教育研究報告匯編
教育研究獎勵計劃 11/12

教育研究報告匯編　教育研究獎勵計劃 11/12

香港教師中心

HK 香港教師中心　　香港女教師協會

目錄

編者的話

　　香港教師中心教育研究小組收到參與「教育研究獎勵計劃 2011/12」的研究報告超過十篇。編輯委員會從中選出八篇刊登於《教育研究報告匯編》。本年度的研究範圍相當廣泛，包括中學校長就觀課對改進教學質素的行動研究、小學生從合作學習中獲得的學習成果，以至幼兒對地心吸力的理解。研究內容涵蓋了中文、英文、數學、科學多個學習領域，以及教師發展與觀課的關係。

　　整體來說，參與計劃的同工均按研究計劃設定的研究議題，先進行文獻探究，再提出有理據支持的合適研究方法。他們將有關結果進行分析，再作出結論和建議，最後以系統化的格式將研究心得表達出來。研究報告反映他們在文獻比較和數據分析方面，都有相當深入和精闢的見解，對學生的學習問題，以及教師持續改進教學策略都有詳盡的討論，並提出具體可行的建議。

　　本人代表編委會感謝所有參與「教育研究獎勵計劃」的同工，在有限的時間及經驗下，仍然全力以赴，成功完成整項研究計劃。他們為提升教育質素所付出的努力，值得讚賞。我們深信輯錄在匯編的作品，均能夠為課堂學習提供實際而深入的分析基礎，並闡釋當中行之有效的方法。讀者可以多參考研究報告的建議，應用在日常教學工作，進一步優化教學的效能。我們更希望這些報告能啟發同工就相關的課題，展開更多、更全面的研究。本人亦謹此向《教育研究報告匯編》眾編輯委員致意，感謝他們在百忙中抽空審閱各篇研究報告。

　　得到同工積極的參與和多方面的支持，本會定能持續推動教育研究，鼓勵教師進行更深入和持續性的教育研究，不斷提升教學效能和質素。他山之石，可以攻玉。期望各位讀者對此《教育研究報告匯編》內容能提出書面意見，相互交流，集思廣益。

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《教育研究報告匯編》主編
楊沛銘博士
2013 年 12 月

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推廣從閱讀中學習

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摘要

本行動研究旨在從三個不同的層面，包括：第一課堂——課程與教學層面、第二課堂——校內環境與活動層面，以及第三課堂——校外環境與活動層面，探討培養本校中一級學生閱讀習慣，及提升其閱讀能力的方法和成效。研究結果發現，經歷過上述三個層面洗禮的中一級學生，在短短的一個學期內，其閱讀習慣及閱讀能力均有明顯的改善。

引言

課程發展議會於 2001 年正式公布了《學會學習：課程發展路向》，把「推廣從閱讀中學習」列為課改的四個關鍵項目之一。由此可見，閱讀是擴闊學生知識、增加智慧的關鍵。然而，本校雖然有六十多年的歷史，但在閱讀環境、閱讀風氣，以至部份學生的閱讀能力都未如理想，亟待改善。因此，藉着是次「教育研究獎勵計劃」，本研究小組（成員包括六位中文科教師和一位圖書館主任）建基於謝錫金教授事前的指導，嘗試從三個不同的層面——校內課程與教學層面、校內環境與活動層面，以及校外環境與活動層面，逐級來推動閱讀，以培養學生的閱讀習慣並提升其閱讀能力。不過，由於受到人力及時間資源所限，本行動研究現階段只聚焦於探討中一級的校本經驗。

研究小組希望是項研究，有助本校教師更了解與掌握這些來自基層家庭（大多數學生都是居住在九龍東和九龍中的公屋和唐樓），學習能力稍遜的中一級學生之閱讀習慣與閱讀能力，從而制定出更適切的發展計劃，並加以實施、擴展，最終把本校發展成為一所人人愛閱讀，人人懂閱讀的閱讀學校。此外，相信有關的經驗亦可為其他學校提供參照與借鏡，以達至共同進步的願望。此乃本研究的目的。基於以上的想法，本研究定立了以下一道探究問題：本校中一級學生受到上述三個不同層面的影響，其閱讀習慣與閱讀能力出現了甚麼轉變？

文獻析評

前蘇聯著名文學家高爾基（年份不詳）曾經這樣說：「熱愛書吧，這是知識的泉源！要熱愛書，它會使你的生活輕鬆；它會友愛地幫助你了解紛繁複雜的思想、情感和事件；它會教導你尊重別人和你自己；它以熱愛世界、熱愛人類的情感來鼓勵智能和心靈。」這段引言，道出了閱讀的重要性，闡明了閱讀

能夠幫助人類智性和心靈的發展。其實，持有類似觀點的古今中外人士多的是，唐朝著名詩人杜甫（767）曾經講過：「男兒須讀五車書。」因為他相信看書可以提升人品。英國大文豪莎士比亞（年份不詳）也這樣説：「人的美醜是先天帶來的命運，有沒有素養則是書籍造就的命運。」而韓國著名作家南美英（Nam, 1997）則認為：「閱讀，是我們終身學習的基礎，基礎教育的靈魂，人生成功的基石。」由此可見，古今中外的名人雅士都非常推崇閱讀。

綜合不同學者的分析，閱讀的好處離不開以下幾點：（1）閱讀能夠帶來持久的樂趣；（2）閱讀能夠提高思考能力；（3）閱讀能夠加強新舊知識的聯結；（4）閱讀能夠提升情感智商；（5）閱讀能夠塑造良好的價值觀；（6）閱讀能夠淨化人的心靈世界（黃晶榕，2012；Nam, 1997；Routman, 2003）。至於推廣閱讀的策略，不外乎就是要解決指導方法的問題、書籍的問題和閱讀時間的問題（Krashen, 2004）——這正是本校從三個不同的層面，包括：課程與教學層面、校內環境與活動層面、校外環境與活動層面來推廣閱讀的依據。

至於閱讀能力方面，本研究小組根據祝新華（2005）的分析，把要學生發展的閱讀認知能力依次分為：複述、解釋、重整、伸展、評鑑和創意。而教與學的模式，大致是採用謝錫金、羅嘉怡、林偉業和李黛娜（2011）提倡的自主學習循環模式，即目標設定與策略規劃→策略的實行與監控→學習過程中進行調節→自我學習評價與回饋。以此循環模式來設計教學活動、創設自學經歷及重覆演練行為（有關此方面的能力培養及具體的教學策略示例，可參閱附件四）。

研究方法

本研究本質上是教育行動研究。研究小組基於 Lewin（1946,1948）和 Kemmis（1981,1982）規劃、行動、觀察和反思的行動研究精神，及參照 Sagor（2006）所提倡的「選擇一個焦點→明確理論→確定研究問題→收集數據→分析數據→報告結果→採取明智的行動」之行動研究模式來開展的。

不過，由於受到人力資源及時間所限，是次的研究對象只聚焦於中一級四班共135位學生。至於搜集資料的方法，則是採取質性與量性相結合的研究法，包括：透過問卷調查，了解學生在本行動研究前後，閱讀習慣及閱讀能力的轉變；透過師生的個別訪談，深入了解上述三個層面的措施對學生的閱讀習慣所帶來的影響；透過測卷分析（例如行動研究前後學生的課業質素），了解上述三個層面的措施對學生閱讀能力的影響；透過教師及／或家長的觀察，以互相印證從（學生）問卷調查、（師生）訪談及（學生）文件分析所得的研究資料。

為了確保研究的信度與效度，除了在研究方法（問卷調查、訪談、文件分析和觀察等）及資料來源（教師、學生、家長等）方面採取三角校正外，在整理和分析資料階段，研究小組亦邀請了小組以外的教師和學生代表，共同審視研究資料與研究報告；與此同時，並曾透過私人關係，尋求大學專家的專業意見。

基於本校的校曆安排，並配合是項獎勵計劃的時間表，本研究小組按照以下的進程推行本行動研究。大致而言，2011 年 11 月至 2012 年 1 月是研究的計劃期；2012 年 2 月至 5 月是實施期，過程中有系統地收集評估數據，並持

續地作出檢討、改進；而由 2012 年 6 月至 8 月，研究小組整體地總結與反思是項教育行動研究的得失，並撰寫成書面報告，呈交教師中心。基於行動研究的精神，本校在等待教師中心評審本研究報告的同時，已逐步把是項行動研究擴展至中二級實施。

階段	時間	研究事項
計劃	2011 年 11-12 月	中一級四位中文科老師、科主任、圖書館主任和副校長共同討論是否參與本計劃；其後，正式成立本研究小組，並遞表申請參加本獎勵計劃。
	2011 年 12 月 - 2012 年 1 月	教師中心審批本研究計劃的同時，研究小組已着手探討落實本研究計劃的可行性，並初擬好調查問卷（參閱附件一），及對個別師生作出先導訪談，以取得初步的資料，進一步完善本研究計劃。
實施與評估	2012 年 2-5 月	研究小組根據上述的研究計劃，正式開展本行動研究；過程中並根據上文所提及的研究方法，有系統地搜集各類研究數據，以冀發揮進展性評估的效益。
總結與反思	2012 年 6 月	研究小組整體地總結、反思整個研究計劃的得失，以助將來進一步完善相關的策略與措施。
	2012 年 7-8 月	研究小組依據本獎勵計劃的要求，撰寫書面報告，並於 8 月內呈交教師中心。
下一輪研究	2012 年 9-12 月	等待評審結果的同時，本校將基於首輪行動研究的經驗及其後檢討、反思的結果，逐年把是項研究成果擴展至中二級各班。如果時間與人力資源許可，本校亦將持續地參與未來的獎勵計劃，以冀透過循環不息的教育行動研究，推動本校教與學的改善與發展。

　　基於上述的學校和學生背景，以及本研究所定下的研究目的和研究問題，研究小組從以下三個層面來推動中一級學生閱讀（三者同時進行，並沒有先後次序）。第一課堂：校內課程與教學層面。本研究小組選取原著 / 名著教學，以《小王子》（短篇小說） 和《三國演義》（白話版，短篇小說）兩書作為教材，於課堂上教授學生相關的閱讀策略。例如教師透過《三國演義》之〈走馬薦諸葛〉一文教授學生如何評價小說中的人物時，課堂上會指導學生選擇一個適切的角度去評價小說中的人物，過程中學生須重整資料，加以證明，以支持自己的見解（具體課堂教學示例可參閱附件四）。而本研究小組選擇上述作品作為教材，是由於這些小說題材健康、文字優美、篇幅適中，且穿越古今中外，故選作中一級的語文科教材——此乃回應了 Krashen（2004）的觀點，透過第一課堂指導學生閱讀方法，是推動閱讀的重要一環。

　　第二課堂：校內環境與活動層面。本研究小組一方面透過社會網絡，徵集到大量的圖書（約 10,000 本），擺放在全校課室及其他學生常聚會的地方，務求讓大家隨時隨地、順手拈來、有書可讀；另一方面，研究小組亦透過舉辦不同的閱讀活動，如名著電影欣賞、午間講故事活動等，以推動學生多閱讀

——此乃回應了 Krashen（2004）的觀點，透過第二課堂為學生解決書籍的問題，有助推動閱讀。

第三課堂：校外環境與活動層面。本研究小組了解到學生喜歡上網及閱讀圖文並茂的電子書，故於校內圖書館增設電子終端機，讓學生隨意瀏覽電子圖書；又推出網上圖書閱讀計劃，鼓勵學生透過互聯網閱讀電子圖書——此等措施，可擴闊學生的閱讀空間，回應了 Krashen（2004）的觀點，透過第三課堂增加學生的閱讀時間，是培養學生閱讀習慣的關鍵。

簡括而言，有關第一課堂至第三課堂的措施與進程如下表所示：

策　略	措　施	進　程
第一課堂：校內課程與教學層面	選取原著 / 名著教學：以《小王子》（短篇小説）[1] 和《三國演義》（白話版，短篇小説）[2] 兩書作為教材。因其題材健康、文字優美、篇幅適中，且穿越古今中外	2011-2012（中一） 2012-2013（中一、二） 2013-2014（中一、二、三）
第二課堂：校內環境與活動層面	發動學生、家長、校友及社會人士捐贈圖書，於各課室增設圖書閣	是年已開展（參閱附件二）
	於圖書館加設電子閱讀平台	
	於天井開設午間故事天地	
	於自修室播放名著電影	
	鼓勵學生撰寫讀後感，然後投稿至報刊	
	教師和學生於早會時分享閱讀心得	
	透過圖書館推動各種閱讀計劃	
	舉辦書展等文化活動	
	對中一級進行閱讀調查（即本報告附件一所示）	
	參加教育研究獎勵計劃（即本研究）	
	組建圖書館家長義工隊	
	舉辦親子閱讀活動	來年開展
	舉辦作家分享活動	
	出版優秀作品文集	
	改良圖書館及自修室閱讀環境	
第三課堂：校外環境與活動層面	增設電子書並推出網上圖書館閱讀計劃	持續進行中

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[1] 聖埃克蘇佩里著，馬振騁（2010）。《小王子》。香港：三聯書店（香港）有限公司。
[2] 羅貫中著，王征編寫（2011）。《三國演義》。香港：中華書局。

研究結果及分析

本研究小組經過一學期的工作與研究，並基於問卷調查結果，得知中一級學生在閱讀習慣方面出現了以下的轉變：

前測時，有 67.4% 中一級學生表示，自己閱讀課外書的原因是由於「閱讀是個人興趣，自己喜歡閱讀」，抱持這種態度的學生，於後測時上升至超過 71.1%。前測時，有 16.3% 的中一級學生因為「感到無聊，沒事可做」而閱讀，於後測時上升至 18.1%。由此顯示更多學生把閱讀視為其中一種消遣活動（見表一）。Krashen（2004）指出，這種想閱讀而閱讀的自由自主閱讀（Free Voluntary Reading），有大好機會提升語文能力。Krashen 這種見解，也曾得到多個實證研究（如 Elley, 1998；Greaney, 1970）的支持。不過，一部份學生因為「感到無聊，沒事可做」而閱讀，出於這種動機而閱讀顯示學生的態度消極。故學校及教師宜多鼓勵學生，從閱讀中尋找自己的興趣，並豐富相關方面的知識，這樣將漸漸改變和培養出學生積極的閱讀態度。

