要建立在社群（community）的隐喻之上，核心性概念是文化、价值、共享的意义，社会关系，它主要关注文化的整合性。House认为在社会中存在很多亚文化社群，不同社群内部具有共享的价值，但是不同群体之间则相互隔离。在文化视角之下，改革是一个文化再制（reculturing）的过程，亦是一个不断茁生（evolution）

的过程。在 House (1981) 看来, 改变总是将一个新的观点和原有的文化历史相融合, 而课程改革的过程可被视为不同文化相互影响的过程。

统而观之, 在中国大陆由于个体的社会化过程深受儒家人伦秩序影响, 因此逐步形成了以社群取向为依归、看重“优秀”、强调精英教育的模式, 这种模式以考试文化在中国社会根深蒂固的位置可见一斑。与此相对, 此次中国大陆的课程改革多有借助建构主义、后现代观点等西方理论, 目的就是挑战中国传统的考试文化, 力图在此次课程改革的更关注学生个体, 在平等的基础上推动学生的全面发展(钟启全、张华、崔允漷, 2001), 由此可见这两种文化之间必然形成极强的矛盾和张力。

具体到学科层面, 与其他学科相比语文学科与中国传统文化的联系更为紧密(郑国民, 2009), 受到传统文化的长期浸淫。具体到学科来看, 传统的语文教育在千年传承中也确实积累了一些颇具民族性特色的教学策略: 例如在小学识字与写字教学中倾向于集中识字、韵语识字、识字与写字分进合击; 在阅读教学方面强调朗读、关注背诵, 重视阅读整体的涵泳体悟; 在写作教学上强调由读至写、先放后收、多练多改等(武玉鹏, 2010; 杨彩涓, 2010)。因此在此次课程改革的, 面对上世纪遭受了科学主义“洗礼”之后的语文学科, 很多学者强调语文教育应该“回归传统”(马志强, 2008.12.15; 郑国民, 2003), 在优秀、成功的传统教育经验中探索语文教改之路。另一方面, 此次语文课改作为全球教育改革浪潮中的一环, 它必然也会受到建构主义、阐释学以及后现代主义等西方理论的深刻影响, 这些理论也确实极大牵制了语文教学改革的方向和手段。例如有学者指出现今在研究界存在盲目学习国外理论和经验的现象, 他们将我国传统语文教学理论驳斥的体无完肤, 将传统语文教学实践说的一无是处(胡海舟, 2007); 某些教师甚至把“传统”作为贬义词来评价语文课堂以表明自己是“新课程、新理念”的倡导者和实践者(陈玉秋、邱福明, 2007)。可见在此次课程改革背后确实存在着一场中西方文化之间的角力。

从理论研究来看, Watkins (2008) 指出华人教学的特色是“以学习为中心”(learning centered), 强调在知识传递甚至大量重复性练习的基础上揣摩学习(黄毅英, 2008), 而西方教学的关注点则是“以学习者为中心”(learner centered), 更关注在学习过程中学生的兴趣与动机。两者各有侧重、亦各有优劣。从具体实践来看, 语文老师习惯了传统文

化思维、教育方式，在面对西方教育教学理论的过程中，如何顺利移植西方教育教学理论、怎样将这些理论结合具体的学校脉络或学生实际情况都是一个十分棘手的问题。很多教师在具体教学中采纳“公开课一套、平常课一套”的双重办法（成尚荣，2006）。

总体而言，从文化视角来看此次语文课程改革主要面临中国传统文化和西方教育文化相互博弈、相互融合这样一个问题。在两者的交叉影响中怎样汲取两者的长处，如何将这二者与中国现在特有的教育脉络有效结合显然亟待研究者进一步关注。

丙、政治视角

House 和 Mcquillan（2005）认为政治视角的关键词汇是权力、自主权和竞争的利益，它关注自主权系统的合法性（legitimacy）。在政治视角中，改革是不同组织利益的竞争、是一种权力协商的过程。House 认为在课程实施中，出于各自不同的利益，不同的团体自然对改革抱持不同态度，通过相互的博弈获得自身的合法性存在，他们之间存在着利益或权力的竞争和妥协。例如某些人（例如政策制定者或是课改推行者）在改革过程中会利用或显性或隐性的方式在事件决策中赢得自己的话语优势，从而发出更多的声音、获得更多的权力。从政治视角来审视语文课改，教师权力这个命题尤为引人关注。

学者刘生全（2006）在布迪厄场域理论基础上指出教育场域是一个权力场域，场域内的资本主要是文化资本，场域内的主要权力是以话语权力为表现形态的文化权力。在这种境况下，教师权力更多表现为对学生的话语权以及由此带来的惩戒权（杜志强、汪昌权，2011）。从传统来看，中国教师对学生的权力具有“强控制”的特点（杨清，2005），尽管教师在课程发展与规划上并不具备太多话语权，但是教师因为在一线教学中占有绝对优势的文化资本，从而在学生学习内容和学习方式上拥有极强的控制性。从这个角度上来说，在传统语文教育中教师的权力拥有感较强，也较为稳定。

在此次课程改革中，中西方教育研究学者从“防教师”的课程设计理念逐步迈向“教师赋权”，尝试在课程设计、实施与评价过程中给予一线教师更多的自主权。但是从课程实施情况来看，这种赋权却在实际过程中被架空。这首先体现在教师原本以拥有优势文化

资本而享有的控制性权力被消解。在课改浪潮的冲击之下，教学内容较之传统迥然有别，教师在以往课堂中赖以凭借的学科知识迅速崩塌，很多教师感慨教了十几年甚至二十几年的书，现在新课改一来，反倒不会教了。抛开其背后可能存在的语文教育信念争论，这一喟叹显然还传递出教师文化资本优越感丧失之后的失落与迷茫。以语文学科为例，传统语文教学所重视的“字词句篇、语修逻文”已经在此次新课改中转变为“不宜刻意追求语文知识的系统和完整”。伴随语文教学目标的多元化设置，教学材料、教学内容早已是林林总总、纷繁复杂，语文教师在课堂中的话语权力在此次课改中迅速减弱，他们对学生的控制感也在这个过程中变得脆弱不堪。面对这种文化权力前后迥异的落差，教师显然需要较长的时间来进行重新定位与调适。

另外，教师权力还存在“得而复失”的难题。尽管此次新课程改革提出三级课程管理模式，提倡教师作为课程的研究者与设计者，他们作为此次课程改革重要的持份者应该在本次改革中拥有更多的话语权与作为空间。但是现实却并非如此。首先一线教师不仅缺乏表达观点的管道，同时教师的声音也在本次课程改革的中没有得到应有的重视。一项调查表明教师普遍认为这种所谓赋权流于表面。此次新课改，在国家、专家与教师形成的权力关系中，教师处于最无权的地位（卢乃桂、陈峥，2008）。其次在校本课程这个看似更为弹性灵活的领域，教师能够真正获得的话语空间也十分有限。教师们必须面对这样一个现实：更多的权力就意味着更多的工作和更大的压力。教师指出在开发课程的相关领域他们不仅是理论储备不足，有限的时间和精力也是一个极大的制约因素（周正，2008）。尤其对语文教师而言，由于备课、批改作文等工作量已然十分繁重，这种现实的困难最终只能让教师放弃很多本应施行的权力。最后，此次课程改中外在控制仍然显而易见。在整个改革过程中，国家意识形态总是不可避免的通过种种手段（例如评价机制、奖惩措施）延伸到教育领域中来（操太圣、卢乃桂，2006；刘向辉，2011），教师一方面要按照要求完成推动课改、教育学生的任务，同时还需要应对学校的评价机制、国家的考试制度（例如高考等），因此并没有多少实行自主权的空间。

所以，从政治的视角来看尽管此次课程改革抱持“教师赋权”的初衷，但是实际情况却是教师面对突如其来的“赋权”，并未感受到多少舒畅与痛快，反而是必须在教育学生和贯彻国家意志之间小心取舍，必须面对陡然增加的一轮又一轮培训与学习以及更为繁重

的教学工作。在重重压力之下教师无法看到“拨云见日”的希望，只能在不确定和迷茫中徘徊。

丁、后现代视角

Hargreaves 等人（2005）认为近二十年教育领域的理论发生了剧烈变化，我们生活在一个崭新的时代之中，这个时代被贴上了诸如后现代、后资本主义、信息社会等各式各样的标签（Bauman, 1992; Castells, 1996; Drucker, 1992; Harvey, 1989），而这些观念也确实不断形塑着教育话语的生成与发展。Lyotard（1984）认为尽管后现代理论五花八门，但是他们有一点共通之处，即强调对元叙事（metanarratives）的怀疑，他们消解所谓的宏大叙事，充分解读个体的言说与意义（Aronowitz & Giroux, 1991; Ornstein & Hunkins, 2004）。由于篇幅所限，本文将主要从个体意义的审视入手反思中国的课程改革。在教育领域中，个体不仅包括政策制定者、教师，也应该包括学生。但是颇为值得注意的是在这场高扬“学生为本”的改革运动中，学生的声音却并没有得到真正关注（Rudduck, Chaplain & Wallace, 1996）。

从一线教师的课堂实践来看，我们发现很多文章指出应该让学生参与到课程改革中来，即学生应该参与课程目标的设定、教学方式的组织、教学材料的选择或是教学评价过程（陈世滨、李丽玲，2004；林邵长，2010；王秀红，2004；魏红，2005）。但是如果我们细心一点观察就会发现这种参与主要是为了响应教师的邀请或倡议，只能算是“消极性参与”，即学生参与的起点、过程甚至是结果常常处在教师操控之下。他们参与的目标更多是为了满足教师刺激学生学习动机的目标而非真正达致自我的反思与解放，那么他们在这个过程中也自然难以具备学以致用、改造社会的行动力量。

事实上，从已有关于课程实施的实证研究结果来看，学生的观点往往与教师、学校领导或是政策执行者有较大差异（相关研究可参考 Wong, 1995；黄显涵，2011 等），例如对于语文教材所编选的课文，学生的观点就与教材编写者有较大差异（王标，2005；汪晴初、徐晖，2004），而对于教学内容和教学方式学生也都拥有他们自己独特的体验和感受（田力，2007）。但是从研究界来看将学生纳入课程实施的研究仍然十分有限（尹弘飏、李子

建，2005）。从实证研究来看，Fielding（2001）指出学生参与课程实施研究可以分为四种情况：学生作为数据源、学生作为积极反应者、学生作为共同研究者以及学生作为研究者。在这四种类型中，课堂从较强的控制性向多元的开放性过渡，教师以及专业研究者逐步从研究的发起人、行动者向研究的辅助者、支持者过渡，学生的角色从被动的信息采集者向主动的研究者过渡。但是从以往的实证研究来看无论是在研究的广度还是深度上，学生参与课程实施的研究都远远不足（尹弘飏、李子建，2005）。

如果说此次课程改革最核心的理念就是让学生获得全面、充分的发展，那么无论是在一线课堂还是在课程实施的研究中学生的声音都应该被尊重、被聆听。从后现代的视角审视此次语文课改，就会十分清晰地发现这个本应是课程改革重点关注的内容却在具体实施过程中被有意无意地忽略。

戊、结语

在语文课改进行了十年之后，“下一步如何走”无疑是现今最受关注的问题。在制定下一个行动规划前，适当的回顾与反思无疑十分必要。House 与 Mcquillan（2005）指出以往的改革成效不大就是因为缺乏从不同视角进行地切入和分析。因此本文尝试通过技术、政治、文化以及后现代的视角多维审视此次大陆语文课程改革，也确实发现在课程实施中存在着不同层次不同面向的挑战与问题。客观来说，对这些问题的思考与响应无疑影响着大陆语文课程改革的进一步深化和完善。

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*A case study on formative assessment -
The use of peer evaluation in primary
General Studies in a context of Hong Kong*
進展性評估個案研究：
同儕評估在香港小學常識科的運用

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Abstract

This case study explores the peer evaluation as a role of formative assessment in teaching General Studies (GS) in a primary Direct Subsidised School in Hong Kong. GS students are expected to do their project at school and present their work at the later stage. Assessment covers the learning process as well as the project products. Four Grade 5 classes are selected for this study to address the following research questions: (1) How does peer evaluation work effectively? (2) In what ways do students benefit from peer evaluation? Observation, informal interviews and questionnaire are adopted to collect data. Data analysis reveals that teacher evaluation and peer evaluation are both important. Students can learn the good points from classmates through peer evaluation. Furthermore, by becoming more aware of the strengths and weaknesses of classmates, students become more reflective and know how to improve through peer evaluation.

Keywords

peer evaluation, assessment for learning, self-reflection

摘要

是項個案研究是探討進展性評估的其中一項——同儕評估在香港一間直資小學的常識科的運用。學生在常識科中均需進行專題研習，然後向全班匯報。評估涵蓋了學習的過程及結果，亦包含知識、態度及技能。研究以五年級的學生為對象，探討下列問題：（1）如何令同儕評估有效地進行？（2）學生從同儕評估中學習到什麼？數據反映學生眼中教師及同儕評估同樣重要，學生能透過同儕評估學習彼此的優點；在掌握同學的優劣的同時，更有效地作出自我檢視及改善。

關鍵詞

同儕評估，從評估學習，自我檢視

1. Introduction

This paper reports on a small-scale school-based action research that focuses on assessment for learning - peer evaluation. As indicated in the Reform Proposal for the Education System in Hong Kong (Education Commission, 2000), the education system is to be reformed to provide the most favourable environment for teaching and learning. Thus, students' potentials can be fully realized and teachers can have more space to help students learn more effectively. As indicated in the in the new General Studies Curriculum Guide (2011), Project Learning as a powerful learning and teaching strategy, provides also the contexts for assessing students' performance in different aspects of learning. Teachers, students, parents and others can all be made responsible for assessment at different stages of the project (Curriculum Development Council, 2011).

The school in the study is an EMI primary school, which has five periods in General Studies (GSI and II). There are two lessons in General Studies II that use Chinese as medium of instruction. Health and living, community and citizenship, and national identity and Chinese culture are the main strands in GS II. Project learning and peer evaluation are incorporated in the learning process in second semester. Students concentrate on the project design, explore it during lesson time, and then present their work at a latter stage, which usually involve peer evaluation in Grade 5 and Grade 6. However, the practice

and the format of peer evaluation depend on different teachers and time allowed. If this evaluation becomes more systematic and standard, it will be a good tool to enhance students' learning.

Since peer evaluation is practised in the project of General Studies, how can it be more effective to enhance student learning? Can peer evaluation be used to create classroom cohesion and academic success for the collective as well as the individual? The main focus of this study is to explore more the practice of peer evaluation and what students can benefit through peer evaluation.

2. Literature Review

2.1 Formative Assessment

In 2001, the Curriculum Development Council Report on “Learning to Learn - The Way Forward in Curriculum Development” recommends that there should be a change in assessment practices and schools should put more emphasis on “Assessment for Learning” as an integral part of the learning, teaching and assessment cycle (Curriculum Development Council, 2001). Brown, Race and Rust (1995) claimed that the key to the use of assessment as an engine for learning is achieved by ensuring that each assignment let learners to receive detailed, positive and timely feedback on how to improve. Formative assessment was emphasized in order to promote learning and teaching effectiveness. Different types of formative assessment methods were introduced in the new General Studies Curriculum Guide (Curriculum Development Council, 2011).

Aims of assessment for students have been stated clearly. Students can understand their strengths and weaknesses in learning, what they should try to achieve next, and how best they might do this and improve their learning based on feedback from teachers and other assessors (Curriculum Development Council, 2002). Moreover, formative assessment, which focuses on the learning process and learning progress, can be used to collect evidence from time to time on student learning with a view to promoting better learning. Formative classroom assessment is learner-centered (Angelo & Cross, 1993; Boyd, 2001). Teachers need to connect formative assessment and feedback with learning to help students to know the standards they should attain, and give constructive suggestions on what to do next and how to do it.

2.2 Peer Evaluation

The new General Studies curriculum also stresses that teachers should use different modes of assessment and provides quality feedback to the students (Curriculum Development Council, 2011). Overreliance on pen and paper tests should be avoided, as they cannot adequately assess students' performance over all the learning targets and objectives. Project learning as a powerful learning and teaching strategy, provides also the contexts for assessing students' performance in different aspects of learning (Curriculum Development Council, 2011). Assessment should cover the learning process as well as the project products, including knowledge and skills.

Topping (2003) takes peer evaluation as a process, in which a group of students identify and observe the mastery or performance of particular aptitudes or skills applied by the group after training or learning. Students explicitly or implicitly hold themselves mutually responsible for the successful completion of the evaluation exercise. Peer assessment, in which students comment on and judge their colleagues work, has a vital role to play in formative assessment. The new General Studies curriculum (Curriculum Development Council, 2011) claim peer assessment can be introduced for students to provide feedback and communicate with their peers about each other's work, thus helping to cultivate a collaborative learning culture. Peer and self evaluation have always existed informally as students constantly compare their own performance with those of their classmates (Race, Brown & Smith, 2005). Peer and self assessment are skills that should benefit students throughout their studies and professional life in the higher education (Brown, Rust & Gibbs, 1994). By becoming aware of others performance, students will reflect on their own. Thus, peer assessment naturally helps self-assessment. Hoping to find peer evaluation also benefits primary school students in this study.

A variety of positive feedback of peer evaluation has been documented and it is generally believed that peer evaluation can promote critical thinking (Brown, Bull, & Pendlebury, 1997), they should become less reliant on teachers for guidance and more able to know how to direct their own learning. Peer evaluation also enhance learning and critical understanding of evaluation criteria and the knowledge gap, develop "social and communication skills, negotiation and diplomacy, and useful transferable skills like giving and handling criticism, self-justification and assertion" (Topping, 2003, p. 57), rather than simply seeing a mark.

3. Methodology

3.1 The Educational Setting and Research Questions

Peer evaluation is a normal practice in my school in subjects like Maths, English and General Studies. This assessment mode always goes with project learning in Grade 4-6. Students also practise the peer evaluation in the Inquiry-based Learning week every year. My students are familiar with the practice of peer evaluation. However, the form of peer assessment varies according to grades and teachers' requirement. Each group gives the feedback to others formally or informally. Though modification has been made every year, it is various with different teachers.

In this study, the following questions are to be examined:

1. How does peer evaluation work effectively?
2. What is the difference between peer evaluation on one group and on all groups?
3. What is the difference between peer evaluation on focus items and on all items?
4. In what ways do students benefit from peer evaluation?

There should have some difference if students assess one group and every group because of the level of concentration and time using. Therefore, it is important to find out these differences so that further amendment can be made.

This study was carried out in four G5 classes in a Hong Kong primary school from December 2009 to March 2010. Students did their project in General Studies at school in Term 2 and presented their work at the later stage. Other classmates had to evaluate their performance. Questionnaires and informal interviews were given to collect students' feedback. The original framework of this study was listed in Table 1:

Table 1: No. of group and evaluate items of each class

Peer evaluation	5D	5J	5P	5S
No. of group	All groups	All groups	One group	One group
Evaluate items	All items	Focus items	All items	Focus items

3.2 Pre-task Interview and Restructure the Setting

Before students' presentation, 40 students (10 students per class) were interviewed with the purpose that to restructure our framework and address the concerns before the study. The following questions were asked:

1. Do you think peer evaluation is important?
2. Do you think our boys are equipped to do peer evaluation?
3. Do you think the marks on peer evaluation should be counted?
4. What do you prefer? Peer evaluation focus on one group only or all groups?
5. What evaluation items should be included?

According to the interviews, it was found that students like peer evaluation if all students were objective and fair; marks would not be affected; prefer to evaluate every group; students could focus on the performance of classmates and they could learn and improve. Since students preferred to evaluate every group instead of focusing on one group, one proposed question “What is the difference between peer evaluation on one group and on all groups?” was cancelled.

3.3 Data Collection

At the final stage of project learning, G5 students had to present their project in group during 23 Feb to 3 March (Table 2). Two to three lessons were needed for the presentation since we could not finish the presentation within one lesson. The Peer Evaluation Form (Appendix 1) was given to each student. The boys in 5D and 5P had to evaluate all items for every group whereas 5J and 5S just focused on one item (Content / Presentation skills / Cooperation and Interaction). Teachers assigned the focus item for each group before their presentations. In the first lesson the students were told that they would do peer evaluation for a presentation, teacher uses one group as demonstration to let students familiar with both formats before the actual practice: students had to practice evaluate all items and focus items.

Table 2: The schedule of each class in the peer evaluation

Peer evaluation	5D	5J	5P	5S
No. of group	All groups	All groups	All groups	All groups
Evaluate items	All items	Focus items*	All items	Focus items*
Students’ suggestions	a. Content b. Presentation skills c1. Cooperation c2. Interaction	a. Content b. Presentation skills c1. Cooperation c2. Interaction	a. Content b. Presentation skills c1. Cooperation c2. Interaction	a. Content b. Presentation skills c1. Cooperation c2. Interaction
Presentation and Peer Evaluation	23 Feb to 3 March	23 Feb to 3 March	23 Feb to 3 March	23 Feb to 3 March
Evaluation	12 March	10 March	11 March	10 March

- * Group 1 and 4 were assigned to assess the Content of every group;
- Group 2 and 5 were assigned to assess the Presentation Skills of every group;
- Group 3 and 6 were assigned to assess the Cooperation and Interaction of every group.

Once the students had completed their presentations and their peer evaluations, they were asked to complete a simple questionnaire (Peer Evaluation), which was designed to record their feelings and feedback towards the evaluation process. The Evaluation Form (Appendix 2) is divided into three parts: Overall comment on peer evaluation (9 items), format of peer evaluation (3 items for A or B) and the items of peer evaluation (1 item). There is a 4-point scale for each item (1-strongly disagree, 2-disagree, 3-agree and 4-strongly agree). The higher average implies the strongest level of agreement. G5 peer evaluation completed in the early March (before the second assessment) and the Evaluation Form for the Peer Evaluation were collected. Though there were 150 students in G5, only 137 Evaluation Forms were collected for some students were absent and did not complete the whole peer evaluation process.

4. Findings and Discussions

4.1 The effectiveness of peer evaluation

After analyzing the data for peer evaluation form (Appendix 3 and 4), there are 12 items which average is above 3. Item 9 (It is a waste of time if we have peer evaluation) of the part is an exceptional case. 80.3% students disagree with it and its average (1.87) is extremely low which implies students do think that peer evaluation does not waste time though its process may be quite long.

As for the effectiveness of peer evaluation, items in Appendix 4, e.g. “Teacher evaluation and peer evaluation both are important.” and “I can learn the good points from my classmates through peer evaluation”, both have the strongest agreement (84.7% or above) and highest average (3.18 or above), which indicates peer evaluation plays an important role. Peer evaluation also means that students need to listen to classmates which keeps them involved at all times. As for mark counting, students believe that peer evaluation is more effective if my classmates are fair and objective (84.7% agree, average 3.16) and they prefer not to count any marks (78.1% agree, average 3.17) at this stage. At a latter stage if students are familiar with the system, with a class of assessors, assuming that they are capable of performing such a role, the assessment should be fairer.

Moreover, students become more reflective of their own. About 79.6% students agree that they know "... how to improve through peer evaluation" (average 3.04) and "... not to make the same mistakes as my classmates through peer evaluation" (average 3.03). By doing peer evaluation, students ask classmates informally and also give advice. This experience should enhance their leadership abilities.

Moreover, 74.5% students agree they can apply the good points from their classmates through peer evaluation. Students should be asking themselves why they are better and then endeavour to emulate them. As students develop their critical faculties they should become less reliant on teachers for guidance and more able to know direct their own learning (Brown, et al.,1994). However, further exploration is needed to examine what specific items students can learn in the second loop of study.

4.2 The difference between peer evaluation on focus items and on all items

There are two choices for students to choose: either "All items are assessed" or "Only one focus item is assessed for every group". 98 students (71.5%) prefer to assess all items whereas 39 students (28.5%) like to assess on focus items. 98 students like to assess all items for they can understand the overall performance of each group (93 students agree with average 3.34) and assess the performance of classmates fairly and objectively (88 students agree with average 3.23). Moreover, 87 students believe they participate more in the classroom activities.

Comparatively speaking, 39 students prefer to assess one focus item on each group. They can learn and improve more on the focus item (35 students agree with average 3.20) and concentrate more on the focus item of each group (35 students agree with average 3.11). However, in comparing the time in the effectiveness of peer assessment, the data is not so apparent.

4.3 Obstacles and Challenges

Since very little has been done in peer evaluation before this study, the following problems are encountered: (1) the unavailability of an effective evaluation form, and (2) the time allocation in peer evaluation. It is difficult to find an effective evaluation form for this study, the focus of this study is to explore the effectiveness of peer evaluation in this context, school-based evaluation form is more important than any forms with high validity and reliability, so it is preferable to design the evaluation form and collect the relevant data.

The time allocation is also a quite difficult task. Students need to present in groups as scheduled. Each group is assigned to present their work on assigned date. They need to dress up before the lesson if necessary. If each group is given 2 minutes for preparation and 8 minutes for presentation, one GS II lesson (35 minutes) can only have 3 groups to present at most. The whole presentation process cannot be completed within one week – not good for peer evaluation for it lasts for such a long period. Since students complete the peer evaluation group by group, thus do not affect the score of each group but the split affect the continuity of the process.

4.4 Further Elaboration

This practice does not mark an end. In fact it just starts the beginning of more exploration in peer evaluation. The peer evaluation in GS II can be revised to be more student-oriented. Moreover, the same group of boys proceeds to G6 and they have peer evaluation in Maths and Inquiry-based Learning in May and June 2011, this study can be elaborated more. It is curious to find out if the boys apply the skills in what they have learnt. Follow-up informal interviews were conducted with a couple of students, and some key points are focused as below (Appendix 5):

1. The boys can apply the skills we learnt in G5 (peer evaluation) in various subjects (Maths & Inquiry Based Learning);
2. Classmates learn the strengths and weaknesses of one another;
3. The content should be comprehensive and persuasive. Systematic in presentation. Good interaction with the audiences;
4. Boys can be more cooperative which enhances the team spirit;
5. To be more objective and fair in evaluating the performance without any bias;
6. Learn the good points and apply them. Avoid making the same mistakes and think of the ways for improvement;
7. Enhance critical thinking and analysis;
8. Teacher can use the score and comments for reference and modify them before making the final judgment;
9. Precious, Efficient, Student's view, Listen and judge carefully.

It appears that students learn and apply the skills spontaneously, which is quite encouraging. Moreover, students' major concern is primarily on improving their work in the future with instructive comments. Training students how to assess students can be implemented in the critical training programme in order to make peer evaluation more effective.

5. Conclusions

Since this study is small-scaled and generalization is quite limited, it should be noted that this paper is concerned with one grade, and the findings might be different with other students. From my point of view, the impression of teacher and students are quite positive. Teachers do not play a dominant role in assessing students' performance, since this role has been shared among students, it is possible for teachers to become aware of our own evaluation style.

Besides, according to the collected data in this study, students' apparent attitude proves that peer evaluation can help in the assessment for learning. Students' feedback in peer evaluation is very encouraging. Their judgment of good performance is further enhanced through learning the good points from peers and avoiding making the same mistakes. Their eagerness of understanding the overall performance of peers in a fairly and objective manners encourages teachers to explore the peer evaluation more. More interaction within the lesson can be seen for students learn to give positive feedback.

Both formats in the peer assessment have the merit, the peer evaluation can be divided into 2 phases if it is possible: students need to assess one focus items on each group in the first phase, once they get familiar in the practice and learn the assessing skills, they can go to the second phase- assess all items. Maybe this practice can be implemented in the second loop of the study.

Given the above mentioned positive results obtained from students, further investigations and studies needs to be undertaken to divulge students' needs as peer evaluators. Studies could also be broadened to include participation by other subjects (e.g. General Studies I and Maths) which use project learning as formative assessment. A systematic data collection should be conducted besides informal interviews.

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G5 General Studies II Project Learning Peer Evaluation Form

Class: _____ Name: _____ () Group: _____

Performance: Please circle the number of stars in each item.