表一　中一級學生閱讀的原因和動機

	學生百分比（%）				
	個人興趣，自己喜歡	老師佈置的作業或爸媽叫我看的	為了豐富自己的知識，提高語文水平	作為與他人交流的題材	我感到無聊，沒甚麼事可做
前測（1/2012）	67.4	3.3	6.5	6.5	16.3
後測（5/2012）	71.1	2.4	4.8	3.6	18.1

不論前測和後測，都有超過七成的學生表示，沒有固定的時間進行閱讀。這顯示大部份學生未能把閱讀視為日常活動，沒有規劃好閱讀時間。可幸的是，前測時只有 3.4% 的學生會在晚上做完功課後閱讀，至後測時則上升至 8.5%。由此顯示出更多學生願意在完成課業後，繼續花時間進行閱讀（見表二）。故學校宜更好地規劃「午間讀報節」，並鼓勵各科教師盡量地在正規課程中引入課外閱讀，更有系統、更廣泛且持續地培養學生的閱讀習慣。

表二　中一級學生一般看書的時段

	學生百分比（%）				
	沒有固定時間	晚上完成作業後	上課時	午膳大息時	通常在假日
前測（1/2012）	71.3	3.4	2.3	2.3	20.7
後測（5/2012）	74.4	8.5	3.7	0.0	13.4

前測時，有接近三成的中一級學生表示，他們的父母從不閱讀圖書；至後測時，這項數字下降至 17.8%。另一方面，表示父母間中會閱讀圖書的學生由 34.1% 升至 41.7%。由此顯示出更多學生帶動了父母共同閱讀（見表三）。據部份家長解釋，當他們發現自己的子女閱讀圖書，自己或多或少受到影響，減少了看電視的時間，偶然更會翻翻子女的課外書，或以讀報的方式陪讀。

據最近的「新地喜閱指數 2012」問卷調查，發現來自勞工階層的家長只有 32.3% 有閱讀習慣（辛翠時，2012），此乃與本校家長的情況相近，故若能透過學生推動家長共同閱讀，將帶來良性的循環。是故，學校來年可更着意舉辦親子閱讀活動，或以圖書館義工服務的形式，吸引家長到校參加各類型的閱讀活動和閱讀服務，最終達至親子共閱讀的目標。有不少文化界及教育界的人士（如天衛文化編輯部，2010；Nam, 1997）持有類似的觀點，他們指出父母是否具備良好的閱讀習慣，是影響孩子是否閱讀的關鍵。換言之，推動學生閱讀的同時別忽略家長。

表三　中一級學生的父母閱讀圖書的習慣

	學生百分比（%）			
	從不	甚少	間中	經常
前測（1/2012）	28.4	30.7	34.1	6.8
後測（5/2012）	17.8	34.5	41.7	6.0

前測時，有 6.7% 的中一級學生表示，他們沒有擁有一本屬於自己的課外圖書，至後測時已降至 3.5%；而擁有 26 至 100 本圖書的中一級學生，由之前的 15.9% 上升至 24.7%。由此顯示學生擁有少量課外書的人數漸漸增多。然而，擁有 25 本以下課外書的學生，大約有七成，顯示大部份學生所持的圖書量仍然不足（見表四）。Krashen（2004）指出，要推動閱讀首先要解決書籍的問題。故學校可從不同方面求取贊助支持，以豐富學校的閱讀環境，協助學生解決書籍的問題。在過往一學期，本校曾透過不同的途徑，從不同的出版集團、書局、校友、教師及其他社會人士身上，募集到超過一萬本中英文課外圖書，擺放在各課室讓學生自由取書閱讀。當然，學校日後亦可更多地以獎品的形式送贈學生圖書，教師亦可鼓勵學生更多地借用學校或公共圖書館的圖書回家閱讀，以補足個人藏書量的不足。

表四　屬於中一級學生個人的課外圖書（本）

	學生百分比（%）						
	0	1-10	11-25	26-100	101-200	201-500	其他
前測（1/2012）	6.7	40.0	25.0	15.9	3.4	4.5	4.5
後測（5/2012）	3.5	43.5	23.5	24.7	1.2	1.2	2.4

其一，支持「原著／名著教學」。中一級學生普遍贊同「學校把更多的課外讀物引入課程／課堂教學中，以幫助同學培養閱讀習慣」，由前測的 55.2% 上升至 62.4%。在課後訪談中，不少學生都指出原著／名著的故事性是吸引他們追讀的主因；其次，原著／名著教學讓他們有更多想像空間，有更多表達自己想法的機會。由此顯示學生對學校運用「以書為本」的閱讀教學，反應積極（見表五）。

表五　中一級學生對課外讀物引入課程／課堂教學的意見

	學生百分比（%）			
	極不贊同	不贊同	贊同	極贊同
前測（1/2012）	5.8	8.0	55.2	31.0
後測（5/2012）	1.2	5.8	62.4	30.6

其二，支持擺放圖書於學校不同位置。前測時，有 13.8% 的中一級學生十分贊同「學校擺放更多的圖書在校園不同的地方，讓學生隨時隨地可自由閱讀，將有助養成學生的閱讀習慣」，至後測時上升至 17.7%；而表示贊同的學生由 48.3% 上升至 54.1%。事實上，從觀察所見，愈來愈多學生會在小息時拿取課室書架上的圖書閱讀，由此顯示大部份中一級學生以行動支持學校在不同位置擺放圖書的安排（見表六）。

表六　中一級學生對學校擺放圖書於校園不同地方的意見

	學生百分比（%）			
	極不贊同	不贊同	贊同	極贊同
前測（1/2012）	11.5	26.4	48.3	13.8
後測（5/2012）	9.4	18.8	54.1	17.7

其三，支持同學間互相交換課外圖書閱讀。不論前測或後測，均有超過六成學生，支持「學校鼓勵同學帶備一本課外圖書，擺放在所屬的課室中，以互相交換閱讀」（見表七）。

表七　中一級學生對學校鼓勵同學間交換圖書閱讀的意見

	學生百分比（%）			
	極不贊同	不贊同	贊同	極贊同
前測（1/2012）	13.8	20.7	50.6	14.9
後測（5/2012）	7.1	29.4	50.6	12.9

　　其四，支持午間讀報節加入圖書閱讀。計劃開始時，有 26.1% 中一級學生十分贊同「午間讀報節除了可以閱讀報紙外，亦可以閱讀其他中文 / 英文圖書」，至後測時增加至 37.6%；而極不贊同本項措施的學生，由前測的 11.4% 下降至 2.4%。由此顯示大部份學生贊同午間讀報節加入閱讀其他中文 / 英文圖書（見表八）。

表八　中一級學生對午間讀報節加入中文 / 英文圖書閱讀的意見

	學生百分比（%）			
	極不贊同	不贊同	贊同	極贊同
前測（1/2012）	11.4	11.4	51.1	26.1
後測（5/2012）	2.4	12.9	47.1	37.6

　　其五，支持學校增設電子閱讀平台。前測時，有 35.2% 的中一級學生十分贊同「學校在不同的地點增設電子網絡平台，讓你有更多機會接觸電子圖書、原著 / 名著電影」，至後測時上升至 37.6%；而表示贊同的學生也由 45.5% 上升至 51.8%。由此顯示大部份中一級學生支持學校增設電子網絡平台，讓學生接觸電子圖書及名著電影的安排（見表九）。

表九　中一級學生對學校增設電子閱讀平台的意見

	學生百分比（%）			
	極不贊同	不贊同	贊同	極贊同
前測（1/2012）	5.7	13.6	45.5	35.2
後測（5/2012）	2.4	8.2	51.8	37.6

　　惟大多數學生依然未能建立網上閱讀的習慣。前測時，有兩成中一級學生表示甚少閱讀網上文章或小說，至後測時增加至 34.1%；而經常閱讀網上材料的學生則由 5.7% 升至 11.8%。由此顯示學生一般未習慣網上閱讀，只有少數學生經常會閱讀網上材料（見表十）。這與上文所提及的「新地喜閱指數 2012」的問卷調查結果一致，該調查發現 87.2% 的讀者依然習慣閱讀印刷本的書籍，網上閱讀或閱讀電子書仍未算普及（辛翠時，2012）。故學校宜安排不同的學習活動，例如要求不同學科作出配合，鼓勵學生閱讀網上指定及非指定的材料，以輔助學習。與此同時，教師亦宜引導學生使用互聯網搜尋適切的閱讀材料，以擴闊知識領域，應付將來在職場和生活上的需求。

表十　中一級學生閱讀網上文章 / 網上小說的習慣

	學生百分比（%）			
	從不	甚少	間中	經常
前測（1/2012）	31.8	20.5	42.0	5.7
後測（5/2012）	20.0	34.1	34.1	11.8

可幸的是，不論前測或後測，均有超過六成學生支持「學校通過電郵或其他網絡平台，定期向學生發佈一些合適閱讀的電子圖書／篇章／閱讀心得」（見表十一）。由此可見，學生仍然期望學校透過互聯網向他們發放閱讀資料，故學校可匯集學生常用的電郵地址（除本校為學生提供的 e-class 戶口外），並加強網上資源的開發，以便可以定期且有效地向學生發送一些有價值的學習材料或閱讀資訊。

表十一　中一級學生對學校通過網絡向學生發放閱讀資料的意見

	學生百分比（%）			
	極不贊同	不贊同	贊同	極贊同
前測（1/2012）	10.2	17.0	55.7	17.0
後測（5/2012）	9.4	17.6	57.6	15.3

前測時，有 17% 學生要用一個月才能夠看完一本書，至後測時增加至 25.7%；而從不閱讀的學生人數也由 5.7% 下降至 2.4%。由此可見，中一級學生閱讀一本圖書的時間，較計劃開始時縮短，顯示出整體學生的閱讀速度有所提升（見表十二）。

表十二　中一級學生看完一本課外圖書所需的時間

	學生百分比（%）				
	幾天／一星期	約一個月	約一季（二至三個月）	半年或以上	從不閱讀
前測（1/2012）	70.5	17.0	2.3	4.5	5.7
後測（5/2012）	67.1	25.7	2.4	2.4	2.4

有研究小組成員表示：「從課堂所見，學生處理大篇幅的資訊性文章之能力有明顯的提升。」或許，這是由於課堂上教師經常使用篇幅甚長的名著小說作為教材，並要求學生要在特定的時間內閱讀並作口頭匯報，故學生已習慣了要快速地閱讀長篇章；或許，教師常常選用篇幅較長的文章作為測考題，故學生有很多快速閱讀的訓練，閱讀的速度在不知不覺間得到提升。

從中一級學生在「閱讀理解評估」問卷（參閱附件三）的表現來看，學生在複述、解釋題型問題的後測答對率有 72.5%，相比前測答對率高出 11.7%。由此可見學生對於資料的認知提升了，對篇章的理解也加深了。或許，這是由於課程中引入原著／名著教學，教師往往很意透過課堂上的提問與追問，鼓勵學生作出多角度的思考並作口頭回答，故整體學生的複述、解釋閱讀能力因而有顯著的提升。此外，在推動原著／名著教學過程中，教師常常會運用分組合作學習的技巧，故幾乎每一位學生於每一節課都有複述、解釋特定章節的故事內容之機會，結果他們此方面的語言表達能力有明顯的提升。

　　從中一級學生在「閱讀理解評估」問卷的表現來看，創意閱讀能力題型答對率高達 81%，而相比前測成績，進步了 19.7%。由此顯示學生喜歡在此類題型上下功夫。或許，這是由於在整個原著／名著教學推行時，大部份教材都沒有預設的參考答案，答案往往是在師生的對話間形成，所以答案的靈活性自然大增。此外，教材的設計也很有意識地引入學生推測的題目，如：「你會如何為該篇章定題目？」、「如果你是故事中的主角，你會作出這種選擇嗎？為甚麼？」、「你認為故事中的主角，與現實生活中的哪一個人物很相似？為甚麼你有這種看法？」類似的提問鼓勵了學生發揮創意，久而久之，便形成能力。

　　在本研究中，尤其是在原著／名著教學環節，學生在開始時往往會被告知此一閱讀課的閱讀目的、學習目標，故學生在閱讀歷程中須不斷檢視自己是否已掌握文句的意思，是否能夠回應閱讀課的目的或目標。例如教師在教《三國演義》之〈走馬薦諸葛〉一課的開始環節，會告知學生該節課的學習目標是「學習如何評價小說中的人物」，其學習重點則包括下表各項（參閱表十三）。這樣做的好處，讓學生能夠根據預設的閱讀目標，持續檢視自己的學習進程，這是培養閱讀監控能力的有效方法之一（余建華，2002）。

表十三　〈走馬薦諸葛〉一文的學習重點

學習範疇 語文基礎知識		內　容
聽	學習重點	摘錄要點，概括內容
	策略	學生聆聽匯報，並於工作紙上摘錄要點 學生概括説話者的內容
説	學習重點	回應別人觀點，並加以評價
	策略	學生分組討論及匯報 其他學生評價説話者的匯報內容
讀	學習重點	重整能力、評價能力
	策略	學生從不同角度評價徐庶，並能從文中找出證據作支持 （完成工作紙）
寫	學習重點	人物描寫
	策略	寫作：一位我敬佩的英雄人物 實用文：尋人啟事
思維		批判性思維
情意品德		通過評價人物，學習徐庶忠君愛國，劉備禮賢下士、寬宏仁厚的高尚情操
自學能力		如何訂立「目標」、「規劃」、「監控」和「檢視」

事實上，從觀察所見，本行動研究前後，多數學生的書冊上都是由雪白變成五彩繽紛，多了很多閱讀的痕跡，多了很多文字或符號以標示出內容重點或疑難；此外，遇到難題，亦有更多學生會主動查察網上資料或向師友發問，以解答教師預設的閱讀問題。這印證了余建華（2002）的觀點：要提高學生的閱讀理解監控能力，可以從培養他們良好的閱讀習慣，傳授必要閱讀策略和培養他們自主閱讀意識等方面着手——這正是本研究所要推動與發展的重點內容之一。

重整能力題型答對率僅得 45.6%，前測和後測結果比較未見有改變，反映學生的閱讀重整能力在學期內都沒有應有的進步。或許，使用篇幅較長的原著／名著作為教材，原意是希望學生閱讀故事性的圖書，能有持續性，從而培養出學生的自學動機與習慣。然而，也有其不足之處，對着一部篇幅不短的小說，要中一級學生釐清篇章內容的關係，並從篇章某處或多處攝取信息，概括段意，歸納內容及總結主旨，實際上並不容易。因為教師根本不可能在課堂上引導學生閱讀整部小說，只能截取書中某些章節或片段作為課堂教學示例（參閱附件四）。換言之，學生須具備自主學習的精神與態度，並要把課堂所學遷移至其他類似的學習情境，這樣，閱讀重整能力才有可能提升。牟懷松（2011）提醒我們，閱讀重整能力是需要經過不斷的訓練，成績才會提高的，其中「思維導圖」就是幫助學生快速理清文章的思路，把握行文的順序、詳略鋪排的良方。

反思、總結與建議

誠如課程發展議會（2001）所言，閱讀是學會學習的關鍵；而學會學習則是終身學習的根源（Nam, 1997）。故本校銳意藉着本教育研究獎勵計劃的契機，逐步開展全校閱讀。

綜上所見，本校從三個不同的層面來推廣中一級學生閱讀，成效是顯著的，既幫助更多學生培養出良好的閱讀習慣，也有效地提升了學生的閱讀速度，及複述、解釋、創意及監控的閱讀能力。不過，本研究欲透過第三課堂——校外環境與活動層面來擴充學生的閱讀空間，這方面的努力雖然得到學生的支持，但仍未見具體的成效，仍須堅持、改進。此外，學生的閱讀重整能力也未見明顯的改善，仍有待研究小組進一步探討箇中的原因及改善措施。

回顧整個行動研究歷程，本研究小組從確定研究焦點，到撰寫研究計劃，然後執行實施，並在行動過程中持續收集數據，以作為檢討改善的依據，此一過程有效地促進了教與學的發展。就學生學習的角度而言，透過是次研究實踐，大大擴闊了他們的閱讀空間，最終幫助了相當部份的學生培養出良好的閱讀習慣及提升其閱讀能力。正所謂教學相長也。當本研究小組基於校本發展的需要，建立起專業的學習社群，並聚焦於閱讀問題，及透過系統化的行動研究來探討教學問題之同時，亦發展出探究教學的態度、習慣與能力。

　　當然，在整個研究過程中，本研究小組亦曾面對過不少的挑戰，包括：（1）本研究小組需要在百忙之中抽時間收集及整理研究數據、撰寫研究報告，這是相當奢侈的行為，故建議學校盡可能在人力資源方面作出支援，例如調動教學助理協助收集研究資料及處理研究數據；（2）在推展本行動研究的過程中，本研究小組發現跨學科的配合對推動全校閱讀是至關重要的，故建議學校把閱讀定為學校重點發展的項目之一，並要求各科把課外閱讀融匯至正規課程中，且要建立機制，監督、檢討其實施成效；（3）上文曾提及大部份學生均未能培養出閱讀網上資源的習慣，普遍學生的個人藏書量也不足，大多數學生的閱讀重整能力都未如理想，此等問題都有賴研究小組進一步研究，探求良方；而在資源許可的情況下，亦宜邀請大學專家提供專業意見，促使理論與實踐互相碰撞，進一步推動從閱讀中學習的發展。

　　總的來說，對於是次研究的成果，本研究小組感到滿意而不滿足。基於行動研究的精神，本研究小組將在來年繼續研究，探求更有效的方法來推動學生閱讀並提升其閱讀能力。此外，本研究小組亦希望以此回饋社會，為其他有意推廣全校閱讀的學校創設經驗，以實現本獎勵計劃的精神及兌現我們在本研究計劃中的承諾。

　　最後，本研究小組要特別感謝香港大學中文教育研究中心的謝錫金教授、林偉業博士、許守仁先生和吳鴻偉先生，正因為得到他們的指導與協助，本教育行動研究才得以順利開展，並按計劃實施。

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附件一：勞工子弟中學中一級學生閱讀習慣問卷調查（2011-2012）

填寫日期：2012 年__月__日

各位同學：

　　請你細閱下列的問題，並寫出你自己真實的意見和感受，以便我們能夠更了解大家的閱讀狀況，並在課程與教學、學校環境方面作出配合。你只需根據個人的想法，在以下每題中圈出或寫出你的看法即可。**所有資料只用作研究分析之用，絕對保密**，多謝合作！

勞工子弟中學謹啟

2012 年 1 月

甲部：基本資料

學生姓名：_____（　　）

性別：　男 □　　　　　女 □

年級：　中一 □　　　中二 □　　　中三 □　　　中四 □　　　中五 □

班別：　A □ B □ C □ D □

你最常用的電郵戶口是

（請小心填寫，以便將來可透過此電郵寄發相關的閱讀資訊／資料給你）：

乙部：每題只圈出最重要的一項選擇

1. 你平均多長時間會看完一本課外圖書？

   A.幾天／一星期　　　　　　　　D.半年或以上

   B.約一個月　　　　　　　　　　E.從不閱讀

   C.約一季（二至三個月）

2. 你為甚麼要閱讀？

   A.個人興趣，自己喜歡　　　　　D.作為與他人交流的題材

   B.老師佈置的作業或爸媽叫我看的　E.我無聊，沒甚麼事做

   C.為了豐富自己的知識，提高語文水平

3. 你平時閱讀的圖書通常從哪裏來？

   A.買的　　　　　　　　　　　　D.換的

   B.送的　　　　　　　　　　　　E.其他(請填寫)：_____

   C.借的

4. 你喜歡看哪一類圖書？
　　A.卡通、漫畫類　　　　　　　　　D.歷史、地理類
　　B.宗教哲學類　　　　　　　　　　E.語文類（詩詞、散文、小說、劇本等）
　　C.科學、科技類　　　　　　　　　F.其他(請填寫)：＿＿＿＿＿＿＿＿＿＿＿

5. 你一般在甚麼時候看書？
　　A.沒有固定時間　　　　　　　　　D.午膳大息時
　　B.晚上完成作業後　　　　　　　　E.通常在假日
　　C.上課間

6. 平日你的父母閱讀圖書嗎？
　　A.從不　　　　　　　　　　　　　C.偶爾（間中）
　　B.甚少　　　　　　　　　　　　　D.經常

7. 屬於你個人的課外圖書約有多少本？　　＿＿＿＿＿本

8. 如果要你向同學推介一本好書，你會選擇哪一本？請寫出你推介此書的其中一個主要原因。
　　書名：＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

　　原因：＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

9. 除了傳統的圖書外，你有閱讀網上文章／網上小說的習慣嗎？
　　A.從不　　　　　　　　　　　　　C.偶爾（間中）
　　B.甚少　　　　　　　　　　　　　D.經常

10. 你贊同學校把更多的課外讀物引入課程／課堂教學中，以幫助同學培養出閱讀的習慣嗎？
　　A.極不贊同　　　　　　　　　　　C.贊同
　　B.不贊同　　　　　　　　　　　　D.極贊同

11. 擺放更多圖書在校園不同的地方（如課室、雨天操場、飯堂、小賣部、更衣室），讓同學隨時隨地可自由閱讀，將有助你養成閱讀的習慣？
　　A.極不贊同　　　　　　　　　　　C.贊同
　　B.不贊同　　　　　　　　　　　　D.極贊同

12. 你贊同班主任鼓勵同學帶備一本課外圖書，擺放在所屬的課室中，以便互相交換閱讀嗎？
　　A.極不贊同　　　　　　　　　　　C.贊同
　　B.不贊同　　　　　　　　　　　　D.極贊同

13. 你贊同學校在不同的地點（如圖書館、自修室、小賣部、飯堂等）增設電子網絡平台，讓你有更多機會接觸電子圖書、原著／名著電影嗎？
    A.極不贊同　　　　　　　　　　　　　　C.贊同
    B.不贊同　　　　　　　　　　　　　　　D.極贊同

14. 你贊同學校通過電郵或其他網絡平台，定期向你發布一些合適你閱讀的電子圖書／篇章／閱讀心得嗎？
    A.極不贊同　　　　　　　　　　　　　　C.贊同
    B.不贊同　　　　　　　　　　　　　　　D.極贊同

15. 本校圖書館目前所推廣的閱讀活動非常吸引你參加？
    A.極不贊同　　　　　　　　　　　　　　C.贊同
    B.不贊同　　　　　　　　　　　　　　　D.極贊同

16. 你認為本校當前的午間讀報節是否有效地被運用，以協助同學培養出閱讀的習慣？
    A.完全沒有效　　　　　　　　　　　　　C.有能
    B.沒有效　　　　　　　　　　　　　　　D.十分有效

17. 你贊同目前的午間讀報節除了可以閱讀報紙外，亦可以閱讀其他中文／英文圖書嗎？
    A.極不贊同　　　　　　　　　　　　　　C.贊同
    B.不贊同　　　　　　　　　　　　　　　D.極贊同

18. 你平日會帶同學校派發的報紙回家閱讀嗎？
    A.從不　　　　　　　　　　　　　　　　C.偶爾（間中）
    B.甚少　　　　　　　　　　　　　　　　D.經常

19. 你期望有更多的機會分享、欣賞到老師和其他同學的讀書心得嗎？
    A.極不期望　　　　　　　　　　　　　　C.期望
    B.不期望　　　　　　　　　　　　　　　D.極期望

20. 你贊同本校組織「讀書會」，讓同學有更多機會定期分享交流讀書心得嗎？
    A.極不贊同　　　　　　　　　　　　　　C.贊同
    B.不贊同　　　　　　　　　　　　　　　D.極贊同

21. 你贊同各科老師經常向你推介不同種類的好書，幫助你對課外圖書有更廣、更深的認識嗎？
    A.極不贊同　　　　　　　　　　　　　　C.贊同
    B.不贊同　　　　　　　　　　　　　　　D.極贊同

—問卷完，謝謝！—

附件二：勞工子弟中學——閱讀活動剪影（2012）

第一課堂：課堂教學層面—原著教學
（如《小王子》、《三國演義》）

第二課堂：校內環境與活動層面—於教室增設圖書閣

向社會人士募捐圖書

於圖書館加設電子閱讀平台

於天井闢設故事天地

閱讀有益身心
給你快樂人生

於自修室播放名著電影

鼓勵學生撰寫讀後感並投稿

教師和學生於早會分享閱讀心得

7

舉辦書展等文化活動

8

第三課堂：校外環境與活動層面
——增設電子書並推出網上圖書館閱讀計劃

9

附件三：勞工子弟中學──閱讀理解評估（2011-2012）

本問卷源自本校與香港大學中文教育研究中心夥伴協作，有關「自學計劃」的測卷。
基於版權的緣故，此處不宜刊登該問卷內容，惟讀者可直接向該中心查閱。

閱讀理解指引

（一）　本評估測卷總分共 42 分。
（二）　學生須用**黑色**或**深藍色原子筆**作答本評估卷。
（三）　學生須作答全部問題，題目按有關文章回答問題。
（四）　全卷共有四篇文章，共 23 題問題。
（五）　學生須把答案填寫在本卷指定的橫線或空格內。在橫線或空格以外的答案，將不予
　　　　評改。

第一篇、運動鞋
　　……

第二篇、一位公正的法官
　　……

第三篇、禮物
　　……

第四篇、家長缺乏對校園欺凌的認識
　　……

附件四：原著 / 名著教學設計示例

《三國演義》之〈走馬薦諸葛〉

一、基本資料
級別：一甲班
課題：《三國演義》之〈走馬薦諸葛〉
課節：兩課節
任教老師：勞工子弟中學　岑嘉慧老師
日期：2012 年 3 月 8 日
指導：香港大學中文教育研究中心林偉業博士、許守仁先生

二、學習目標
學習如何評價小說中的人物。

三、預期學習成果
學生能夠選擇一個適切的角度去評價小說中的人物，並能重整資料加以證明。

四、已有知識
1. 學生對〈走馬薦諸葛〉的故事內容有初步的認知。
2. 學生對人物評論的角度有基本的認識。

五、學習重點

學習範疇		內　　容
語文基礎知識		
聽	學習重點	摘錄要點，概括內容
	策略	・　學生聆聽匯報，並於工作紙上摘錄要點 ・　學生概括說話者的內容
說	學習重點	回應別人觀點，並加以評價
	策略	・　學生分組討論及匯報 ・　其他學生評價說話者的匯報內容
讀	學習重點	重整能力、評價能力
	策略	學生從不同角度評價徐庶，並能從文中找出證據作支持（完成工作紙）
寫	學習重點	人物描寫
	策略	・　寫作：一位我敬佩的英雄人物 ・　實用文：尋人啟事
思維		批判性思維
情意品德		通過評價人物，學習徐庶忠君愛國，劉備禮賢下士、寬宏仁厚的高尚情操
自學能力		如何訂立「目標」、「規劃」、「監控」和「檢視」