Items for Peer Evaluation	評估細項	Group ()
Content	內容	
Provide sufficient information	■ 資料清楚明確	☆☆☆
Pictures/captions are clear	■ 圖文搭配得當 / 版面編排美觀	☆☆☆
Clear and attractive layout	■ 創意的表現具有特色	☆☆☆
A clear and concise content	■ 能淺顯易懂的讓人了解	☆☆☆
Content and model are coherent	■ 內容能配合模型 或 服裝 的介紹	☆☆☆
Presentation	發表與呈現	
Good introduction and conclusion	■ 表達組織 (引題及完結) 有條理	☆☆☆
Clear and organized structure	■ 發表有條理 / 層次分明	☆☆☆
Clear and loud voice	■ 語調清晰, 快慢適中	☆☆☆
Fluency	■ 語詞使用的正確性及流暢性	☆☆☆
Cooperation	小組合作	☆☆☆
Good division of work	■ 組員一起參與, 共同分工合作學習	☆☆☆
Good time management	■ 各組員的時間分配得宜	☆☆☆
Good cooperation	■ 組員能各展所長, 互補不足	☆☆☆
Interaction	互動	☆☆☆
Meaningful activities	■ 能透過活動與同學互動	☆☆☆
Answer questions accurately	■ 有條理地回答同學的問題	☆☆☆
Good interaction	■ 同學彼此互動, 增添氣氛	☆☆☆
Total 45 ☆	合計 (45 ☆)	

Appendix 2

Diocesan Boys' School Primary Division Evaluation Form for Peer Evaluation 同儕評估意見表

Please circle the right number:

評估細項	Overall comment on peer evaluation	非常不同意 Strongly Disagree	不同意 Disagree	同意 Agree	非常同意 Strongly Agree
1. 在評估過程中，教師及同儕的評估同樣重要	Teacher evaluation and peer evaluation both are important.	1	2	3	4
2. 同儕評估宜不涉及分數	Peer evaluation do not count any marks.	1	2	3	4
3. 同學公正及客觀的態度能讓同儕評估發揮得宜	Peer evaluation is more effective if my classmates are fair and objective.	1	2	3	4
4. 同儕評估對你有幫助	Peer evaluation help me a lot.	1	2	3	4
5. 同儕評估能讓你學習同學的優點	I can learn the good points from my classmates through peer evaluation.	1	2	3	4
6. 同儕評估能讓你運用同學的優點	I can apply the good points from my classmates through peer evaluation.	1	2	3	4
7. 同儕評估能客觀地了解可改善的地方	I know how to improve through peer evaluation.	1	2	3	4
8. 同儕評估能讓你避免犯同學的錯誤	I know not to make the same mistakes as my classmates through peer evaluation.	1	2	3	4
9. 同儕評估浪費時間	It is a waste of time if we have peer evaluation.	1	2	3	4

同儕評估形式 只可選答 (A) 或 (B)	The format for peer evaluation (choose A or B)				
(A) 每組評估各組的整體表現 (內容 / 發表 / 小組合作 / 互動)	(A) All items are assessed.				
1. 能了解各組的整體表現	1	2	3	4	
2. 能積極參與課堂活動	1	2	3	4	
3. 能公正及客觀地學習同學的優劣	1	2	3	4	
4. 其他：(請註明)					
(B) 每一組只評估各組的其中一項表現 (只評估各組的內容)	(B) Only one focus item is assessed for every group.				
1. 能集中了解各組的某一項表現	1	2	3	4	
2. 能有效地學習及改善自己某一項表現	1	2	3	4	
3. 時間有限，未能有效評估同學各項表現	1	2	3	4	
4. 其他：(請註明)					
The items for peer evaluation					
1. 評估各組的表現足夠 (內容 / 發表 / 小組合作 / 互動)	Items are enough for evaluation. Content / Presentation skills / Cooperation and Interaction				
2. 建議增加 / 刪減：	Suggestions: add / delete				
原因：	Reason(s):				
評語：值得讚賞 / 宜加改善 Suggestions:					

Diocesan Boys' School Primary Division

Peer Evaluation Form 同儕評估意見表 (Data)

評估細項	Evaluation items	Average	1	2	3	4	Total
1. 在評估過程中，教師及同儕的評估同樣重要	Teacher evaluation and peer evaluation both are important.	3.18	5	8	82	42	137
2. 同儕評估宜不涉及分數	Peer evaluation do not count any marks.	3.17	9	21	45	62	137
3. 同學公正及客觀的態度能讓同儕評估發揮得宜	Peer evaluation is more effective if my classmates are fair and objective.	3.16	10	11	63	53	137
4. 同儕評估對你有幫助	Peer evaluation help me a lot.	2.90	15	23	60	39	137
5. 同儕評估能讓你學習同學的優點	I can learn the good points from my classmates through peer evaluation.	3.19	7	14	62	54	137
6. 同儕評估能讓你運用同學的優點	I can apply the good points from my classmates through peer evaluation.	2.99	11	24	58	44	137
7. 同儕評估能客觀地了解可改善的地方	I know how to improve through peer evaluation.	3.04	11	17	64	45	137
8. 同儕評估能讓你避免犯同學的錯誤	I know not to make the same mistakes as my classmates through peer evaluation.	3.03	11	22	56	48	137
9. 同儕評估浪費時間	It is a waste of time if we have peer evaluation.	1.87	60	50	12	15	137

同儕評估形式 只可選答 (A) 或 (B)	The format for peer evaluation (choose A or B)	Average	1	2	3	4	Total
(A) 每組評估各組的整體表現 (內容 / 發表 / 小組合作 / 互動)	(A) All items are assessed.						
1. 能了解各組的整體表現	1. Understand the overall performance of each group.	3.34	0	5	55	38	98
2. 能積極參與課堂活動	2. Participate more in the classroom activities.	3.18	1	10	57	30	98
3. 能公正及客觀地學習同學的優劣	3. Assess the performance of classmates fairly and objectively.	3.23	3	7	52	36	98
4. 其他：(請註明)	4. Others: (please specify)	--	0	0	0	0	0
(B) 每一組只評估各組的其中一項表現 (只評估各組的內容)	(B) Only one focus item is assessed for every group.						
1. 能集中了解各組的某一項表現	1. Concentrate more on the focus item of each group.	3.11	2	2	23	12	39
2. 能有效地學習及改善自己某一項表現	2. Learn and improve more on the focus item.	3.20	2	2	20	15	39
3. 時間有限，未能有效評估同學各項表現	3. Cannot assess the performance effectively due to the shortage of time.	2.68	6	13	7	13	39
4. 其他：(請註明)	4. Others: (please specify)	--	0	0	0	0	0
同儕評估項目	The items for peer evaluation						
1. 評估各組的表現足夠 (內容 / 發表 / 小組合作 / 互動)	Items are enough for evaluation. Content / Presentation skills / Cooperation and Interaction	3.33	5	2	73	57	137
2. 建議增加 / 刪減： 原因：	Suggestions: add / delete Reason(s):		0	0	0	0	0

Diocesan Boys' School Primary Division

Peer Evaluation Form 同儕評估意見表 (Data)

評估細項	Evaluation items	Average	1	2	3	4	Total
1. 在評估過程中，教師及同儕的評估同樣重要	Teacher evaluation and peer evaluation both are important.	3.18	3.6%	5.8%	59.9%	30.7%	137
2. 同儕評估宜不涉及分數	Peer evaluation do not count any marks.	3.17	6.6%	15.3%	32.8%	45.3%	137
3. 同學公正及客觀的態度能讓同儕評估發揮得宜	Peer evaluation is more effective if my classmates are fair and objective.	3.16	7.3%	8.0%	46.0%	38.7%	137
4. 同儕評估對你有幫助	Peer evaluation help me a lot.	2.90	10.9%	16.8%	43.8%	28.5%	137
5. 同儕評估能讓你學習同學的優點	I can learn the good points from my classmates through peer evaluation.	3.19	5.1%	10.2%	45.3%	39.4%	137
6. 同儕評估能讓你運用同學的優點	I can apply the good points from my classmates through peer evaluation.	2.99	8.0%	17.5%	42.3%	32.1%	137
7. 同儕評估能客觀地了解可改善的地方	I know how to improve through peer evaluation.	3.04	8.0%	12.4%	46.7%	32.8%	137
8. 同儕評估能讓你避免犯同學的錯誤	I know not to make the same mistakes as my classmates through peer evaluation.	3.03	8.0%	16.1%	40.9%	35.0%	137
9. 同儕評估浪費時間	It is a waste of time if we have peer evaluation.	1.87	43.8%	36.5%	8.8%	10.9%	137

同儕評估形式 只可選答 (A) 或 (B)	The format for peer evaluation (choose A or B)	Average	1	2	3	4	Total
(A) 每組評估各組的整體表現 (內容 / 發表 / 小組合作 / 互動)	(A) All items are assessed.						
1. 能了解各組的整體表現	1. Understand the overall performance of each group.	3.34	0.0%	5.1%	56.1%	38.8%	98
2. 能積極參與課堂活動	2. Participate more in the classroom activities.	3.18	1.0%	10.2%	58.2%	30.6%	98
3. 能公正及客觀地學習同學的優劣	3. Assess the performance of classmates fairly and objectively.	3.23	3.1%	7.1%	53.1%	36.7%	98
4. 其他：(請註明)	4. Others: (please specify)	--	0	0	0	0	0
(B) 每一組只評估各組的其中一項表現 (只評估各組的內容)	(B) Only one focus item is assessed for every group.						
1. 能集中了解各組的某一項表現	1. Concentrate more on the focus item of each group.	3.11	5.1%	5.1%	59.0%	30.8%	39
2. 能有效地學習及改善自己某一項表現	2. Learn and improve more on the focus item.	3.20	5.1%	5.1%	51.3%	38.5%	39
3. 時間有限，未能有效評估同學各項表現	3. Cannot assess the performance effectively due to the shortage of time.	2.68	15.4%	33.3%	17.9%	33.3%	39
4. 其他：(請註明)	4. Others: (please specify)	--	0	0	0	0	0
同儕評估項目	The items for peer evaluation						
1. 評估各組的表現足夠 (內容 / 發表 / 小組合作 / 互動)	Items are enough for evaluation. Content / Presentation skills / Cooperation and Interaction	3.33	3.6%	1.5%	53.3%	41.6%	137
2. 建議增加 / 刪減： 原因：	Suggestions: add / delete Reason(s):		0	0	0	0	0

Appendix 5

Student A:

Comments and tips about self and peer evaluation:

Above everything else, be honest. I have seen countless examples of friends saying "How about if I give you five stars, and you also give me five stars also? Most would agree to the tempting offer. This is incorrect, the reason is because the use of peer evaluation is to determine peers' weaknesses and help them to correct them, and if one blindly grades a peer too highly, his friend would not improve, instead, they would think they are already good enough and will not find their mistakes, and not study further.

Secondly, we need to find the weaknesses of others to help them, for example, one in your group is very uncooperative, you need to give a low mark in cooperation, and hopefully, when everyone gives him a low mark, he will improve.

Student B:

Name:	()	Class:	的技巧	Date:	
自從在五年級時與了同儕互評後，六年級很多科目都會用得着，對我們十分重要。					
在今年的TBL課程以及數學的專題研習都需要同儕互評。這些方法可以令同學知道及明白自己與別人的優點和缺點。我在評分時會考慮到別人的專題研習的內容、發表的次序和合作性。					
首先，專題研習的內容應該豐富，有說服力，發表作品容易理解。					
其次，發表的次序應該要有條理，而且要有一個總結。然後，就					
例如	是合作性，組員有沒有參與工作和有沒有吵架。最後，同儕如果能全面又詳細解答同學的問題，那就會很高分。				
我們互評時亦不應存在偏見，應該慢慢地想一想，然後給適當的分數。					

Student C:

大家在五年級時學過同學互評,而在六年級的時候,也在數學和IBL中應用過。這些的同學互評令我權益良多,而且我認為這些同學互評很有用,它令我更加有聲,而且明白到如何才能公平地進行互評。要公平地互評,就必需不偏不倚,不可以因為大家友好而評高分一黑,而且我會根據他的實質表現而作出評分。所以我認為同學互評是很大功用的。

Student D:

在五年級,老師向我們介紹同儕互評。在六年級數學、科學和IBL,還要求我們使用同儕評估。我認為同儕評估的優點如下:同儕評估可以讓我們學習同學的優點並運用他們的優點,它亦可以讓我們了解可以改善的地方和避免犯上同一的錯誤。而缺點如下:如果同學以不公正和抱着主觀的態度來做同儕評估就不能發揮得宜,而老師憑這樣的同儕評估列入分數,同學便受到不公平的對待。總結來說,若同學以公正和客觀的態度來做同儕評估,同儕評估就是一種非常優良的學習工具。

Student E:

「同儕互評」是一項學術成果評核的程序。在學校裏,「同儕互評」也可應用在課堂上,例如在數學和學其朋薩的專題研習中,同學須就組員的表現作出互評。這意義可令我們小輩得取長補短,也可讓我們去增強個人的批判能力。其實,我們可以先為每組評分,然後再給老師參考,老師可以因應同學的分數和評語作出調整,並決定哪組為優勝隊伍。

Student F:

我對同儕互評是十分寶貴的，
因為這能更有效率地了解同學與同
學之間的表現。從互評中，我們也
能在學生的眼中看到些老師未必看
到觀察到的東西。其實，同儕互評
是有建設性，但如果學生不懂評分
，學生的互評便未能具建設性。

在數學科和IBL也設有了同儕互
評的環節。在數學科，我們的錄影
環節中，我們也有挑選最優秀影片
。在IBL中，我們的同儕互評更是大
派用場，老師每天要我們評不同組
員合作和貢獻分。

在同儕互評中我學到了要留心
聆聽並要小心選擇及評分數。

If wrong, fix it: Case studies of statistical misapplications in school-based projects

如果錯了，改正它：

校本研究統計錯誤的個案

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Abstract

Statistics have been used extensively in many school-based projects. Unfortunately, misconceptions have often been found in the statistical reports. In this paper, five case studies were used to illustrate some common conceptual and procedural errors found in reports and how these problems could be rectified.

Keywords

educational statistics, effect size, experimental design, school-based project

摘要

許多校本研究採用統計分析。不幸地，統計數據的誤用和誤解並不少見。本文討論研究統計在概念上和程序上常見的一些誤用例子，並以五個個案說明如何在校本研究避免發生統計誤用。

關鍵詞

教育統計，效果強度，實驗設計，校本研究

Sometimes, statistical evidence that looks good on the surface nevertheless turns out to be flawed. Broadly, there are two ways in which an argument based on apparently persuasive evidence might lose its impact after further inspection. One possibility is that the data were mishandled or the statistical analysis was misapplied. The second possibility is the discovery of some artifacts in the research procedure, such that the substantive conclusions drawn by the investigator may not logically be warranted by the observational comparison made (Abelson, 1995, p.78).

Abelson (1995) begins his chapter On Suspecting Fishiness with the above quote. It is an apt reminder that if a project reports statistics, it does not guarantee that the awesome figures have been derived correctly and interpreted validly. Errors of the first kind are procedural and technical which are easier to be noticed. Errors of the second kind are conceptual and interpretative and are therefore more difficult to detect. There may be cases of pure conceptual or procedural errors, but more often than not the errors are confounded as the examples below show. This paper deals primarily with the first kind of errors.

Case study no. 1: Misplaced comparisons

Group comparison

It is a very common statistical application in school-based projects where a group of students receiving intervention or treatment is compared with a group not receiving it. There is a need to ensure that the groups are equivalent before intervention. Then, a sizeable difference in favour of the treated group is expected after the project is completed. The box below shows the relevant information in the original report of a school-based project. For obviously reasons, the source of the case is concealed with no references made. This will be done for the other cases discussed later, too. In fact, it does not matter who made the errors; they are just what they are, that is, errors to be rectified.

A quasi-experiment was conducted where pupils from one class formed the CG and pupils from a second class formed the EG. In this study, both classes were kept intact without randomization. A perception survey on self-esteem was conducted.

As shown in Table 1, for the pre-survey, the EG scored a mean of 34.13 and in the

post-survey, a mean of 38.27. This may suggest that the intervention has made an improvement in terms of their self-esteem in the post-survey. The control group has scored a mean of 33.79 and in the post-survey, a mean of 34.58, indicating that the difference in the pre-survey and post-survey on self-esteem for the CG is very small. The Levene's test of 0.995 ($p>0.05$) was not significant, further showing that the two groups are homogeneous at pre-survey, before the intervention. The Cronbach's alpha value for the survey questions was calculated as 0.892, showing that it is an adequate reliability coefficient.

Table 1: Comparison of pre-survey and post-survey of EG and CG on pupils' self-esteem

	Pre-survey				Post-survey			
	N	Mean	SD	Levene's test	N	Mean	SD	Levene's test
Experimental	30	34.13	6.704	0.995	30	38.27	5.527	0.169
Control	24	33.79	6.379		24	34.58	7.040	

In this case, the experimental design is fine: there were two intact classes serving as the project and the comparison groups and, since the pupils were not randomly assigned, it is correctly described as a quasi-experiment. The teacher-researchers first mention the improvement in self-esteem means of the project group and then the very small change in the same measure of the comparison group. They further mention the non-significant difference in group homogeneity, citing the result of the Levene's Test (*Levene's Test, n.d.*). Finally, the Cronbach's alpha coefficient (*Cronbach's alpha, n.d.*) is reported.

Correct way of comparing groups

When reporting a project using an experimental design involving two groups, it is important to be clear about *what is to be compared with what for what purpose*. First, it is necessary to check group equivalence in the criterion measure (in this case, self-esteem). This needs to cover two aspects: (1) mean difference to see if the groups are comparable with regard to the criterion, and (2) difference in the standard deviations (SDs) to see if the groups are homogeneous in the criterion. If no differences are detected for both the means and the SDs, then the groups are taken to be equivalent. Such pre-project equivalence ensures that should a difference be found after project completion, the difference is not due to the initial difference (since there is none) but something else; and, the intervention is a strong candidate accounting for the post-project difference. In the present case, the pre-

project mean difference of 0.34 was not been formally tested, although it may be claimed that the difference is too small to need statistically testing. Instead, the result of the Levene’s test which tested the difference in the two variances (the square of the standard deviations) was mentioned; obviously, the teacher-researchers used the Levene’s test as if it is a test of mean difference, which should be tested with the Student’s *t*-test.

To rectify, first compare the two groups’ pre-survey means with the independent *t*-test and hope for no difference. (We leave the question of group homogeneity for the time being since the SDs 6.70 and 6.38 are close enough.) When group equivalence is assured, then, do the same to compare the groups on the post-survey means and hope for a statistically significant difference this time. If this is obtained, then the project groups can be said to have benefitted from the intervention. The effect size (Coe, 2002; Soh, 2008) used here for group comparisons is one version of the *standardized mean difference* (SMD), specifically the Glass’s *delta* (Soh, 2008). The SMD was simply calculated by (Project mean – Comparison mean) / (SD of the comparison group). When this was done, Table 1 was re-structured as Table 2.

Table 2: Mean comparisons of pre-survey and post-survey

Measure	Project (N=30)		Comparison (N=30)		Difference	SMD
	Mean	SD	Mean	SD		
Pre-survey	34.1	6.70	33.8	6.38	0.3	0.05
Post-survey	38.3	5.53	34.6	7.04	3.7	0.53

Now, the pre-survey SMD of 0.05 in Table 2 shows that the two groups were equivalent in the criterion before project commenced, and the post-survey SMD of 0.53 shows a medium effect size in favour of the project group, thus the project was successful in producing a difference which cannot be ignored or dismissed.

Why not the t-test?

The teacher-researchers reported the results of the Levene’s Test but not those of the *t*-tests. Why this is so is not known. The results of the *t*-test and the Levene’s test appear together in the same run of the *t*-test in the *Statistical Package for Social Sciences (SPSS)* which could have been used by the teacher-researcher. Anyway, this is a blessing in disguise because the *t*-test should *not* have been run in the first place! Oftentimes, teacher-researchers routinely run this Null Hypothesis Significance Test (NHST) to compare group means (either doing this on their own accord or, perhaps more often than not, being misguided).

There are several reasons why the *t*-test should not have been run. First, what question do the teacher-researchers attempt to answer? Generally, this is about whether the project mean differs from the comparison mean, and if yes, what is the *magnitude* of the difference. For pre-test, small or no difference is hoped for because group comparability is desired. For post-test, medium or large difference is expected to show the intervention effect. The answers to such questions are found by using the SMD, and not the *t*-test, for the simple reason that the *t*-value does not answer the question on magnitude of difference.

What then does the *t*-test do? It tells the *probability* of an observed difference in the populations, and this is not the concern of the teacher-researcher doing a school-based project. For this, we need to quote Abelson again:

There is also a common confusion when using the significance level as an indication of the merit of the outcome. When the null hypothesis is rejected at, say, the .01 level, a correct way to state what has happened is as follows: "If it were true that there were no systematic difference between the means in the populations from which the samples came, then the probability that the observed means would have been different as they were, or more different, is less than one in a hundred. This being strong grounds for doubting the viability of the null hypothesis, the null hypothesis is rejected (Abelson, 1995, p.40).

Note that the *t*-test it is *not* about the *magnitude* of group difference (which is of concern to the teacher-researchers) but about the *probability* of the observed group difference as an estimate of a similar difference in the *populations* (Fraley, 2003). Since when does a teacher-researcher become concerned with what may or may not happen to a very large group of other teachers' pupils who made up the populations? In practically all cases like the present one, there is hardly real sampling in school-based projects and, to call the groups of pupils '*samples*' is in fact a misnomer or misconception, or both. Since there is no real sampling (and hence no samples), inferential statistics like the *t*-test is irrelevant and therefore not applicable. Therefore, descriptive statistics such as the SMD is the only one to use with validity. On the misuse of the *t*-test and its like, Abelson (1995) has a strong view, thus,

The ethos of doing significance tests as the hallmark of an appropriately conservative style is now so deeply ingrained that tests are sometimes used even when they need not be. Indeed, there are several contexts in which it is really silly (Cohen, in press) to carry out a significance test, much less to present its result (p.76).

There is yet another reason why the t -test cannot be trusted to compare group means, even if it is used for comparing samples which have really been randomly selected from their respective populations. The problem is the influence of sample sizes on the p -value corresponding to a t -value. Let's say a $t=1.99$ is obtained for comparing two groups which have together 42 pupils, the corresponding p -value is not significant ($p>.05$) as the required t -value is 2.02. But if the total number of pupils is 82, the same t -value (1.99) is significant ($p<.05$) because it is equal to the required $t=1.99$.

In a recent issue of a journal, a study reports almost all comparisons as non-significant and another almost all as significant. Of these studies (references cannot be given to safeguard the authors), one is too bad to be true while the other too good to be true. A careful look shows that the former study compared 10 pairs of respondents whereas the latter has a total respondent size of as many as 800! These are good contrasting examples of the influence of sample sizes on the results of the t -test. In the words of Sterne (n.d.), "Given a large sample size, even a small difference will be statistically significantly different from zero."

In the case study above, the teacher-researchers compared first the project group's pre-post-test means and then, likewise, the comparison group's pre-post-test. In other words, they did two separate within-group comparisons and then inferred from the results that there was a project effect.

This seems fine intuitively but doing so violates the logic of the experimental design used. On this, we have to listen to Abelson (1995) again:

But that would contradict the logic of including a control comparison in the first place. Why is that so? The point of running a control condition is to test the relative claim that the effect in the presence of the experimental factor exceeds the effect in its absence. The appropriate test seems to be a test of the interaction between the rows and the columns (p.63).

Why do teacher-researchers make this kind of conceptual error? One possibility is that teachers typically are concerned with student's *improvement* which is always seen as a difference in performance *before and after* teaching the same students. This mode of thinking is consistent with commonsense exemplified by watching a plant or a child grows. It is a mode of thinking teachers developed over years which is difficult to change when change is necessary as they do school-based projects experimentally. Whatever the cause, teacher-researchers need to re-orientate and adopt a research mode of thinking when

analyzing and reporting school-based projects.

The Levene's test

When the *SPSS* is run to compare group means, the Levene's test is first done by default to check homogeneity in variability. The result shows whether the two groups have the similar or different degree of homogeneity. If there is non-significant difference (as was found for the present case), the "*equal variances assumed*" *t*-value is taken, otherwise, the "*equal variance not assumed*" *t*-value should be reported. Once the question of homogeneity is settled, the researcher will proceed to use the appropriate *t*-value and report the outcome of group comparison.

What does the Levene's test do? According to the Wikipedia (2010),

In statistics, Levene's test is an inferential statistic used to assess the equality of variances in different samples... It tests the null hypothesis that the population variances are equal. If the resulting p-value of Levene's test is less than some critical value (typically 0.05), the obtained differences in sample variances are unlikely to have occurred based on random sampling. Thus, the null hypothesis of equal variances is rejected and it is concluded that there is a difference between the variances in the population. (Emphasis mine)

Note that the Levene's test (*Levene's Test*, n.d.; Wikipedia, 2010) is an *inferential* statistic for checking equivalence of variances of two or more *randomly* selected groups. Therefore its application in the present case is doubted, since the two groups are not random samples. By the way, *variance* is numerically the square of SD indicating the extent with which a set of scores spreading around its mean. When a group has a SD (and therefore a variance) much larger than another group has, its scores are spreading much wider, indicating there are more higher or lower scores or both. If this is the case, then the two groups are not equivalent on homogeneity, although they may have the same or similar means indicating the same or similar level of performance. Then something need be done to ensure group comparability before comparison is made on relevant measures (Soh, 2009).

In place of the Levene's test, a simple shortcut is to find the ratio of the two variances. This is done by (1) finding the variances by squaring the two groups' SDs, (2) dividing the larger variance by the smaller one, and (3) checking the ratio against the tabled value of the F-distribution which can be found in the appendix of any text on statistical analysis.

To teacher-researchers, the first two steps are no problems, but the third is a bit clumsy. As a rule of thumb, if there are about 30 or more pupils in each of the two groups, and if the variance ratio is less than 2, the groups can be taken to have the same or similar homogeneity.

Cronbach's alpha coefficient

A *Cronbach's alpha coefficient* (n.d.) of 0.892 is reported for the case study. This is far greater than the conventional expected minimum of 0.70 for research purposes (Siegle, 2002). While the teacher-researchers deserve to be congratulated for this, there is also the need for more information to understand what the coefficient means. The only relevant information in the report is "*A perception survey was conducted to ascertain pupils' self-esteem. The survey was designed such that questions of the same nature were repeated but they were phrased in different ways.*" It is not clear what different aspects of self-esteem were covered in the survey and the re-phrasing of the same items might have contributed to the unusually high alpha coefficient.

Also needed is the number of questions in the self-esteem survey. Number of item affects the alpha coefficient. Cronbach's alpha formula has two multiplicative components: (1) reliability component and (2) correction factor. The first is $[1 - (\text{Total item variance}) / (\text{Test variance})]$ which is the total test variance minus the unreliability portion. The second is $k / (k-1)$ where k is the number of items; it 'corrects' the reliability component for number of items. If a test has a reliability components with a coefficient of 0.60 (which is quite a normal figure for affective measure like the self-esteem survey), and if there are 10 items, the Cronbach's alpha coefficient is 0.67, corrected up by 11%. If the test has only 5 items, it is 0.75, adjusted up by 25%. For three items, it is 0.90, adjusted up by 50%. And, if there are only two items, it is $(2/1) * (.60) = 1.20 > 1.00$, an alpha coefficient indicating that the test scores are more perfectly reliable than perfect reliability! Of course, this does not make good sense. Here, the paradox is that the shorter the test, the higher the score reliability appears to be, leading to over-confidence in short tests, contrary to the normal expectation that the longer the test, the more reliable the scores will be, given the same quality of items.

For the present case, an important question is for which set of data was the Cronbach's alpha coefficient obtained. There are six possibilities: (1) pooled pre-survey, (2) pooled post-survey, (3) project groups' pre-survey, (4) project group's post-survey, (5) comparison group's pre-survey, and (6) comparison group's post-survey. Alpha coefficients

calculated using these different sets of scores will yield different results and have different meanings. Considering the experimental design, pooled pre-survey scores are the best to use as they are not influenced by the intervention which may make the project and the comparison groups different in their self-esteem. It will be good if there is an indication of which sets of scores were used for estimating the internal consistency of the self-esteem survey.

Case study no. 2: Missing standard deviations

For Case Study No. 2, the box below is an extract from another project report which deals with many aspect of student engagement in learning. The analyses done as reported by the teacher-researchers are the same for difference measures, only one (Vision of learning) is cited for illustration.

The general methodology adopted was a two-group (experimental and control) pre- and post-programme quasi-experimental design... The Null Hypotheses were (1) FSP [the programme] did not increase the level of student engagement; and (2)...

Table 1 (here, re-numbered as Table 3) shows the paired t-test analysis carried out on the means obtained by the two groups in the pre- and post-surveys. The experimental groups registered significant increase in all categories. The control group contained significant increase in the scores in five out of nine categories...

Table 3: Comparison of mean scores between experimental and control groups

Components	Experimental Group (EG)			Control Group (CG)		
	N=74 Pre-E (a)	N=74 Post-E (b)	Difference (b) – (a)	N=73 Pre-C (c)	N=73 Post-C (d)	Difference (d) – (c)
Vision of learning	15.59	16.68	1.09***	15.27	15.81	0.54

... (the programme) showed a significant increase in 'Vision of learning'... There was a 1.1 point increase for the Experimental group, while the Control group mean increased by 0.5 point.

As is true of Case Study No. 1, this one also used within-in group comparison. As this is illogical (Abelson, 1995, cited above) as is the previous case, the data need be re-analyzed. However, the original table does not report the standard deviations (SDs) but only indicates the significance levels of differences using asterisks. To re-analyze, the information is re-organized for correct comparisons in Table 4, using *a*, *b*, *c*, and *d* to represent the missing SDs.

Table 4: Mean comparisons of pre-survey and post-survey

Measure	Project (N=74)		Comparison (N=73)		Difference	SMD
	Mean	SD	Mean	SD		
Pre-survey	15.59	<i>a</i>	15.27	<i>b</i>	0.32	0.32/ <i>b</i>
Post-survey	16.68	<i>c</i>	15.81	<i>d</i>	0.87	0.87/ <i>d</i>

It is a standard procedure that SDs are reported together with their respective means. But this was not done for this case. Had the SDs been available, the SMDs for the pre-survey and the post-survey can be obtained and will result in two Glass's *deltas*. Based on these, then, whether the groups differ in the pre-survey can be ascertained and the same can be done for the post-survey. As the needed information (*b* and *d* in Table 4) are missing, the SMDs cannot be calculated and there is no way we can make the comparisons. Is it, then, possible to do some guesstimate with the limited available data?

Fortunately, the report indicates that there are 15 items for measuring student engagement in four aspects, namely, Vision of learning, Tasks, Assessment, and Instruction mode. Looking at the patterns of the means in the original table for the various measures, it is possible that there are four items for Vision of learning. Since each item is a five-point scale, the lowest possible scale score is 4 and the highest 20. Armed with this information and assuming a normal distribution of the scores, the standard deviation can be estimated (*Estimating Standard Deviation*, n.d.), thus:

$$\begin{aligned}
 \text{Estimated SD} &= (\text{Largest possible score} - \text{Lowest possible score}) / 6 \\
 &= (20 - 4) / 6 \\
 &= 16/6 \\
 &= 2.7
 \end{aligned}$$

If this is a correct guesstimate, then the estimated SMDs are $0.32/2.7=0.12$ and $0.87/2.7=0.32$ for the pre-survey and post-survey, respectively. Then, the conclusion is that the two groups were equivalent on the pre-survey and there was a small effect size

in favour of the project group on the post-survey. Therefore, the intervention was able to engage the project students slightly better than it did the comparison students. Of course, here again, although the conclusion is similar to that of the teacher-researchers, but the thinking process and logic are different: the teacher-researchers reached the correct conclusion but for a wrong reason!

Case study no. 3: Missing initial comparison

An important condition of a two-group design is the initial group equivalence. This is necessary for a valid interpretation of the post-test difference, if any. In the box below for Case Study No. 3, an initial group difference was not taken into account when interpreting the post-test difference.

The subjects of this experiment are the students in two of the classes in Secondary Four... Both classes stayed intact without randomization... For 4E1, the students came in with an average T-scores of 213 in terms of their English language. For 4E2, the average *T-scores* is 194.

The pre-test was the English Language mid-year examination... The post-test was a test designed... to used a text-type... using Impact Analysis as the subject matter.

As shown in Table 5 (originally, Table 1) below, for the post-test, 4E1 has a mean of 20.46 (1.80) after the treatment compared to a mean of 19.28 (2.06) before the treatment. 4E2 shows a mean of 18.00 (2.51) after treatment compared to 17.26 (1.57) before the treatment. The paired *t*-test on the scores yielded a *p*-value of 0.002 and 0.015 for 4E1 and 4E2 respectively, indicating both classes showing increase in the scores which are significant. The increase in the mean scores was however greater in 4E1.

Table 5: Comparison on post-test

	Pre-test		Post-test	
	Mean	SD	Mean	SD
4E1	19.28	2.06	20.46	1.80
4E2	17.26	1.57	18.00	2.51

As can be seen in the conclusion, the conceptual error of misplaced comparison appears in this case. However, there are two other errors which deserve rectification and discussion. By the way, this does not include the erroneous statement “*in terms of their English language*”, because *T*-score is an aggregate for four subjects examined in Singapore’s Primary School Leaving Examination. The fact is that only subject grades but not subject *T*-scores are available to the school. In this case, where did the *T*-score for English Language come from? Obviously, there is a mis-reporting.

In the case, the pre-test means of 19.28 and 17.26 could well be different enough for the two groups to be non-equivalent before project commenced. This is confirmed when the SMD of 1.29 was obtained. This is a very large SMD when checked against Cohen’s criteria (Cohen, 1988; Soh, 2008). That the groups were initially non-equivalent could have been noticed by the teacher-researchers at the outset when they compared the average *T*-scores of the two groups.

Table 6: Mean comparisons of pre-test and post-test

Measure	4E1 (N=?)		4E2 (N=?)		Difference	SMD
	Mean	SD	Mean	SD		
Pre-test	19.28	2.06	17.26	1.57	2.02	1.29
Post-test	20.46	1.80	18.00	2.51	2.46	0.98

Comparisons should have been done to compare groups on the pre-test and then again on the post-test, instead of two separate paired *t*-tests for the pre-post-test difference within each group, for the reason expounded earlier.

When the two groups were compared on the post-test, the SMD of 0.98, which is large by Cohen’s (1988) standard, shows a large effect size which the teacher-researchers hoped for. However, since the groups were non-equivalent to begin with, comparing them on the post-test without due consideration for the initial difference renders the conclusion suspect. In fact, while the project group gained by 1.18, the comparison group gained by 0.74; the difference in gain is 0.44 in favour of the project group. To avoid this conceptual problem, the groups could have been equalized first by using some of the methods such as winsorizing or caliper matching (Soh, 2009) to create equivalent groups for valid interpretation. Alternatively, a gain-score analysis could be employed to off-set the initial difference.

A third conceptual error lies with the tests used. As indicated in the report, the pre-

test and the post-test are two different tests. Had the groups been equalized on the T -score and then compared on the post-test between-group, the project would use the *equivalent group post-test only design* which in fact is a simpler and good design. Unfortunately, the paired t -tests compared the two sets of scores which are not of the same measure. The computer software is blind to the sources of numbers put in for processing; it does not know where the scores come from and does not need to know either. It just obediently churns out whatever statistics it is asked to calculate. It is the researchers who have to ensure meaningfulness of the statistics. Had the pre-test and post-test been the *same* measure, the problem of non-equivalence between groups can be solved by a gain-score analysis as suggested above. This case shows that experimental design, measurement, and statistical analysis of a project are not independent but related and they need be considered together.