六、學習材料

《三國演義》（圖文普及本）、工作紙、電腦簡報

七、評估方式

1. 教師觀察
2. 學生滙報
3. 工作紙

八、教學流程

流程	學習重點	學習活動
課前預習	要求學生課前閱讀小說內容，以便課堂上討論交流。	1.留意故事的情節發展。 2.留意故事中不同的人物描寫手法。 （在家完成）
引入	明確學習目標： 人物評論 複習故事內容	1. 學生重申評論人物的角度。 2. 學生複述故事內容。 （10分鐘）
展開	閱讀：重整資料，評價人物。 聆聽：摘錄筆記，概括內容，提出評價。 說話：有條理地滙報。	1.教師簡述工作紙。 2.教師引導學生如何滙報及評價。 3.學生分成五組。 4.學生各就一個角度評價徐庶。（10分鐘） 5.小組同學分別向組員滙報。 6.聆聽滙報的同學需摘錄筆記，並就以下幾方面向組內同學發表意見： 　－你是否同意其評價與分析？ 　－同學的評價與分析是否合理客觀？所選取的證據是否恰當？ 　－你有沒有其他補充資料？ 7.老師到各組參與討論，並給予適切的指導和回饋。（15分鐘） 8.每組完成滙報後，選出一位表現較佳（評價角度清晰、引證要充份）的同學向全班滙報。 9.老師邀請同組同學解釋推舉該位同學滙報的原因。（同6） 10.聆聽滙報的學生需摘錄筆記，並就以上幾方面向全班同學發表意見。（同6） 11.老師就同學的意見給予回饋。（15分鐘）
總結	檢視自己的學習成果	學生靜心思考，並就以下幾方面反思自己的學習成果。（5分鐘） 1.你是否學習到如何評價人物？ 2.如做到，有甚麼證明？能否在其他方面運用所學？ 3.如做不到，你不明白甚麼？用甚麼方法解決？

Improving Teaching through Classroom Observation

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Abstract

Improving teaching and learning is always of paramount importance to a good school and the key to excellence in teaching lies in teacher effectiveness. The major task of a school head is to ensure a continuous improvement in the quality of teaching and learning in his/her school. Indeed, the term instructional leadership has always been used to mean almost the same thing as principalship.

This study examines the possibility of adopting action research-lesson observation[1] as an alternative approach to traditional appraisal lesson observation[2] for improving the quality and effectiveness of teaching. It explores and tests the appropriateness of such an approach by inviting 20% of the teacher population to participate in two rounds of lesson observation and follow-up measures, such as: self-reflection, exchange of professional ideas and walk-through observations. Questionnaires were given out and interviews were conducted periodically so as to collect opinions from participating teachers about the action research project.

Working hand in hand, the participating teachers concluded that action research-lesson observation could work as an alternative means to the traditional appraisal lesson observation to improve teaching quality and effectiveness of teachers. They evaluated the usefulness of action research-lesson observation and agreed that it was a good mechanism and a more suitable tool that helped teachers further improve their teaching quality and effectiveness. Measures to ensure the successful adoption of the action research-lesson observation as an alternative to traditional lesson observation were also examined in the conclusion.

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[1] For simplicity's sake, lesson observation in action research is sometimes termed as the action research-lesson observation.

[2] There is no difference in meaning between classroom observation and lesson observation in this article. The writer uses the two terms just for the sake of stylistic variation.
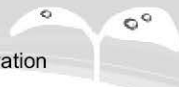
Introduction

This study was conducted in a school 45 years of age; the very same school I have been serving as Principal since 2007. More than half of the teachers have been teaching in the school for more than 15 years, and there have been three principals so far in its history. The school used to be a band 2 school (out of 5 bands) decades ago. Many of the teachers are well qualified with 38% of them holding master's degrees. The staff turnover rate is low, and most of the new staff has been hired as replacements for retiring teachers. There is a strong sense of camaraderie and their strength lies in working as a team to support one another's teaching and meet student needs.

With the succession of principals and changes in students' demographics and academic ability, we are now considered a Band 2-3 school. Teachers remain very professional and are willing to understand how to change their teaching methods for meeting the different levels of readiness and interests of students. Many students involved in this study are low achievers with poor background knowledge. On the whole they are willing to learn and cooperate and are always willing to participate in classroom learning. Teachers' good classroom management allows for orderly classrooms.

The school has been striving for improvement and excellence since I became Principal. In 2010, the Education Bureau (EDB) conducted an External School Review (ESR) with our school and the report released in 2011 agreed that we had made some fruitful progress in all four domains, namely, Management and Organisation, Learning and Teaching, Student Support and School Ethos, and Student Performance. Our performance was so impressive that we were invited by EDB to a school-based experience sharing session on "Enhancing the Effectiveness of Learning and Teaching through the Using of Diversified Strategies" in June the same year.

In spite of significant improvements in teaching and learning, we still need to work hard towards excellence. So far we have been following a traditional appraisal-oriented lesson observation schedule with an administrator observing lessons at an assigned time and examining teachers' strategies and skills (such as planning and organisation, communication skills, class interaction and knowledge and attitude) and students' learning attitude, strategies and use of generic skills. These observations are conducted annually in the hope that we can improve year by year and give useful feedback to teachers. However, there are limitations to the impact of lesson observation on changing teachers' practices that are worthy of study. The appraisal nature of our schedule simply mininises the openness and willingness of the teachers to truly accept suggestions and comments, and is thus a hindrance for progress towards improvement.

In this research, we chose to study our lessons with an action research approach because of its power for professional development and enhancing self-reflection. Basically it is a well-ordered inquiry for teachers to discover what works best in their own classrooms, and can help us to improve. By understanding their teaching more thoroughly and systematically, teachers can make their lessons more effective and gather meaningful feedback for improvement.

Literature Review

Long ago, Lewin (1946) defined the characteristics of action research as "using a spiral of steps, each of which is composed of a circle of planning, action and fact-finding about the result of the action. Its participatory nature is well suited to work in the school and can equip teachers with the power of systematic reflection on their everyday practice." As an interactive inquiry process, it "can balance problem-solving actions implemented in a collaborative context with data-driven collaborative analysis and thereby enhances the understanding of underlying causes and the making of predictions about personal and organisational change" (Reason & Bradbury, 2002). "It is a challenge to traditional social science by moving beyond reflective knowledge created by outside experts and sampling variables to an active moment-to-moment theorizing, data collecting and inquiry occurring in the midst of emergent structure" (Torbert, 1991). Knowledge is always gained through action and for action.

Lesson observations based on action research is a systematic inquiry with the goal of informing practice in a particular situation. It is a way for teachers to discover what works best in their own classroom situation, occupying a midpoint on a continuum from teacher reflection on one end to traditional appraisal lesson observation on the other. It is more data-based and systematic than mere self-reflection but less formal and controlled than traditional lesson observation. Teachers use data readily available from their classes in order to answer practical questions about teaching and learning in their classrooms. Lesson observation based on action research integrates the two roles of teaching and action research.

"Teachers are the most suitable people to conduct action research in school because of their thorough understanding of student needs, classroom contexts and the instructional issues" (Stenhouse, 1975). Through school-based action research, teachers can learn to be more reflective about their practice and how to make improvements. To enhance student learning, teachers need to "observe and gather evidence for planning. In doing so, teachers can understand how students learn in a naturalistic environment and the improvements that are needed" (Johnson, 1993). They can also become "more aware of and sensitive to planning, reviewing and self-reflection on conducting our lessons for betterment in our classroom teaching" (Elliot,

1991; Au, 2004). As Lan (2001) stated, "classroom observation as a means to improve teaching quality among teachers is widely recognized", and this is no exception to our school. By means of lesson observation, professional dialogue and sharing, we could benefit as teachers and deliver lessons of better quality.

Methodology

Keeping in mind our goal of finding an effective alternative method to improve teaching and learning, our study here investigates the following questions:

1. Can action research-lesson observation be an additional or alternative means for improving the teaching quality and effectiveness of teachers?

2. How do teachers evaluate action research-lesson observation in comparison with traditional lesson observation?

We adopted the action research approach for studying our lessons because of its ability to initiate a reflective process of progressive problem-solving among individuals working with others in teams. Following the release of the ESR report, we decided that it would be timely to examine other ways of evaluating teachers' performance and how to help them more effectively. We therefore launched a pilot study to improve our teaching quality through a series of classroom observations and found a system of evaluation that could be used as replacement or supplement by the school when necessary and follow-up measures to ESR recommendations. The objectives and targets of this study were clearly stated and explained to all teachers in the first staff meeting in late August.

I recruited some middle managers who wanted to enhance their teaching effectiveness and invited some teachers who, based on their appraisal reports and my records of walk-through observation, needed to improve. They were not at all incompetent, but were invited mainly because they represented the teaching characteristics and styles that were most common in our school. They came from a variety of subject backgrounds including English Language, Chinese Language, Mathematics, Travel and Tourism, BAFS and Science. Among them, there were experts, veterans and the less experienced. Some of them were used to asking questions or keen on maintaining an orderly classroom and supportive learning atmosphere. Others were good at providing opportunities for students to participate while some were eager to demonstrate their practices. All of them were professionals in the sense that they were willing to try new measures for continuous development and do their best in their duties.

Nine teachers agreed to participate in the pilot scheme after discussion in various staff meetings. An orientation meeting was held with them on 10th October. As Principal, my role was to act as a catalyst, conductor of the study and observer in the classroom. Details of the schedule, procedures, means of data collection and how different forms would be used were explicitly explained (Appendices 1 to 6). There were three main stages in the process:

1. pre-observation including teachers' written self-reflections and individual interviews;

2. a series of classroom observations including an observation of 5-minute time segments and two rounds of a whole-lesson observation with teacher's self-evaluation, and professional dialogues, plus a classroom walk-through observation[3] to collect some quantitative and qualitative data of the teacher teaching; and

3. post-observation follow-up including professional dialogues and teacher self-reflections.

To get the most from this study, all participants completed a worksheet for self-reflection (Appendix 2) which was based on the Common Core of Teaching (CCT) form revised by Connecticut State Department of Education in 2010. The CCT was used because it was in line with the quality of effective lessons that the school had been trying to achieve so far. Each teacher first selected a rating that could best describe his/her practice so that he/she could understand his/her teaching and himself/herself as a teacher more. The worksheets were given to me for getting a deeper understanding of them and comparing their own perceptions with my observations later. In summary, a spiral approach was applied in this study to ensure that, through a cycle of planning, action, fact-finding, sharing and evaluation and development, the knowledge acquired could help us progress and improve.

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[3] The classroom walk-through observation is a classroom visit where the research conductor here is present to look for predetermined evidence of specific practices. Its aim is to provide direct and specific feedback to teachers based on the snapshot observed. Feedback can then be given to teachers for improvement (Downey, et.al., 2004).

Findings

As a compass to lead us through the right way to move forward, the Teacher Self-reflection Worksheet revealed the directions for improvement and indicated major concerns for lesson observation. Replies informed me of the norm of teaching in the school, helped teachers identify their own areas of competence and mastery and showed the areas where they could act as leaders or mentors. As shown in Tables 1 and 2, the areas to target for self-improvement, growth or professional learning were mainly about Instruction for Active Learning (Domain 4), Planning for Active Planning (Domain 3) and Assessment for Learning (Domain 5). I integrated these domains with our recent developmental focus in teaching and learning concentrated on four aspects that the school had been striving to improve, namely: teacher engagement, student engagement, grouping strategy and using instructional time effectively. In the subsequent interviews, I invited teachers to name a domain which they would like to pay more attention to and describe their strengths and weaknesses in detail. During the class observations that followed, I recorded what happened in the lesson in 5-minute segments especially in the areas of teacher engagement, student engagement, grouping strategy and the use of instructional time (Appendix 3).

The records about the general picture of lessons in the school (Table 3) were subsequently returned to participants. In the second interviews that followed, we discussed their teaching practices more thoroughly and figured out their major concerns on which they wanted to get more professional training and improvement. Questioning and catering for learner diversity were what teachers wanted to deal with most (Table 4). The first concern might have been due to the recent trend in our school in response to the ESR report's criticising us for not asking higher-order questions in the lesson. The second was the response to the increase in the variations of student ability within the classroom in recent years. To cope with it, teachers might use whatever methods they could think of, organise group work or promote cooperative learning (Table 5).

Table 1 Teachers' Self-reflection about the Areas of Goal Setting and Professional Development Planning
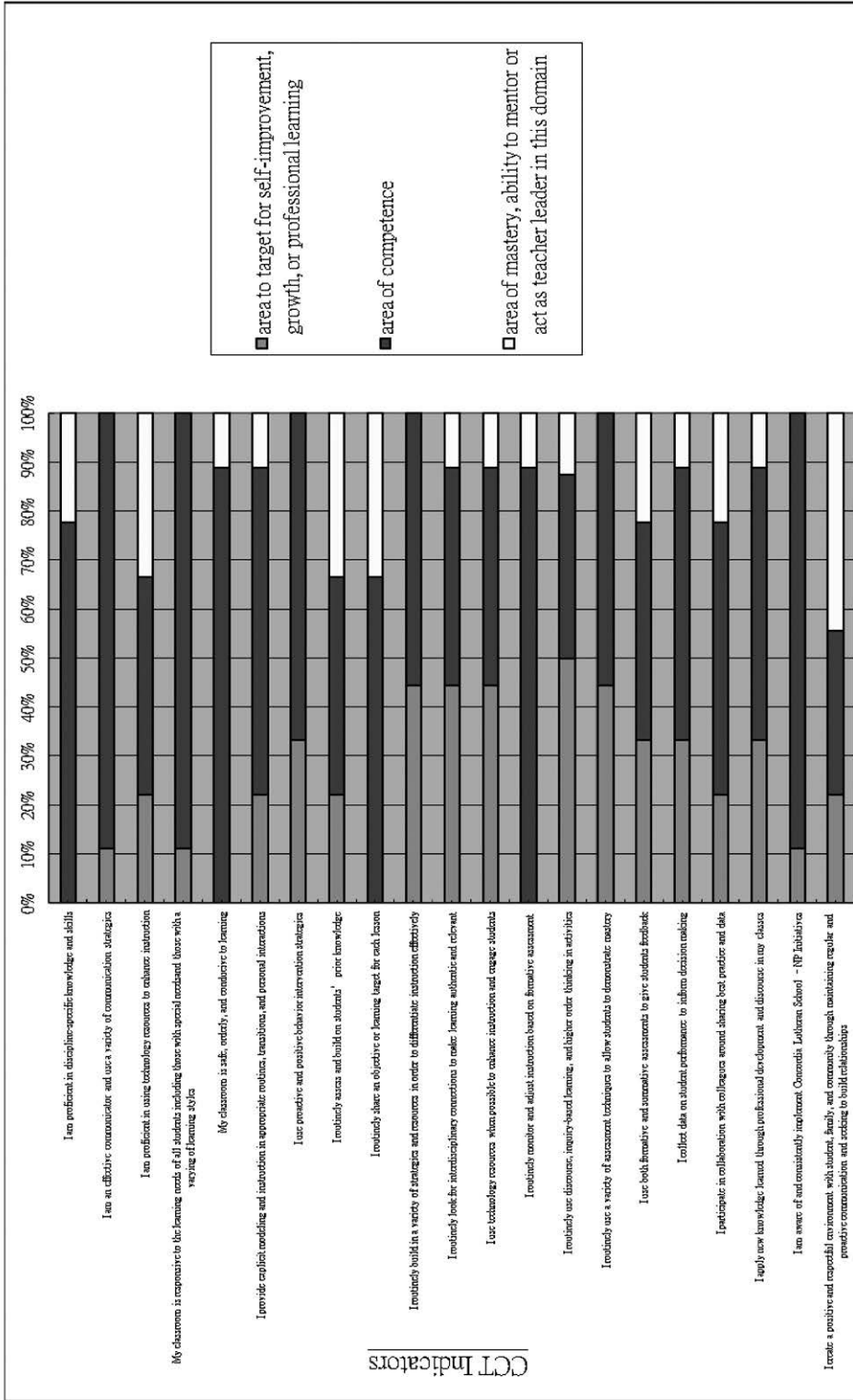

Legend:
- area to target for self-improvement, growth, or professional learning
- area of competence
- area of mastery, ability to mentor or act as teacher leader in this domain

CCT Indicators (y-axis)

X-axis: 0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

CCT Indicators:
- I am proficient in discipline-specific knowledge and skills
- I am an effective communicator and use a variety of communication strategies
- I am proficient in using technology resources to enhance instruction
- My classroom is responsive to the learning needs of all students including those with special needs and those with a varying of learning styles
- My classroom is safe, orderly, and conducive to learning
- I provide explicit modeling and instruction in appropriate routines, transitions, and personal interactions
- I use proactive and positive-behavior intervention strategies
- I routinely assess and build on students' prior knowledge
- I routinely share an objective or learning target for each lesson
- I routinely build in a variety of strategies and resources in order to differentiate instruction effectively
- I routinely look for interdisciplinary connections to make learning authentic and relevant
- I use technology resources when possible to enhance instruction and engage students
- I routinely monitor and adjust instruction based on formative assessment
- I routinely use discussion, inquiry-based learning, and higher order thinking in activities
- I routinely use a variety of assessment techniques to allow students to demonstrate mastery
- I use both formative and summative assessments to give students feedback
- I collect data on student performance to inform decision making
- I participate in collaboration with colleagues around sharing best practice and data
- I apply new knowledge learned through professional development and discourse in my classes
- I am aware of and consistently implement Concordia Lutheran School – RP Initiatives
- I create a positive and respectful environment with student, family, and community through maintaining regular and proactive communication and seeking to build relationships

Table 2   Summary of Teacher Self-reflection Worksheet (Domains and indicators showing where teachers wanted to get improvement, growth and professional learning most)

CCT Indicators	Areas to Target for self-improvement, growth and professional learning in Teacher Self-Reflection Worksheet	
	No. of Teachers' Choice	Percentage of Teachers' Choice
Domain 1.: Content and Essential Skills		
I am proficient in discipline-specific knowledge and skills	0	0%
I am an effective communicator and use a variety of communication strategies	1	11.1%
I am proficient in using technology resources to enhance instruction	2	22.2%
Domain 2.: Classroom Environment, Student Engagement, and Commitment to Learning		
My classroom is responsive to the learning needs of all students including those with special needs and those with a varying of learning styles	1	11.1%
My classroom is safe, orderly, and conducive to learning	0	0%
I provide explicit modeling and instruction in appropriate routines, transitions, and personal interactions	2	22.2%
I use proactive and positive behavior intervention strategies	3	33.3%
Domain 3.: Planning for Active Learning		
I routinely assess and build on students' prior knowledge	2	22.2%
I routinely share an objective or learning target for each lesson	0	0%
I routinely build in a variety of strategies and resources in order to differentiate instruction effectively	4	44.4%
I routinely look for interdisciplinary connections to make learning authentic and relevant	4	44.4%

CCT Indicators	Areas to Target for self-improvement, growth and professional learning in Teacher Self-Reflection Worksheet	
	No. of Teachers' Choice	Percentage of Teachers' Choice
Domain 4.: Instruction for Active Learning		
I use technology resources when possible to enhance instruction and engage students	4	44.4%
I routinely monitor and adjust instruction based on formative assessment	0	0%
I routinely use discourse, inquiry-based learning, and higher order thinking in activities	4	44.4%
Domain 5.: Assessment for Learning		
I routinely use a variety of assessment techniques to allow students to demonstrate mastery	4	44.4%
I use both formative and summative assessments to give students feedback	3	33.3%
I collect data on student performance to inform decision making	3	33.3%
Domain 6.: Professional Responsibilities and Teacher Leadership		
I participate in collaboration with colleagues around sharing best practice and data	2	22.2%
I apply new knowledge learned through professional development and discourse in my classes	3	33.3%
I am aware of and consistently implement Concordia Lutheran School –NP Initiatives	1	11.1%
I create a positive and respectful environment with student, family, and community through maintaining regular and proactive communication and seeking to build relationships	2	22.2%

Table 3　Normal Lessons Recorded in 5-minute Segments during Classroom Observations

Time Segments in minutes	5	10	15	20	25	30	35	40	45	50	55	Percentage of Occurrence	Rank
	(No. of occurrence in each time segment)												
Grouping Strategy													
1. Independent work	1	3	3	2	2	○	○	○	1	1	1	15.22%	3
2. Pairs of students	○	○	○	○	○	1	1	○	○	○	○	2.17%	7
3. Small groups	○	1	1	○	○	2	1	1	2	○	○	8.70%	6
4. Mixed group/ index	○	○	○	○	1	2	3	○	1	1	1	9.78%	5
5. Whole class													
a. Attn. to teacher	6	5	6	6	6	3	2	4	3	4	3	52.17%	1
b. Attn. to student(s)	1	1	○	3	○	1	2	5	1	2	○	17.39%	2
c. Attn. to media	○	○	○	○	○	○	○	○	○	○	○	0%	---
6. Transition	2	1	1	○	○	3	○	3	1	1	○	13.04%	4
Teacher Engagement													
1. Active with students													
a. Lecturing	7	3	4	2	5	4	2	1	2	1	2	35.87%	2
b. Discussion	1	2	4	6	3	4	2	4	4	5	3	41.30%	1
c. Indiv/Group help	○	2	1	2	3	3	5	1	3	1	1	23.91%	5
2. Observing students	1	5	2	2	3	5	6	2	3	○	1	32.61%	3
3. Transition	5	1	5	1	4	2	2	1	2	1	○	26.09%	4
4. Other	1	○	○	○	○	○	○	○	○	○	○	1.09%	6
Student Engagement													
1. 0 student off task	8	8	6	8	4	9	4	5	4	3	2	66.30%	1
2. 1-3 students off task	○	1	3	1	4	○	5	4	4	1	2	27.17%	2
3. 4-6 students off task	○	○	○	○	○	○	○	○	○	1	○	1.09%	3
4. 7-10 students off task	○	○	○	○	○	○	○	○	○	○	1	1.09%	3
5. >10 students off task	○	○	○	○	1	○	○	○	○	○	○	1.09%	3
Using Instructional Time Effectively													
1. Content teaching	6	5	6	7	4	6	3	2	2	5	2	52.17%	2
2. Routines & procedures	9	5	6	6	4	6	7	8	3	4	2	65.22%	1
3. Digression (off topic)	○	○	○	○	○	○	○	1	○	○	○	1.09%	4
4. Other	2	4	3	2	5	3	5	4	6	3	2	42.39%	3

Table 4　Major Concerns Identified by Teachers for Lesson Observation

Major concern of observation	Number of teachers selecting it	Percentage
Questioning	4 (out of 9)	44.4%
Catering for Learner Diversity	5 (out of 9)	55.6%

Table 5　Methods to be Chosen to Cater for Learner Diversity

"Catering for Learner Diversity" as the major concern of observation	No. of teachers selected	Percentage
a) Whatever Methods Teachers Could Think of	1 (out of 5)	20%
b) Grouping and Group Work	2 (out of 5)	40%
c) Cooperative Learning	2 (out of 5)	40%

I set out to observe lessons with respect to the major areas of concern identified by teachers, followed by teacher's self-reflection, professional dialogue and walk-through observation. Teachers also invited me into the classroom to observe when they were ready. In each lesson, evidence of good practice and the areas for improvement were recorded. The lesson observation form was completed by me accordingly (Appendix 3) while each teacher filled in the self-evaluation form (Appendix 4) to reflect on his/her teaching. Every teacher and I then met to share our ideas. Having identified their strengths for further development, teachers also named their weaknesses and thought of ways to avoid or remedy them in later lessons. The priority of the professional dialogue was how the researcher and the participating teacher could work together to make his/her teaching more effective and efficient. In the final stage of data gathering, walk-through observations were conducted to make sure both the researcher and the participating teachers knew they were on the right track. More chances for professional sharing and discussions could also be provided, and these were very important for our teachers, especially those who always wanted to improve further.

Discussion

To answer the two research questions: "Can the action research-lesson observation be an additional or alternative means for the school to adopt so as to improve teaching quality and effectiveness of teachers?" and "How do teachers evaluate the action research-lesson observation in comparison with the traditional lesson observation?", I requested all the participants to complete the evaluation form in written form (Appendix 6) after the first round and in spoken form after the second round. At the end of the post-observation professional dialogues, they shared their feelings and thoughts about the action-research lesson observation they had undergone and compared it with the traditional appraisal-lesson observation system they had experienced previously. All of them also gave an account of the merits and demerits of the two systems in written form in the first and verbally in an individual interview the second time (Appendix 6). Their comments are summarised in Table 6:

Table 6   Merits and Demerits of Traditional versus Action Research Observation

Action Research-lesson Observation		Traditional Appraisal Lesson Observation	
Merits	**Demerits**	**Merits**	**Demerits**
Comprehensive study of teaching	Time-consuming	Time-saving	Lack of continuous follow-up and feedback
Systematic investigations to enhance teaching quality and effectiveness	Exert greater pressure on teachers	Less pressure for usually there is one lesson observation only	Assessment purpose instead of seeking improvement in teaching
Help to develop habits of reflective teaching among teachers	Demanding as teachers' workload is high	An effective means of teacher appraisal system of teaching	Tense atmosphere as appraisal takes place
Focus on the process and outcome of teaching and learning, bringing along insights to improve teaching quality and effectiveness	A complicated process to get improvement	A quick and simpler way to complete the task of the lesson observation	Straight-forward but incomplete in nature
Cooperative and seeking for improvement	Time is needed to create trust and respect among teachers and the conductor	Authority to conduct the appraisal lesson observation is stipulated in the school hierarchy.	Emphasis on the grading and conclusion of teachers' performance, neglecting the opportunity to seek for teaching improvement.
Act as a formative assessment of teaching and evaluation for improvement	Norm referenced	Criterion-referenced	Act as a summative assessment of teachers and evaluation of performance

The comments given by teachers in the two rounds were similar and consistent with their sharing about the action research-lesson observation with the traditional appraisal lesson observation system in professional dialogues. Seven of the nine teachers for instance regarded the former as more helpful than the latter for improving their teaching quality and effectiveness and agreed that it was a suitable tool to be chosen as an addition or alternative to that used nearly in all schools including ours. The other two thought that both observation systems were acceptable. The consensus of them and the seven others was that the former could enhance teaching quality and effectiveness, promote the development of reflective teaching among teachers, and work as a formative assessment of teaching and evaluation for improvement (Table 6). From their responses, I also learned they had agreed that action research was an effective means for professional development. Their responses in depth are discussed as follows:

Analysis of strengths and weaknesses

Teachers felt that action research could help them to analyse their strengths and weaknesses. One teacher commented, "As compared with the traditional lesson observation, the action research-lesson observation could give a broad and an in-depth analysis of my strengths and weaknesses in my teaching techniques and behavioral pattern." Another said "it was a kind of in-depth lesson observation" and "it could help to make me become more familiar with the strengths and weaknesses of my teaching and guide me to a better delivery of lessons with good quality and effectiveness."

Setting Clear Objectives with Teacher's Major Concerns

This characteristic of action research could serve as a guiding principle for seeking improvement. All teachers for instance told me in their individual interviews that the observation record helped them to figure out their major concerns and where they wanted to learn further. They valued the data collected from the classroom observations and ranked it as the third most helpful element among all the different parts of the action research. As one of the teachers said, "Action research-lesson observation helped me to analyse my lesson in various dimensions. It gave me a full picture of what went on and hence indirectly improved my teaching effectiveness." Another teacher added, "The action research-lesson observation, with a series of lesson observations, reflections, walk-through observations and professional exchanges of ideas, was a continuous process of lesson study with a sharp and clear objective to improve teaching quality and teachers' effectiveness."