Case study no. 4: Over-simplification

Compared with the two previous cases, Case Study No. 3 is a more complex one. The project studied the effect of interdisciplinary project-work (independent variable) on students' perceptions of life-skills (dependent variable) and ascertained if there were differences attributable to course and gender (two moderating variables). A moderating variable is one which influences the relationship of the independent and dependent variables. As rightly stated by the teacher-researcher, there was no control group since the entire Secondary Two cohort was involved in project-work. Incidentally, this so-called whole-level approach is another issue in research design but the discussion of which is not within the scope of this paper.

The research question posed with regard to this investigation is: What is the impact of interdisciplinary project-work... on making learning meaningful?... The LSQ (Life-skills Questionnaire) administered as pre- and post-tests comprised statements to identify the perception aspects of life-skills. The questionnaire consisted of four components: (1) Confidence, (2) ...

Table 7 (originally, Table 2) reports the means and standard deviations for the respective courses and gender of Time 1 (pre-test) and Time 2 (post-test). Paired t -test was carried out to examine significant differences due to course and gender at Time 1 and Time 2.

Table 7: Results of paired *t*-tests if LSQ

Course	Scale	Gender	Mean (SD)		Mean difference	<i>t</i> -statistics
			Pre	Post		
Normal Academic	Confidence	Female (68)	3.43 (0.71)	3.57 (0.51)	-0.14	-1.56
		Male (53)	3.28 (0.63)	3.67 (0.60)	-0.39	-3.94***
Express		Female (75)	3.51 (0.44)	3.89 (0.64)	-0.35	-4.79***
		Male (79)	3.61 (0.63)	3.81 (0.63)	-0.20	-2.66***

The results of the paired *t*-test showed that the perceived life skills measured by mean scores on the LSQ for Express students were higher than that of N(A) students. The course differences were still observed at Time 2, with the Express students displaying higher life skills development. At Time 1, male students collectively showed higher learning (sic) to learn life skills. Nonetheless, these effects were not observed at Time 2.

As shown in Table 7, there are in fact four independent analyses of single-group pre-and-post-test design experiments. The results of analyses as presented in the original table do not provide the needed information for the conclusion reached. For instance, when comparing between courses, the data of female and male students need be pooled. Likewise, when comparing by gender, data of the two courses need be pooled. The way it was done by the teacher-researchers is an over-simplification. To justify the conclusion, the data need be re-organized and analyzed. This is shown in Table 8A for comparing courses and Table 8B for comparing gender.

Table 8A: Mean comparisons by courses

Measure	Express (N=128)		Normal Academic (N=121)		Difference	SMD
	Mean	SD	Mean	SD		
Pre-test	3.56	0.55	3.36	0.68	0.20	0.29
Post-test	3.85	0.64	3.61	0.56	0.24	0.42

As can be seen in Table 8A, for pre-test, Express students scored higher on Confidence than did Normal (Academic) students with a small SMD of 0.29. For post-test, Express students also scored higher than did Normal (Academic) students with a greater SMD of 0.42. The conclusion is that the experience of doing interdisciplinary project-work was able to enhance the difference in Confidence between the two groups and in favour

of the Express students. This is consistent with the conclusion reached by the teacher-researcher, at least for Confidence. However, the initial difference (shown by $SMD=0.29$) cannot be ignored, though small.

As shown in Table 8B, there are no differences in both the pre-test and the post-test between male and female students, as shown by the SMDs of 0.02 in both comparisons. Thus, where Confidence is concerned, the conclusion is not the same as that reported.

Table 8B: Mean comparisons by gender

Measure	Male (N=132)		Female (N=143)		Difference	SMD
	Mean	SD	Mean	SD		
Pre-test	3.48	0.63	3.47	0.59	0.01	0.02
Post-test	3.75	0.62	3.74	0.59	0.01	0.02

Had the students been truly randomly sampled from their respective populations, the data could well be analyzed by a 2X2 repeated measure analysis of variance, since there are crossings of two genders with two courses and each student is repeatedly measured by the pre-test and post-test using the same test. Such an analysis allows the evaluation of the course main effect, gender main effect, and the course-gender interaction effect, plus testing occasion effect. This obviously will be a highly complex situation. However, since the four groups of students are not random samples, this analysis does not apply. For practically oriented school-based projects like this case, using SMD would suffice.

Case study no. 5: Information overload

Information overload is as problematic as information insufficiency. Giving too little information makes thinking and conclusion vague. Giving too much information confuses people. When a simpler analysis is made more complex than it needs be, communication and thinking problems may arise. It is really an art to say what is necessary and stop there. Case Study No. 5 is a case in point.

The subjects were 42 students from a secondary two normal academic class... Another class of secondary two academic students was assigned to be the control group... A pre-test was conducted using an instrument developed by the teachers. The format of the post-test was similarly designed.

Comparison between the two classes using ANOVA showed that the performance of the control group in the pre-test was similar to that of the treatment group, $F(1, 82) = 2.19, p > 0.05$.

Table 9A: Statistics for pre-test (original Table 1)

Group	Total number	Average	Variance
2A1 (control)	42	6.57	4.06
2A2 (Treatment)	42	5.88	5.08

Table 9B: Statistics from single-factor ANOVA of pre-test results (original Table 2)

Source of variance	SS	df	MS	F	p	F_{crit}
Between group	10.01	1	10.01	2.19	0.143	3.96
Within group	374.69	82	4.57			

(The same is done for the post-test in the report.)

This case has two good points. First, it compared *the project and the comparison groups* on two separate occasions, first for the pre-test and later for the post-test. As discussed above, it is the correct and logical way to make between-groups comparison in a two-group experiment. Second, since the pre-test and the post-test are two different tests, within-group comparison (like what is done in the previous case) will be erroneous.

The teacher-researchers use ANOVA (analysis of variance) instead of the conceptually simpler t-test, perhaps a preference. However, Table 9B is a correct standard way of presenting the result of an ANOVA but it contains many information which need not be shown for a school-based report, although it may be required in, say, a MEd thesis. The additional information is not meaningful to teachers and may make them wonder what they are for (and at the same time awed by mysterious numbers and labels). This is the problem of information overload: What do those labels across the top of Table 9A mean? Do readers need to know all these to understand the result? And, is there a simpler way to communicate the project outcome?

When the same information for the two tables is re-organized and analyzed, the result is shown in Table 10 below. Here, the SDs were calculated by taking the square-roots of the variances in Table 9A. In Table 10, the SMD of 0.39 indicates a small between-group difference and the conclusion is similar to that of using the more complex F-value obtained through the much complex ANOVA.

Table 10: Mean comparisons on pre-test

Measure	Project (N=42)		Comparison (N=42)		Difference	SMD
	Mean	SD	Mean	SD		
Pre-test	6.75	2.02	5.88	2.25	0.87	0.39

That the results of the two methods of analysis are similar is due to fact that, in a two-group experiment, $F = t^2$ or $t = \sqrt{F}$. However, in the re-analysis, SMD instead of t -value was obtained for reasons discussed earlier. The question is, since the t -test is more direct and simpler in concept and procedure, why go for the conceptually much more complex and procedurally much more cumbersome ANOVA and thus causing information overload with its ill-consequences?

Discussion and conclusion

This paper illustrates five different kinds of statistical misapplications found in school-based project reports: (1) misplaced comparisons, (2) missing SD, (3) missing initial comparison, (4) over-simplification, and (5) information overload. Perhaps, with the exception of the last one (which may not be considered an error) the other fours are common errors.

The most common error is to report first on the pre-post-project mean difference of the project group, followed by the same of the pre-post-test mean difference of the comparison group, and then put the two results together and conclude that, since a difference is found for the project group but not the comparison group, the intervention benefits the project group and therefore the project works. This sounds logical but “*it is tempting to stop there, declare victory, and write it up for publication* (Abelson, 1995).” In short, it violates the logic of having a comparison group. This can be complicated by regression-to-the-mean threat if the two groups are non-equivalent initially.

Another common conceptual error is the use of the t -test when in fact it is not applicable and, worse, irrelevant. It is worth repeating that the t -test is an *inferential* statistics which can be used only when the data comes from groups randomly sampled from their respective populations. In the context of school-based projects, this condition is seldom, if occasionally, satisfied. The t -value and its corresponding p -value do not address the question of concern to teacher-researchers (and school administrators); these values,

however awesome they may look, are about the *probability* of observed difference and not about the *magnitude* of the observed difference. Moreover, the significance of a *t*-test result is also sensitive to group size. Again, why this conceptual error is so often made is unknown. Most probably, teacher-researchers are awed by the small decimal numbers, the word ‘significance’, and also probably misguided.

Statistics tell stories about projects and their effects, but the stories must be the correct ones that make statistical sense. The value of school-based projects does not depend on whether statistical techniques (especially the more complicated ones) are used, nor does it depend on the statistical *significance* - a word which is always mistaken to mean ‘importance’ (Soh, 2011). As can be seen in many such reports, statistics seem to have been used for a cosmetic purpose because, after presenting one or more tables, the teacher-researchers go on presenting their views, instead of telling the story contained in their statistics.

Statistical misuses as exemplified by the five case studies here are not exclusive to school-based project or more generally educational research. It is also commonly found in other social research (Dodhia, 2007). And, Roehm (n.d.) gives ample examples from medical research. The question is not who make the most mistakes but how can mistakes be avoided and, if found, rectified. This calls for better training, more careful application, and more stringent editorial screening.

If we have to use statistics, use them correctly by referring to the right concepts, the right techniques, and the right language. A job worth doing deserves to be done well. Otherwise, we behave like a little boy who has just been given a hammer and finds everything needs knocking. Statistics may look like pure simple truth, but as Oscar Wilde once said, “*The pure and simple truth is rarely pure and never simple.*”

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The use of midpoint on Likert Scale: The implications for educational research

中間選項在李克特量表中的應用： 給教育研究的啟示

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Abstract

This article is going to review the debate of the use of midpoints on Likert scale in order to understand the implications for scale construction. In this review, the major issues around this debate are identified. The first is methodological. The debate around this issue is the concern about whether the midpoints affect the reliability and validity of measurements. The second issue is epistemological. It concerns about how researchers exactly know the meaning of the responses into midpoints that they intend to measure. To some extent, the debate based on the methodological issue illustrates that both using and not using of midpoints are acceptable, because the midpoints may not really affect the reliability and validity. Therefore, the epistemological issue while designing the rating scale of a measurement is the focus of this article. The implications of the debate for educational research are also discussed in this article.

Keywords

midpoint, Likert scale, scale construction

摘要

本文回顧有關在李克特量表應用中間選項的爭論，希望藉此了解中間選項對建構量表的作

用。本文將指出，關於中間選項的爭論主要圍繞兩個主題。一是方法論的，這一主題所關心的是中間選項對量表的信度和效度的影響；二是認識論的，這主題所關心的是研究者如何得知受試者對中間選項的理解跟他們所想的一樣。在某程度來說，關於方法論上的爭論普遍認同中間選項不一定對量表的信度和效度有影響，所以從應用和不應用中間選項均可接受。因此，在建構量表時，我們應更多地考慮認識論上的問題。另外，本文還討論了中間選項的爭論對教育研究的啟示。

關鍵詞

中間選項，李克特量表，量表建構

In educational research, Likert scale is commonly used to measure different kinds of variables, such as teacher stress and burnout (e.g. Chan, Chen, & Chong, 2010; Dworkin, 2002), self-efficacy (e.g. Brouwers, Tomic, & Stijnen, 2002; Cheung, 2006), school and teacher effectiveness (e.g. Bangert, 2006; Kyriakides, Campbell, & Christofidou, 2002; Kyriakides, Demetriou, & Charalambous, 2006; Reezigt & Creemers, 2005; Reynolds, 2001), school organization (e.g. Bowen, Ware, Rose, & Powers, 2007; Firestone, 1984; Firestone & Herriott, 1982; Herriott & Firestone, 1984) school climate and culture (e.g. Cavanagh & Dellar, 1996; Cavanagh & Waugh, 2004; Moos, 1987; Pang, 1998; Wagner, 2006), and the like. The reason is that Likert scale empowers educational researchers to effectively operationalize the variables and then identify their relationships in order to improve our educational system.

However, some researchers claim that the use of midpoints on Likert scale may affect research reliability and validity, but some other researchers disagree. It is necessary for education researchers to learn this debate about whether midpoint opinions are included in a scale, because the debate not only directly points to the problem of research quality but also the validity of research implications and recommendations to educational system. In this article, therefore, we will first review the debate in social research in general. On the basis of this review, then, we will suggest the implications of the debate for educational research.

Debate of the use of midpoints on Likert scale

Methodological issue

One concern among researchers about having midpoints on a Likert scale is the effects of the midpoints to the reliability and validity of measurements. Generally, the supporters of midpoint opinions claim that the midpoints can increase the reliability of measurement. For example, Courtenay and Weidemann (1985) assess the effects of midpoint answers (“don’t know”) to the Palmore’s Facts on Aging quizzes (FAQ) and conclude that the midpoint answers tend to enhance the reliability of FAQ. Another study conducted by Adelson and McCoach (2010) present similar findings. In that study, Adelson and McCoach compared the response pattern of elementary students who responded a mathematics attitudes instrument with a 4-point Likert scale with another group of elementary students who responded the same instrument but the scaling had an additional neutral point. The study shows that the scale including a neutral midpoint might be more appropriate for elementary students than the 4-point scale, because the reliability of the 5-point scale was statistically and significantly higher than the reliability of the 4-point scale.

On the other hand, the adversaries argue that the high reliability may be resulted from response set (Cronbach, 1950), especially the tendency to choose the midpoint options. Weems and Onwuegbuzie (2001) conduct three studies to show that there was a high rate of midpoint choices among their samples. This to some extent implies response set to the midpoints exist. Different from the findings found by the supporters of midpoints, the response set in Weems and Onwuegbuzie’s studies seems to attenuate the reliability rather than enhance it (Weems & Onwuegbuzie, 2001). In this sense, midpoints are not necessary to benefit the internal consistence of measurements.

Nevertheless, some researchers argue that the use of reliability as a criterion to judge the merit of midpoints is inappropriate (Chang, 1994). As Cronbach (1950, p.22) already notes, “there is no merit in enhancing test reliability unless validity is enhanced at least proportionately.” In other words, validity should be a better criterion than reliability (Chang, 1994). Some studies evaluate the impacts of midpoints on measurement validity. However, the findings are also contradictory. For instance, some studies find that the construct validity may not be influenced by the midpoints (Adelson & McCoach, 2010; Kulas, Stachowski, & Haynes, 2008), but some researchers suggest the omission of the midpoints may impair the validity (Johns, 2005).

One possible reason explaining such contradictory findings is that the reliability and validity may be independent of the number of scale points, including the use or not use of midpoints, on Likert scale (Dawes, 2001a; Matell & Jacoby, 1971). Another possible explanation is that there are other factors mediating the relation of the use of midpoints to the measurement reliability and validity, such as respondents' response style (Clarke, 2001; Lee, Jones, Mineyama, & Zhang, 2002; Wong, Tam, & Fung, 1993) and reverse coding (Weems & Onwuegbuzie, 2001).

Epistemological issue

Another concern about the use of midpoints on Likert scale is epistemological. This means whether and how researchers exactly know the meaning of the responses into midpoints that they intend to measure. Originally, the meaning of midpoints on Likert scale refers to neutral i.e., neither agree nor disagree (Raaijmakers, Hoof, Hart, Verbogt, & Wollebergh, 2000). Therefore, this kind of options is desirable because it avoids forcing respondents to choose agree or disagree options, that may evoke misleading conclusion, if they really hold neutral opinions towards the items. However, some scholars already note that midpoints may have many different meanings such as "neither agree nor disagree", "undecided", "don't know", and "no opinion" (Raaijmakers, et al., 2000). Thus, it is possible for respondents to interpret the midpoints in several different ways that may be totally different from the original or intended meaning, especially when the midpoints are not clearly defined (Kulas, et al., 2008).

Worcester and Burns (1975) conduct a very interesting experiment to investigate this issue. In the experiment, the subjects were randomly assigned into four groups. Each group of the subjects was required to answer three questions that were the same for each group except the rating scales (4-point or 5-point) and the scale option labels (e.g. "tend to agree", "agree", and "2" assumed to be the same meaning). First, all of the subjects were asked to give their answers by using a discrete verbal scale (the Likert scales being tested); then, they were asked to indicate the answers again on a continuous non-verbal scale (literally straight, blank line). After that, Worcester and Burns compared the answers between the verbal and non-verbal scales. They found that the midpoint selections could mean "neither agree nor disagree", "tend to agree", and "tend to disagree" among the subjects. Thus, they concluded that the similar or the same options may mean different things to different people.

Similar to Worcester and Burns, Kulas, et al. (2008, p.251) claim that midpoints

may be viewed by the respondents as a “dumping ground” for unsure or non-applicable responses, “if the respondent[s] did not view the middle response option as existing along the agreement continuum.” In other words, midpoints may not really represent the opinion of “neither agree nor disagree”.

To some extent, this argument gets supports from another line of studies that aims to learn the effects of the midpoints on survey results. For example, Garland (1991) asks his respondents to give opinions about the importance of product labeling with a Likert scale and he finds that more negative ratings were obtained when midpoints were removed from the scale. Dawes (2001b) conducts a similar study, in which the respondents were asked to identify their satisfaction towards their insurance company with a scale either with or without midpoints, and also finds the similar results. In addition to negative rating, some studies indicate that an increase in positive rating may occur when a scale does not include midpoints (Worcester & Burns, 1975). These effects of the denial of midpoints may be explained by that respondents may “use the midpoint to avoid reporting what they see as less socially acceptable answer” (Johns, 2010, p.7) in order to please the interviewers (Garland, 1991). If it is the case, the selection of midpoint may no longer imply neutrality. In other words, midpoints may be harmful to measurement validity.

However, the supporters of the use of midpoints provide confronting evidences. For instance, Raaijmakers, et al. (2000) argue that the midpoints are necessary. This is because the respondents, who do not have enough knowledge to response the items, might minimize unresponse rate by selecting the midpoint to indicate the sense of “undecided” or “don’t know”. In addition, Matell and Jacoby (1972) discover that a negative correlation between the number of scale options and the opportunity that midpoints become a dumping ground. This implies that midpoints may be more appropriate in a scale with more scale options.

Implication to educational research

According to the literature reviewed above, it is obvious that there is still no conclusion whether the midpoints on Likert scale are desirable or not. Nevertheless, according to the methodological viewpoint, i.e. the issue about the impact of midpoints on measurement reliability and validity, both use and not use of midpoints are acceptable because the midpoints may not really affect the reliability and validity (Dawes, 2001a; Matell & Jacoby, 1971). Therefore, it is suggested that educational researchers should

take more consideration to the epistemological issue while designing the rating scale of a measurement.

To some extent, it is hard for educational researchers to know exactly the meaning of the midpoint responses. For instance, how should we interpret why a teacher choose the midpoint to the following statement retrieved from Kyriakides, et al.'s (2002) questionnaire about teacher effectiveness: "Students' achievement in relation to teachers' objectives"? The teacher may select the midpoint for a variety of purposes, such as: he or she may want to express neutrality about the relationship between students' achievement and teachers' objectives; he or she may not know the relationship; or he or she may avoid to select "disagree" or "very disagree", even though this may be his or her true thought, because he or she may think disagreement about the statement is socially undesirable.

Nevertheless, it is argued that the inclusion of midpoints on a scale is necessary. This is because we cannot sure whether the meaning of "agree" or "disagree" response, for instance, really implies the respondents' agreement or disagreement towards the items. Some respondents may select these two options because there is no an option referring to "neutral", "undecided" or "don't know". In this sense, we may need to take a risk that we may make an inaccurate conclusion due to the scale without such midpoints. The inaccurate conclusion may affect the validity of the implications and recommendations to improve our educational system.

If this is right, educational researchers need to think how to minimize the disadvantage of the use of midpoints such as respondents' misinterpretation to the midpoint opinions, response set to midpoints, and social desirable responses through midpoints. One possible way is a careful use of option labels. For example, Worcester and Burns (1975) discover that the balance side point options (e.g. the point 2 and 4 of a 5-point Likert scale) that are labeled as "slightly agree/disagree", "fairly agree/disagree" or "quite agree/disagree" are more preferable than that labeled as "agree" and "disagree" only, because the adverbs tend to reduce the number of midpoint selections.

Another way is to define the midpoints as clear as possible. Some studies suggest that the use of midpoints as a dumping ground may be more likely to occur when the option labels are difficult to understand (Cummins & Gullone, 2000; Kulas & Stachowski, 2009). Therefore, for example, it is more desirable to refer midpoints to the label of "neither agree nor disagree" or "neutral" instead of number "3". Alternatively, educational researchers may add "non-applicable" or "N/A" options in a Likert scale (Kulas, et al., 2008). These

two approaches may be able to solve the problem of “untrue” middle response category endorsement (Kulas & Stachowski, 2009; Kulas, et al., 2008).

Finally, the limitations of the midpoints may be reduced by increasing scale sensitivity. To increase scale sensitivity means to increase number of scale options (Cummins & Gullone, 2000). Some researchers show the increase in scale sensitivity may decrease the midpoint selections (Matell & Jacoby, 1972). They suggest that the midpoint selections tend to more often occur on 3-point and 5-point scale, but less on 7-point and 19-point scale (Matell & Jacoby, 1972). In other words, the response set to midpoints and social desirable responses through midpoints may be minimized by increasing scale sensitivity.

Conclusion

In this paper, the literature about the debate of the use of midpoints on Likert scale is reviewed. It finds that the debate seems to focus on two issues: methodological issue – the impact of midpoints on measurement reliability and validity – and epistemological issue – whether and how researchers know the meaning of midpoint responses that are the intended meaning designed by the researchers. After reviewing the arguments from both supporters and opponents, it is suggested that a scale with midpoints is appropriate for educational research because such an inclusion may not necessarily be harmful to the measurement reliability and validity, but also avoid forcing respondents to choose a direction. Nevertheless, it is still noted that there are some limitations of the use of midpoints, such as respondents’ misinterpretation to the midpoint opinions, response set to midpoints, and social desirable responses through midpoints. Nevertheless, the limitations may be minimized by the careful use of the option labels, the clear definition of the midpoints, the inclusion of “N/A” options in a Likert scale, and the increase in scale sensitivity.

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探討高階思維的意涵以改革學校課程與教學

Conceptualizing higher-order thinking for reforming school curriculum and teaching

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摘要

近數十年來，世界各地提出需要改革課程與教學範式，認為必須裝備學生的高階思維能力。在香港，教育當局也有這樣的主張。高階思維，簡稱「高思」，在本地及國際文獻中，是一個豐富的概念。學者們為這個概念提出了很多不同的演繹，至今仍未有共識；不少人期望對此理念能更清楚地理解。本文借助文獻分析方法，探討這富挑戰性的議題，先闡明「高思」與教學範式轉變的關係，進而討論「高思」相關的概念及理論，綜合成為四類高階思維的意涵，冀望能為教育實務及日後的相關研究提供有用的參考。

關鍵詞

高階思維，課程與教學範式，課程改革，教學創新

Abstract

In recent decades, researchers recommend the reform of the paradigm of curriculum and teaching to cater for educational needs in the contemporary world. Many suggest equipping the next generation with the capabilities of higher-order thinking (HOT). In Hong Kong, the Education Bureau also emphasizes the development of higher-order thinking skills in school curriculum. Hitherto, HOT is a rich concept that is under numerous diverse interpretations by local and international academics. Many educators

wish to have a better understanding of the concept. Based on findings from documentary analysis, this paper analyzes the concept of HOT. It starts with analyzing how HOT is related to a change in teaching paradigm, followed by a discussion of the theory and concepts of HOT, which leads to the formulation of a conceptual framework proposed by the present author. The author wishes that the framework could serve as a reference for further empirical or practical endeavors in the field.

Keywords

higher-order thinking, paradigm of curriculum and teaching, curriculum reform, innovative teaching

引言

在這個瞬息萬變的時代裏，現代的學校課程與教學正經歷不能迴避的轉向。Gardner（1999）指出未來的教育需能應付六大潮流，這包括科技與科學的突破和知識領域的轉變；重點是，這六個力量加上腦研究及學習論的更新和啟示，勢如破竹地衝擊世界各地的教育目的及價值，使其出現根本的變化，學校課程不能不改革。歐用生、楊慧文（1998）也有類似的意見，他們對後現代社會現象作了分析，指出富裕社會將人性「物化」，新的經濟倫理影響人的價值觀，資訊社會又挑戰著傳統生活。轉換課程與教學典範以挽救失落的一代，是學校迫在眉睫的工作。教育應如何改變？如何改革？正如費利民（Friedman, 2007）所說，世界是平的，這議題是國際化的。面對這重大議題，中、外學者都有提出他們的見解。

Hargreaves（2003）引用新加坡政府的例子，說明任何國家為了未來的繁榮，必須培養國民的學習和應付變化的能力，而「思考型學校」正是新加坡的教育藍圖。Hargreaves 因此說明，面向知識型經濟的教學應著重培養學生的創造力、靈活性、問題解決能力、獨創性、集體智慧及敢於冒險的精神等。一些學者有類同的看法：認為發展學生思維與心智是知識型社會極為重要的一項努力方向（Resnick, 1987; Bereiter, 2002）。總而言之，擁

有高階思維（下文寫作「高思」，這是香港一些學校老師常用的簡稱）等同擁有高效能的思考力，被視為廿一世紀不可匱乏的能力（Cotton, 1991）。要培育學生的這些能力，思考教學誠然有其重要性。這也是本港教育改革和課程革新的焦點建議（教育統籌委員會，2000；課程發展議會，2001）。

香港政府曾把本港定位為一個面向知識型經濟的社會，也重視教育方面的投資，其教育與課程改革綱領強調發展學生的創造力、問題解決能力及批判思考等高思能力（教育統籌委員會，2000；課程發展議會，2001）。課程改革實行至今已逾十年，成敗得失毀譽參半。對於思考的培育，始終是願景多於實作。最近教育局的學校外評周年報告亦指出，學校能成功在教學中發展學生的高思能力，只屬個別例子（教育局質素保證分部，2009）。看來，學習者的思考培育是現時仍需努力的其中一項改革重點（South China Morning Post, 2011）。

研究發現教師對課程革新的理解常是成功的關鍵要素（Yeung and Lam, 2007）。高階思維是一個眾說紛紜的概念，在探討這個概念的文獻時，學者提出了很多不同的演繹。香港實施了課程改革多年，至今學校教育人員仍期望對此理念能有更清楚的理解。為此，本文期望能透過文獻分析為這個富挑戰性的議題作理念的探討，先闡明高思與教學範式轉變的關係，進而討論一些相關的概念、理論，和作者發現的觀點，為高階思維的內涵作出歸類，冀望能為這方面的教育研究與實務提供有用的參考。

研究方法

本文就「高思」的意涵探討，源於作者一次文獻分析（Documentary analysis）的研究結果。文獻分析法又稱內容分析法，是用作釐清教育概念的研究方法；研究者可從文獻的分析中「描述概念的精義或一般意義、及確認概念的不同意義…」（王文科、王智弘，2005）。

進行文獻分析之前，作者先行界定文獻蒐集的方向、年份，定下是次探討的取樣方法。

本港的課程改革，歷年以來常參考西方的理論作為發展基礎（Yeung, 2009; Morris & Adamson, 2009）；其教育與課程改革綱領中建議發展的思維教育，亦以西方觀點為主要根據（教育統籌委員會，2000；課程發展議會，2001）；故此，本文探討的方向亦先以西方文獻為起點¹。作者在閱覽文獻過程中，發現有關高思的討論多以 Resnick（1987）的著作為起點；故此，本文的文獻搜集亦以該著作及年份為起點。取樣年份方面，定為 1987 年到作者執筆撰寫本文前為限。然後，作者運用了多項電子資料庫²，搜尋了與「高思」教學相關的文獻。

整合了文獻分析結果，作者現按以下方面與讀者分享：

- 一、「高思」與教學範式轉變的關係；
- 二、一些相關的概念、理論，和作者發現的觀點；及
- 三、高階思維內涵的歸類。

高階思維與教學觀的轉變

對如何獲取知識的不同看法是各類教學觀的基礎，這些看法影響到學校的課程與教學的發展。早在上世紀九十年代，西方學說已提出課程與教學應脫離只重灌輸知識的「直接傳授」（Teaching for Transmission），轉向「以理解為目的」的教學（Teaching for Understanding）（Good & Brophy, 2008）。「以理解為目的」的教學認為真正的學習需經學習者對知識的理解、統合、評估和應用。論者認為灌輸式的教授能便利學生進行事實內容的吸納，卻未及「以理解為目的」的教學般成就更理想的智慧培養。要達成「以理解為目的」的教學目標，有學者認為應落實「建構主義」。建構主義認為學習需要學生積極參

¹ 本文作者將持續留意兩岸四地及亞太區教育方面在高思課程與教學的研究發展，他日若有進一步發現，便會再作發表。

² 搜尋過的電子資料庫主要包括：ProQuest Arts & Humanities Databases, ERIC 和 Google Scholar 等；相關的百多份文獻包括以高階思維教學為研究主題的文章（約 30 篇），其他相關的文章（如談及創意思考和批判思考教學的文章）（約共 50 篇）。

與，通過主動的思考和探究驗證的過程，在新知識和個人的已有知識間建立聯繫，從而建構真正屬於個人的、有活力的知識（Fosnot, 1989）。相對於那些把知識看作不能改變的信條的教學人員，支持這派學說的人相信死記硬背不是獲取知識的方法，理想的教法能讓學習者明白知識是可轉移的，並可用來解釋新事物、解決問題和應用於廣泛的學習和日常生活中（Perkins, 1999）。因此，教學不能單一地照抄照背教師或書本上的筆記，而應設計學習的過程，讓學生主動思考、探求和苦心經營；而高思策略則是導引學生建構知識的重要能力（Beyer and Liston, 1996）。

在相關的討論中，以研究教學著名的 Borich（2011）發現一個有效的教師應能提升學習者在課堂中「投入學習」的程度，這種具關鍵性的教學行為，與學生學業表現有密切關係。他更指出，引導學習者積極思考教師教授的課程內容，是其中一個令學生投入學習的有效方法。此發現與 Stronge（2007）所指效能教師應有提拔具高階思考能力學生的能力可謂不謀而合。觀察到近日香港的教育發展中，當人們紛紛討論如何運用小班教學的優勢以改善教學時，發展學生「高思」的教學益發為人所重視（Galton, 2007）。

不同學者對「高思」的理解

思考是一種能力，在概念上它是一個複雜的載體。高層次思考（Higher-order Thinking），又稱高階思維，在香港被一些老師簡稱作「高思」。在西方文獻中，它是一個十分豐富的概念。作者發現在探討這個概念的文獻中，「思考」二字比「高層次思考」較多出現，但它們討論內容卻必包含高思的意念。對於「高思」，學者們提出了很多不同的演繹，下面將簡介一些重要的看法。

Resnick（1987）首先描述了高階思維的一些特性，包括：無規則的、複雜性、容納多元答案、多重標準、不肯定和自有規律（頁8）。思維能產生新的技巧、概念、結論、行動、主意與新的問題等。他還指出高思需要學習者付出努力去思索問題，經苦心經營、精密思索出來的才算是高思的成果。此外，高思並沒有年齡之分，即使幼童也能在適當的學習環境設計下學習怎樣比較、推測及解決問題。一般來說，高思是指普遍性的認知過程，可用於很多科目或情境中。

有論者從學習論追溯「高思」的理念根源，發現有關思考的學說源自認知學習論（Eggan & Kauchak, 2001）。根據認知學習論，學習是學生主動思索和探求知識的過程，這與重視學生思考的教學信念同出一轍。認知學習論者認為學生在學習過程中若能積極地思考，會較只靜態地聽課有更高成效。

Lewis & Smith（1993）比較了高層次思考（高思）與低層次思考（低思）。學習者會運用低思來處理訊息，如辨認簡單的數學符號；但需要運用高思能力去探討較為高深的議題或解決較複雜的問題。

波諾（de Bono, 1992）認為思考是一個自我組織的系統，人們要經學習才能掌握高思的技巧。他列出思考的成份包括：態度、原則、習慣、基本運作、工具和結構。那是說思考的先決條件是我們有願意思考的心態或動機，還要有堅持設法進行有質素思考的原則；然後，持守有效思考的習慣，選擇適合的思考方式（或稱思考技巧），再根據所需的思考步驟運作思路，便能有所成就。據此，波諾提出了多個教導人們思考的方略，例如：PMI（正面、負面與趣味面）思考法、六頂思考帽、FIP（優先考慮的問題）等。雖然一些商界及教育界曾採納波諾的模式進行人才的思考訓練，有學者卻批評他提出的祇是思考工具（thinking tools），並暗示他的提出不屬於一套具學術性質的思考理論或技術（Milvain, 2008）。

綜論高階思維的意涵

閱覽文獻，便會發現五花八門的「高思」主張。揉合各有關「高思」內涵的討論，如 Swartz & Perkins（1990）、Cotton（1991）、Keefe & Walberg（1992）、Anderson, et al.（2001）、Ong & Borich（2006）及 McGregor（2007）等（見表一），本文作者認為「高思」的分析可歸納為以下四大類別：

- 一、 傳統的思考策略（Traditional thinking strategies），如創意思考、批判思考、後設認知等
- 二、 較微觀的基本思考技巧（Core thinking skills）

三、具統合性的思考理論／模式（Integrated thinking models）

四、思考意向（Thinking dispositions）

表一 高思理論概觀——一些學者的界定³

Swartz & Perkins (1990)	Cotton (1991)	Keefe & Walberg (1992)	Anderson & Krathwohl (2001)	Ong & Borich (2006)	McGregor (2007)
<ul style="list-style-type: none"> • 批判思考 • 創意思考 	布魯姆等人之思考層次分類： 創意思考 批判思考 後設認知 思考技巧	<ul style="list-style-type: none"> • 認知 • 後設認知 • 思考意向 	改進布魯姆的分類法－ 認知維度： <ul style="list-style-type: none"> • 識記 • 理解 • 應用 • 分析 • 評鑑 • 創造 	<ul style="list-style-type: none"> • 基本思考技巧 • 批判思考 • 創意思考 • 複雜的思考過程 • 後設認知 • 思考意向 	<ul style="list-style-type: none"> • 資訊處理技巧 • 推理 • 探詢 • 創意 • 評鑑

傳統的思考策略（Traditional thinking strategies）

很多學者都認定創意思考、批判思考及後設認知這三種廣義的、經典的思考理論，是研究高思者必然探討的，文獻中可見不少有關它們的研究。其中 de Bono（1970）的水平思考理論、Ennis（1996）的批判思考論、Schön（1991）的反思教學論分別為三者的代表。de Bono（1970）點出「垂直思考」的局限，認為人們應學習水平思考來創造新觀點，並提出了一些訓練水平思考的方法。Eisner（1995）認為批判思考包括四個主要的認知行為：沈思、探詢、鑑賞和建構。對個人思考過程的理解、計劃和反省是後設認知論所強調的，而 Schön（1991）的反思教學論則被應用到本地的教師培訓中（Yeung, 2002a; 2002b; 2008）。除了以上三類最廣為學者推薦的思考模式外，還有一些值得讓學童學習的思考方式——學者稱之為「複雜的思考過程」（Swartz, 2001; Ong & Borich, 2006）。這主要包括問題解決（Problem Solving）及決策（Decision Making）思考。問題解決能力或作「解難能力」，其中的思考步驟包括確認問題、考慮解決問題的方法、探查資料、驗證假設以及

³ 內容經作者分析文獻所得歸納而成。

作出選擇和決策（Delisle, 1997）。香港教育局近年推行到高中必修課程的通識科，便納入了此種思考模式的培育。

基本思考技巧（Core thinking skills）

這包括基本的思考技巧如：推理、探詢、分析、評鑑、分類、預測、比較等（Cotton, 1991; Swartz, 2001; McGregor, 2007），表二亦列出了一些常為人道的思考技巧。較複雜的思考過程（如上述的問題解決和決策思考）及廣義的高思模式如創意與批判思考，均會運用一種或以上的基本思考技巧。多年來很多教學人員採用布魯姆的思考層次分類，認為布氏等人（Bloom et al., 1956; Anderson et al., 2001）的分類架構已包括了常用於教學的思考技巧。為人熟悉的布氏六個認知領域的思考層次包括知識、理解、應用、分析、綜合及評鑑（新版本：知識、理解、應用、分析、評鑑、創造），新舊版本的後三層次一般被喻為「高層次」認知／思考。這套理論常被教師用作設計課堂提問來幫助學生思考。

表二 基本思考技巧

思維的技巧	按思考的方向歸類的思維技巧
排序（sequencing）， 分析（analysis）， 聯想（association）， 分類（classification）， 理解（comprehension）， 比較（comparison）， 推論（deduction）， 評估（evaluation）， 靈活性（flexibility）， 流暢（fluency）， 預報（forecasting）， 歸納（generalizing）， 假設（hypothesizing）， 解釋（interpretation）， 觀察（observation）， 制定計劃（planning）， 預測（predicting）， 疑問（questioning）， 合成（synthesizing）， 推理（theorizing）等	邏輯思維 水平思考 聚斂思考 擴散性思維

具統合性質的高思理論 (Integrated thinking models)

在紛紜的學術討論中，有一些學者為「高思」提出一些別具特色的演繹；諸如：Marzano 等（1988）的思考維度、Sternberg & Spear-Swerling（1996）的三元思考理論；Gardner（2006）的五種心智、以及 de Bono（2003）的六頂思考帽。這四種「高思」理論都具統合（Fusion）性質，能把不同的思考模式、過程等融會貫通，筆者會在以下段落中簡作討論。

Marzano 等（1988）提出一個分析思考的架構，讓教學人員計劃或研究高思課程和教學時參考，他們稱之為「思考維度」（Dimensions of thinking）。這包括五個思考維度：

- 後設認知（Metacognition）
- 批判和創意思考（Critical and creative thinking）
- 思考歷程（Teaching processes）
- 主要的思考技巧（Core thinking skills）
- 內容知識與思考的關聯性（Relationship of content-area knowledge to thinking）

細心研讀後，便能發現 Marzano 等的思考維度架構具有統合性，把不同學者對高思的提出總括起來。相對於其他學說而言，他的想法較少被運用到課程與教學的設計中，但仍十分值得參考的。

Sternberg & Spear-Swerling（1996）發展了思考三元理論（Triarchic theory of thinking）。根據這個理論，思考應包括以下三種：分析性思考（analytical thinking）、創意性思考（creative thinking）和實用性思考（practical thinking）。分析性思考涵蓋分析、判斷、評估、比較、對照等能力；創意性思考涵蓋創新、發現、創造、想像和假設等能力；實用性思考則涵蓋實踐、使用、運用以及人們在真實世界裏展示的能力。擅長分析性思考的人長於解決熟悉的或學業上的問題；富創意性思考力的人善於運用思考技術解決新奇的問題；作實用性思考的人則較願意把這些技巧應用到日常生活中的問題。面對新世紀，此三種思考力的培養是同樣重要的，Sternberg & Spear-Swerling 卻遺憾地說：「傳統的學校教育只注重一種思考—分析性思考（頁3）」。為了改善這個問題，兩位學者於是著書幫助教師掌握三元思考的理論和教學方法。

Gardner 發表的多元智慧論 (Gardner, 1999)，一直廣為人用於設計課程和教學。廣泛流傳的八種智慧包括：語文、邏輯—數學、空間、肢體—動覺、音樂、人際、內省及自然觀察者，此八種智能與高思的理論有著極為密切的關係。有關多元智慧的應用，參考著作十分多（如 Kagan & Kagan, 1998；Armstrong, 2000），此處不再細談。Gardner 在其後的著作中更提出了決勝未來的五種心智，包括修練心智 (Disciplined Mind)、統合心智 (Synthesizing Mind)、創造心智 (Creating Mind)、尊重心智 (Respectful Mind) 和倫理心智 (Ethical Mind) (Gardner, 2006)。在現今這個科學和技術霸權世界中，Gardner 認為任何人若能成功培養這五種心智，便最有可能成功。面對資訊苦多、倫理道德受挑戰的年代，他更指出這些心智的建立對未來一代來說十分重要。細意分析下，便能發現每一種心智需要相應的思考習性，例如：修練心智需要學習者持續努力專注和意欲求真的思考習性，統合和創造的心智顯然是高思的能力，而尊重與倫理心智則必含批判的高思成份。

de Bono (2003) 的六頂思考帽其實代表著六種不同的思考方式——紅帽子代表情感、白帽子代表客觀資料、黃帽子是正面思考的帽子、黑帽子則是批判的思考、綠帽子是創意的思考、藍帽子則負責控制思考和作出決策。de Bono 認為人們若能善用六頂帽子去思考問題，則更能清醒且有效地達致成果，這個思考理論在坊間有頗多的應用和討論。這套想法具統合性，與前面三種思考理論相似，它融合了不同的思考方式的優點，使思考能發揮更大的果效。

思考意向 (Thinking dispositions)

學者發現熱愛思考的人較能想出有質素的點子 (Swartz & Perkins, 1990)，好的思考不是純粹技術性的事情，它包含了「情意面」——需要思考者誠心的投入、專注並努力以赴。思考意向便是高思「內涵」的情意面，它是指學習者運用思考來學習的意願、動機和習慣。這方面最具代表的主張包括 Costa & Kallick (2009) 的思考習性論及 Tishman & Perkins (1995) 的思考教室文化說。Costa & Kallick 認為學校教育需要發展學生的思考習性有十多項，例如：願意冒險並且承擔後果、有幽默感、堅持、彈性思考等。Tishman, Perkins & Jay 則提出學校人員應在課室中建立思考文化，好使「思考無處不在——無論言語、價值、期望以至習性，人人都努力以赴，能在學習中營造優質的思考」(p.2)。由此可見主張此向度的學者是何等期盼思考教學能達致更高境界的教育實踐。

總結

從文獻的研究中，本文作者綜論了高階思考的內涵可包括以下四方面：

- 一、 傳統的思考策略（Traditional thinking strategies），如創意思考、批判思考、後設認知等
- 二、 較微觀的基本思考技巧（Core thinking skills）
- 三、 具統合性的思考理論／模式（Integrated thinking models）
- 四、 思考意向（Thinking dispositions）

這些向度互有關聯和互相補足，若能平衡地運用，則高思的整全內涵方能理想達成。教育工作者或研究人員可聚焦研究其中一個方面又或多個相關的方面在課程與教學的發展潛力——以行動研究進行實務的探討，以驗證高思如何能在課程改革中發揮意義。

在這四個方面中，目前本地的研究大都集中討論有關第一方面（傳統思考策略）的著作或研究，如鄭慕賢（2008）提出如何在科學科中實施創意思考教學；又如黎耀志、黃德華（2005）在幼兒教學數學科的教學嘗試。對於批判思考，本地的相關研究和著作較台灣少；後設認知方面亦較少人談論；筆者年前製作有關教師的反思力培訓教材是一實踐例子（Yeung, 2002a; 2002b; 2008），至於如何運用到小學或中學的課程裏則仍有待努力。至於其他三方面的論著，更是鳳毛麟角。總括來說，高思的教研還有很大的發展空間，除了在專科教學中滲入某類高思的訓練外，可嘗試以跨學科至超越學科形式聯結高思和學科內容（Yeung & Lam, 2007）。另外更可配合校情，因應學生的學習需要，設計適切的校本高思課程。高思內涵本質上的靈活性和可塑性，值得有志做好香港教育的工作者多作探索和努力。

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教學內容知識的定義和內涵

The definition and essence of pedagogical content knowledge

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摘要

一般來說，研究者認為教師需具備多種不同範疇的知識，教學內容知識 (pedagogical content knowledge, PCK) 是其中一種。教學內容知識的成份包括學科知識和一般教學知識的內涵。它超越了教材知識本身，經過可教性的分析，以最能表現學科知識的形式出現。教學內容知識作為教師所獨有的知識，其特點就在於教師既要充分掌握學科內容，又要了解學生學習的特點，然後能有效地運用策略，把學科內容用學生可以理解的方式表現出來，引導學生探究、建構知識。本文根據文獻資料，整理 2000 年以來中外學者對教學內容知識的實徵研究，並簡述其研究發現。

文獻的整理顯示，教學內容知識有三方面主要的特徵，包括教師對特定學科內容的理解，教師對特定學科內容表徵的掌握和運用，以及教師對於學習和學習者的理解。此外，對於教師掌握教學內容知識的情況，有四方面研究結果值得注意。一是新手教師和經驗教師的教學內容知識顯著不同；二是教學內容知識是一種綜合性的知識，是教師在整合了各種知識之後，能純熟運用於教學中的知識；三是教學內容知識和學科知識關係密切；四是教師的教學內容知識主要體現在理解和表徵 (representation)。最後，本文之分析顯示，「教

學策略和對特定課題表徵的知識」的關係，以及「教學內容知識與學科知識」的關係，都非常密切。

關鍵詞

中國語文，教學內容知識，教學策略，教學內容表徵

Abstract

Researchers realize that teachers need to possess knowledge from various scopes including pedagogical content knowledge (PCK). The components of PCK include subject knowledge and general pedagogical knowledge. PCK does not only comprise the knowledge of teaching materials, but also the expression of subject knowledge in the most representative mode in regard to teachability. PCK as unique knowledge of teachers. Its features include that teachers need to fully grasp the subject content knowledge and understand students' learning characteristics. Then teachers express the subject content knowledge through effective strategies in order to ensure students' understanding, inquiry and construction of knowledge. This paper, reviewing relevant literatures since 2000, tries to synthesize empirical research on PCK and briefly illustrates the research finding.

From the literature review, the authors note that there are three main ideas about PCK: teachers understand the specific subject content; teachers manage and utilize specific representation of subject content; and teachers understand specific learning and learners. Moreover, four research findings are worth noting. First, the PCK of novice teachers and experienced teachers are significantly different. Second, PCK is a comprehensive knowledge that is skillfully utilized in teaching after teachers synthesizing various kinds of knowledge. Third, PCK is closely related to subject knowledge. Fourth, the PCK of teachers is mainly expressed in the understanding and representation of subject knowledge. In the last section, the authors suggest there is a close relationship between teaching strategies and representation of knowledge, and so does PCK and subject knowledge.

Keywords

Chinese Language, pedagogical content knowledge, teaching strategy, representation of pedagogical knowledge

一、引言

對教師知識的研究很多是從教師本身為出發點，了解教師所知道的事（郭玉霞，1997，頁5），研究的問題如「教師需要具備何種知識？」（What teachers need to know?）、「教師知道什麼？」（What do teachers know?）。在美國師範教育界，學者逐漸不再用傳統的行為心理學作為基礎的研究範式，而是以認知心理學為基礎，研究教師的專業思考，探討教師認知與推理判斷的歷程（單文經，1990，頁263）。因此教師的角色不再局限於課程的執行者，而是「反思性專業人員」（Schön, 1983）。教師應了解自己長處與限制，需要具備和教學有關的教學內容知識、實務知識（practical knowledge）、甚至心理學、社會學方面的知識，以應用於實際的教學情境。

探討教學內容知識的概念，非常重要。筆者認為，探討教學內容知識包括兩方面的重要性。首先，教學內容知識對教師教育產生一定影響。一直以來，專科任教老師着重科目知識，專業教師着重教學和課程知識，兩者之間存在複雜的關係，但也存在基本的差異。教學內容知識即為連繫兩種知識的重要概念；因此，了解教學內容知識有助了解兩者的關係。其次，Shulman 提出教學內容知識概念後，學者們進行多項研究，包括其內涵、特徵、結構、形成過程、教師教學實踐等。在研究過程中，出現多種觀點，引發各樣討論。探討教學內容知識的內涵，有助釐清不同的觀點。本文根據文獻資料，整理 2000 年以來中外學者對教學內容知識的實徵研究，並簡述其研究發現。

二、教師知識的內涵

關於教師知識的內涵，學者的分類各有不同（Shulman, 1986a, 1987a, 1987b, 1987; Wilson, Shulman, & Richart, 1987; Grossman & Richert, 1988），現將幾位有代表性的學者及其看法整理如下（見表一）。

表一 教師知識的分類

Shulman 1987	Elbaz 1983	Grossman 1988	Tamir 1988	單文經 1990	Reynolds 1992	Eraut 1995	Borko, Putnam 1996	Morine, Kent 1999
學科內容 知識	學科專 門知識	學科知識	學科知識 和能力		學科教學 知識；內 容	學科知 識	學科知 識	學科知識
一般教學 知識	教學知 識	一般教學 知識	一般通識 教育； 一般教學 法；教學 專業基礎	一般教學 知識	一般學科 知識		一般教 學知識	教學法知識
課程知識	課程知 識			課程知識				課程知識
對學習者 及其特質 的知識				學生身心 發展的知 識				對學習者和 學習的知識
教育情境 的知識	教學情 境知識	情境知識		教育脈絡 的知識		關於社 會的知 識； 實務知 識		一般教育情 境脈絡知 識； 特定的情境 脈絡知識
PCK		PCK	學科特定 教學法	教材教法 的知識； 教材內容 的知識			PCK	PCK
對教育目 的、價值、 哲學及其 歷史淵源 的知識				教育目的 的知識	教與學的 一般原理	教育理 論		
								評估程序和 對成績表現 的評價
	自我知 識							

表中可見，研究者認為教師需具備多種不同範疇的知識，教學內容知識（pedagogical content knowledge）是其中一種。這種知識涉及教師在教學活動中複雜的知識運用，雖然可以用多種知識來描述這種知識運用，但會相當不方便，有時也欠準確。因此，一種描述教師教學的專門知識還是非常有必要，這種專門的知識早在教學內容知識被提出之前已有雛型，如杜威（Dewey）曾提出一個「學科心理化」的概念（Wilson, Shulman & Richert, 1987），杜威（1902）認為作為教師要能先把學科知識「心理化」（psychologize），才能達到教學目的，因為教師對學科內容的認知方式應該是「基於學科在教育上的價值與目的，而不是對學科的精通」（Dewey, 1902/1964），他指出：

每種學科都有兩方面：一是令科學家成為科學家；一是令教師成為教師。這兩方面互不衝突，不過也不是完全相同。對科學家而言，學科知識是既代表真理，也適用於發現新問題，並進行新研究，以及證實研究的結果。……而教師所面對的情形則大不相同，作為教師，他所關切的不是為科學增添新的事實，也不須要提出新的假設並加以驗證。他所關切的是所教科學的學科內容，關心如何將學科知識變成經驗的一部份，而其個人的經驗或學生既有的知識經驗，都可成為適當地引導學生的媒介。（Dewey, 1902/1964, p.318）

三、教學內容知識的內涵

如同杜威區分科學家與教師之間的差異一樣，學者認為一種獨特的教師知識可以區分學科學者和教師的不同，學者創造並發現學科領域上的新知識，教師則在教學上重新組織這些內容知識使學生理解，了解學生所遭遇的問題，設法克服、解決（Grossman, Wilson & Shulman, 1989; McEwan & Bull, 1991）。這種知識就是教學內容知識。

Shulman 對教學內容知識，有詳盡的解釋：

……教學內容知識指教師必須能將所教授的內容在教學中具體表現出來。在教學內容知識的範疇裏，包含教師對學科中最常教授的主題、最有效的表現形式、最有力的類比、舉例、說明、示範和闡述等方面的了解。即教師在學科特殊的課題

上重新組合、以適當的方式表現，使學生能理解有關的內容。教學內容知識還包括教師理解有什麼因素使學生在學習時對於特定概念感到困難或容易，也理解不同年齡、背景的學生在學習這些課題時所持有的概念與先備的概念。（Shulman, 1986b, p.9）

根據上述解釋，教學內容知識的成份包括學科知識和一般教學知識的內涵，它超越了教材知識本身，經過可教性（teachability）的分析，以最能表現（represent）學科知識的形式出現（單文經，1992）。教學內容知識作為教師所獨有的知識，其特點就在於教師既要充分掌握學科內容，又要了解學生學習的特點，然後能有效地運用策略，把學科內容用學生可以理解的方式表現出來，引導學生探究、建構知識。

Shulman 提出教學內容知識的概念之後，這種知識迅速成為學者研究的重點，對於其定義，也有進一步的討論和拓展。其中由於不少研究都置於特定的學科中進行，而教學內容知識又特別切合於特定學科內容下的教學，因此，教學內容知識在很多情況下被視為具體教授特定學科的一種知識，如 Grossman 就認為教學內容知識是教師的一種「適當的，並且是引起學生對所學內容的興趣的表徵」（Grossman, 1990, p.8）。Llinares（2000）認為教學內容知識是在課堂情境中學科知識和關於學習者的知識的結合。Sherin（2002）認為教學內容知識是學科內容教學的專門知識，包括教師知識如何呈現該學科領域的知識來促進學生學習，也知道學生在學習時典型的特點，如可能理解什麼和誤解什麼。他認為教師的知識是在學科教學中，對不同知識進行協商（negotiate），這包括對學科內容、課程材料和關於學生學習的理解。

從研究者對教學內容知識定義的探討，可以總結出教學內容知識的一些主要特徵，包括以下三個方面：

1. 教師對特定學科內容的理解，特別是指在學科中教師經常教授的範圍和主題。
2. 教師對上述特定學科內容表徵的掌握和運用，如用什麼形式（類比、舉例、譬喻、圖示和示範等）表現學科內容才是有效、最具說服力、最易令學生明白的。
3. 教師對於學習和學習者的理解，如學生已有的概念、在學習某一特定內容之前的概念，對某方面的內容感到容易或困難、理解或誤解，並且知道是什麼因素影響他們的學習。（Tamir, 1988; Grossman, 1990; Marks, 1990）

這裏可見教學內容知識的複雜性，它不是以一種單一的知識面貌出現的，而是各種知識相互牽連、缺一不可。在教學時各種知識間的關係是互動的，同時包含着知識和技能。

四、教學內容知識的研究整理

教學內容知識這一概念，迅速引起學者的關注。對於教學內容知識的研究，在各種學科教學和教師教育的領域展開。筆者根據文獻資料，整理 2000 年至 2010 年的十年間中外學者對教學內容知識的實徵研究，並簡述其研究發現，以表二展示。

表二 教學內容知識的研究整理

	研究者（年份）	研究主題	樣本／研究方法	研究發現
1 ★	Castro-Filho (2000)	教學內容 知識 學科：數學	八名中學教師 量化函數、刺激 回憶、訪談、觀察	1. 課程與科技的使用為教師現在的理解創造了挑戰，特別是有關觀念的改變。 2. 教師重視學科的單元內容、研究者的支持、內容知識的討論。 3. 從討論學生成果中，教師受益匪淺。
2 ★	劉怡亭(2000)	教學內容 知識 學科：歷史	一名國中教師 訪談、觀察、文件蒐集	1. 影響教學內容知識的因素包括內在因素和外在因素。 2. 教學內容知識包括教學理念、對課程與課本的看法、對學生學習歷史的了解、學科知識、學科教學信念、教學歷程中的知識、教學情境變化的認知。
3 ★	劉麗玲(2000)	教學內容 知識 學科：理化	一名資深國中 教師 觀察、訪談、文件蒐集、量表、問卷	1. 個案教師具有多種的教學表徵，視學生反應與解說需要而變換。 2. 教學表徵包括自行創造及利用網絡教學資源站。 3. 與同事討論或請教專家學者來發展新的表徵。

	研究者（年份）	研究主題	樣本／研究方法	研究發現
4 ★	張家芳（2001）	教學內容知識 學科：歷史	一名國中實習教師 觀察、訪談、文件分析	1. 個案教師所具備的教師知識內涵包括教學表徵知識、一般教學知識、課程知識、學習者知識、教學情境知識及教師的教學信念。 2. 形成教師知識的有關因素有內在來源和外在來源。
5 ★	謝建國（2001）	教學內容知識 學科：國語	一名國小實習教師 觀察、訪談、教學研究、研究者札記	1. 教學內容知識包括課程架構知識、學科內容知識、一般教學知識、學生知識、個人信念知識、教學情境知識。 2. 影響因素為過去經驗和當前經驗。 3. 教學推理過程分為教學前的準備階段、教學中的表徵方式、教學後的評量與反省。
6	李琮（2004）	教學內容知識、學科知識及其與課堂教學的關係 學科：數學	30 名小學 6 年級數學教師（包括專家教師和非專家教師） 問卷、課堂觀察、錄像與訪談	1. 專家教師能夠意識到數學的本質並聯繫到實際的教學中，非專家教師則否。 2. 專家教師傾向於將「做」數學看作為解釋與論證思維的過程；非專家教師傾向於將「做」數學看作為選擇適當法則或既定步驟，獲得答案的過程。 教學內容知識和學科知識的關係： 1. 兩種知識之間存在顯著相關。其中，學科知識中的知識組織與教學內容知識的關係最大；而教學內容知識中的對學生思維的了解與學科知識的關係最大。 2. 兩種知識之間的關係是雙向的，各自可以解釋對方的變量超過五成。

	研究者（年份）	研究主題	樣本／研究方法	研究發現
7	An, Kulm, & Wu (2004)	教學內容知識 學科：數學	28 名美國 5-8 年級教師和 33 名中國 5-6 年級教師在一定文化脈絡下的教學內容知識比較 問卷、訪談、課堂觀察	在不同的文化背景下，教師的教學內容知識是不同的。中國教師強調傳統的教學、機械的練習，發展學生程度性和概念性的知識；美國的教師注重促進學生的創造能力和探究能力，課堂活動多樣化，但在幫助學生的思維和操作、理解和過程的發展之間欠缺聯繫。
8	Krauss et al. (2008)	教學內容知識和學科知識 學科：數學	198 名中學教師測驗	教學內容知識和學科知識之關有很高的相關度，即學科知識豐富的教師，其教學內容知識也很豐富。 另外，雖然研究顯示教學內容知識和學科知識是兩種不同的概念，但數學科專家教師的學科知識和教學內容知識很難區分，而對於非專家教師而言，這兩知識卻相對獨立。
9	Lee & Luft (2008)	教學內容知識 學科：科學	4 名經驗教師（有十年上教學經驗、有三年以上指導新手教師經驗） 個案研究：半結構式訪談、課堂觀察、教案分析、每月一次反思研討會	1. 教學內容知識包括：科學知識、對科學教育目的的知識、對學生的知識、課程組織的知識、教學知識、評估知識和對資源的知識。 2. 各項教學內容知識的組成部分之間互有緊密的關連和影響。

	研究者（年份）	研究主題	樣本／研究方法	研究發現
10	Henze, Van Dirl, & Verloop (2008)	教學內容知識 學科：科學	9 名經驗教師 （在教授新的課程大綱時教學內容知識的發展） 半結構性課後訪談	教師的教學內容知識可以分成兩種類型：A 型和 B 型。A 型的教師關注教學內容，而 B 型教師關注教學的內容、內容的產生及其本質。 在教學內容知識的發展方面，A 型教師主要發展其教學策略的知識，而在各類知識之間的關係則沒有不同；B 型教師的教學內容知識內部各項知識之間緊密關聯，各部分都有整體的發展。
11	周健（2010）	教學內容知識 學科：中國語文	6 名中學中國語文教師（來自兩所自行設計教材學校和兩所使用教科書的學校） 處理教材時的教學內容知識	三項發現： 1. 在教師所有的知識中，教學內容知識是一種獨立的知識，是在學科教學時的專業知識，是學科教學時各種知識維度的綜合體現。 2. 在學科教學中，教師的學科知識是教學內容知識中的一個維度，與其他知識維度一起，綜合地產生作用。 3. 教學內容知識中教學策略和表徵的知識維度在教學時有不同的使用範圍，「策略」為所有課前的教學設計和實際教學時的一般教學方法；「表徵」則指教師在教學時，因應特定學科內容，採用針對性的方法，轉化所要教的內容，使之更容易讓學生明白的學科教學手段。

（表中的「★」部分為摘自邱憶惠（2002）《國小級任教師知識之個案研究》一文，頁 69-71、77-78，並稍作文字上的改動。）

綜合各項研究可見，教師的教學內容知識有四方面的性質：

其一、新手教師和經驗教師的教學內容知識有明顯的不同，新手教師在這方面知識的欠缺顯然受其實踐經驗的限制，無論在教學內容、策略和對學生的理解等方面都有待加強，這顯示了教學內容知識在實踐中習得的性質，是在經驗中積累的。

其二、教學內容知識是一種綜合性的知識，是教師在整合了各種知識之後，能純熟運用於教學中的知識；教學內容知識也能起一種聯繫的作用，將學科內容、課程、教學策略和關於學生的知識緊密連接的知識，即 Shulman（1987）所說，是體現了教師專業所獨有的一種知識。

其三、教學內容知識和學科知識關係密切，兩者之間有很高的相關度。學科知識為教師教學內容知識的發展提供了重要的基礎。這兩種知識在概念上雖不相同，但很難截然區分，這在兩種知識都很豐富的教師身上尤為明顯。

其四、教師的教學內容知識的特徵則主要體現在理解和表徵（representation），具備豐富教學內容知識的教師，都具有這兩方面的特點。「理解」包括對學科、課程、學生、情境和自身的深入了解和掌握，「表徵」則指教師能因應教學的需要運用各種教學方法和策略。

從表中十一項研究，可以了解不同研究者對教學內容知識的所包含的內容的理解，綜合而言，教學內容知識包括以下各項：

1. 學科知識：包括對學科的整體概念、學科教育的目的、學科內容知識、學科的本質、學科教學信念等；
2. 教學表徵知識：多指教學策略和技巧的知識；
3. 對學習和學習者的知識：包括對學生和學生知識的了解、預計學生在學習時可能出現的問題，對學習本質的了解等；
4. 課程知識：如課程架構、目標、課程計劃和組織，對課本和教材的理解，對課程改革的理解等；

5. 一般教學知識：如教學歷程中的知識；
6. 教學情境知識：如對教學情境變化的認知；
7. 教學理念、個人信念等；
8. 內容、教學法與個人實務知識的整合。

這是不同研究結果的綜合，每一項研究中所包含的內容不盡相同，但有重疊。其中對教學內容知識內涵的意見也不盡一致，有的包含的知識項目多些，有的少些。對教學內容知識中各組成知識的表述也很不相同，有的涵蓋很大的範圍，有的則很細緻。這與不同研究範圍和研究者關注點不同有關。教學內容知識的不同組成部分，須置於特定的研究脈絡中才有意義，例如 Grossman 在對中學英文教師（主要是新手教師）的研究後，指出教師的教學內容知識應該包括四個主要的組成部分（Grossman, 1988, p.15-17; 1990, p.8-9）：

1. 關於在不同學習階段（grade levels）學科教學目的的知識和信念；
2. 對於學生在學科學習中對特定課題的理解、概念和可能存在的誤解的知識；
3. 課程知識，包括對所教學科中課程材料的知識，以及學科課程縱向的和橫向的知識；
4. 教學策略和對特定課題表徵的知識。