Effect of follow-up measures — professional dialogue and self-reflection

Although lesson observation was an integral part of our study, whether it could function was largely dependent on the self-evaluation and the professional dialogue afterwards. Teachers in general considered these two processes valuable because they helped them understand their lessons better and consequently to know how to improve. Thus they all gave high ranks to self-evaluation afterwards, self-evaluation before and professional dialogue after observation as helpful parts of action research (Table 7).

Table 7   Ranking of Different Helpful Mechanism of the Action Research that can Improve Teaching

Helpful Mechanism of the Action Research	Ranking
Teacher Self-reflection before the action research	5
Quantitative data gathered to gain a general picture of the lesson	3
The teacher can decide which domain and areas he or she wants to focus on	6
Actual lesson observation	4
Teacher self-evaluation to do reflection after the conduct of the lesson observation	2
Professional dialogues to exchange ideas after the lesson observations	1
Walk-through observations	6

Professional Dialogue

All teachers agreed that the professional dialogue after lesson observations was inspiring and could give them insights on how to plan and teach their subsequent lessons. They felt that observation had helped them analyse their teaching more deeply and lots of useful ideas could be exchanged in the professional dialogues. One teacher said, "The professional dialogues after the observations gave me some understanding on how to better plan my lesson." Another added "Plenty of ideas were exchanged in the professional dialogues. The evaluations and observations allowed us and the researcher to look at teaching from different perspectives."

Self-reflection

Teachers ranked self-reflection before the study and self-reflection afterwards the fifth and second respectively in terms of usefulness. Their feelings were positive overall as indicated in the following statements they gave, such as "The evaluations and observations allowed the participating teachers and the conductor to look at their teaching from different perspectives" and "It has given me a lead on what I have to improve."

Walk-through Observation as a Follow-up Measure

Teachers also viewed walk-through observation afterwards as useful for ensuring what they had learnt could be put into practice in subsequent lessons. To take one teacher's statement as an example, "I think the previous traditional appraisal lesson observation did not have any follow-up measures but the walk-through observation of the action research-lesson observation did help us to examine whether we have improved our teaching or not."

Reflections and Recommendations

Following an action research approach can allow teachers to improve their teaching practices and effectiveness. As participants in this study expressed, the quantitative data collected from the detailed observations, actual lesson observations, self-reflection and professional dialogue were all essential to making this possible. By requiring a consistent, prolonged period of observation and receiving continuous feedback, teachers could understand their own teaching more thoroughly and systematically and therefore teach more effectively. The professional dialogues after the lesson observations and walk-through observations could also provide chances of continuous learning through professional sharing among colleagues.

Without focusing on or discussing what has happened in the classroom, teachers may jump to conclusions about why things are happening. They may only notice reactions of the more noisy and outspoken students, without trying to gain a deeper understanding of what are really going on. Lesson observation, reflection and professional sharing in an action research context are useful for the collection, recording and analysis teachers' thoughts about students' performance of the students and identifying ways for positive change.

It is difficult for teachers to form the habit of doing self-reflections after lessons as they are really busy and their jobs are demanding if they want to survive in the school setting. The action research process can help them to see more of the objective reality of their classrooms through the collection of quantitative data, professional exchange and self-reflections. The more familiar teachers are with their lessons, the more easily they can understand their effectiveness and the more likely they can make improvements. As we can see from the data, teachers valued the action research as a more efficient way for them to understand their teaching better and help them to seek improvement. They thus agreed that it could be an additional or alternative means for improving teaching quality, perfecting their practice, trying new ideas and activities and seeking continuous improvement.

Self-reflection by itself may be too subjective and biased and cannot produce a realistic and satisfactory improvement. Ideas and comments from a third person can make the evaluation of lessons and reflection on teaching performance more objective, comprehensive and fruitful. Seeing the importance of this third person (the researcher in this study), the teachers in this study gave high ranking to lesson observation and professional dialogue as the means for teachers to seek improvements in their work in the classroom.

Mutual trust and respect between the researcher and participating teachers are vital to the identification of good practices and weaknesses. Without trust and respect, lesson observations might cause fear, anxiety and reluctance to participate. Teachers may be suspicious of the researcher's intention and the exchange of ideas can become a superficial process and a waste of time. Developing a trustful and respectful atmosphere between the principal and teachers is needed before the present study can be conducted meaningfully in the school. Open-mindedness is important as no two persons are the same. To promote useful dialogue, both the researcher and teachers should be open to new ways of teaching and its assessment and be prepared to work collaboratively.

Teachers in this study certainly experienced more continuous pressure than what the traditional appraisal-oriented lesson observation would bring. Nevertheless, they all agreed that the action research lesson observation approach was more useful for the improvement of teaching quality and effectiveness, especially in the analysis of strengths and weaknesses and the setting of objectives. Frequent self-reflection, professional dialogue, sharing and walk-through observation are the measures that are helpful in this regard.

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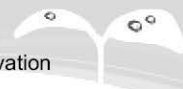
Appendix 1 Details of Programme Implementation

Action Research – Improving Teaching through Classroom Observation
Details of Programme Implementation

1. Invite teachers to take part in the action research. Teachers who want to improve their teaching and who need to improve their teaching are recruited.

2. Hold a meeting with all the participating teachers, discuss with them the details of the action research and reach an agreement of the actual run-down of the programme.

3. Help the participating teacher to understand more about his/her teaching and himself/herself as a teacher more by giving each teacher a worksheet of teacher self-reflection (Form A). Teachers return the worksheet after completion.

4. Go into the classroom and observe the lesson of the participating teacher to collect some quantitative data of the teacher (Form B), letting both the teacher and observer understand his/her teaching more.

5. Interview individually with the participating teacher to find out which domain and areas he or she wants to pay more attention.

6. Conduct the lesson observation of the action research. Complete the lesson observation form (Form C). The teacher has to fill in the self-evaluation form to do teaching reflection (Form D).

7. Have a professional dialogue to exchange ideas with the teacher and agree on a plan for his/her future development in improving teaching effectiveness.

8. Conduct walk-through observations to monitor and address the progress of the participating teachers (Form E).

9. Start the second round of the lesson observations and repeat steps 6 to 8 again.

10. Interview the participating teachers.

11. If needed, another round of lesson observation will be launched.

12. Share findings of the action research.

Appendix 2 Teacher Self-Relfletion Worksheet

CLSNP Teacher Self-Reflection Worksheet   **(Form A)**

Please complete the rating scale to review the Common Core of Teaching (CCT) that is borrowed and revised from Connecticut State Department of Education (2010). This information will help you to understand your teaching and yourself as a teacher more. It will help to guide goal setting and professional development planning. Select the rating that best describes your practice in each indicator. Give the completed worksheet to the principal so that he can use it during the action research.

Signatures indicate completion and review of form to promote reflection and improvement.

CCT Indicators	The rating scale		
	1	2	3
Domain 1.: Content and Essential Skills			
I am proficient in discipline-specific knowledge and skills			
I am an effective communicator and use a variety of communication strategies			
I am proficient in using technology resources to enhance instruction			
Domain 2.: Classroom Environment, Student Engagement, and Commitment to Learning			
My classroom is responsive to the learning needs of all students including those with special needs and those with a varying of learning styles			
My classroom is safe, orderly, and conducive to learning			
I provide explicit modeling and instruction in appropriate routines, transitions, and personal interactions			
I use proactive and positive behavior intervention strategies			
Domain 3.: Planning for Active Learning			
I routinely assess and build on students' prior knowledge			
I routinely share an objective or learning target for each lesson			
I routinely build in a variety of strategies and resources in order to differentiate instruction effectively			
I routinely look for interdisciplinary connections to make learning authentic and relevant			
Domain 4.: Instruction for Active Learning			
I use technology resources when possible to enhance instruction and engage students			
I routinely monitor and adjust instruction based on formative assessment			
I routinely use discourse, inquiry-based learning, and higher order thinking in activities			
Domain 5.: Assessment for Learning			
I routinely use a variety of assessment techniques to allow students to demonstrate mastery			
I use both formative and summative assessments to give students feedback			
I collect data on student performance to inform decision making			
Domain 6.: Professional Responsibilities and Teacher Leadership			
I participate in collaboration with colleagues around sharing best practice and data			
I apply new knowledge learned through professional development and discourse in my classes			
I am aware of and consistently implement Concordia Lutheran School –NP Initiatives			
I create a positive and respectful environment with student, family, and community through maintaining regular and proactive communication and seeking to build relationships			

The rating scale:
1= area to target for self-improvement, growth, or professional learning
2=area of competence
3=area of mastery, ability to mentor or act as teacher leader in this domain

Teacher signature _____ (Name: _____) Date reviewed _____

Principal signature _____ (Name: <u>Lee Chi Shing</u>) Date received _____

OVERVIEW

The Common Core of Teaching articulates the art and science of teaching as essential knowledge, skills and qualities. These foundational skills and competencies are grouped by domains but, in practice, are to be viewed as integrated parts of the complex and dynamic process of effective teaching. The CCT should be used to help guide and build teacher competence continuing throughout a teacher's career.

Domains of Teacher Performance

Domain 1.   Content and Essential Skills:
Teachers understand and apply essential skills, central concepts and tools of inquiry in their subject matter or field.

Domain 2.   Classroom Environment, Student Engagement and Commitment to Learning:
Teachers promote student engagement, independence and interdependence in learning by facilitating a positive learning community.

Domain 3.   Planning for Active Learning:
Teachers plan instruction in order to engage students in rigorous and relevant learning and to promote their curiosity about the world at large.

Domain 4.   Instruction for Active Learning:
Teachers implement instruction in order to engage students in rigorous and relevant learning and to promote their curiosity about the world at large.

Domain 5.   Assessment for Learning:
Teachers use multiple measures to analyze student performance and to inform subsequent planning and instruction.

Domain 6.   Professional Responsibilities and Teacher Leadership:
Teachers maximize support for student learning by developing and demonstrating professionalism, collaboration with others, and leadership.

Appendix 3 Classroom Observation Form

CLSNP Classroom Observation Form to Gain a General Picture of the Lesson   (Form B)

Name of teacher:					Period:		Room:			Subject:	
Date:		Class level:			Topic:						

Time Segments in minutes	5	10	15	20	25	30	35	40	45	50	55	Remarks
Grouping Strategy												
1. Independent work	○	○	○	○	○	○	○	○	○	○	○	
2. Pairs of students	○	○	○	○	○	○	○	○	○	○	○	
3. Small groups	○	○	○	○	○	○	○	○	○	○	○	
4. Mixed group/ indep	○	○	○	○	○	○	○	○	○	○	○	
5. Whole class												
a. Attn. to teacher	○	○	○	○	○	○	○	○	○	○	○	
b. Attn. to student(s)	○	○	○	○	○	○	○	○	○	○	○	
c. Attn. to media	○	○	○	○	○	○	○	○	○	○	○	
6. Transition	○	○	○	○	○	○	○	○	○	○	○	
Teacher Engagement												
1. Active with students												
a. Lecturing	○	○	○	○	○	○	○	○	○	○	○	
b. Discussion	○	○	○	○	○	○	○	○	○	○	○	
c. Indiv/Group help	○	○	○	○	○	○	○	○	○	○	○	
2. Observing students	○	○	○	○	○	○	○	○	○	○	○	
3. Transition	○	○	○	○	○	○	○	○	○	○	○	
4. Other	○	○	○	○	○	○	○	○	○	○	○	
Student Engagement												
1. 0 student off task	○	○	○	○	○	○	○	○	○	○	○	
2. 1-3 students off task	○	○	○	○	○	○	○	○	○	○	○	
3. 4-6 students off task	○	○	○	○	○	○	○	○	○	○	○	
4. 7-10 students off task	○	○	○	○	○	○	○	○	○	○	○	
5. >10 students off task	○	○	○	○	○	○	○	○	○	○	○	
Using Instructional Time Effectively												
1. Content teaching	○	○	○	○	○	○	○	○	○	○	○	
2. Routines & procedures	○	○	○	○	○	○	○	○	○	○	○	
3. Digression (off topic)	○	○	○	○	○	○	○	○	○	○	○	
4. Other	○	○	○	○	○	○	○	○	○	○	○	

Definitions:

Grouping Strategy – Indicate how students are working at the time of the 0bservations. Choose only one category that is indicated and best fits the definition of what is going on in the classroom.

1. Independent work – when ALL students are working on an assignment or project that is to be completed independently by the student. NOT if the student is working independently on part of a group project.

2. Pairs of students – when students are working together in pairs on an assignment that is to be completed jointly. NOT if the students are working in pairs as part of a group project.

3. Small groups – when students are working in groups larger than two to complete an assignment or project. All students should be involved in a group. If some are working independently on behalf of the group, then it would not be considered small groups.

4. Mixed groups – This category should be scored when the students are in a mixture of different groupings. For example, if some students are working in small groups while others are working individually, this category should be scored.

5. Whole class – when the entire class is focused on one person or media.
a. Attn. to teacher – when the class is listening to the teacher giving instructions, lecturing, or engaging in some activity that requires the attention of the class.
b. Attn. to student(s) – when students are presenting work to the class or taking part in a discussion with the teacher. This should only be scored when the students are actually talking. For example, if the students are presenting information and the teacher begins talking during the scoring interval, the attention to teacher should be scored. Also, if the teacher is engaging in discussion and a student is talking, this category should also be scored.
c. Attn. to media – when the students are watching a video or engaging in any activity that requires them to focus on a media object as the primary activity. If a teacher is using the technology as part of a lesson and they are talking or leading the class discussion, "Attention to Teacher" should be indicated even if the students appear to be paying attention to the media or technology. "Attention to media" should be indicated if the students are primarily paying attention to media to receive information about the lesson and the teacher has minimal involvement.