其中第四項「教學策略和對特定課題表徵的知識」可以視為 Shulman、Wilson 和 Richart 所分的六項知識中，「有關教學表徵的知識」和「教學推理的知識」。儘管有這些不同，一般研究者對教學內容知識內涵都有一個大致的共識，即以 Shulman（1986b）對教學內容知識的定義中所描述的對學科教學內容的理解、對學生學習的理解和對教學策略與表徵的掌握這三方面。不過，學科教學內容是否指學科知識，卻並不明確。例如 Grossman（1988, 1990）的研究是在高中英文文學教學的情境脈絡中，強調教師不只要具備學科知識，還要理解高中學習階段學科的教學目標。因此，在她的研究中，對教學內容知識中有關學科知識的部分，就主要是在「不同學習階段學科教學目的」方面。而對於學科知識，Grossman 認為學科知識是教學內容知識很重要的基礎（Grossman, 1988, 1990），但她並沒有把學科知識納入教學內容知識之中，而是把學科知識和教學內容知識並列為教師知識之一。Shulman 指出教學內容知識是一種超越了學科知識本身的知識，涉及學科知識在教學方面維度，因此是一種學科內容與教學方面的混合體（Shulman, 1987）。從這個理解看，

教學內容知識中有一部分特殊的學科知識，它不完全是學科知識本身，但又確實是學科知識。

五、教學內容知識特性的爭論

其實在探討教學內容知識時，人們常以學科知識作為一個參照點，比較兩種知識的相同和不同之處。學科知識為 Schwab (1964) 提出的學科中的內容 (content) 知識、實質性 (substantive) 和文法性 (syntactic) 知識。其中內容知識是指學科中的事實、組織原則和中心概念，而後兩者是學科的結構性知識。實質性結構指一門學科內部互相聯繫的概念、事實、重要原理、理論和解釋框架等 (Schwab, 1978)；而文法性知識則是指在學科中探索、證明、建構知識的方法 (范良火, 2003, 頁 16)。李琮 (2004) 對教師知識的研究證明，教學內容知識和學科知識之間存在顯著相關，它們關係是雙向的，各自可以解釋對方的變量超過五成。其中，學科知識中的知識組織與教學內容知識的關係最大；而教學內容知識中的對學生思維的了解與學科知識的關係最大。Shulman (1986a, 1986b) 區分學科知識和教學內容知識，指出前者是學科本身的知識，但不是教學中唯一的知識；後者是一門學科特殊的、與教學有關的知識，是一種為了解釋教學的學科專業知識 (subject-matter knowledge for teaching)。Shulman (1987) 認為教學內容知識是學科內容 (content) 與教學法 (pedagogy) 的混合物，是屬於教師特有的知識領域，這種知識是一種將可教性 (teachability) 融匯教材與教法於一爐的「教材教法知識」(單文經, 1992)。它也是一種最能區別學科專家與教師的知識。

Shulman 的這種解釋其實是相當含混的，教學內容知識和學科內容 (content) 密不可分，但在他描述教師的七種知識基礎中，學科知識 (content knowledge) 又獨立於教學內容知識之外。事實上，關於教學內容知識的內涵，不同的研究者在不同領域的研究中固然有差異，同一學者在不同的時間，也會不斷調整自己的觀點。如 Shulman 和 Gudmundsdottir 在一項社會科的研究中 (Gudmundsdottir & Shulman, 1987, p.60)，提出教學內容知識應包括學科知識、一般教學知識和關於學習者的知識三類。但 Shulman 在同年發表的另一篇文章中 (Wilson, Shulman, & Richart, 1987, p.114-115)，將教學內容知識的內涵再細分為六類，包括：有關教學表徵的知識、教學推理的知識、和學習者有關的知識、

課程知識、教學法的知識與對教學情境的知識，其中又不包括學科知識。

Shulman 等人將教學推理（pedagogical reasoning）的思想作為新手教師調整他們學科知識教學的方式（Shulman, 1987; Wilson, Shulman, & Richart, 1987）。其思想正是基於學科知識的教學推理行為能夠產生教學內容知識，因此相信堅實的學科背景是發展教學內容知識的必須條件（Veal & MaKinster, 1999）。事實上，Shulman 將教學內容知識定義為教師在特定的學科中，對最常教授的特定課題的知識（1986），就是指教學內容知識是在學科教學時的一種專門知識。教師通過考慮如何向給學生呈現的學科內容，首先理解一些特定的學科知識，並將它們轉化成教學內容知識。不同的研究發現，對於同一科目或不同科目的經驗教師而言，教學內容知識是教師的學科知識和教學知識長期融合結果，最終體現於學科教學的模式（Gudmundsdottir, 1988）。

因此，有學者通過研究，認為教師在教學時不是單獨地使用學科知識或教學內容知識，而是把兩者結合起來，成為一種學科內的知識聯合體（content knowledge complexes）（Sherin, 2002）。Krauss 等人（2008）研究中學數學教師的教學內容知識和學科知識，發現兩者之間有很高的相關度，故此指出教師的學科知識豐富，其教學內容知識也豐富。

Rollnick 等人（2008）進行的一個關於化學科的個案研究。其中在改革的背景下，有個案教師由於缺乏學科知識，只能使用一些機械式的教學方法；而有的個案教師由於擁有足夠的學科知識，能靈活地使用改革的教學方法，顯示出強大的教學內容知識。研究者認為教師在知識和經驗上的整合影響他們對教學表徵的選擇，這對發展教師學科知識結構起了重要的作用。因此 Rollnick 等人根據兩個個案研究中學科知識對教師整體的知識表現所起的作用，提出了教學內容知識的簡單模型，把學科知識放入教學內容知識中，與其他知識（學生、教學法、情境）一起構成教師的教學內容知識，而教學內容知識具體表現形式有表徵、評價、具體主題的教學策略和課程特色。而 Lee 和 Luft（2008）對 4 名高中科學科經驗教師的個案研究發現，個案教師的教學內容知識中有七種知識內涵：科學知識、對科學教育目的的知識、對學生的知識、課程組織的知識、教學知識、評估知識和對資源的知識，其中科學知識就包含在教學內容知識之中。

周健（2010）在研究中學中國語文教師處理教材時的教學內容知識時指出，在討論教師不同範疇的知識時，也一再問以下問題：為什麼要把教師的這種對學科教學的目的、對學生和課程的理解、教學策略的設計和學科本身的理解視為教學內容知識？為什麼它們不是各自屬於不同範疇的知識？事實上，把教師的這些知識維度的表現，各自放在各別的知識範疇中去看，似乎也是合適的。問題在於，在處理教材的過程中，這些知識的確不是各自獨立存在的，它們的高度綜合，才形成了教師處理教材的知識面貌。因此，教學內容知識中各知識維度不是獨立於其外的知識項目，而是在教學過程中與其他知識互相作用的知識，其中各知識維度之間的分野和界限並不十分清晰。該研究個案教師在談到知識來源時就認為很難說哪方面的知識對自己最有用，其實「都是整合的過程。」（周健，2010）研究結果證明教師在處理教材的過程中，各知識維度不是單一或直接發生作用的。教師知識不是以各別獨立的面貌解決教材處理中的各種問題。如學科知識中，學科內容和實質性知識與課程知識的密切關係，文法性知識與教學策略和表徵的知識的關係，都顯示了不同知識維度間的複雜聯繫。而一旦某項或某幾項知識不足，教師在處理教材時就會顯示出整體知識不足的情況。因此，各項知識不是各自獨立工作，而是以不同知識維度的面貌組合起來，互相結合，共同作用，成為教學內容知識。這個研究印證了 Shulman 對教學內容知識特點的描述，即「理解」與「表徵」，是教師充分內化了各種知識後，在教學中把教學內容準確表現出來，讓學生明白。

另一方面，周健的研究（2010）發現學科知識是在處理教材和學科教學時不可或缺的一個維度，這主要體現在教師對中文科教學內容和不同教材的理解。教師對選作語文教材的作品的熟悉程度，對其中的學科元素如語言、修辭、結構、風格、作家背景等各方面知識的掌握，對發現教材的教學價值有很大的幫助。而教師在處理教材時如何體現其教學目標，首先基於其對學科知識的理解。高中中文教師的教學內容知識中，學科知識的維度一方面表現在對學習重點和經典作品有廣泛和深入的認識，這是學科內容知識；另一方面也表現在對各種材料的準確理解和使用，這是學科實質性和文法性知識。

研究發現學科知識的豐富對教師在教學內容、重點、對教材的理解和教學策略的安排方面非常重要，是教師處理教材時不可或缺的知識。而學科中的文法性知識，指在學科中探索、證明、建構知識的方法（范良火，2003），對教師在處理教材時對學習的理解及教

學策略和表徵起着十分重要的作用。教師處理教材時，是綜合地運用着學科、課程與教學策略和表徵的知識，結合對教學目標和學生學習理解來進行的。在這個過程中，學科知識不是獨力運作的，這是研究者將學科知識納入教學內容知識的範疇中的原因。

綜合上述文獻資料和實徵研究，筆者認為教學內容知識中包含學科知識。

六、結語

從上述的分析，研究者認為教師需具備多個範疇的知識，包括教學內容知識。教學內容知識超越了教材知識本身，經過可教性的分析，以最能表現學科知識的形式出現。教師掌握教學內容知識，展現其充分掌握學科內容，了解學生學習的特點，並有效地運用策略，以學生可理解的方式展示學科內容。從教師掌握教學內容知識四方面的研究結果，在實踐上值得留意兩方面。一方面是教學需要從教學經驗中掌握學科和教學方面的知識，融匯學科和教學等不同類型的知識，純熟運用於教學中。另一方面是教學內容知識突顯教師要能先把學科知識「心理化」（psychologize），才能達到教學目的；而其主要體現於理解和表徵，這不僅要求教師對學科內容精通，而且要求其認知方式應是基於學科在教育上的價值和目的。這兩方面對教師實踐教學極為重要。

在探討了教學內容知識內涵和定義之後，最後討論一下其中文翻譯。教學內容知識（pedagogical content knowledge）中譯名並不統一，有的譯作「學科教學知識」或「學科教學法知識」，周淑卿（2004）認為教學內容知識中的「教學內容確實會涉及學科內容」，但基於「教學內容知識是指對所教授內容的教材教法知識」，「更關注於學科材料轉換為可用以教學的內容」，而「仍依原文譯為『教學內容知識』」（頁35，注1）。根據本文對教學內容知識內涵和定義的探討，教學內容知識有很強的情境性，是在特定的教學內容、脈絡下，在實踐中形成的（Brown & Broko, 1992; Feiman-Nemser, 1990; Marks, 1990）。以教學內容知識是教師在學科教學時的綜合性知識這一意義而言，筆者認為用「學科教學知識」這一中文翻譯更能突出這是教師在學科教學時的一種專門知識，更能說明教學內容知識意涵。

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香港新高中通識教育科之批判思考能力 培訓——從正式課程到空無課程

Training of critical thinking ability in Hong Kong's new senior secondary Liberal Studies – From formal curriculum to null curriculum

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摘要

批判思考能力培訓是本港新高中通識教育科的預期學習成果，希望學生修讀通識教育科後，能夠掌握一定程度的批判思考能力。本文將會從「正式課程」及「空無課程」兩個概念，對通識教育科的課程設計作出分析，探討其批判思考能力培訓的問題及其解決方法。

關鍵詞

通識教育，正式課程，空無課程，批判思考

Abstract

Training students' critical thinking ability is an expected learning outcome of new senior

secondary Liberal Studies. After studying the subject, students are expected to have certain degree of ability of critical thinking. In this article, I will try to apply the concept of formal curriculum and null curriculum to analyze the design of New Senior Secondary Liberal Studies, in order to investigate the problem in training students' critical thinking ability and suggest possible solutions.

Keywords

liberal studies, formal curriculum, null curriculum, critical thinking

導言

香港於2000年開始進行課程改革，首次把「批判思考」定為其中一項核心共通能力（課程發展議會，2001）；同時在新高中課程的核心科目通識教育科（簡稱「通識科」）中，列明「批判思考」為重要的元素。通識科的其中一個「課程宗旨」為「培養與終身學習有關的能力，包括批判性思考能力」（課程發展議會與香港考試及評核局，2007，頁4）；而它的其中一個「學習成果」則是：

「預期學生透過本科的學習，能夠識別對個人和社會議題的不同意見背後的價值取向，並在個人和社會層面的議題和問題上，運用批判性思考能力……作出判斷和決定。」

由此可見，批判思考本應為通識科課程一重要部分，但實況並非如此，以下先簡述不同學者對批判思考的看法，包括它的界定及重要性，並將以「正式課程」及「空無課程」兩個概念對通識科之批判思考能力培訓進行分析。

「批判思考」的不同界定

坊間對於「批判思考」一詞，有很多不同的理解，以下先簡介數位學者對批判思考的

看法，以顯出「批判思考」的含混性。

本港著名思考方法學學者李天命博士指出：批判思考，即判別真假、判別是非對錯的思考（李天命，1995），在此定義之下，他認為批判思考應包含四個環節，分別為：語理分析、謬誤剖析、邏輯技巧、科學方法。¹他認為，

「善於提出『是什麼意思？』和『有什麼根據？』這兩個問題，養成了問這兩個問題的思維習慣，也就是培養起一種「批判思考的警覺性」，可以說是學習基本思考方法最重要的關鍵。」

可是，並非所有學者均對批判思考具同一看法，例如：嶺南大學文化研究系通識教育學士後文憑課程主任許寶強曾指出，如學生要掌握批判思考，最重要是掌握多角度思維（許寶強，2006）。

另外，根據香港特區政府教育局發布的《「批判性思考能力的學與教」教材套（高中）》，內裡對於批判思考的教學內容，又有另一見解，其教學單元分為「分析論證」、「因果宣稱」、「認識認知模式」、「決策思考」（顧伊麗、侯傑泰、何德芳，2009）。

就以上各學者對於批判思考的界定可見，到底何謂「批判思考」，頗為含混，就如有一學者指出，「『批判思考』並非一『頗為一致』和『無重大分歧』的教學理念」（曾榮光，2010，頁 103-104）。以下的分析將會再論及此含混情況的影響。

「正式課程」與「空無課程」的界定

本文的另外兩個關鍵概念，為「正式課程」與「空無課程」。首先，有學者認為所謂「正

¹ 筆者旨在帶出不同學者對於「批判思考」有不同界定，對於以上四個環節的內涵，並非本文重點，不會詳述，讀者可參閱李天命博士之著作。

式課程」，是指「課程內分成各類教學科目，每個科目之下又有單元、章節或課」（黃政傑，1991，頁80-81）。同時，亦有學者指出正式課程的特徵是「預定的、計畫的和意圖的，因此在正式課程裡，較容易肯定課程目標的存在」（黃光雄、楊龍立，2001）。

從以上的學者所言可見，「正式課程」可被看成已被確立、具有比較完整的課程計劃及教授計劃之科目，例如：中國語文、英國語文、數學等。另外，亦可從科目內看「正式課程」，如一些科目的內容為已確立，在計劃之內打算教授，而且有較為周詳的教授計劃、教授方法等的，都可視為正式課程，例如：中國語文科內的應用文寫作技巧、英國語文科的議論文寫作技巧等。

而「空無課程」一詞是由艾斯納（E. W. Eisner）提出，他在檢視課程時，發現學校課程中遺漏了許多重要的應納入課程範圍的能力、知識與態度，並視之為「空無課程」（林福勝，不明），這強調不僅要由「有甚麼」的角度觀察課程，也要由「缺乏」的角度探討（黃政傑，1991）。根據臺灣師範大學教育研究所黃光雄博士及臺北市立教育大學教育學系楊龍立教授所言：

「『空無課程』的概念，是在探討學校『不教什麼』，產生了什麼結果，對學生有什麼影響。我們對於課程的審視，不只要考慮學校教什麼，而學校不教什麼，應是同等重要，因為這會影響學生的學習結果。」

簡而言之，「空無課程」是指應該包含在學生的學習經驗之中，但卻未有包含的東西，可以是指一個科目，亦可以是指一個科目中的內容。即使科目或內容已確立，但是若果在執行上出現問題，導致學生未能學習該科目或內容，該科目或內容亦可視為「空無課程」，原因是它們最終仍未能包含在學生的學習經驗之中。

批判思考從「正式課程」淪為「空無課程」

通識科作為香港新高中課程中的核心科目，即所有中學生均需必修、必考的科目，與中國語文、英國語文、數學等科目看齊，可視之為一項「正式課程」。審視由課程發展議

會與香港考試及評核局編訂的「通識教育科課程及評估指引（中四至中六）」，通識教育科的架構主要由六大單元組成，分別為：「個人成長與人際關係」、「今日香港」、「現代中國」、「全球化」、「公共衛生」和「能源科技與環境」，課程設計者希望學生透過探討六大單元中的議題，學習批判思考的方法，這是其重要目標，本應為通識科課程的一重要部分，亦可視為通識科課程內的「正式課程」。可是，從通識科的實際操作來分析，目標是有的，但此目標實在不易達到，甚至最終可能會令批判思考由「正式課程」變成空無「空無課程」。

為什麼批判思考會由「正式課程」變成「空無課程」呢？其中一個原因在於，如上文所述，批判思考能力並無明確的界定。教育學者 Fullan 及 Stiegelbauer（1991）指出，一項課程改革成功與否，受到十二項因素影響，其中一項是課程內容的清晰度與複雜性（Clarity, complexity of the change），而縱觀整份課程文件，亦未有指出學生到底要掌握如何的批判思考能力，相對於以上提及的六大單元，批判思考在沒有明確定義及教授內容之下，顯得空泛。在現時不少老師均沒有接受過有系統的批判思考訓練的情況下，對於什麼是批判思考？如何教？教什麼？不少老師也沒有一個既定答案，亦沒有具體課程可以向學生教授，這著實會影響批判思考的培訓。

從學術角度而言，批判思考並非一種可單純透過接觸不同的議題與新聞便可以學懂的能力，它是需要系統地教授，如現時本港的大學大都有設立批判思考課程，而其形式多是以思考上的毛病作為藍本，輔以例子作教授，以幫助同學避免思考上出現毛病作為首要目標，與現時的通識科課程恰恰相反。現時的通識科課程是以議題作為藍本，批判思考的技巧成為了同學認識和討論議題後得出之副產物，再加上整個課程內容廣泛，時間緊迫²，同學或老師的聚焦都集中在時事議題的本身，而非批判思考的技巧。

學生完成整個通識科課程，也難以掌握何謂批判思考，只懂得在考試時運用多角度的框架寫文章，看似已掌握批判思考能力。可是，學者指出，「批判思維不是……機械地套

² 根據「通識教育科課程及評估指引（中四至中六）」指出，教師需要於 180 小時完成教授六大單元的內容，即平均每個單元只有 30 小時。

用六頂帽子、六何法等技巧或分析工具。」（許寶強，2006），批判思考最終極可能成為通識科中的「空無課程」。

總結

總括而言，培育同學們具備批判思考能力為通識科課程的一大重要目標，亦應為「正式課程」，目的是希望同學們修畢通識科課程後，不只懂得六大單元中的知識，而是能運用批判思考的方法，對六大單元的議題作出反思。更重要的是，裝備他們將來離開學校，也能運用批判思考的方法，解決日常生活的問題或對社會的議題作出反思。這意念本來是值得支持，也對學生有莫大益處。

可是，從以上的分析可見，要實現這些益處，實非易事，必須具有較為具體的計劃和教授方法，否則，目標只會因欠缺周詳計劃而變得名存實亡。通識科在課程上的設計上已有先天缺憾，在緊迫的時間下，以探究議題來教授批判思考，只會令老師和學生焦點模糊，教授了議題資料，卻忘了批判思考。這會令學生完成課程後，仍然缺乏批判思考的技巧，本來宏大的目標，最終只會付諸流水。結果，批判思考便由通識科課程中的「正式課程」變成「空無課程」。

要解決此問題，其中一個解決方法是在通識科課程中，增設第七個單元，參考大學的批判思考課程，事先計劃好「要教授什麼」及「如何教授」批判思考的概念及工具，例如：「論點」、「論據」、「語害」、「謬誤」、「六頂帽子」、「六何法」等。這單元應放在通識科的所有單元之先，先教授有關批判思考的知識。到了進入本來已有的六大單元，學生便已有工具對議題內的不同意見作出批判，真正做到利用議題來訓練批判思考能力。³

³ 在上文提到，通識科的教學時間非常緊迫，故此，這筆者建議，這單元可以於同學在中三升上中四期間的暑假，對學生進行教授，期間應不會對學生或老師造成太大的工作量，亦可為進入通識科的六大單元做好準備。

這樣的做法，才可令老師有藍本可以依從；學生有焦點可以學習，真正達到通識科本來想達致的目標——培育學生的批判思考能力，更令批判思考重新成為真正的通識科「正式課程」。

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Using group discussion as an intervention strategy in novel teaching to study students' attitudinal changes

於小說教學時利用小組討論為介入策略
觀察學生態度轉變

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Abstract

This case study explores attitudinal changes through using group discussion as an intervention strategy for teaching novels in a primary school in Hong Kong. Comprehension, application and synthesis questions were used to promote higher order thinking skills and positive risk taking behaviors amongst students. The research question was to what extent group discussion serves as an intervention strategy to enhance emotional maturity in students. Data was collected through observations, documentations, journals and group interviews. Data analysis suggests a higher percentage of students choose the “application” and “synthesis” type questions. It was found that the amount of time given to students impact on the length and quality of students' answers. The requirement to copy the questions impacted on students' choice of questions. Both classes experienced change in the choice of questions over the reading week. Teachers are more aware of the complexity of conducting research in a classroom setting and the importance of balancing the roles of language teachers and researchers with the support of a school-based professional learning community.

Keywords

attitudinal changes, emotional maturity, group discussion, novel teaching

摘要

本個案研究是有關一間香港的小學於小說教學時，利用小組討論作為介入策略時學生的行為轉變。透過閱讀理解、應用以及綜合性的題型，令學生提升高階思維能力和正面冒險行為。本研究問題是同儕指導與小組討論作為介入策略對提高情緒成熟有多少影響。數據分析發現，較多學生選擇應用以及綜合性題型的班別的改變比較大。完成個案研究後，老師對學生學習能力及方式有更深認識。老師能注意到課室內進行研究的複雜性，以及在校本專業學習的環境下平衡作為語言老師及研究員的重要性。

關鍵詞

態度轉變，情緒成熟，小組討論，小說教學

1. Background

One of the major challenges in curriculum for teachers in Hong Kong is how to promote the higher order thinking skills, by allowing students to take positive risks when it comes to answering high order level questions. As teachers, we tend to ask questions in the “knowledge” category for about 80% to 90% of the time in class. These questions are fundamental to learning, but using them all the time may pose hurdles to high order thinking development in students. Higher order level questions require much more “brain power” and a more extensive and elaborate answers (Bloom, et al, 1956, Costa 2000).

Diocesan Boys’ School Primary Division is adopting a more inquiry-based learning curriculum in 2009-2010 hence teachers responded to the need by examining an alternative approach to teaching novel studies. Students are self-motivated and eager to learn, and demonstrate patience and perseverance in tackling challenging learning tasks. However,

our students tend not to collaborate effectively when asked to share their answers and opinions in a group setting.

Approaches to teaching literature with respect to novel studies in previous years by many teachers within the Department of English focused primarily on “knowledge” type questions. Due to the Department’s initiative to develop more options when approaching literature studies, the need for inclusion of higher order thinking questions became apparent not only to challenge the studies but also to make teaching varied.

In the school development plan for the English Department in 2009-2010, we aim to further enhance students’ learning performance and to enable them to master and manipulate various generic skills and demonstrate good and independent learning abilities. An Exploratory Practice Committee was set up to give teachers opportunities to conduct research in a classroom setting, to improve and to reflect on students’ learning and teaching practices.

This study aims to get students to change their attitudes towards attempting to answer synthesis type questions after they have shared their answers with their peers in a group setting. Using group discussion as an intervention strategy, as a result, students will have the opportunity to develop their collaborative skills and be encouraged to take risks when answering higher order thinking questions.

2. Literature Review

Vygotsky stated that learning awakens in children a variety of internal developmental processes that can operate only when they interact with more competent people in their environment and in cooperation with their peers (Vygotsky, 1978). When children scaffold each other, they modify a task and offer assistance to each other to help complete the task (Tharpe & Gallimore, 1988). According to Thelen’s principal of least-sized groups, we should strive for a group as small as possible but that has all the expertise and diverse points of view necessary to complete the task well (Thelen, 1954). Most teachers in general find that it is easier to conduct group discussions in smaller groups as each member will have more opportunities to participate and share their opinions and answers with each other. Smaller groups are also easier to handle for teachers when it comes to classroom management. According to researchers, children at 11 years old begin to reason abstractly (Atherton, 2009). Therefore we selected Grade five students in this study as they are expected and required to answer questions of different levels of difficulty. Based on

findings, children around 11 years old are at the stage where they are emotionally, socially and intellectually developing (Wood, 1998). Through exposure to questions that differ in cognitive skills, children will develop more confidence in choosing to answer questions that require creativity, imagination and critical thinking skills.

Grade five students were chosen for this study because children are at the stage where they are emotionally, socially and intellectually developing. Emotional maturity is defined as the strength and courage to actualize individual abilities within the frame of social demands (Landau & Weissler, 1998). Emotionally, ten and eleven year olds are usually cooperative, easygoing, friendly and agreeable. At the social level, friendships and activities with age mates flourish. They want to be a part of the group and do not want to stand alone in competition (Wood, 1998). Finally, intellectually, children at this age are verbal. Making ethical decisions becomes a challenging task. They are able to express ideas and feelings in creative ways. More importantly, at eleven years old, children begin to reason abstractly (Atherton, 2009). Therefore, this group of students are chosen to participate in this study. It is hoped that the study will help language teachers make informed decisions when incorporating emotion related elements into the language program.

3. Assumptions

There are two assumptions for this study:

Assumption 1: Through the interventions, students will become more willing to take risks to answer higher order thinking questions and thus become more willing to tackle these questions on their own initiative the next time they encounter them.

Assumptions 2: In addition to cognitive maturity that comes with age for grade 5 students, group discussion can serve as an intervention strategy to enhance emotional maturity in students.

The study attempts to find answers to the following questions:

1. Are students more willing to take risks to answer high order questions after going through the interventions? What are the reasons behind their move?
2. Does group discussion serve as an intervention strategy to enhance emotional maturity in students? If yes, how? If no, why?

4. Methodology

To explore the research questions, changes and rearrangements were made in the curriculum. The teaching of the novel was conducted in a six-day teaching cycle to allow for more in-depth group discussions. In addition, the novel is not formally assessed, thus releasing students from pressure and allowing ample room for them to express their views and ideas.

4.1 Curriculum Organization

There are 2 books for Reading for each level. "Frindle" is one of the novels chosen for Grade 5. It is a novel written by Andrew Clements. The school chose it in 2008-2009, and almost all the boys in the level liked it, so it was chosen again for the 1st term of academic year 2009-2010. The book explores the inquisitive nature of young boys with respect to authority. The themes of the book also provided students with thought-provoking situations for students' deliberations and making choices. Students also found it easy to identify with the characters in the book as the plot focuses on daily school life at the primary level. There are 15 chapters broken into 6 modules taught in the 'reading week' (See Table 1).

There were 3 interventions throughout the project. Each intervention was carried out using group discussions. Students were grouped according to the selection of the questions.

Table 1: Arrangement of the lessons and interventions

Dates (Dec.)	Modules	Chapters	Interventions	Grouping	Activities
7 th	1	1-3			<ul style="list-style-type: none"> - Biography of the author - Introduction and summary of the novel - Answering a question from module 1
8 th	2	4-5			<ul style="list-style-type: none"> - Language support for novel reading - Whole class discussion - Answering a question from module 2 and 3

Dates (Dec.)	Modules	Chapters	Interventions	Grouping	Activities
9 th	3	6-8	1 st	Mixed-ability grouping of students according to their choice of questions	- Briefing on how to conduct group discussion - 7-minute group discussion - Ss' reflections - Answering a question from module 4
11 th	4	9-10	2 nd	ditto	- 7-minute group discussion - Ss' reflections - Answering a question from module 5
14 th	5	11-12	3 rd	ditto	- 7-minute group discussion - Ss' reflections - Answering a question from module 6
15 th	6	13-15			- Wrapping-up - Role playing

We designed questions for each module in 3 levels of challenge, i.e. Comprehension questions, Application questions and Synthesis questions. For example, the following questions are designed for Module 5 on Chapters 11-12. (see Appendix for the full set of questions):

1. You are Nick. What would you do with the first cheque you got from Bud Lawrence?
2. Do you think Bud and Mr. Allen's deal is fair? Why or why not? Explain your answer.
3. If you were Nick's dad, would you keep the money a secret from Nick? Why or why not? Explain your answer.

As the above table shows, we did three interventions. For each intervention, we briefed our students on how a proper group discussion is conducted. Then students were asked to get into groups assigned by the teacher. The group encompassed at least one student from each of the three question types. Students were given instructions on how to do a 7-minute discussion. During the discussion, students were asked to share their

own responses to the question they had answered. The group leader also asked prompting questions like, “Why did you choose to answer that question” to get students to think and share, as a group, at a deeper level. Each group had a group leader to invite shy students to speak and to ensure every student had a chance to do some sharing. After the discussion, students were required to reflect on their discussions and identify problems. The teacher then projected the next set of questions onto the screen, read out each question and explained them. Each student was asked to answer only one question out of three in class.

4.2 Research Design

Table 2: Methods of Data Collection

When	How (methods of collection)	What
7 th -15 th December	observation	<ul style="list-style-type: none"> - video 3 interventions - observe all modules - debriefing after each intervention
7 th -15 th December	documentation	<ul style="list-style-type: none"> - Ss' question/answer sheets - diaries - interview transcription - recordings (videos and audios)
after each intervention	journal	Teachers' reflective journals after each intervention
after all interventions	group interview (semi-structured)	2 groups (3 students from 5J and 5S) and 20 minutes for each group

4.3 Selecting Target Groups

To investigate the effects of curriculum changes of novel teaching, target groups were carefully chosen and various research methods were employed to address the research questions, such as to what extent group discussion serves as an intervention strategy to enhance emotional maturity in students. There are 5 classes in Grade 5. Four of them share similar level of proficiency in English while one is more advanced. Class 5D was chosen to do the pilot study. Class 5J (29 students) and Class 5S (32 students) were randomly chosen for the study as experiment groups. The other two classes, Class 5P (29 students) and Class 5M (30 students), were controlled groups, not using any intervention strategy.

4.4 Data Collection

Various types of data collection methods, such as observations, group interviews, journals and documentations, were adopted to collect the data for this study at different phases throughout the study.

5. Findings

On completion of the reading week, sets of data were analyzed for findings in response to the assumptions of the study. Initial findings from analyzing students' responses to the questions indicate that despite changes identified in their choices of questions over the period, there was not a definite pattern of move in the levels of questions chosen. We attempted to script verbatim all answers from students and sort out on (1) question basis, (2) individual student basis, and selected student responses basis. Brief findings are explained in the following sessions.

5.1 On question basis

To find out how students responded to the prescribed questions, all questions attempted are sorted out and grouped into numbered categories. The responses are further sub-divided into yes/no, right/wrong, good/smart/bad etc. according to the nature of the questions. The prime purpose of doing this categorization is to capture students' responses to all the questions attempted. This serves as the basis for subsequent analysis on individual responses. Initial findings from the analysis of the first sets of question indicate that students' responses in the first module were generally short and direct with little elaboration. Taking into consideration the comparatively short time allowed for students to copy and answer the questions in the lesson, their short concise responses to the first set of questions were not surprising. Indeed, it was also found that the requirements to copy the questions also impacted on students' choice of questions. They tended to choose the short questions instead of the long ones. This move was remedied by teachers who instructed the students not to copy the questions from the second intervention lesson onwards. Such a move impacted on students' choice of questions since they would choose questions other than the shortest ones in subsequent modules.

5.2 On individual basis

Individual students' responses to questions attempted are sorted out to identify first

for their choices and next for the pattern of choice. The prime purpose of such grouping is to identify changes in students' choices of questions after the interventions. The absolute number of students making various choices is counted and the percentage of students choosing various levels of questions (easy, medium and difficult as suggested by teachers) is calculated. Figure 1 and Figure 2 indicate the general trend of choice of questions over the reading week.