Teacher Engagement – Indicate what activity in which the teacher is engaged in each interval

1. Active with students - they are actively engaged with students in one of the following manners:
a. Lecturing – the teacher is talking to the class and is either presenting material to be learned or giving instructions about a task.
b. Discussion – the teacher is actively engaged in a discussion where students are contributing substantially to the task or lesson. In order for this to be scored when the teacher is talking, the teacher must be responding directly to a student's response during the moment the interval is scored. This interval is also scored if the teacher is silent and is listening to a student respond to a question.
c. Individual/group help – the teacher is actively engaged in assisting a group or individual on a task they are completing. For this category they must either be actively listening to a question from a student or talking to the student/group.

2. Observing students – when the teacher is walking around the class and observing the class as a whole while they are engaged in an activity. They should NOT be engaged with any particular student or group in order to score this interval.

3. Transition – the teacher organizing or helping students organize for the next task.

4. Unrelated activity – the teacher is doing something that is not related to the task at hand, such as sitting at their desk, talking on the phone, or out of the room. This category should also be checked when a teacher is not visible during video observations.

Student Engagement – At the beginning of the interval, count the number of students who appear to be off-task, or are not engaged in the activity. This can be done by quickly glancing over the room and seeing if students are obviously not involved in the activity.

Off task behavior is defined as: a) not oriented toward teacher or task while listening to instructions, b) not following instructions appropriately, c) not oriented toward the task.

It should be fairly obvious that the student is not engaged in the classroom activity in order for this to be scored. For example, if the teacher is lecturing and a student is not looking directly at the teacher, but also not engaged in any other activities, this would still be considered on-task. Off-task behavior needs to be quite obvious in order for a student to be considered off-task.

Using Instructional Time Effectively – Indicate what activity in which the teacher is engaged in each interval. This can be done by quickly paying attention to what the teacher is doing about. Digression means off-topic and nothing related to the teaching objectives and content.

Appendix 4 Self Evaluation Form

CLSNP Self-evaluation Form – Teaching Reflection   (Form D)

Name of teacher:		Period:	Room:	Subject:
Date:	Class level:	Topic:		

Stimulating Questions for Self-evaluation	Comments
Lesson Objectives *Were the objectives displayed on board or clearly articulated? *Did students understand what I did in the lesson? * Was what we did too easy or too difficult? * What problems did the students have (if any)? * Was there a clear outcome for the students? * What did they learn or practise in the lessons? Was it useful for them?	
Activities and Materials *What different materials and activities did I use? Were they appropriate (i.e. to carry out the teaching objectives; to suit the standard of the students)? *Did the materials and activities keep the students interested? *Could I have done any parts of the lesson differently? *What could be done if the materials/ activities planned did not work?	
Motivation and Students *How might this lesson be related to previous class work, future class work or to areas of importance in the students' lives? *Was the lesson designed to appeal to the students' interests and developmental tasks? *Were all the students on task (i.e. doing what they were supposed to be doing)? *If not, when was that and why did it happen? *Which parts of the lesson did the students seem to enjoy most? And least?	

Lesson Management and Strategies	
*Did activities last the right length of time? *Was the pace of the lesson right? *Did I use whole class work, group work, pair work or individual work appropriately? *Were there sufficient examples being included to demonstrate the idea, content or procedure? What did I use them for? Did they work? *Were my instructions clear? * Did students understand what to do in the lesson? *Did I provide opportunities for all the students to participate? *Was I aware of how all the students were progressing? *How questions were used in the lesson? Sufficient and effective? *Was enough work planned to keep students engaged in productive tasks suited to their capacities? *Had provisions been made for individual differences (catering for learner diversity)? Were they suitable? *Was feedback immediate and adequate? *Could I regard my students as active learners? What evidence could I find? What measures did I use to encourage them to learn actively?	
Overall *Did any discipline problem(s) occur? How could these problems be prevented? *Was the assignment clear and concise? Did the students know what they were to do? * Had time been allocated to do the conclusion and consolidation? *What seemed to be the most important things happening or missing in the lesson? *What was the emotional/affective atmosphere in the lesson (e.g. energy, excitement, engagement, boredom, irritation, indifference …)? *Did it appear that the students experienced learning?	

Appendix 5 Observation Feedback Form

CLSNP Walk-Through Observation Feedback Form   (Form E)

Date_____Time_____ Class _____ Subject _____ Teacher_____

The Students Were:	The Teacher Was:
_____On task in challenging/engaging work (80% or more)	_____Specifying expectations & desired behavior
_____Writing or creating original work	_____Lecturing or assigning to whole group
_____Taking a test or quiz	_____Conferencing with readers
_____Revising or editing work	_____Conferencing with writers
_____Completing an assignment	_____Facilitating small groups
_____Completing worksheets	_____Providing direct instruction (individual or group)
_____Reading	_____Reading to students
_____Using technology	_____Asking knowledge level/procedural questions
_____Listening to the teacher	_____Asking higher order questions
_____Answering rote or knowledge-level question	_____Using ample wait time
_____Answering higher order questions	_____Modeling or demonstrating a task
_____Initiating higher order questions	_____Modeling or assisting with technology
_____Self-directed, self-initiated	_____Circulating about classroom
_____Correcting homework assignment	_____Transitioning students between activities
_____At the overhead projector	_____At the overhead projector
_____Speaking in front of or presenting to class	_____Checking papers or homework
_____Transitioning between classes or activities	_____Sitting/standing behind desk (or podium)
_____In class, downtime	_____In class, downtime
_____Others ( )	_____Others ( )
Evidence of Concordia Lutheran School - NP Initiatives:	**Evidence of Positive Climate & Teacher Efficacy:**
_____Objectives displayed on board	_____Procedures in place and being used
_____Learning through activities	_____Appropriate student praise
_____ Working *individually/in pairs/in groups	_____Instruction appropriate to students
_____ Dealing with student learning diversity	_____Student work displayed
_____Active learning atmosphere	_____Respectful behavior / positive regard
_____Class routine: students sitting properly and still	_____Specific constructive feedback
_____ Class routine: textbooks on the desk	_____Room was without clutter, including walls
_____ Class routine:* notebooks on the desk/being used	_____Effective time management
_____Class routine: ___ sleeping/___ off-task students	_____Efficient use of materials
_____ * Reading/writing/listening/speaking	_____Personal, positive interactions with student
_____ Presenting in front of classmates	_____Connections with prior learning
_____ Applying learning skills	_____Equitable, consistent application of rules
_____ Asking a wide range of questions	_____Real-world connections/student interests
_____ Formative assessment	_____Assessment of learning (rubric, self-assessment)
_____ Consolidation of the lesson	_____Re-teaching / relearning material

Notes:

_____

_____

* Delete as necessary

Appendix 6 Evaluation

Evaluation after the implementation of the First round Action research -
Improving Teaching through Classroom Observation

1. Did the 1st round of the action research-lesson observation help you to understand your teaching more and systematically?
   If yes, in what way?
   If not, why couldn't it help?

2. Which part of the action research could help you to improve your teaching?
   Rank them from 1 to 7 (1 represents it can help you most and 7 represents it can help you least)

   a) Teacher Self-Reflection before the action research   ---------------------------------- (   )
   b) Quantitative data gathered to gain a general picture of the lesson   ---------------- (   )
   c) The teacher can decide which domain and areas he or she wants to focus on   ---- (   )
   d) Actual lesson observation   -- (   )
   e) Teacher self-evaluation to do reflection after the conduct of the lesson observation- (   )
   f) Professional dialogues to exchange ideas after the lesson observations   --------- (   )
   g) Walk-through observations   --- (   )

3. Compare the action research-lesson observation with the previous/ traditional lesson observation. Which one could help you to improve your teaching quality and effectiveness? Why?

4. Please give an account of the merits and demerits of the 2 systems of lesson observation.

Action Research-lesson Observation		Previous/ traditional Lesson Observation	
Merits	Demerits	Merits	Demerits

Action Research-lesson Observation		Previous/ traditional Lesson Observation	
Merits	Demerits	Merits	Demerits

5. The 2nd round of action research will begin soon.　What modifications or recommendations would you like to suggest?

The Use of Process Writing to Prepare Senior Secondary Two Students for their HKDSE Writing Examination

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Abstract

This study investigates the effectiveness of using the process writing approach to motivate New Senior Secondary 2 students for writing tasks and assist them in improving writing competence. Twenty eight students, who have learnt writing under the process writing approach for half a year, were asked to complete a questionnaire survey, interviews and assessments to evaluate the effectiveness of this approach. Results showed that process writing could motivate students to write to a certain degree and help them improve their skills although this was not as obvious as their change in attitude. In spite of limitations, the process writing approach could be implemented in the New Senior Secondary (NSS) English Language curriculum to prepare students for the Hong Kong Diploma of Secondary Education (HKDSE) examination.

Introduction

Having taught English for eight years, I find that 'writing' is the most difficult part for our students. Many students lack ideas and cannot elaborate on their thoughts. They do not have enough vocabulary to express themselves in correct sentence patterns and grammar. Students often consider the writing process exhausting and unpleasant. According to journals in the field, process writing is the best way for teaching writing skills because it promotes active and supportive learning. This paper focuses on whether the approach could help and motivate my Senior Secondary 2 students to write.

In the NSS English Language Curriculum implemented since 2009, process writing is recommended by the Curriculum Development Council as

an approach for maximising teaching effectiveness. Thus, another purpose of this paper is to evaluate the effectiveness of this process approach for teaching students to write in depth (of around 400 words) on one of the elective areas with appropriate language, content and organisation.

Process writing is a teaching methodology. According to the Elementary English Language Arts Curriculum page (Washington Country Public Schools, 2002), it is "writing instruction in which a teacher guides pupils through certain stages, or steps, to complete their writing pieces" and is viewed as "a recursive, nonlinear cognitive process in which the writer moves back and forth" (Tang, 2006). Writing under this approach is divided into the stages of pre-writing, drafting, revising, editing and publishing. What the teacher has to do is to act as a facilitator and organiser of learning activities (like brainstorming, group discussion and peer response) and to support students in developing knowledge and skills at different stages. Normally, marks will not be given before the end of the publishing stage.

Process writing has been introduced into Hong Kong since the 1990s. However, it faces constraints which are well documented in research papers. Many teachers have returned to a product based approach or are implementing it on occasion. Three local research papers are discussed below in relation to the study of its implementation in the local context.

Literature review

Ng (1999) has implemented the process writing approach with her top Secondary 2 students to promote creativity and a sense of collaboration, using activities such as peer conferencing and peer evaluation. In the first trial, students' writings were rich in ideas but contained many grammatical mistakes. In the second trial, grammatical mistakes were underlined for peer evaluation before students submitted their fair copies. Unfortunately, most of her students failed to correct the mistakes for their peers. All the English teachers in her school acknowledged the above phenomenon and agreed to teach with the approach in the following year but without peer conferencing due to limited teaching time.

Lam (2000), a local teacher-researcher, conducted a systematic study of process writing with respect to whether it could help his low-banding students improve and raise their motivation and confidence in writing. After two trials, eight Band 3 Secondary 1 students in his school wrote on the topics 'How to spend their coming Easter holiday?' and 'How to spend their coming summer holidays'. In each trial, the teacher brainstormed with students together, gave them some words to use and corrected their errors. Students were asked to provide as many ideas as they could. In the following lesson, they put their ideas into organised text and help their peers to proof-

read with reference to a guided worksheet. They then gave a presentation in front of the class. The teacher and other students offered suggestions for improvement, and everyone had to make revisions accordingly. Finally, the teacher marked their written work and students did the corrections. All were asked to complete a questionnaire survey about attitude towards writing.

A comparison of the work done in Lam's study showed significant improvements in content, since 75% of students could write more in the second draft and perform better in capitalisation and tenses. Many mistakes were still found in the use of singular and plural forms of nouns and verbs, spelling and punctuation, so there was no significant improvement in terms of accuracy overall. Questionnaire results, however, indicated that 93.8% of students were in favour of learning through the process writing approach rather than the conventional one. 81.3% of them were interested in pre-writing activities because of its usefulness for generating ideas and helping them get the right words and expressions. The reaction was mixed as 43.8% of them contended that pre-writing activities were not useful in organising thoughts and only 56.3% of them thought that their classmates' suggestions were useful for improving accuracy in expression. Two-thirds (68.8%) even thought that the suggestions could not help to improve the content of writing. To conclude, Lam noted that pre-writing activities could help to raise interest and confidence and that the division of the writing process into small bits could enable low achievers to maintain interest and confidence through the receipt of instant feedback.

Unfortunately, Lam's study involved only eight subjects and was not carried out in a naturalistic setting. Asking students simply to choose 'yes' or 'no' in his questionnaire instead of using a Likert scale also means that more precise data about attitude could not be drawn. A follow-up interview should be conducted so that implications need not been drawn all directly from numerical data. Instead of examining written work on two occasions, a systematic pre-test, post-test design should be used to facilitate comparison.

While pre-writing activities are important for arousing interest, peer reviews are considered by many as more effective for helping students learn (e.g. Ho, 2004) because readers can more easily learn how to revise their own drafts and understand what others need to improve on. In his study of Secondary 4 students in a Band Two CMI school, interviews and questionnaires were used for getting information about the challenges faced by teachers and their students. Two teachers out of three felt frustrated by students' low level of English proficiency, failure to understand the terms used in the peer review worksheet and inabilities in identifying grammatical mistakes and expressing ideas clearly. Weaker students also could not get sufficient attention in spite of their special needs and their inability to explain thoughts clearly.