These graphs help to illustrate whether the change is obvious. Both classes experienced change in the choice of questions over the reading week. The trend is more obvious in 5J which had a high proportion of students choosing 'comprehension' question in the first two modules. But choice of medium to high level, the trend is different for 5S class. A large number of students opted for a 'difficult' question in the first lesson. It dropped drastically in the second lesson but the trend grew up gradually in the remaining lessons. Generally speaking, if we compared the trend with the implementation of the intervention strategy, the change in 5J is more obvious from the third lesson onward. A much higher percentage of students chose the 'application' and 'synthesis' questions in the last two modules. Such changes were also identified in 5S. But it should be noted that students were attracted by the 'comprehension' question in Chapters 9-10 and both classes experienced a big drop in the choice of the higher level questions. But this trend was reverted in the fifth and the sixth lessons when students were tuned in to the group discussion in the reading lessons. They were more willing to choose questions that were more challenging. This was echoed in the student interview described in the section of Analysis of Student Interview.

Figure 1: Choice of questions by P5J students over the reading week

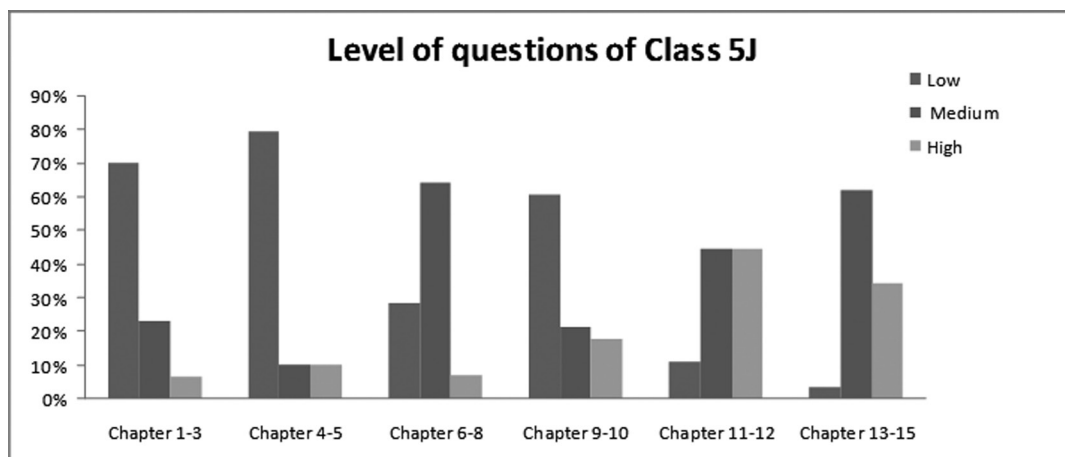
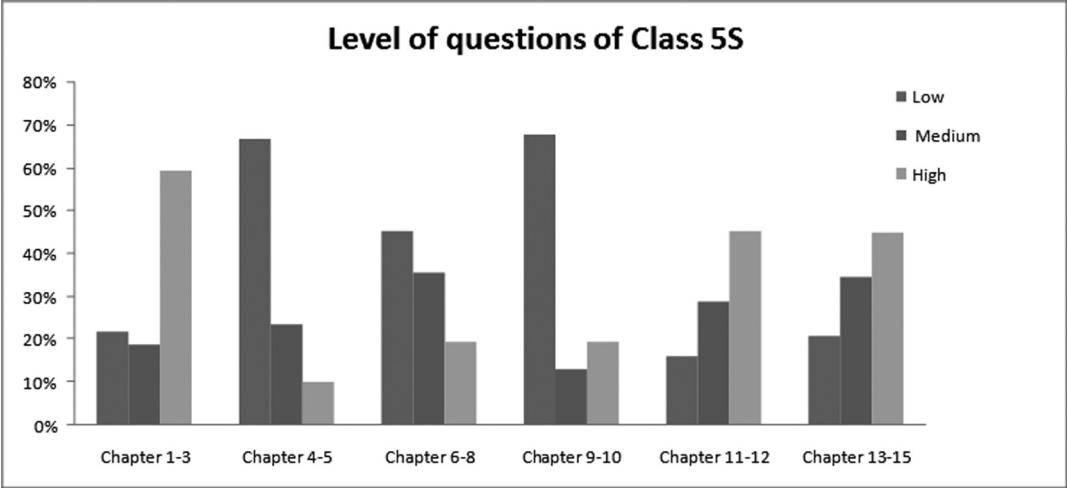


Figure 2: Choice of questions by P5S students over the reading week



5.3 On selected student responses basis

Attempt is made to identify patterns of choices of questions through examining all the students’ responses to questions. The following pattern of choice is revealed in selected students:

Seven students displayed an “up” trend in the choice of questions; moving from comprehension questions to synthesis questions. Two students displayed a “down” trend in the choice of question; moving from synthesis questions to comprehension questions. One student chose all number 2 questions throughout.

5.4 Analysis of student interview

Students’ interview was transcribed verbatim for their views on the reading week in general and the intervention strategy in particular. Their perception of the question levels was also solicited in order to compare with the teachers’ categorization of the questions.

Six students from two classes were selected to have an interview on their general impression of the novel, their learning experiences in group discussion and their views on the challenge levels of the questions. When students were prompted to talk about the novel, they all expressed that they liked the story because it was funny and interesting.

And they liked the way their teacher taught the book in the reading week because they enjoyed group discussion, shared their ideas with their classmates and presented it in the whole class.

When asked how they chose their questions, the students responded:

Student A: *I'll pick up the one which is more interesting and challenging. Pick the one that needs to write more.*

Student B: *I will pick questions. My answer has more things to write about or more interesting, I will pick that.*

Student C: *It's challenging. We can use our brain. I always chose number three. All of the questions are properly arranged.*

From the above students' interview answers, it is noted that some students were aware of the questions were arranged in different levels of challenge and they would like to choose those challenging questions to answer.

In the interview different students had different perceptions of the group discussion. The following responses show how students thought about the discussions.

Student A: *Discussion is useful. Because it is an exercise to practice talking. I learn friendship. Because you need friendship to make a team group. I would encourage them to speak more and explain more.*

Student B: *It could practice our English talk frequent because we usually speak Cantonese with our friend and discussion would make our English speaking more fluent. You need to listen others opinion, but not only using to your skills.*

The above responses indicate that students enjoyed group discussion because they considered discussions useful in that they helped them practice English and share their ideas with others. However, it is noted that students had different views on the levels of challenge for the questions. In the interview, some of the students made the following comments:

Student A: *I would choose different questions for different chapters. Because each chapter has challenging questions. These questions are not in order.*

Interviewer: *Oh, Yeah. You know the questions are not in the order. So which one is more challenging?*

Student A: *Of course Number three.*

Interviewer: *How about you? Which set of questions did you choose?*

Student B: *Arr..... I chose that, may be a challenging one.*

Interviewer: *Which Set?*

Student B: *Like chapters six to eight, those are harder because they know how the parents feel when you use the word “frindle” and you have to stay after school for detention.*

Interviewer: *You think that is most challenging.*

Student B: *Because you are not parents, so you don't know really how to answer the questions.*

Interviewer: *Which one is the least challenging?*

Student B: *Chapter one to three.*

Interviewer: *You mean the whole set of questions.*

Student B: *Right.*

Interviewer: *So, you think that the questions are arranged in the way that chapter one to three are least challenging...*

Student B: *Yeah. Easy, move along to chapter thirteen to fifteen. That set is more challenging.*

Interviewer: *Okay, what do you think? (Turned to Student)*

Student C: *Because at start, they don't really make challenging questions because it will be easy at first.*

Interviewer: *The second set is more difficult?*

Student C: *Yes.*

Interviewer: *And the third set getting on more difficult? That's what you think of your questions, right?*

Interviewer (Turned back to Student A): *Could you please tell your classmates about what you think of the questions?*

Student A: *I think each chapter has the most challenging questions and it is usually of feeling of others, you are pretending to be different people to look back at you. Like my parents looking at me to tell bad or good of me. You know, something like that.*

The following table shows the views of the students on levels of questions and the question levels set by teachers. The highlighted boxes are the choice of students matched with teachers'. It is noticed that students' view on the level of questions is different from that of the teachers'. For example, in chapter 1-3, teachers consider question 3 is an application (medium) question but none of the students thought that question is an application question. Three of them thought that is a synthesis (difficult) question. This applied also to question 3 in chapter 13-15, although teachers consider that it is an application question, four students thought that this is a synthesis (difficult) question.

Table 3: Students' and Teachers' view on levels of questions

	Question	Teacher	Student A	Student B	Student C	Student D	Student E
Chapter 1-3	1	difficult	easy	easy	medium	medium	difficult
	2	easy	difficult	difficult	easy	difficult	medium
	3	medium	difficult	difficult	difficult	easy	easy
Chapter 4-5	1	easy	medium	easy	easy	easy	easy
	2	medium	difficult	medium	difficult	medium	medium
	3	difficult	difficult	difficult	medium	difficult	difficult
Chapter 6-8	1	easy	difficult	difficult	medium	easy	medium
	2	medium	difficult	easy	easy	difficult	difficult
	3	difficult	difficult	difficult	difficult	medium	easy
Chapter 9-10	1	difficult	medium	medium	easy	medium	medium
	2	easy	easy	medium	medium	easy	easy
	3	medium	easy	difficult	difficult	difficult	difficult
Chapter 11-12	1	easy	medium	difficult	medium	medium	difficult
	2	medium	easy	medium	easy	easy	medium
	3	difficult	difficult	medium	difficult	difficult	easy
Chapter 13-15	1	difficult	difficult	difficult	medium	easy	medium
	2	easy	medium	difficult	easy	medium	easy
	3	medium	medium	difficult	difficult	difficult	difficult

5.5 Analysis of video lessons

Video lessons are transcribed in selective vignettes to illustrate students' interaction related to discussion focus. Group interaction skills are also identified in the video vignettes. Relevant students' talk and conversation are also transcribed for evidence of the impact of the intervention strategy on students' choice of questions and explanation.

In the first lesson, teacher introduced the novel and asked students to answer the question from module one. No intervention was attempted. In the second lesson, teacher conducted a whole class discussion and students were requested to answer the questions for module two and three. In the third lesson wherein the intervention strategy was first introduced, teacher instructed students to share their answers to questions in the previous modules. A total of three 7-minute discussion sessions were conducted. Teacher asked one student from each group to share his answer. It appeared that students needed teacher's constant prompting to elaborate their generally brief and direct answers. Before the end of lesson, students were asked to answer the questions on the next module.

The discussions session was started from 3rd lesson. It is found that there was a drop in the level of questions, 41% of students' question choice fell from high to low/medium or medium to low after in the third module, indicated in Table 4 below.

Table 4: Students' choice of question after the 1st intervention

	Class 5J (%)	Class 5S (%)	Overall (%)
Low to high	3	6	5
Low to Medium	7	9	8
Medium to High	10	6	8
Medium to Low	43	22	32
High to Low	0	13	6
High to Medium	3	3	3
Unchanged and Absent	33	41	37

In the fourth lesson, the teacher showed a video taken the day before to explain how a proper group discussion was like. Students were told to share their answers. The video took effect and most of the groups were on tasks. Teacher reinforced the group discussion skills through asking each group to give scores to the performance of their classmates in the discussion. Students were then asked to answer the questions in the next module.

On analyzing students' choice of questions after the group discussion in the fourth lesson, 62% of the students moved from low to medium/high or medium to high in their question choice for module 5.

Table 5: Students' choice of question after the 2nd intervention

	Class 5J (%)	Class 5S (%)	Overall (%)
Low to high	20	31	26
Low to Medium	27	25	26
Medium to High	7	13	10
Medium to Low	0	0	0
High to Low	3	6	5
High to Medium	0	9	5
Unchanged and Absent	43	16	29

On completion of the 5th module, 56% of the students remained unchanged in the level of question choice, indicated in the following table:

Table 6: Students' choice of question after the 3rd intervention

	Class 5J (%)	Class 5S (%)	Overall (%)
Low to high	6	10	8
Low to Medium	0	3	2
Medium to High	3	7	5
Medium to Low	0	13	6
High to Low	0	3	2
High to Medium	22	20	21
Unchanged and Absent	69	43	56

6. Discussions

In this study, we find some interesting points as follows:

6.1 Correlation between emotional maturity and question selection

Students' selection of questions may be directly related to the length of the questions if asked to copy them. During the 1st intervention, students were asked to copy the questions they chose. It was found that they tended to choose short questions (in terms of the length). Then we changed our strategy, so no questions were to be copied. Students were asked to give answers only. However, it is also noted that the amount of time given for students to answer the question in the class could impact on the length and quality of their answers. Teachers' expectations on the length of the answer required of them could also be an influential factor. When we compare their answers for the first modules to those in the last module when students were requested to write at least 100 words in 10 minutes, we notice that their answers are comparatively longer and more substantial.

Focus should be on which type of question chosen instead of quality of students answers / further sharing of responses done in discussion.

Students' choice of questions changed after intervention– trends and development. Students were more willing to take risks in choosing questions of synthesis and application types. It is more prominent in 5J's performance after the first two interventions, comparing with that of 5S.

Students' perspectives on classifying the questions were different from those of the teachers'.

Students did not know that the questions were classified into three types. Quite a few preferred the application or synthesis types to the comprehension type which, however, was considered easier to answer from teachers' perspectives. As mentioned above, students tended to choose shorter questions (in terms of length) which should have suggested a preference to easy-to-answer questions but the data showed that our students' perspectives on classifying the questions were different from ours'.

From the students' interview, they were asked to rank the questions in challenge levels. Half of them thought the questions were arranged in ascending order of challenge, with easy questions to begin with in module 1 and challenge levels increased as the modules progressed through to the most challenging questions in the last module. However, some students considered that each chapter had its own challenging questions. In his words, *"I think each chapter has challenging questions. It is usually about the feeling of others. You are pretending to be a different people to look back at you."* However, one student had a different view. *"Ascending order of challenge. Easiest at the very beginning, and then is most difficult at the end."*

From the above answers, it is found that most students interviewed believed that the questions were in ascending order of challenge, except one student who thought that each chapter had a challenging question.

6.2 Effects of language ability

Most of our students are capable of expressing their thoughts quite fluently. However, many of them chose questions which they found interesting and were short in length to answer. When students were given clear instructions as to how many words they were required to put down in their answers and more time was given to them, they elaborated on their answers.

6.3 Effectiveness of group discussion

Group discussions facilitate group work. Almost all students enjoyed group discussions, including those shy ones. It was, however, inevitable that a small number of students did not get themselves involved in the activities at all. Fortunately no dominations were taken place. This was echoed in students' interview, students described their classmates' feelings about the group discussions.

Student A: You need to listen to others' opinion, but not only using your skills.

Student B: I would encourage them to speak more and explain more.

Student C: I asked them to give more opinion so that may be my teacher and make me think creative. He gave more answers.

Student A: Some of the teammates just sat there and didn't think.

Another group of students recalled:

Interviewee: And how did you prompt them to say more in the discussion?

Student D: So we asked them "why you choose that question" or "can you choose another more challenging questions?" like that.

Student E: They talked about the ideas. Usually they answered the easiest questions.

Student D: Ya. Exactly. They always said when I ask "do you want to try another challenging question?" Some say yes but some say no.

6.4 Overall effectiveness of the programme organization, implementation and intervention strategies

Due to time constraints, the overall effectiveness of the programme organization, implementation and intervention strategies was not that effective. Teachers struggled to strike a balance in their roles as language teacher and teacher researcher at the same time. Altogether, the novel was taught within a 6-day schedule. Students also had to be trained in holding group discussions; hence teachers also had to spend time addressing the strategies for effective group work. It was also a challenge to keep the students on task. However, after playing a demonstration of a group discussion that was recorded in a previous lesson, students saw what they were expected to do and which areas they had to improve on. Also the assigning of student roles in group discussions was helpful in keeping students focused.

6.5 Teachers development

After conducting this study, we have a deeper understanding of our students' abilities

and learning styles. It was observed that most students enjoyed participating in group work when clear guidelines and expectations are given to them. Many were willing to share their ideas and opinions which influenced each other. We have also decided for the future, more time should be spent on the teaching of a novel to allow teachers and students to do discussions, reflect and also focus on the literary teaching aspects of the novel.

In addition, we have learnt how to conduct research in the classroom setting, gone through various struggles in balancing teacher and researcher roles, working together in the planning and implementation of the project and writing a report. Lastly, our findings will be shared with our colleagues in the English department as part of teachers' professional development.

6.6 Difficulties

Throughout the study, some difficulties were encountered. For example, the appropriate wording of "comprehension", "application", "synthesis" type question including the length of each question as discovered, students tend to select a question based on its length and not necessary its type when asked to copy the question down into their copy book.

It was also discovered that some students gave elaborate answers to comprehension questions while some students gave only simple descriptive short answers to "challenging" questions. Questions and answers did not necessarily match teachers' expectations, i.e. "challenging" questions should draw rich description and reasoned responses.

It was interesting to find that one teacher was able to focus on her task assigned to her, which was to get this study completed, while the other struggled a lot in balancing to meet the requirements of the study and to satisfy the needs of her students, like role-playing and doing other activities apart from discussions. It demonstrates the language teachers' struggle to strike a balance between language teaching and research initiatives and how their perceptions and actions cast impact on the implementation of the intervention strategy that aimed to bring about students' attitudinal changes.

7. Conclusion and Recommendations

To conclude, with regards to doing research, at this point in time, although the data

indicates that there was a positive shift towards students voluntarily opting to respond to synthesis type questions, further studies are needed to be done to see whether this shift is sustained.

When given the opportunity to share through group discussions amongst peers, students, once understanding that a synthesis question can be discussed openly without the fear of being challenged students become more willing to opt to respond to these types of questions.

After we completed our research, we made the following recommendations. In terms of curriculum organization, one issue concerned the time frame set for the reading week. We believed that a longer duration of time for the reading week could have better accommodated both literary learning and doing classroom research.

Some recommendations for doing group activities are as follows:

1. Brief and train students on how a proper group discussion is conducted prior to the group discussions to make students aware of their expected performance.
2. Assigning a group leader, a time controller and a noise controller in each group helps students to be more involved and focused in the group discussions.
3. Teachers should ensure that the physical setting of the classroom is conducive to group work for how group work is to be done thus allowing smooth transition into a group sharing environment.
4. In order to allow meaningful group discussions, students should be coached on the skills of questioning especially how to ask prompting questions.
5. Create authentic communicative tasks rather than tasks solely focused on language practice.
6. Constantly revise what was planned to make improvements as a result of what emerges while doing research. For example, students tended to answer the shortest questions when asked to copy the question down. Therefore, in the next lesson, they were only asked to write down the question number rather than writing out the entire question.

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Appendix (Questions for each module)

(1) Frindle Questions Chapters 1-3:

1. Nick's parents have a rule that children have to do their homework first. What made Nick's parents come up with this rule? Explain your answer.
2. Would you like to be in Nick's class? Why or why not? Explain your answer.
3. If you were to be put on one of the three lists made by Mrs. Granger (really good kids, really smart kids, or really bad kids) which list would you be on? Explain your answer.

(2) Frindle Questions Chapters 4-5:

1. If you don't know a particular word, how do you go about finding out its meaning?
2. If a friend of yours was feeling nervous about giving a presentation, what advice would you give him?
3. You are Nick. Explain why you think side-tracking Mrs. Granger is right or wrong.

(3) Frindle Questions Chapters 6-8:

1. Do you think Mrs. Granger's punishment is fair? Why or why not? Explain your answer.
2. How would your parents feel if you used the word "frindle" and had to stay after school for detention?
3. You are Mrs. Granger. Write the letter which was in the fat white envelope that Nick had signed.

(4) Frindle Questions Chapters 9-10:

1. How would your parent's react if you were Nick and the principal came to your house?
2. Would you continue to use the word "frindle"? Why or why not? Explain your answer.
3. Who do you think sent Judy Morgan the class picture? Explain your answer.

(5) Frindle Questions Chapters 11-12:

1. Do you think Bud and Mr. Allen's deal is fair? Why or why not? Explain your answer.
2. If you were Nick's dad, would you keep the money a secret from Nick? Why or why not? Explain your answer.
3. You are Nick. What would you do with the first cheque you got from Bud Lawrence?

(6) Frindle Questions Chapters 13-15:

1. You are Mrs. Granger. Write a thank you note to Nick for his gift.
2. Did you like the ending of the book? Tell why or why not. Explain your answer.
3. You have made up a new word. What is the word and what does your word mean? Why would others use it?

Appendix (continued)

Discussion questions for before you read the chapter.

Chapter 1

Some students delight in coming up with creative ways of making the school day more interesting. Tell about an incident in which one of your fellow students came up with such an idea.

List four personal qualities that you feel make for a really great teacher.

Chapter 2

The author of *Frindle* uses exaggeration very effectively in making his story more interesting (e.g. “those huge dictionaries with every word in the universe”). Give your own example of exaggeration in describing an animal of your choice.

Nick's fifth grade teacher takes words and their meanings very seriously. Explain why she might think such things are important.

Chapters 3 & 4

Are you familiar with any strategies designed to distract a teacher and waste time in the classroom? Describe one such strategy that might be successful in accomplishing this goal.

Chapter 5

Think about a time when you had to stand up in front of several people for a particular reason (to do a report or display a talent). Describe your feelings. Why do you think you felt this way?

Chapters 6 & 7

Men and women have been coming up with creative ideas for thousands of years. Describe one particularly imaginative idea that proved to be important to people everywhere. Who was responsible for that idea?

Chapter 8

Tell about a time when you (or a friend) were unfairly punished. Be sure to describe what happened and how you felt.

Chapter 9

Tell why a principal might visit the home of one of his/her students. Try to come up with 2 possible reasons.

Chapter 10

If you were a reporter investigating the *frindle* controversy, think of one question you might ask the following people: Mrs. Granger, Nick, Mrs. Chatham and Nick's mom.

Chapter 11

Although telling the truth is an excellent idea, it can sometimes create difficulties as well. Give an example of how this might be true (use your own experience if you like).

Chapter 12

What is meant by the term "get rich quick scheme"? Give a possible example of such a scheme.

What advantage might there be in being rich? What disadvantage might there be in being rich?

Chapter 13

Describe one advantage to being famous. Describe one disadvantage.

Chapter 14

Describe the greatest idea you have ever had. (If you can't think of one, use your imagination.)

Tell about a time when an adult (other than one of your parents) said something encouraging to you that made a real difference in your life.

Chapter 15

What does the word generous mean to you? Give an example of generosity from your own life.

What do you think is in the envelope that Mrs. Granger gave to Nick? (Be as detailed as possible)

臺灣國小師資培育學士化重構提案研究—— 「多科系學院」取向之國小師資培育 *Reconstructing Taiwan's primary teacher education in academic university - Primary teacher education institutionalized*

何慧群

國立臺中教育大學教育系所

摘要

因應國際競爭、出生率下降、網路世代、新台灣之子女教育等問題，重構臺灣國小師資培育制度勢在必行。現行國小師資培育管道如教育本科專業、40 學分教育學程、研究所下修教育學程與 2012 年施行國小教師專業碩士學位學程，本文旨在：（1）凸顯國小師資培育四軌並行，有違專業邏輯（professional reasoning）；（2）師資培育涵蓋教職識能與師培生人格發展；（3）以 Bok 提出 21 世紀 8 個教育目標為利基，據以提案「4+0.5+0.5」年一貫制；以及（4）對應國小多科包班需求，多科系學院是較適組織結構。

關鍵詞

四軌並行教師培訓課程，40 學分教育學程，「4+0.5+0.5」年一貫制

Abstract

In response to national competitiveness, the birth rate dropped, the Internet generation and

new Taiwanese children etc., it is imperative to build a new system of Primary Teachers' training program, which is the "4 +0.5 +0.5" system. It is the time for designing a new system of Primary Teacher Education. However, it is inappropriate to simply upgrade our teachers' education level to master degree before analyzing today's four-track program of teacher education. This article aims to highlight: Qualifications for primary school teachers went so far as can be re-divided into 4 ways: 4-year degree of Department of Education, 40 undergraduate credits, 26 graduate credits and 2-year master degree of instruction for unemployed legalized teacher candidates. This is a flawed system that violates professional consensus.

Keywords

four-track program, 40 undergraduate credits, "4+0.5+0.5" system

甲、前言

「國運興衰，繫於教育；教育成敗，繫於教師。」21世紀是變動變化頻繁與壓力遽增的時代，教育效益與教師素質成為關注焦點。1994年2月7日師資培育法公布實施至今，主客觀環境變化不可同日而語，檢討、省思與評鑑時刻已然到來。一般而言，專業「典範工程」(engineering of paradigm)之變革進行於發展歷程，新範式生成最終責付專業論述(discourse)；另，教育改革宜通盤考量，專業理性與前瞻共識是不可或缺的要素。

國小基礎教育扎根不深，學習者日後創意、創造力、競爭力難見其張力，教師專業素質是影響關鍵要素。當今國小師資培育制度計有教育本科專業、40學分教育學程、研究所下修教育學程與國小教師專業碩士學位學程等。本文旨在凸顯：

1. 就專業而言，國小師資培育四軌並行，有違專業邏輯 (professional reasoning)。
2. 師資培育涵蓋教職識能與師培生人格發展。
3. 以 Bok 提出 21 世紀 8 個教育目標為利基，據以提案「4+0.5+0.5」年一貫制，以及
4. 對應國小多科包班需求，多科系學院是較適組織結構。

國小師資培育重構提案之研究，首先，就現行四軌國小師資培育進行分析，並據以指出一則有違專業邏輯性，再則造成國小教師專業素質參差不齊與供需失衡；其次，「他山之石，可以攻玉」，對照歐盟、中國大陸教師教育發展與臺灣在地需求，歸納結論：國小師資培育學士學歷基礎化，在職進修、學位研修高移碩士化，最後，綜觀時代變革、理論建構與實務操作系統思維，提出新國小師資培育制度。

乙、臺灣國小師資培育制度及其問題

1994年2月7日公佈實施《師資培育法》，依據法規第四條規定：「師資及其教育專業人員之培育，由師範校院、設有教育院、系、所或教育學程之大學校院實施之。……教育學程係指大學校院所規劃經教育部核定之教育專業課程」（教育部，1996），師資培育專業變革是師資培育機構多元化，與教育學程是師資培育專業課程。

至2004年，國小師資培育機構由原來9所師範院校增設為31個點，含一般大學設置之師資培育中心（湯維玲，2007）；2009年，國小師資培育機構減少為28個點（高等教育評鑑中心基金會，2009）。

一、國小師資培育類型

（1）教育本科專業

教育本科專業，由師範系統院校與一般大學經教育部核可設立的教育相關系所，提供為期4年本科專業教育。依據國立臺中教育大學2009年度教育系課程架構，分師培生與非師培生二類（見表一），其中師培生課程設計包含共通課程10學分、通識選修課程18學分、專門課程100學分與自由選修20學分。專門課程部分：（1）教育本科專業之課程設計著重於「教育理念」、「師範性」養成；（2）專門必修課程偏屬專業理論，專門選修偏屬理論應用；（3）「教什麼」之學科知識學分比重佔20/148。自由選修部分：（1）開設科目多元與多樣，（2）就開課成本、任課師資，執行難度高。教育本科之專門與自由選修專業課程多由教育背景教師授課。

表一 教育系課程設計及其學分一覽表

課 程 類 別		學分 別		適 用 類 別	
		必修	選修	師資培育	備註
共同及通識課程	共同課程 (國、英、大一二體育)	10	0	10	
	通識課程	0	18	18	
學科專業	教學基本學科課程	10	0	10	非師資培育生免修
	教學實習及分科教材教法	10	0	10	
專門課程	必修	41	0	41	已內含「教育專業課程」18學分
	選修	0	39	39	
	自由選修	0	20	20	可自由選讀本系、外系及外校之專門課程、專長學程、教育專業課程20學分已內含「教育專業課程」2學分
合計				148	
專門必修 41 學分	教育概論、教育心理學、教育哲學、教育社會學、兒童心理學、教育行政、教育史、教學原理、教育統計、教育測驗與評量、課程發展與設計、教育研究法、比較教育、教育實習 I、II、III……				
專門選修 39 學分	認知心理學、多元文化教育、英文教育名著選讀、教學心理學、班級團體輔導、創造力與特殊才能、教學科技理論與實務、教學社會學、創新教學與個別化教學、多元化教學評量、情意教學與評量、閱讀心理與教學、學校本位課程發展、另類教育、課程理論、各國課程比較、童書設計與編輯、教材研發與製作、課程評鑑、統整課程設計……				
自由選修 20 學分	特殊教育導論、性別教育、發展心理學、行為改變技術、親職教育、青少年心理學、輔導原理與實務、心理與教育測驗、生命教育、班級經營、教學媒體與操作、生涯教育、中等教育……				

(資料來源：國立臺中教育大學 2009 年度課程架構)

(2) 40 學分教育學程

依據施行《師資培育法》第 9 條規定：「修畢規定之師資職前教育課程，成績及格者，由師資培育之大學發給修畢師資職前教育證明書」，現階段職前教育課程設計為 40 學分（見附錄一），課程範圍包含：（1）教育基礎課程（至少必修 4 學分）；（2）教育方法學課程（至少必修 6 學分）；（3）教學基本學科課程（至少必修 10 學分）；（4）教學實習及分科教材教法（至少必修 10 學分，教材教法必修 3-4 領域）；以及（5）選修課程（至少 10 學分）。

（3）研究所下修教育學程

研究所下修教育學程，意旨教育本科與非教育本科研究生至大學部選修 40 學分國小教育學程，以取得國小任教資格，另，教育所研究生抵減部分學分。以國立臺中教育大學為例，非教育本科專業學生通過校內甄選，研究生接受心理測驗，經錄取後，將自研一下開始修習學分，至少修業 4 學期與另加實習 1 學期。

教育本科專業生與（2）、（3）生源不同，前者是經由大學入學考試分發至教育學系，後二者本科專業則不是教育，40 學分修業類「輔系」性質。

（4）國小教師專業碩士學位學程

2012 年 9 月將實施國小教師專業碩士學位學程教育（見表二），招生對象具教師合格證者，採公費制，並責其接受為期 2 年專業教育，畢業後分發至相關國小任教。至 2013 年 9 月，國小師資培育新增「2+2+2」模式（楊思偉，2010），是謂精緻師資培育機制實驗計畫。2012 年與 2013 年施行之國小師資培育「專案」，彼此無關聯性，前者是臺灣國小師培碩化規劃歷程之「節外生枝」，責付至多 6 年時效；後者是奉教育部高教司核准之實驗計畫。

表二 教師專業碩士學位學程課程設計及其學分一覽表

課程類別		學 分	
		必修	選修
核心課程	基礎理論類	6	0
	研究方法類	9	0
專精課程		0	12~19
一般選修課程		0	4~10
合 計		35	
三、學程課程規劃： 本碩士學位學程課程分為核心課程、專精課程（教學方法學課程）及一般選修課程三部份。碩士班學生至少應修習 35 學分，並依下列規定修畢應修學分，完成且通過碩士論文考試者，授予教育學碩士學位。			
四、 <u>進入本學程的學生，將依其大學背景及修習教育專業課程之情形，由導師及學程主任輔導學生，並確定每位學生於本校其他學系需補修之教學學科知識課程 6 至 12 學分。</u>			
七、本學程規定 101 學年度入學之學生應加修國民小學教師加註英語專長專門課程 30 學分，依教育部頒布之課程架構開設。			

（資料來源：2012 精緻師資培育機制實驗計畫成果發表暨研討會）

二、相關問題

綜觀臺灣國小師資培育管道計有：4 年制教育本科專業、40 學分教育學程、研究生下修國小教程、2012 年教師專業碩士學位學程與 2013 年精緻師資培育機制實驗計畫；課程類別有 4 類，40 學分教育學程是共同核心課程（core curricula）。

1. 師資培育機構素質不一

至 2012 年，臺灣大專校院計有 164 所（不含軍警校院及空中大學），學生總數逾 133 萬（教育部，2012）；依據 Trow（1973）提出高等教育落實程度分類尺規，臺灣高等教育業已進入普及階段。另，「名校情節」在所難免，而私立校院校數或學生人數所占比率高於公立校院（教育部，2010），則是不爭事實。

師資培育機構素質不一，涵蓋校際排名落差與招生素質差異。依據《師資培育法》規定，各公私立大學得以成立師培中心與規劃教育學程，但是，校際教育資源、師資編制差異大，其多以最低標準 3 位員額來負責行政與教學，影響教學、輔導實習、地方教育輔導等業務。另，校際生源結構呈多樣態，一般而言，北部學生素質、父母社經地位優於中南部、西部優於東部；國公立大學學生學習動機與行動優於私立大學、技專院校。

2. 專業培用落差

臺灣國小教育施行多科包班教學，但是，教育專業本科 148 學分與 40 學分教育學程在學科知識課程規劃上均只有 20 學分，師培生之「學術智能」（academic literacy）發展明顯不足。另，不同於 1996 年施行之新課程標準課程範式，2001 年實施九年一貫課程改革，相關國小師資培育課程設計未同步進行調整或修正，致令課程政策執行成效難以評斷與歸因。

3. 實習制度待改善

依據 1995 年通過《教師法》規定，初檢係採學經歷檢覈，即凡修畢師資職前教育課程者均得參加教育實習，導致量的增生與資源相對不足。另，師資培育機構與教育實習機構在人力、資源、專業、共識上均有待經費挹注、專業網絡建置與溝通謀和。

4. 供需失調

1994 年國小師資培育管道多元化，依據教育部統計資料顯示（見表三），1994-2008 年共培育國小師資 60,535 人次，其中 29,317 人次成為正式教師，5,373 人次成為代理代課教師，25,845 人次為儲備教師或所謂「流浪教師」，正式教師所占比率為 48.4%；2009 年取得正式、代理代課教職的在職率約 38%（自由時報，2010）。

除此之外，新生兒人數減少對國小新聘教師上無疑是雪上加霜，由 1979 年 422,518 人，到 1994 年 322,938 人，2010 年下降到 166,866 人（內政部，2011）。

表三 2005-2008 年國小師資培育累積人次統計一覽表

年度	培育人次	正式教師	代理代課	儲備教師	在職率
2005	44,654	24,714		19,940	55.3%
2006	52,370	27,390	4,692	20,288	61.3%
2007	57,406	28,644	5,493	23,269	59.5%
2008	60,535	29,317	5,373	25,845	57.3%

（資料來源：2008 年中華民國師資培育統計年報）

5. 師範性凌駕專業理性

針對現行國小師資培育制度弊端，國立臺中教育大學分別提出：2012 年實施之《國小教師專業碩士學位學程》與 2013 年《精緻師資培育機制實驗計畫》，前者強調理論與實務結合重要性，主發展技術理性（technocratic rationality）；後者正視師範性式微，主情境認知氛圍建置。

綜觀初等教育本科專業、40 學分教育學程與 2 起臺中教大國小師培碩化方案，其共同弊端是未理性正視「學科知識」元素旨趣，不查課堂做什麼的什麼，實有關理論體系結構知識、知識性能認知，而專業取向之教育實踐有賴基礎知識與基本知識結構的學習。

丙、歐盟、中國大陸師資培育

網際網路與知識經濟，業已成為影響學校教育發展主要利基，前者推動知識不斷汰舊

換新，後者訴求知識、創意與專業的新經濟活動，提升教師專業素質刻不容緩。

一、歐盟師資培育

在歐盟高等教育區的「國家文憑資格架構」下，進行各階段師資培育改革，偏制度整合與技術配合，主要論述如下：

1. 師資培育達大學學歷，高級中學須具備碩士學歷；
2. 修業年限 3-6.5 年，教育階段別愈高，修業年限愈長；
3. 課程模式，多數國家學前與國小師培採用並進模式（concurrent model），中等師培採用接續模式（consecutive model），即學術學科與教育專業課程分別在兩個不同階段學習；
4. 各級教師轉向綜合大學來培育，並且延長修業時間，以及
5. 歐洲貿易聯盟教育委員會（ETUCE, 2008）建議從學前教育到高級中等教育師資職前教育提升至碩士層級。目前歐盟芬蘭、德國、波蘭、葡萄牙等國小教師具備碩士學歷（符碧真、黃源河，2010）。

二、中國大陸

「開放改變中國，中國改變世界。」自 1978 年改革開放 30 多年來，中國成為崛起大國，並期以由製造大國成為製造強國、技術強國與品牌大國，教育是不可或缺的利器。隨著「科教興國」戰略與高等教育大眾化，培養高層次本科學歷國小教師成為國家人才強國戰略目標之一。至 2002 年，計有 130 所高等學校（含高等師範院校和綜合大學）設置「小學教育」本專科專業，其中「小學教育」本科專業高等院校為 65 所（黃偉娣，2008）。中國大陸幅員廣大，南北、東西地區差異大，國小師資培育採三級制並存，全面化本科專業拔高仍待持續努力。

國小師資培育課程設計，學科專業與教育專業比例是 1:2，凸顯其正視「知識就是力量」效益與落實知識教育行動；另，通識教育中之馬列毛思想政治理論、國防教育是中國大陸意識型態教育特色（何慧群，2010）。

綜合上述歐盟與中國大陸師資培育發展，歸納如下：

1. 國小師資培育高等教育化，大學學歷是基本條件，碩化是趨勢。
2. 重視通識教育與學科知識的教育。
3. 整合理論與實務，強調專業化教學。
4. 綜合大學是師資培育機構形式。

丁、提案：國小師資培育 4+0.5+0.5 年制

一、提案基礎

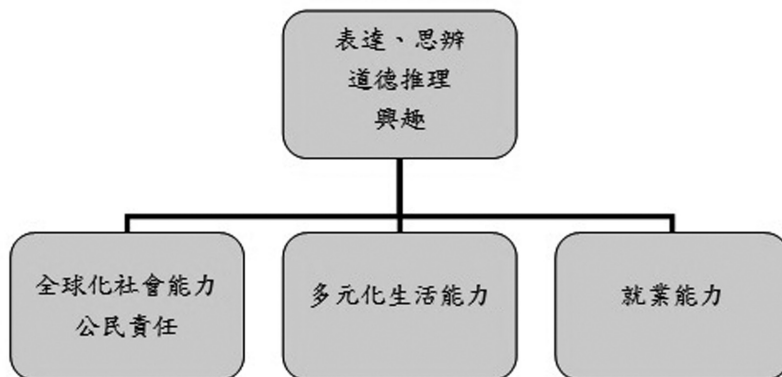
提案思考：（1）基於國小教育具基礎性、發展性與綜合性，教育專業偏實用性，較不具學術性。符應社會頻繁變革與教育專業實踐，國小師資培育應兼顧認知與情意發展；（2）國小屬多科包班教學，40 學分教育學程明顯不足與難收對教職工作認同之益，以及（3）師資培育既是教育專業職能發展，並且是當事者人格成長、社會參與感性陶冶。

提案建構：以 Bok 提出 21 世紀 8 個教育目標為利基，並據以銜接國小師資培育要素。

1. 21 世紀教育目標

大學究竟要學生四年後帶走什麼？Bok 在《大學教了沒？哈佛校長提出的 8 門課》書中提出 21 世紀 8 個教育目標（張善楠譯，2008），其關係結構如圖一。

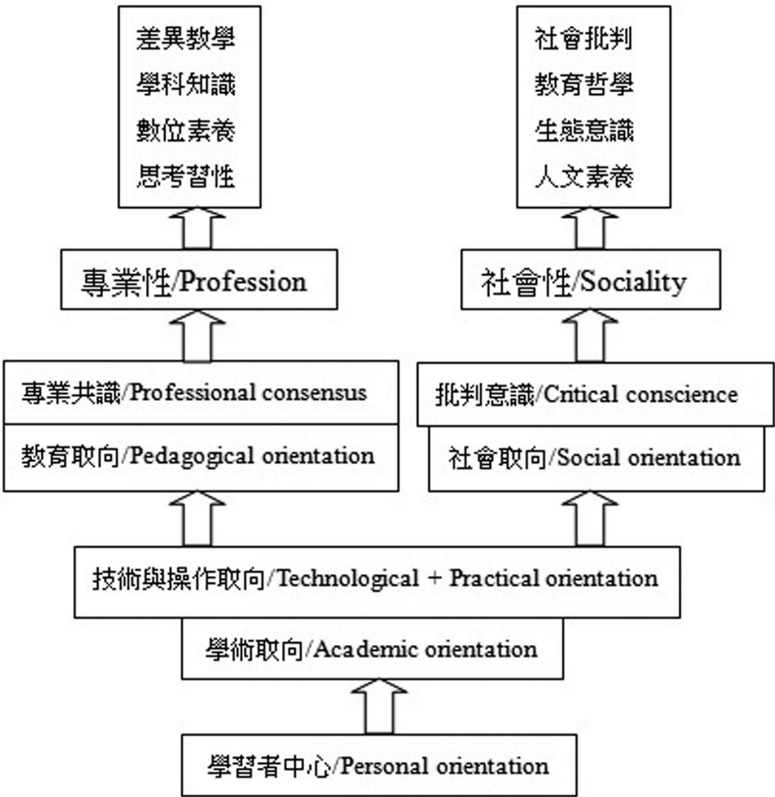
圖一 21 世紀教育目標



2. 提案設計

G. Santayana (1863-1952) 說：「不瞭解歷史，就註定要重蹈覆轍。」迂衡歐盟、中國大陸國小師資培育制度沿革與發展與我國國小教育多科包班需求，提案 4+0.5+0.5 年制國小師資培育，期以 5 年一貫系統性發展國小師資「雙專業」職識能（見圖二），雙專業意指專業性與社會性。

圖二 國小師資培育概念結構



二、國小師資培育 4+0.5+0.5 年制

臺灣國小師資培育歷經數次改革，偏向技術與實用取向（白亦方，2010），以發展嫻熟教學技術為主要訴求目標；對於世道中落、師範式微現象，臺中教大期以 2013 年實施之《精緻師資培育機制實驗計畫》改善之。

國小師資培育 4+0.5+0.5 年制主軸是專業性與社會性，「教育工作視為專門的職業」於 70 年代末取得共識；社會性旨在凸顯「我與汝」相互關係（correlation）利基，藉以取代「學為人師，行為世範」，聚焦於個人之師範性。

1. 專業性

1966 年聯合國教科文組織與國際勞工組織提出《關於教師地位的建議》，對教師專業化作出說明，「應把教育工作視為專門的職業，這種職業要求教師經過嚴格地、持續地學習，獲得並保持專門的知識和特別的技术。它要求對所轄學生的教育和福利具有個人及共同的責任感。」（劉芳，2008）

1986 年美國卡內基工作小組、霍姆斯小組相繼發表《國家為培養 21 世紀的教師做準備》、《明日的教師》報告，確立教師的專業地位，並據以提升教師專業素質。1996 年聯合國教科文組織在第 45 屆國際教育大會上提出：「在提高教師地位的整體政策中，專業化是最有前途的中長期策略。」（沈夏威，2010）

專業化涵蓋思考習性、數位素養、學科知識與差異教學。

（a）思考習性

Socrates 名言：「真正認識自己的人，才是最有力量的人。」Aristotle 認為：「人異於禽獸幾希，唯智能而已矣。」面對數位資訊充斥與價值解構態勢，思考、觀察、論證、佐證修正、選擇與判斷……之思考術需要教導；又，思考習性非天然生成，相反的，它需要積習成性而幾近仿若天成。基於教育是對人進行啟思，「化性起偽」手段，教育工作「先行者」學會思考與能思考責無旁貸。

(b) 數位素養

在資訊知識數位化與傳播網絡化的時代，資訊素養是職涯發展必備利器，包括：（1）傳統素養（traditional literacy）、（2）媒體素養（media literacy）、（3）電腦素養（computer literacy）與（4）網路素養（network literacy）（McClure, 1994）。

為國小教師而言，數位素養展現：（1）提升教學效益之多媒體素養，（2）擷取、應用與分析網路知識，以及（3）善用網路專業社群資源。

(c) 學科知識

面對知識增生快速與學科科目多元，「綜合淺碟化知識」與「學術本位知識」各有利弊。基於小學教育基礎性、發展性與綜合性，以及國內國小勇類層級規模比率超過五成，國小師資學科專業識能發展原則是「國語文、數學為本，外加專長科目」，另，跨學科領域之通識識能是新增識能，屬高等教育之元教育。

(d) 差異教學

差異教學（differentiated instruction），有謂「區分化教學」（賴翠媛，2009），強調文化脈絡、多元智能取向之教學設計。另，教育資源分配不均、城鄉資訊落差、社會與文化資本歧異對教育影響不宜輕忽。

2. 社會性

綜觀歐美師資培育制度沿革與發展，由強調人師、楷模，重視問學、學思與研究，到今日聚焦於可應用性與實踐效益未來範式亟待建構。另，面向全球網絡關聯與網際網路社會，主體意識、本位主義、個人主義逐漸「淡定」，在「我與汝」相互關係（correlation）利基前提，互補、共生、互助、共榮是新增社會意識元素。

社會性涵蓋人文素養、生態意識、教育哲學與社會批判。

(a) 人文素養

A. Einstein (1879-1955) 認為：「僅憑知識和技巧並不能給人類的生活帶來

尊嚴和幸福。」值此工具理性主導的文明發展，人文素養依然是自然科學專門識能與職業技能發展的根基，黃崑巖說：「以一般知識為基礎，在上面建構專業知識，然後再樹立『專業』、『科學』與『人文』三個石柱，完成學問的殿堂，達到全人的教育目的！」（呂宗昕，2005）

（b）生態意識

生態問題是現代文明後遺症，正視人與生態共生性刻不容緩；其次，體認自然資源有限性與藏富於大自然，複次，倡導取所需、物流用與分享的價值教育，最後，發展以工具理性與價值理性為根基的「天人合一」、「物化合一」統觀視域。

（c）教育哲學

教育哲學，省視「學以致用」旨趣，學習者是學習的主體，學習是手段，目的是解決問題與創造幸福，主客體、目的與手段不宜混為一談，目的亦不可窄化為謀生就業或掌控自然生態。簡言之，教育開啟人的理性、感性與悟性，教育歷程是發展心智、語言與思想，最終則是用於改善生活境域與豐富存在閱歷。

（d）社會批判

在多元價值氾濫與主體意識高漲社會裡，社會和諧繫於建立共識與容納歧異，批判識能是較適利器。教育哲學與社會批判分路進擊，期以監測（detecting）與修正（correcting）異常，前者由內向外，後者由外向內，齊一發揮雙環學習（double loop learning）與坐收較適專業效益。

三、多科系學院

歐美教育發達國家中小學師資培育有別，前者主知識體系與思維邏輯學習，後者主多感官啟蒙與體驗，二者具層級關連性。1960、70年代，國小師資培育學歷漸次提升至大學層級，學術研究或學科知識學習是重中之重，與傳統重視人格「陶冶」（楊深坑，1989）有異。

另，國小師資培育機構沿革，由獨立師範學院到綜合型大學，以德國為例，其師資培育中心定位為跨院系之一級學術單位，整合研究、發展、執行與協調等跨領域功能（楊深坑，2007）。為臺灣而言，符應國小教育屬多科包班教學需求，較適組織是自成一體系之「教育學院」，院下分設教育系與學科學系。

四、教育實務

「教育為百年大計，難收立竿見影之效。」教學因時空不同、文化脈絡、對象多樣性，課堂教學、教學歷程充滿不確定性與複雜性，師資培育理論與實習課程予以模組化是必要的。另，教育實務，一則反應準真實教學場域，二則透過具體教學情境與教學事件的專注和反思，將積累與類化的實作經驗內化為更純熟的實踐力。

1. 第一階段 0.5 年

第一階段 0.5 年或一學期，時間規劃採 3:2 原則分配。

（a）轉化

教育專業學習是就教育及其實務進行本質目的性、系統的理性分析和邏輯推理、能動的認知與學習。

（b）情境操作

教育場域仿如生活情境，教學實踐力在理論轉換與情境操作交互作用下，得以修正、領悟與建構之，個己實踐智慧嘗試展現個性化。

（c）教檢

依據 2005 年 12 月 28 日修正與公佈實施之師資培育法第 7 條：「師資培育包括師資職前教育及教師資格檢定。」第 11 條：「大學畢業依第九條第四項或前條第一項規定取得修畢師資職前教育證明書者，參加教師資格檢定通過後，由中央主管機關發給教師證書。」（教育部全國法規資料，2011a）

另，依據 2010 年 10 月 26 日教育部台參字第 0990178992C 號令修正發布之高級中等以下學校及幼稚園教師資格檢定考試類科及應試科目規定，考試範圍共

四科，包括共同科目二科及專業科目二科，前者是國語文與教育原理與制度，後者是兒童發展與輔導與國民小學課程與教學（教育部全國法規資料，2011b）。

2. 第二階段 0.5 年

第二階段時間規劃採 2:3 原則分配，即在實習學校停留時間約 2 個月、由 2/3 至 3/4 月，在教大時間是 3 個月、由 4/5 至 6 月。

（a）專業發展學校（PDS）

PDS 是落實教育理論與教學實務交互印證與修正之組織模組（module）。PDS 成敗繫於高教機構學者專家之「統觀識能」，其包括：（1）由理解課程到教學實務轉換，（2）洞察教室生態潛在課程效應，（3）引進與善用網路虛擬社群資源，（4）再概念化合作伙伴教學者之教學律則，以及（5）發展教學者後設認知習性。

（b）教檢

教育專業發展具階段性與銜接性，階段不同，階段任務彼此互有差異。大五階段實習不同於大四階段實習，前者真實性（authentic）不同於後者素樸性（naive）；大五實習旨趣不同於實務教檢，前者由師生主體間性社會互動到教學者進行自我辯證、知識符碼轉換，實務教檢目的是檢驗其具備專業化之教學律則成熟度。

戊、結論

「輸掉教師，輸掉教育；輸掉教育，輸掉未來。」教師素質直接影響學習者受教權益，間接牽動國家發展人資儲備，準此，正視師資培育規劃迫在眉睫。國小師資培育自高等教育學術、科學化後，教師專業「識能」已達社會知識份子行列。如今，為因應國小生態變化，如本位意識高漲、多媒體刺激、數位落差、準網路世代、家庭功能式微、經濟弱勢、新台灣之子女差異教育需求等，國小師資培育亟待補強的專業識能是屬情意、價值「軟實力」，軟實力育成或發展植基於個己的教育理念、人文素養……

最後，符應時代趨勢，國小師資培育是否由「4+0.5」年舊制提升至「4+2」年碩士化，有賴實證資料佐證之；其次，「學習不是短距離衝刺，而是馬拉松長程賽」，專業發展非能一步到位，時間歷練是關鍵；再說，為「學術性低，實用性高」的國小基礎教育，以及新台灣之子女適應與融入社會、單親隔代教養、教育正義……教育工作者個己價值觀建立、品格品德深化、敬業勤業態度培養與自律中滋生的教育「情意智能」、「同理智慧」，是國小師資培育不可或缺要素。

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附錄一 40 學分教育學程課程結構一覽表

教育專業 I	教育基礎課程 至少 4 學分	教育概論、教育心理學、教育哲學、教育社會學
	教育方法學課程 至少 6 學分	課程發展與設計、教學原理、教學媒體與操作、輔導原理與實務、班級經營、教育測驗與評量
教育專業 II	共同選修 至少 10 學分	特殊教育導論、藝術治療與輔導、音樂治療與教育、兒童心理學、發展心理學、行為改變技術、親職教育、心理與教育測驗、教育統計、教育研究法、教育史、現代教育思潮、德育原理、教育法規、教育行政、學校行政、比較教育、數學課程發展與設計、數學學習心理發展、數學科展製作與評析、科學教育、環境教育、戶外教學與活動設計、資訊教育、視聽教育、網路與教學、網路與測驗、英文故事教學、語文創意思考教學、多元智能教育、創造力教育、美術鑑賞與教學、多元文化美術教育、兒童美術行為研究、兒童音樂學習原理、音樂心理學、音樂教育史、運動教育學、適能教育、動作教育、遊戲理論與實際、人權教育、教育人類學、鄉土文化教育、人際關係與溝通、生涯教育、生命教育、性別教育、多元文化教育、中等教育、青少年心理學
學 科 專 業 與 教 育 教 學 實 習	教學基本學科課程 至少必修 10 學分	語文領域：國音及說話、寫字、兒童文學、兒童英語、鄉土語言 數學領域：普通數學 自然與生活科技領域：自然科學概論、生活科技概論 社會領域：社會學習領域概論 藝術與人文領域：音樂、鍵盤樂、表演藝術、美勞、藝術概論 健康與體育領域：健康與體育、民俗體育 綜合領域：童軍
	教育實習 分科教材教法課程 至少 10 學分	教學實習、國語教材教法、英語教材教法、鄉土語文教材教法、數學教材教法、社會教材教法、自然與生活科技教材教法、藝術與人文教材教法、健康與體育教材教法、綜合活動教材教法

（資料來源：國立臺中教育大學 2009 年度課程架構）

附錄二 教師專業碩士學位學程課程結構一覽表

核心課程	基礎理論類 必修 6 學分	教育基礎理論與應用研究 教育專業專題討論 (I) 教育專業專題討論 (II)
	研究方法類 必修 9 學分	教育研究法 教育行動研究 獨立研究 專業發展與檔案
專精課程	至少選修 12 學分	教學設計與科技研究 班級經營與案例研究 教學策略研究 有效教學觀察技巧 學習評量研究 多元文化教育與教學實務 差異性教學研究 學科課程發展與教學研究
一般選修課程	至少選修 4 學分	特殊需求學生及融合教育實務研究 創造力教學研究 人際關係與溝通研究 當代課程與教學議題研究 課程評鑑研究

(資料來源：<http://210.240.193.239/ntcu/mdtp/download/> 教師專業碩士學位學程課程架構表.pdf)

香港教師情緒技能的內涵研究

A study on the elements of teachers' emotional competency

鄭志強

香港教育學院課程與教學學系

摘要

本文旨在研究香港教師情緒技能的內涵，為學校領導提供一個發展教師情緒技能的模型。本研究參考 Bar-On 的情緒智商量表，將情緒技能概念化為可以培養和發展多元能力，建立研究模型及問卷，並運用結構方程模型驗證理論模型因子的建構效度。研究員以整群抽樣形式選取香港 40 所資助中學進行問卷調查，當中成功收回 958 份教師問卷進行驗證研究。經結構方程模型發現教師情緒技能的因子結構涵蓋解難能力、自我實現、自主能力、壓力管理、適應能力及人際關係。

關鍵詞

教師情緒技能，情商領導，結構方程模型

Abstract

This paper aims to explore teachers' emotional competency skills for school leaders to develop teachers' emotional competency. The study adopts Bar-On's (1997) theoretical framework to conceptualise emotional competency into developable multi-factorial skills, and applies his Emotional Quotient Inventory (1997) for data collection. A structural equation model was applied to confirm the factor structure of the EQ model. Cluster sampling was adopted to collect data from teachers in 40 aided secondary schools in

Hong Kong. 958 teachers participated in the questionnaire survey. A six-factor emotional competency model, which consists of problem solving, self-actualization, independent thinking, stress management, adaptability and inter-personal relationship, was explored by using a structural equation model.

Keywords

teachers' emotional competency, EQ leadership, structural equation model

甲、引言

社會不斷發展，學校面對的政策措施愈趨複雜，教師所面對的教學工作也愈來愈繁重。近年的教育改革、校本管理、課程改革及教師專業發展等政策為學校教育帶來了很多挑戰，更令作為改革執行者的教師承受的壓力愈來愈大。如何協助教師提高情緒技能，協助他們靈活處理工作壓力，是學校領導當前遇到的問題。若學校領導能協助提升教師的情緒技能，學校組織的靈活性及適應性也會因而提升，而教學效能也會因而改善。學校領導可以透過策略管理營造情緒健康校園，以減低員工因工作壓力、衝突和不良競爭產生的負面情緒，同時亦可強化他們的情緒技能，協助他們發揮專業以獲取更佳的工作成效（McDowelle & Buckner, 2002）。要規劃發展情緒健康校園的策略，首先要了解教師的情緒技能，本研究希望可以建立一個教師情緒技能內涵的模型，作為學校領導發展情緒健康校園的參考。

情緒技能是個人處理日常生活需求的社會和情感能力（Bar-On, 2006）。情緒技能不僅影響個人的身心健康及人際關係，同時也影響個人工作成效以至組織效能（Salovey, Hsee & Mayer, 1993）。掌握情緒技能的人能認識、了解和管理自己和他人的情緒，在工作場所能與別人建立良好的人際關係（Mayer & Salovey, 1997）。協助員工掌控情緒技能有助增強他們解決衝突的能力（Weisinger, 1998; Lubit, 2004），從而改善社群關係，促進團隊協作效能，增強他們對組織的歸屬感（Jordan, Ashkanasy & Hartel, 2002）。一個情緒技能高的人即使在時間壓力和不穩定的環境中，也較容易產生高度的歸屬感。員工歸屬感形成後，他們的流失率會降低，工作滿意度會提高，對組織的認同亦隨之加深，更會自發形成自我

約束，產生對組織強烈的責任感。Cherniss（2001）亦指出掌控情緒技能有助提高員工的責任感和士氣，改善他們的健康，從而提高組織效能。

乙、文獻探討

情緒技能理論的發展至今只有近二十多年歷史，最早的是發表於1990年的Salovey & Mayer情緒技能理論。Salovey & Mayer（1990）將情緒智慧定義為個體察覺自己與別人的情緒，進行區別辨識，進而處理並運用情緒訊息來指引自己思考與行動的能力，包含情緒的評估與表達、情緒的管理及情緒的運用三個層面。他們認為要能達到有效管理自己及他人的情緒，首先必須懂得辨別情緒、利用情緒輔助思考和了解情緒（Mayer & Cobb, 2000, p.166）。Salovey & Mayer的模式強調情緒技能是能力而不是性格或偏好的行為方式（Hedlund & Steinberg, 2000），他們相信情緒技能對於一個人的成功有必然的影響。

Goleman（1995）發行《Emotional Intelligence》一書後，不論在教育界、商界均引起對情緒技能極大興趣。Goleman在《Working with Emotional Intelligence》一書提出情緒技能的定義：情緒技能是指認識自己和別人的情緒，激勵自己，管理自己的情緒及處理關係中的情緒的能力。Goleman（1998）把情緒技能歸納為認識自身的情緒、認知他人的情緒、妥善管理自己的情緒及人際關係的管理。他認為情緒技能是可以透過學習得到的，可以轉化為應用於工作上的實用技能，也能帶來工作上卓越的表現。

Bar-On是首位嘗試以科學化方法量度情緒技能的學者，他在博士論文提出情緒技能多元能力的概念，指出個人情緒會受工作環境影響，掌握情緒技能有助促進工作成效（Bar-On, 1997）。Bar-On基於他對精神健康的研究，發展「情緒智商量表」（Emotional Quotient Inventory 或簡稱EQ-i），將情緒技能量化為情緒商數，即EQ。這模型指出情緒技能是個人處理日常生活要求和壓力的能力，為EQ-i提供了良好的理論基礎。EQ-i所測試的情緒技能包括內省能力、人際技能、壓力管理及適應能力。Chan（2004）則運用Salovey & Mayer的模型量度香港中學教師情緒技能的內涵，並確定四個因子包括對自己情緒的察覺，同理心的敏感性、情緒管理及情緒運用。

Salovey & Mayer (1990)、Goleman (1995) 及 Bar-On (1997) 三個理論模型以不同層面探討情緒技能，但均認為情緒技能是一種管理自己情緒的多元能力。而 Bar-On (1997) 提出情緒技能的多元能力概念較 Salovey & Mayer (1990) 及 Goleman (1995) 多層面的技能具體，故本研究採用 Bar-On (1997) 的情緒技能多元能力的理論模型，把情緒技能概念化為解難能力、自我實現、自主能力、壓力管理、適應能力及人際技能。而掌控情緒技能者有以下表現：

1. 解難能力：他們能根據客觀的外在線索觀察一個人的情緒和準確估計眼前的情況，在不斷變化的情況下靈活改變一個人的情感和思想，並解決個人問題。
2. 自我實現：他們對未來有較多的計劃，做出較佳的準備，這有助他們創造新思維，妥善轉移注意焦點，並能激發動機，達成自我實現。
3. 自主能力：他們能覺察自己內在的情緒感受，並能有效自主地利用情緒，而不被情緒左右。
4. 壓力管理：他們具備處理激起的情緒的策略，並能因應內外的情緒壓力，維持身心平衡，應付壓力和控制強烈情緒。
5. 適應能力：他們能在不斷變化的情況下靈活地改變個人的情感和思想。
6. 人際技能：他們能夠意識、了解和理解別人的感受，有效地管理他人情緒，以及與他人建立和維持相互滿意的關係。

掌控情緒技能者能確認及界定問題，從而提出及實行有效的解決方法，亦能實現個人潛能，爭取並享受完成自己喜歡的事情的能力。他們擁有獨立思考、自我約束行為及擺脫情緒影響的能力，能主動正面應付逆境、壓力和緊張的環境。他們更能適切調節個人情緒、思想及行為，以應付不斷轉變的環境或狀況，並能與其他人建立及維繫良好、親密和互相關懷的關係。在現今的教育變革下，教師極需要掌握上述的情緒技能。既然學校組織的整體情緒技能這麼重要，學校領導應設法營造一個情緒健康校園，讓教師在人本管理下發揮其教學專業，實踐教育改革的精神。

要按上述情緒技能的內涵營造一個情緒健康校園，讓教師發揮情緒技能，學校領導可以透過策略管理，減低教師的壓力 (Ali Eissa & Khalifa, 2008)。策略管理涉及教與學、人事、資源和外在環境的不同管理職能範疇，並需考慮學校組織的願景來規劃 (Weindling,

1997)。有效運用策略管理以建立情緒健康校園，不但可以協助提高教師的情緒技能，還可使學校更有效運用資源，以回應外在政策環境對教學工作的要求，促進學校組織的長遠發展（James & Phillips, 1995）。學校領導者可從制定對應的學校政策，培植文化及個人領導模式等協助教師發展情緒技能，建立情緒健康校園。

學校領導需要釐清政策措施的精神和教育環境的實況，方能對症下藥施行校本政策，建立健康的工作文化，協作教師提高情緒技能處理壓力。例如校本管理政策強調權力下放，讓教師參與決策，領導者則需要賦權教師，讓他們獨立自主工作（Cheng, 2008）。課程改革提出了新的教學內容，當中涉及很多教學技術問題，學校領導倡導教學專業自主文化，讓教師運用解難能力發展適切的教學法。此外，教師愈來愈需要在學習社羣下交流教學知識，進行專業發展活動，因此，對教師而言，掌握人際關係技巧非常重要。本研究的理論模型採用 Bar-On 的教師情緒技能理論，把教師情緒技能概念化為多元能力，當中包括自主性、壓力承受、同儕關係、解難能力、適應力及自我實現。確立這多元的情緒技能架構將有助學校領導針對不同方面施行策略管理。

丙、研究方法

本研究採用量化問卷調查法收集數據。情緒技能既然是一種能力，最適當的量度方法是能力測試，形式與量度智力的智力測驗相似（Mayer, Salovey & Caruso, 2002）。本研究基於 Bar-On 設計的「情緒智商量表」，發展了一套工具用以測量教師情緒技能。

一、研究工具

問卷共 13 項問題，分別測量工作壓力、獨立自主、人際關係、解難能力、靈活性和自我實現。量表的內容是建基於 Bar-On 設計「情緒智商量表」而發展的。問卷以六分量表測量受訪者對各項陳述的同意程度，範圍從 1（非常不同意）到 6（非常同意），而研究假定這量表的區間尺度之間的程度是同等距的。

二、研究取樣

本研究的對象是香港資助中學教師。香港共有 473 所中學，其中 90% 是資助學校，5%

是官立學校，剩下的 5% 是直資學校。這些學校都按照《教育條例》和《教育規例》受教育局監管。本研究只選擇資助中學，因為它們是構成香港中學主要部分的同質性組群。受訪教師從 40 所樣本資助中學（約佔資助中學學校總數的 5%）中抽取。因為整體受訪者數量龐大並散佈在整個香港地域，樣本學校是通過整群抽樣選擇。組內的方差和組內變數之間的差異越小，整群抽樣與分層抽樣相比就越好。一所學校是一個集群，集群的數量要與所需樣本大小相等。每一樣本學校約有 50 名教師，當中再隨機抽取 30 名教師表示該群體。這 40 所樣本學校是根據所在地區學校總數按照一定的比例取樣。從新界抽取了 20 所學校，從九龍抽取了 10 所學校，從香港島抽取了其餘的 10 所學校。在這 40 所學校裡隨機抽取了 1,200 名教師，其中 958 人回覆了問卷。

三、數據收集和分析

本研究以 Bar-On (1997) 設計的量化問卷收集香港中學教師對上述變項的觀感。透過他設計的「情緒智商量表」，將情緒技能量化為情緒商數。研究員使用 Lisrel 8.3 的軟件程式，就所收集的數據檢測其因子結構和權重系數，藉以建立一個結構方程模型 (Joreskog & Sorbom, 1999)。結構方程模型是一組統計技術，能夠檢測因子結構及變項之間的關係。

丁、研究結果

一、結構方程模型

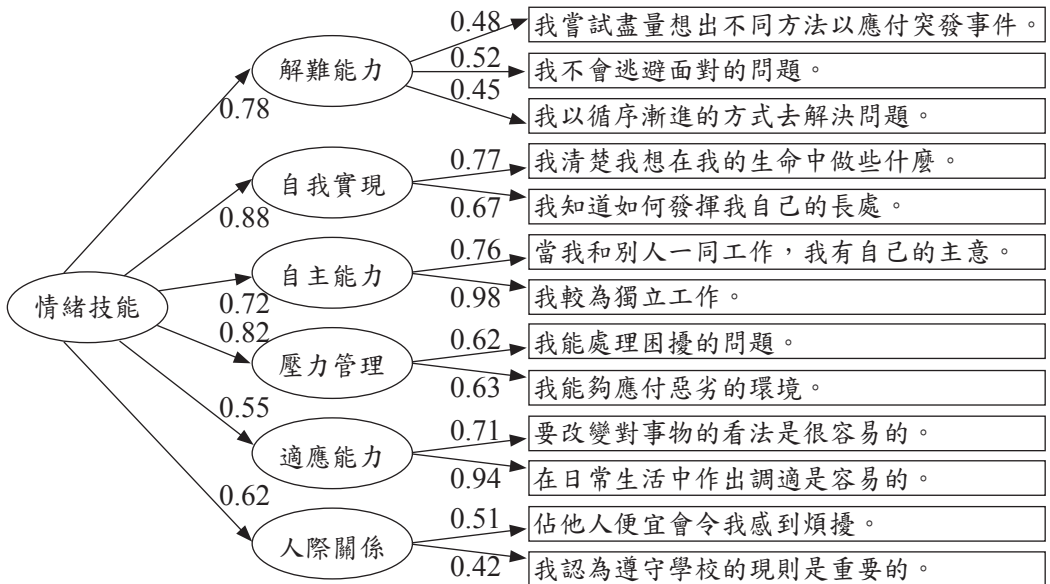
以最大似然法完全標準化的結構和測量系數見圖一，各項指標的優度擬合指數見表一。根據 Z 檢驗，模型中路徑系數在 0.05 水準上顯著。假設模型資料擬合良好。採用 LISREL 對 958 個被試分析的結果表明，全模型的卡方值不顯著，樣本為 958， $\chi^2(52) = 56.20, p = 0.32$ 。作為絕對擬合指數，卡方估計樣本協方差矩陣和基於假設模型的協方差矩陣之間的差異。卡方值不顯著表明該模型資料可能具有較好的代表性。然而，運用卡方檢驗進行估計受樣本大小的影響。當樣本較大時，樣本協方差矩陣和再生協方差之間即使差異較小，也是顯著的。

相對擬合指數和基於殘差的指數是另外兩種類型的擬合指數，被廣泛用來補充卡方估計。相對擬合指數包括比較擬合指數 (CFI)、非範擬合指數 (NNFI)、增值擬合指數

(IFI)。這些擬合指數通過比較假設模型和基準模型來衡量模型的擬合改進程度。基準模型是一個獨立模型，其中所有的變數被假設為彼此不相關。這些指數的範圍在 0-1 之間，值越大意味著模型擬合越好，它們至少大於 0.9 表明模型擬合較好。本研究中的相對擬合指數是 $CFI = 1.00$ 、 $NNFI = 1.00$ 、 $IFI = 0.98$ 。這一結果表明，樣本資料和假設模型擬合良好。

除了相對擬合指數外，也會用到基於殘差的指數。標準化殘差均方根衡量觀測變數和潛變數協方差矩陣之間所有標準化殘差的均值。近似均方根誤差 (RMSEA) 估量由於模型的誤定規格下沒有配置及定對自由度的差異提供測量 (Browne & Cudeck, 1993)，SRMR 的取值範圍是 0-1，RMSEA 沒有上限，值越小表明模型擬合越好，SRMR 小於或等於 0.08，RMSEA 小於或等於 0.06 表明模型擬合良好 (Hu & Bentler, 1999)。在本研究中， $SRMR = 0.019$ ，而 $RMSEA = 0.0092$ ，這是一個非常嚴謹的模型，其中所有測量誤差之間的相關都未釋放，那些擬合統計指數表明模型與資料擬合良好。表二顯示各因子的信度系數。所有因子的信度系數均高於 0.6，反映問卷的設計具備信度。

圖一 結構模型的結果



表一 結構方程模型的擬合度指數

χ^2	df	<i>p</i> -value	RMSEA	SRMR	CFI	NNFI	IFI
56.19	52	0.32093	0.0092	0.019	1.00	1.00	0.98

表二 各因子的信度系數

	解難能力	自我實現	自主能力	壓力管理	適應能力	人際關係
信度系數	0.64	0.63	0.73	0.74	0.71	0.73

二、分析和討論

從上述的數據分析顯示，教師的情緒技能涵概解難能力、自我實現、獨立自主、壓力管理、適應能力及人際關係。教師需要運用解難能力、自我實現、獨立自主、壓力管理、適應能力及人際關係的情緒技能應付每一天的教學工作。

解難能力是結構模型的第一個因子，它是確認及界定問題，從而提出及實行有效解決方法的能力。掌握解難能力者會尋求解決問題的協作方案，不會傾向選擇迴避策略（Jordan & Troth, 2002）。教師每天會遇上各樣教學上的難題，例如有效處理日益嚴重的學習差異，照顧有特殊學習需要的學生，改善學生無心向學及行為問題，聯絡家長商議有效管教子女的方案等問題。若這些難題過多而又不能解決，教師很容易被情緒困擾，而採取迴避策略，抽離於問題之外。掌控解難能力的教師能釐清所面對教學問題的本質，較能對症下藥解決問題，不會被問題困擾而影響工作。故此，解難能力是教師情緒技能的其中一個核心能力。

自我實現是結構模型的第二個因子，它是實現個人潛能，爭取及享受完成自己喜歡事情的能力（Mayer & Salovey, 1997）。掌握這種能力者能通過調動和指揮個人情緒來自我激勵，令人生變得樂觀。在強調追求考試成績的教育制度下，學生個人成長的培育容易被忽略，沒有毅力實現自己教學理念的教師很難享受在教學工作上喜悅。具備自我實現潛能的教師則會清楚自己對教學和學生的要求，他們理解每個學生都是獨一無二的，不是每個學生都能取得高分。他們在追求考試成績的框架下能做出較佳的心理準備來發展學生潛能，當學生有進步了，教師會感到自己的工作是有意義和愉快的，產生滿足感。故此，自我實現是教師情緒技能的其中一個核心能力。

自主能力是結構模型的第三個因子，它是個人獨立思考及擺脫情緒影響的能力。掌握自主能力者能覺察自己內在的情緒感受，並能有效自主地利用情緒，而不被情緒左右（Goleman, 1995）。教學工作的本質是專業的，涉及對教學情境的獨立思考及判斷，例如處理不同學習風格及能力的學生的學習，在不同教學情境下施教的處理方式。教師需要運用專業判斷及獨立思考落實新課程內容的教學，並了解面對不確定性所產生的憂慮情緒是必然的，從而不會懼怕惶恐，亦不被情緒左右教學決定。故此，自主能力是教師情緒技能的其中一個核心能力。

壓力管理是結構模型的第四個因子，它指主動及正面應付逆境、壓力和緊張環境的能力（Jordan & Torth, 2002）。掌握這種能力者能處理困擾的問題及應付惡劣的環境。在不斷追求質素的教育改革下，學校的改進工作持續不斷，教師的工作性質亦變得複雜，他們所充積的怨氣和壓力亦增大，很容易被工作問題困擾。教師要在不斷變化的情況下靈活地改變個人的情感和思想，方能以先後緩急處理問題及安排工作。掌握壓力管理技能者具備處理激起的情緒的策略，能因應內外的情緒壓力，維持身心平衡，應付壓力和控制強烈情緒。故此，壓力管理是教師情緒技能的其中一個核心能力。

適應能力是結構模型的第五個因子，它指適切調節個人情緒、思想及行為以應付不斷轉變的環境或狀況的能力（Bar-On, 1997）。掌握適應能力者能容易改變對事物的看法，並容易在日常生活中調適。新課程內容的廣度和深度都較舊課程大，加上學生的個別差異較過往更大，面對這樣新的工作挑戰，欠缺適應能力的教師面對新課程的轉變，或會出現較負面的情緒，而影響到日常的教學工作。掌握適應能力的教師能調節個人的情緒和行為，以積極態度及新的工作模式，例如教學研究掌握新課程的內容和要求，並了解學生的學習難點，用以施教。故此，適應能力是教師情緒技能的其中一個核心能力。

人際關係是結構模型的第六個因子，它指與別人建立及維繫良好、親密和互相關懷的關係的能力（Abraham, 2005）。掌握這種能力者能有效管理他人的情緒，設身處地為他人著想。在新課程的轉變下，學校越來越多跨科協作學習活動，不同科目的老師需要協作以設計校本課程。良好的人際關係有利於教師溝通協作，減少衝突和壓力。掌握人際技能的教師能了解他人的工作和體諒對方的難處，會以協商和溝通來開展工作。可見，人際技能

是教師情緒技能的其中一個核心能力（Lopes, Salovey, Cote & Beers, 2005）。

學校領導必須了解情緒技能對教育工作的影響，並作出適當的鼓勵，誘發教師的工作動機，促使他們在教學工作中實現自我，身體力行提升自身的個人智能。領導者必須樂於聆聽員工的意見，並負責輔導工作，以紓緩員工的個人壓力。教育領導除了管理學校預算和課程發展事宜外，還要處理教師問題。領導者也應鼓勵員工用新的方式思考自己的工作，或對新標準和新目標作出承擔。從各種角度考慮，領導者都應理解改革過程中員工的情緒，理解之後才可能站在員工的角度思考問題，耐心對待他們，幫助他們度過轉變期。如果領導者沒有預期這種情緒化的反饋，會認為員工很難相處或不合作，甚至可能為避免聽到更多抱怨而停止傾聽。如果他們這樣想，轉變就會停止，改革成功更無從談起（McDowelle & Buckner, 2002）。

戊、總結

本研究以 Bar-On 的情緒技能理論作為討論基礎，透過實證數據確立了六項情緒技能，包括解難能力、自我實現、獨立自主、壓力管理、適應能力及人際關係。學校領導需要釐清教育政策措施的精神和學校組織環境的實況，才能對症下藥施行校本政策，建立健康的工作文化，協助教師提高情緒技能處理壓力。有效運用管理策略以建立情緒健康校園，不但可以協助提高教師的情緒技能，還可使學校更有效運用資源以回應外在政策環境對教學工作的要求，促進學校組織的長遠發展（James & Phillips, 1995）。研究者可考慮就這些管理策略對促進上述六項情緒技能的成效進行研究，藉此建立一個情緒健康的校園，發展高情緒技能的教師團隊，並且更有效面對教育改革方案帶來的挑戰。

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優化學校行政的行動學習

An experience of a school using action learning as a strategy to enhance school administration

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摘要

在推行教育改革的环境中，學校改善是一個經常被討論的課題；本文旨在分享一所學校優化行政的歷程。這所學校因應「外評報告」的建議，制定了提昇中層人員為發展策略之一；該校透過參與香港初等教育研究學會主辦的「優化小學學校行政」計劃，引入專業支援，進行適切的校本培訓及以行動學習方法去檢視學校的行政和溝通。小組同工在過程中以改善校務的學習心態，提高了對學校的歸屬感和得到專業成長。本文以敘事方式去回顧這個行動學習的經歷，並透過整理相關文獻、計劃資料和深度訪談，讓讀者了解個案的實踐知識。

關鍵詞

香港小學教育，行動學習，學校改善

Abstract

School improvement is one of the heated themes frequently discussed in the current educational reform context. This paper shares the experience of a school using action learning as a strategy to enhance school administration. Based on the recommendations stated in the External School Review report, this primary school decided to strengthen the capacity of its middle-management as one of the school development strategies. In order to bring in professional support and expertise, the school joined the “Enhancing the school administration of primary school” organized by the HKPERA. It provided the school participants with relevant school-based training to conduct an action learning project on reviewing the school administration and communication. The school participants were eager to learn throughout the action learning process. Upon the completion of this project, the school participants gained improvements in both professional growth and a sense of belonging. This paper used the narrative inquiry approach in reviewing the experience and knowledge gathered by the school practising the action learning project.

Keywords

Hong Kong primary school, action learning, school improvement

個案學校的背景

在全球一體化的情況下，各地都不約而同推行教育改革以提昇學校教育質素，從而促進學生的成長和發展；在這個教育變革的大環境中，學校的發展和改善是落實教育改革中一個經常被討論和分析的環節。在本地學校發展與改善的文獻中，李榮安、麥肖玲（2005）曾指出「校本改革，不論是內容或過程，都很複雜，包括面對起動的困難、千絲萬縷的人事互動及資源的制肘等，一經理論化或以簡圖代表，便容易流於空論，以致失去其應有的意義。實踐的質素是優是劣，成效如何，關鍵在於當事人的不言而喻的知識及當時的取捨」。這說明了校本需要是學校發展的關鍵因素；故此，一所學校若要在教育改革中得到更好的發展，校內同工便要先分析學校情境，思考發展策略，再落實改善措施。

香港教育學院賽馬會小學於2002年9月成立，是全港第一所附設於高等院校的全日制資助小學，本著「共享學教喜悅，盡展赤子潛能」的理念，促進師生的發展和成長。學校至2006學年時，只有三位主任負責大部份的學校行政工作；在這情況下，雖然該校校長已把一些行政工作交由有潛質的教師分擔，但中層管理架構發展仍未成熟。故教育統籌局質素保證分部於2007年度的該校外評報告中，建議該校要：「加速培訓中層管理人員，強化中層管理架構，並認為這是值得學校優先發展的」。學校於2008年開始向外招聘具中層經驗同工加入管理團隊，並明確指出學校發展策略是提昇中層人員的能力；可見，該校領導層在當時是知悉校內中層人員能力有待提高的需要。正如資深校長甘艷梅（2005）指出：在教育改革中「學校不應被牽著鼻子走，校長應認識環境轉變，考慮校本以配合改革，不斷反思，為學校改革定下優先次序」；看來，該校制定提昇中層人員為發展策略之一是合乎校情的。

「在推展各項教育改革的同時，教育局及不少機構均設立支援項目，在各學科、單項層面支援學校，如語文科、通識教育科、校長領導、同儕參與、校外評核等，給予學校外來動力及資源，紓緩各改革項目所帶來的壓力，協助學校發展工作」（趙志成、麥君榮，2011，頁43）。香港初等教育研究學會作為一個教師專業團體，於2009-2010年得到優質教育基金撥款，主辦「優化小學的學校行政」計劃，分兩期向17間小學提供專業支援；香港教育學院賽馬會小學是該計劃第二期的其中一所參與小學。該校同工經商討後決定參加這個計劃，目的是透過引入校外專業支援，促進校內中層人員管理能力的提昇和優化學校行政架構。為了分享這個優化學校行政的個案經驗，筆者三人以敘事形式來回顧這個行動學習的經歷。正如學者指出，這種「分享故事幫助教師以新的方式認識自己的經歷；因為在分享的時候，教師必須對發生了什麼有所理解」（張濤譯，2007，頁176）。筆者三人冀透過整理相關文獻、計劃資料和深度訪談，可讓讀者了解這個行動學習個案的實踐知識。

引入外界資源促進學校發展

在香港，近年有不少學者就大學支援學校發展的專業活動寫成學術文章，其中梁歆、黃顯華（2010，頁122）指出「學校改進的最終目的就是，當外部的支援人員撤離學校後，學校仍舊能夠利用自身的力量進行持續變革」。與此同時，張素貞、吳俊憲（2012，

頁 25) 的研究則發現「轉型團隊要持續發展，光是依靠校內原有的教學資源是不夠的，一方面有新進教師的加入可以注入新血，另方面則需要與大學教授建立專業夥伴合作關係。這是因為大學教授可以提供專業和理論建議，幫助教師拉近理論與實務的鴻溝」。上述這兩篇文章肯定了大學學者與前線學校人員的合作，可有效地促進學校發展和教師的專業成長。這個「優化小學的學校行政」計劃，由香港初等教育研究學會內的師訓學者和資深校長合作，為參與計劃的小學提供多樣化的專業培訓服務，支援前線教師面對急劇轉變的教育環境，進行適切的情境分析再去優化學校的行政工作。

表一 架構重整與中層人員職責的培訓課程

日期	課題	主講
1 月 9 日	中層人員的角色與成長	香港教育學院教育政策與領導學系 余煊博士 聖公會油塘基顯小學 李少鶴校長
1 月 16 日	重整學校架構的功能	香港教育學院國際教育與終身學習學系 胡少偉博士 李志達紀念學校 胡鳳群校長

香港教育學院賽馬會小學是這個計劃第二期參與學校之一，是期的系統培訓課程主題為「架構重整與中層人員職責」，於 2010 年舉行的課題內容和安排見上表一；期間，該校校長帶領課程發展主任及四位中層人員一同參與相關培訓，對中層人員成長和學校架構重整的相關理論和實踐經驗都有一個共同的學習。而為了深入了解參與計劃學校的校本需要，計劃籌委會派出專家於 2009 年 11 月 24 日到訪學校，與參與計劃的學員進行校本診斷，共同設計兩個培訓課題和行動學習的題目；商議後，該校確定行動學習是設計一個適合校情的行政架構，以提升學校的行政效能。同時，雙方並確定第一個校本培訓的主題為「專業發展與學校發展」，讓全校教師可一起思考和討論學校情境和了解教師專業發展與學校發展的關係；第二個培訓對象則針對中層人員，以「團隊領導」為題，讓校內中層人員反思團隊領袖的角色與掌握中層人員的技巧。與此同時，參與計劃的幾位學校同工亦於 2010

年3月及4月參觀計劃籌委會安排的兩所小學，以了解友校優化學校行政架構的經驗。

校本培訓的學習

內地學者張爽（2006）指出「在以往的教育改革過程中，學校往往是改革的對象，由政府提出目標和要求自上而下地進行調整與改革，忽視學校的傳統、現實情況及具體存在的問題」；參考了相關學者的建議，香港初等教育研究學會的校本培訓重視全校同工的參與，該校教師參與於4月舉行校本培訓，主題是分析學校情境，內容包括全校教師共同評估學校的優勢、弱點、機會及威脅；通過校本教師工作坊，校內大部份教師對學校發展方向形成一致的看法。這體現了教育局質素保證分部（2010）的觀察，「大部份學校採用集體議事方式，能夠安排會議讓教師及專責人員等檢討校情，商議關注事項措施」（頁4）。再者，該校很多同工在培訓中分享了自己對學校的觀感，並認同學校有檢討行政架構的需要；這有利於學校推展優化學校行政的行動學習。

「在這個校本管理和民主化的年代，在世界各地包括香港皆有迫切需要，去讓校長及準領袖反思有關課程領導與管理的方法，尤其是去鼓勵同工有更強的團隊精神」（Lee, Dimmock & Au Yeung, 2009, p.25）。因應國際校本管理和課程發展的趨勢，提昇中層對建立團隊的認識和領導力的培育，逐漸被香港小學管理層的關注。在校本中層人員培訓中，培訓者聚焦於讓中層人員明白團隊發展的階段和認識不同角色在團隊的重要性。正如學者余煊（2010，頁39）指出「團隊是由幾位到十幾位獨立的個人而組成，要凝聚這批人成為一個團隊，首先要有一個清晰的共同目標；而為了有效達成這個團隊的目標，過程中成員需互相溝通、承擔和付出，以爭取團隊所期望的較大成果」。透過這個校本「團隊領導」的培訓，該校的中層人員得到充份的溝通和互相理解，從而增強了帶領團隊的信心和對學校的凝聚力。受訓中層在評估中寫下了自己的學習成果：

- 知道自己在團隊中的角色及有效的領導方法；
- 加深自己對團隊領導的了解，及有助自己面對挑戰；
- 啟發「衝突」在團隊的作用；
- 提高了於監管方面的意識。

優化溝通和清晰架構

聖公會油塘基顯小學李少鶴校長與我們分享重整學校行政架構的經驗，學校因應學校環境的變遷及教育改革曾進行了五次重整學校行政架構，並為我們說明每次重整學校行政架構的誘因及模式。參與是次友校參觀及交流，讓我有機會體驗重整學校行政架構的需要、認識重整學校架構的不同方法及模式、評估重整學校架構時可能遇到的阻力及可行的應變方法。

（甲同工於友校參觀後的分享）

因應香港小學學位教師職系的建立，大部份小學在過去十多年來都有新增的中層人員；有些小學只安排晉升中層人員負責新增的學校工作，有些學校則因應校情不時檢視和重組學校行政架構。正如學者高洪源（2007）分析「對學校裡常規組織和基層組織的戰略管理包括兩種情況，一種是從學校戰略規則的任務變更和流程重組出發，改變學校常規組織結構。另一種是不改變原有組織結構，大力調整常規組織簡單、被動的執行職能，通過制度和任務的局部變化強化戰略職能」（頁154）。藉這個優化學校行政的行動學習，該校行動學習小組一起檢視當時的學校行政架構，並逐一檢視各中層人員的職責。上述一段分享則是該校同工在參觀友校的分享，從這段分享內看到同工理解到重整學校架構的必要性。在這個「優化學校行政」行動學習過程中，該校行動學習小組成員在全面檢視當年行政架構後，提出要將文化教育藝術組從非學術範疇編入課程發展組之內，這安排有利各科以滲透模式去提供文化藝術，讓學生在學科和課外活動中皆可接觸到文化藝術的教育；其餘各組的職能雖然沒有大的變動，但在檢討行政架構的過程，各小組負責人可了解同工對自己領導科組的期望和確認校內各組的分工，這有助校內中層團隊的協作。

「大多數績效改進計劃都伴隨在結構和系統方面的重大變革。在這些公司的經驗中有一個共同的主題，這就是強調跨職能的工作團隊；這些團隊的跨職能性有助於增加過程意識和對於變革活動的主人翁精神」（Dutta, S. & Manzoni, J. F. 著，焦叔斌等譯，2001，頁9）。在這次學校行政架構的檢視中，校內訊息溝通的流動性亦是行動學習小組的一個焦點；正如該校向籌委會提交的行動學習報告內指出，校內不少同工認為「只有由上而下又或者由下而上，都未能全面照顧全體老師的需要；校內縱向及橫向的溝通必須互動的」（曹潔

芬等，2012，頁 12）。因應同工要求學校要全方位溝通，該校即時加強有助橫向溝通的級本會議。為了進一步驗證學校資料，研究員在閱覽該校的行動學習報告後，再與負責同工進行了聚焦訪談，以三角檢定方法去核實該校報告所述的成效。期間雖然事隔多時，該負責同工仍記憶猶新地指出當時很多基層教師均認同加強級會的安排；級本會議每月舉行一次，由該級幾位班主任、所有相關科任和級主任組成。負責同工下文的分享證明了重視級會的安排，加速了各級教師團隊對優化教學的決策；而級會也可使各成員了解級內各班學生的概況，如遇個別學生在家庭背景或學習有異常者，也可藉這個級會讓相關教師掌握最新和準確的資訊。

當級會與班主任一起談時，其實級主任更加清晰每一班的情況。例如我們推行小班教學，原來同一班內不同科的老師在推行小班的一些口號或有不同，經過級會幾位主任確實同樣的口號後，對學生的適應較好。如果我們沒有這級會的話，就會未能找出問題，改善就一定會較慢。

（負責同工聚焦訪談的分享）

學校變革與中層人員成長

很多學者指出，組織或機構的體制轉型中，最深層的變革是要達至人的改變或人的價值觀的改變，制度的變革若缺乏了人的變革是不能持久的。教師是教育改革的關鍵人物，任何教育改革最終都要依靠教師才能得以施行。

（乙同工在參與計劃期間的讀後感）

該校行動學習小組在報告內指出「對於任何改變，我們大都喜歡抱着盡量維持現狀的態度，要使全校老師對着改變能抱有正面的態度也不是容易，欠缺安全感的心理包伏和不穩定的未來挑戰等，使大家帶着戰戰兢兢的心情去面對重整架構」（曹潔芬等，2012，頁 12）。這段分享充份體現了小組成員理解基礎同工面對變革的憂慮；而這次行動學習成功的因素之一，是在檢討行政架構中明確為學校來年的架構提供一個優化方案。正如張練成（2008，頁 68）指出「當我們能把注意力放在變革為我們帶來新的機會上時，再集中注意到我們可做的事時，我們便比較容易產生正面的自語，這有助我們去集中思索我們能夠做

的事」。而正如上文該校行動學習的一位成員，在香港初等教育研究學會安排的友校參觀後，深深地理解到同工價值改變是最重要的；在這個學校變革的過程中，該校行動學習小組關顧基層教師的心理需要，使大部份教師明白要共同面對變革的，並樂於接受和支持新學期行政架構的變動。

是次優化學校行政的行動學習歷程中，其中一個成果是該校中層人員的成長。下文是負責同工回顧經驗淺的中層人員在培訓中得到成長。透過共同參與工作坊的學習，該校中層更深入地了解自己的角色和領導團隊的技巧，過程中亦了解到跨科組溝通的重要性；在檢討和建立新的行政架構的過程中，提高了彼此之間的互信和合作，從而增強了學校中層的歸屬感和協作精神。台灣學者蔡進雄（2011，頁 74）曾指出「分散式領導認為領導應該是分散給每一個人，並非單一領導者的概念」；校內中層人員對自己作為一個領導者的覺醒，使他們在不知不覺間承擔了一個團隊領導的職責，讓學校也成為了一個分散式領導的團隊。

有時對於自己是否中層，有個別同事會有點混亂及不太肯定，透過這類的工作坊，是讓中層知道自已的角色，從而令到對自己的責任釐清。在工作坊亦提及到中層應該做那方面工作、怎樣監察，能讓同事知道這對工作會更順暢。

（負責同工聚焦訪談的分享）

行動學習的反思與啟示

「學校組織再造是指對學校教育過程的徹底再思考，及根本性巨幅再設計以促成學校績效的巨大改善」（洪祥編著，2005，頁 124）。相對這個定義，香港教育學院賽馬會小學在 2010 年所進行的「優化學校行政的行動學習」，並沒有產生一個巨幅變動的行政架構，而只是一個小修改的新行政架構；正如學者所言這個行動學習是一個「以鼓勵實務工作者探究自己的工作實務和分享結果與心得為宗旨的研究工作，這研究工作的目的是想協助人們感覺自己的實務工作，和對自己的學習歷程負責」（McNiff, J., & Whitehead, J. 著，朱仲謀譯，2004，頁 68）。該校同工為了提高中層人員的能力參與外間專業計劃，除了系統課程和校本培訓之外，亦有透過友校參觀和行動學習去提高中層人員的能力；在過程中

使校內同工亦增加了中層人員領導力的認知及提出了一個優化學校行政的建議。正如其中一位負責同工所分享參與這個計劃縮短了新舊中層人員的磨合，集結了推動學校發展的能量，從而得到一個不俗的學習成果。

如不參與此計劃或校長沒有提議我們去參與的話，可能主任之間確實需要一個磨合期；參與了這計劃，加速了整個行政會的凝聚，因為要完成行動學習，集結所有的能量，希望處理得好，並延伸至下一年。

（負責同工聚焦訪談的分享）

不少相關文獻顯示校本發展計劃會遇上一些困難和問題，香港教育學院賽馬會小學這個「重整架構提昇學校效能」計劃也遇上不少的困難，正如該校行動學習小組在其報告《2009-1010 年度「優化小學的學校行政」計劃》內，提及在行動學習過程中小組曾面對的困難包括：團隊建立、匯聚人才、轉變溝通模式、調節面對改變的心理和提昇反思能力等。而在前膽計劃的預期困難時，該校行動學習小組報告內指出未來的監察工作是不容忽視的（見下文）；當中，並提出這是對中層人員有一定的專業要求。也就是說，假若沒有中層人員在來年監察能力的提高，新的行政和溝通架構未必可以對學校發展產生應有的成效。而從這段行動學習的預估中，可看到這個小組是掌握從行動中學習及在反思中規劃未來行動的能力。

要使新的行政和溝通架構順利運作，監察的工作是不容忽視的，中層老師的角色起着非常重要的作用，他們一方面了解前線老師的推行情況，另一方面要監察新架構的實施，這對中層老師有一定的專業要求。

（曹潔芬等，2011，頁 13）

Fischer & Hamer（2010，頁 16）總結學校改革計劃時指出「當教師和行政人員能以一個成熟的合作者參與訂定自己專業發展計劃時，學校便有教育質素、持續重整和改革努力的產生」。從上文顯示，這個行動學習個案能促進該校中層人員重視自己專業的成長；「透過行動研究的學習，中層人員可反思自己選擇課題的行動過程及其所產生的實踐智慧」（胡少偉、余煊、陳湛明，2010，頁 35）。這個個案有成功之處，其經驗可歸納為一所學校要

得到改善，便要作一個適切的校情分析，檢視現有行政架構，看一看學校的溝通可否有改善之處；而在這個校本變革的過程中，因引入適切的外力，使同工抱著以改善校務的學習心態，在透過校本培訓和行動學習去檢討學校行政架構。在這個案中，新的行政架構雖然變動不大，但過程中中層人員提高了學校的歸屬感和得到專業的成長，故值得關注學校發展的前線同工參考。最後，由於這篇行動學習分享文章是以說故事形式撰寫，行文手法與一般學術文章的習慣不同，焦點也不在於應用相關學理，而是向讀者介紹個案的經驗；再者，因幾位合著者包括了來自培訓計劃和學校同工，故當中存有一定的主觀性，讀者參考此文時亦要注意相關的限制。

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徵集論文

我們歡迎教育界同工投稿，內容以教育研究、教育行動研究及教學經驗分享為主，課題可包括：

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- 家長教育
- 校本教職員培訓，包括教師入職培訓及輔導
- 校本管理
- 學生支援及學校風氣，包括輔導及諮詢
- 學生培訓
- 教育改革評議
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