Ho's study (2004) after all revealed that peer response in process writing could not cater for the needs of weaker students well. This was in contrast to the finding of Lam that process writing with both pre-writing activities and peer review were helpful. The discrepancy between these two studies is worthy of further examination in Hong Kong because the approach has been recommended for use in the senior secondary curriculum implemented since 2009.

Research questions

The present study of feasibility and effectiveness seeks to answer the following research questions:

1. Do NSS students like process writing more than the traditional way of learning?
2. Do they think that process writing can help them prepare for the HKDSE examination?
3. Does process writing help to improve their quality of writing in the HKDSE examination?

To answer the second and third questions, we have to look at whether process writing can help students to generate more ideas, organise thoughts systematically, master proof-reading skills and use appropriate language in writing. The subjects involved were 28 Secondary 5 students from a band two class which also included some band one and band three students.

Procedure

Specifically, students had to write a short story based on the NSS elective modules 'Learning English through Drama' and 'Learning English through Short Stories' and a drama topic (Appendix I). Three students from the top, middle and bottom levels of English proficiency were then invited to an informal pre-test group interview when they were asked to express their views on writing and were informed about the nature of the writing process approach.

All students had already had dictations on the words and expressions related to drama and short stories so as to familiarise themselves with the necessary language. They were divided into groups of four and asked to complete the pre-test questionnaire survey (Appendix II) about writing. They also wrote a composition based on the NSS elective modules 'Learning English through Drama' and 'Learning English through Short Stories' (Appendix I) and read it aloud to their group members. Group leaders jotted down the main points (Table 1) and made a presentation.

In the lesson thereafter, students in pairs spent around 20 minutes to study the assignments from two others with the help of a task sheet (Appendix III). First, they had to evaluate the content, organisation and language which were used by ticking the right boxes ('Done', 'Partly done' and 'Forgot to do'). Secondly, they put stickers next to the paragraphs or words they appreciated and correct the mistakes which had been underlined. They also rewrote the part(s) they did not like and give suggestions for improvement. In the writing and editing lesson, the teacher commended on some of their good works and gave a list of the paragraphs which students liked (Appendix IV). Students were given 70 minutes to revise their writing, ask the teacher and peers for assistance and complete the editing. They did the corrections at home according to the teacher's comments.

Table 1   The collective plan

Para 1: -When and where I watched it
• -Why I want to see the performance
• -Mention the performance was outstanding, & make one learn many things about drama
• -I would like to share my experience with you.

Para 2: -Tell the name of the play
• -The purpose of the performance
• -What is the play about?

Para 3: -Talk about what made it outstanding
• -e.g. plots, props, acting skills, what the director did

Para 4: -Conclusion: the performance was remarkable
• -feeling
• -What I've learnt
• -Recommend it to the students

Finally, students completed a post-test survey (Appendix V) about the application of the approach to the writing of short stories and drama scripts, and were classified into three groups according to the quality of language they had used. Three of them were then interviewed about their writing experiences and other related views for enriching the data collected from the questionnaire. By adopting a pre-test post-test design, their performance in the examination writing papers could be compared with that in the test writing papers for assessing how far the quality and length of their writing had improved.

Findings

Table 2 shows the length of writing by the three interviewees produced in the test and examination. Two subjects had written more on their ideas than before for better elaboration and organisation. However, there is no significant evidence showing that the process approach could help them to write in depth.

Table 2   Length of writing by the three subjects

	No of words in the examination	No of words in the test	Change
Student W	276	229	+
Student S	351	390	+
Student A	511	490	−

*W-the weak student, S-the strong student, and A-the average student

Tables 3, 4 and 5 analysed the variations in students' performance in the test and examination. Although all had improved in their use of tenses, whether process writing could lead to improvements in the command of English and proof-reading skills is not clear. This finding is similar to that of Lam (2000), which was that students had made fewer mistakes in tenses but not in other aspects of grammar. The implication is that the use of tenses is easier to master and proof-read.

Table 3   The writing performance of the weak student in examinations and tests

Student W	Error % in the examination	Error % in test	Change
Subject-verb Agreement	5.3%	0.0%	+
Singular/Plural	24.4%	6.9%	+
Tense	0.0%	96.3%	−
Spelling	5.1%	0.4%	+

Table 4   The writing performance of the average student in the examination and test

Student A	Error % in the examination	Error % in test	Change
Subject-verb Agreement	4.8%	5.0%	−
Singular/Plural	6.7%	11.8%	−
Tense	4.4%	12.9%	−
Spelling	1.1%	0.5%	+

Table 5   The writing performance of the strong student in the examination and test

Student S	Error % in the examination	Error % in test	Change
Subject-verb Agreement	13.6%	12.5%	+
Singular/Plural	0.0%	1.8%	−
Tense	3.4%	12.1%	−
Spelling	1.6%	0.2%	+

Meanwhile, some improvements could be noted in the test and examination papers (Table 6). The weaker, average and strong students scored 1.5, 2.5 and 2.5 marks for instance. These mark increases could be indicators of improvement in writing quality following the use of the process approach although there is no evidence to show that students could write more, had done better in proof-reading skills or changed in their attitude towards writing. Instead, they might have been influenced by the topic chosen as only one and two students chose to write on 'Learning English through Drama' and 'Learning English through Sports Communication' respectively in the examination.

Table 6   Marks obtained by students

	Content	Grammar	Organisation	Total
W's test writing	1.5	1	1	3.5
W's exam writing	2	1.5	1.5	5
A's test writing	3	2	2.5	7.5
A's exam writing	4	3.5	3.5	11
S's test writing	3.5	3	3.5	10
S's exam writing	4.5	4	4	12.5

Table 7 shows the attitudes towards process writing. In the pre-test survey, the mean mark for each item was 2.8 only as there was a lack in ideas, words and expressions for short story/drama writing. Students seldom made a draft or had the ability to proof-read especially with respect to grammatical mistakes. The increase in the mean mark to 3.6 in the post-test survey implies that with the use of the process approach, students were becoming more positive towards writing. Even the weaker ones improved a lot (to 56.3%). The mean mark given by the medium-ability group (3.8%) was higher than those of the other groups.

Table 7   Students' attitude towards writing

Mean	Attitude towards writing shown in the pre-test questionnaire	Attitude towards writing shown in the post-test questionnaire	% increase
Overall	2.8	3.6	26.3%
Weak	2.0	3.1	56.3%
Middle	2.7	3.8	38.0%
High	3.0	3.7	24.0%

5 -- Strongly agree, 3 -- Neutral, 1 -- Strongly disagree

In the post-test study, students showed slightly positive attitudes towards process writing with no item less than 3 (Table 8) and the mean mark being 3.7.

Table 8 Students' attitudes in the post-test questionnaire survey

Q1	You now like short stories/drama writing more.	3.4
Q2	I feel it easier to do short stories/drama writing.	3.4
Q3	You have more ideas for short stories/drama writing.	3.6
Q4	It is easier to think of short story/drama words and expressions for writing.	3.6
Q5	It feels easier to make a draft for short stories/drama writing.	3.5
Q6	It is easier to find and correct your own grammatical mistakes.	3.3
Q7	You have tried your best in the drafting activities.	3.5
Q8	You enjoyed the drafting with your students together.	3.5
Q9a	Do you find the drafting activities useful for (a) getting ideas?	3.0
Q9b	Do you find the drafting activities useful for (b) organising ideas?	3.7
Q9c	Do you find the drafting activities useful for (c) finding the right words and expressions?	3.2
Q9d	Do you find the drafting activities useful for (d) learning how to write a draft?	3.6
Q10	You enjoyed reading your classmates' writing.	3.7
Q11	You have tried your best in helping your classmate to improve his/her writing quality.	3.7
Q12a	You have learnt the following things from your classmates' writing: Ideas.	3.7
Q12b	You have learnt the following things from your classmates' writing: Grammar.	3.5
Q12c	You learn the following things from your classmates' writing: Organisation.	3.7
Q13a	Your classmates' suggestions helped you improve your writing in ideas.	3.7
Q13b	Your classmates' suggestions helped you improve your writing in grammar.	3.6
Q13c	Your classmates' suggestions helped you improve your writing in organization.	3.5
Q14	You have a better idea on how to do proof-reading.	3.5
Q15	It is easier to rewrite than writing the first composition.	3.6
Q16a	You find your rewritten composition better than the first composition in terms of language.	3.6
Q16b	You find your rewritten composition better than the first composition in terms of content.	3.8
Q16c	You find your rewritten composition better than the first composition in terms of organisation.	3.7

Table 9 shows the attitudes towards the learning of ideas in process writing. Students slightly agreed (mean = 3.7) that process writing could help them get more ideas. They agreed a bit that they could get more ideas from the drafting activities, reading of their peer's writing and peer review in both the short and long terms.

Table 9   Students' view on using process writing to learn more about ideas

Area	Question	Mean
Ideas	16) You find your rewritten composition better than the first composition in terms of content	3.8
	12) You learn the following things (ideas, grammar and organisation) from your classmates' writing of ideas	3.7
	13) Your classmates' suggestions help you improve your writing of ideas	3.7
	3) You have more ideas for short stories/drama writing.	3.7
	9) Do you find the drafting activities useful in -- getting ideas?	3.5

Mean = 3.7

Students agreed that these activities had helped to improve their writing quality in the short term. In the interviews, both the average and weak students expressed that drafting could help them write in greater depth (Table 10). Drafting was widely reported as useful for the gathering of ideas for writing (Ng, 1999; Lam, 2000 and Ho, 2004) just like reading their peers' writings and peer review, although 68.8% of the students in Lam's study thought otherwise.

Table 10 Responses of two interviewees about drafting activities

Teacher   : What is your opinion towards the drafting activities?
Student W : Those activities were quite good! When I was doing my writing, I could write more.
Student A : Agreed! My writing could include more ideas. These activities enriched my content.

* W-the weak student; A-the average student

With respect to organisation, students slightly felt that (mean = 3.6) process writing was useful (Table 11). They agreed that to some extent they could learn to organise ideas well from drafting activities, reading their peers' writing and peers' review. In the interviews (Table 12), both the strong and average-ability students said that drafting activities amongst others were effective. The mean mark of 3.7 is, however, different from Lam's study where 43.8% of students felt that pre-writing activities were not useful in organising thoughts.

Table 11 Views on using process writing to learn about the organisation of ideas

Area	Question	Mean
Organisation	9) Do you find the drafting activities useful in: b. organizing your ideas?	3.7
	12) You have learnt the following things from your classmates' writing. c. organisation	3.7
	16) You find your rewritten composition better than the first composition in terms of organisation	3.7
	9) Do you find the drafting activities useful in: d. learning how to write a draft?	3.7
	13) Your classmates' suggestions help you improve your writing in c. organisation	3.5
	5) It feels easier to make a draft for short stories/ drama writing.	3.5
	8) You enjoyed the drafting with your classmates together.	3.5

Mean = 3.6

Table 12 Responses of two interviewees about drafting activities

Student S	: When I wrote my draft, apart from considering the content, I discovered I needed to pay attention to contextual factors, format and writing purpose. Drafting was not easy at all.
Student A	: I could learn how to organize the information from my peer's writing. This was fantastic.

*S-the strong student, A-the average student

Students somewhat agreed (mean: 3.5) that process writing helped improve their English skills (Table 13). They found peer review more useful than the others in helping them improve their writing. This finding is similar to Lam's, where 56.3% of students thought peer review was beneficial and found their partners' suggestions useful for improving language accuracy.

Table 13 Views on using process writing to learn the use of language

Area	Question	Mean
Language	13) Your classmates' suggestions helped you improve your writing in: b. grammar	3.6
	4) It is easier to think of short story/drama vocabulary and expressions for writing.	3.6
	16) You find your rewritten composition better than the first composition as far as: a. language	3.6
	14) You have a better idea on how to do proof-reading.	3.5
	12) You have learnt the following things from your classmates' writing. b. grammar	3.5
	6) It is easier to find out and correct your own grammatical mistakes.	3.3
	9) Do you find the drafting activities useful in: c. getting the right words and expressions?	3.2

Mean = 3.5

The average mark for learning grammar (3.5) was lower than those for learning ideas (3.7) and organisation (3.6). In her interview, the strong student explained that she had to use her grammatical knowledge to help her peers so it was hard for her to learn grammar from her peers at the same time.

Attitudes changed after the process writing project

Some questions in the post-test were the same as those in the pre-test and so differences in the scores for these items could reflect their changes in attitude toward writing. As shown in Table 14, students rated these identical statements more highly in the post-test than in the pre-test. Process writing thus could make students feel easier with the writing of short stories or drama writing, gathering the necessary vocabulary and expressions, making a draft and figuring out their own mistakes in their own work. It appeared to be more useful than the traditional way of teaching in catering for the writing needs of students at different ability levels.

Table 14 Responses to some questions in the pre-test and post-test

	Questions	Post-test results	Pre-test results
Q1	You like short stories/drama writing.	3.3	3.1
Q2	It is easy to do short stories/drama writing.	3.3	2.8
Q4	It is easy to think of the right short story/drama vocabulary and expressions for writing.	3.6	2.7
Q6	It is easy to make a draft for short stories/drama writing.	3.5	2.6
Q9	It is easy to find out and correct grammatical mistakes when you do proof-reading.	3.5	2.5

Overall speaking, students had a slight positive attitude towards the process writing and agreed that it could help them improve on 'grammar', 'organisation' and 'content'. Students at average proficiency levels were more in favour with the approach. The change in attitude was greater amongst the weaker students because they could get more support here than from the traditional approach. Irrespective of proficiency level, students generally agreed that process writing could help them improve on 'content', 'organisation' and 'ideas'.

Among the various activities involved, peer review and the reading of peer writings were considered more useful than the others for the generation of ideas. They also thought the pre-writing activities could help them make proper drafts and improve organisation while peer review could help them improve their grammar. However, even the more able students found the task challenging as they had to activate their grammatical knowledge and proof-reading skills. In general, students in the present study found it slightly useful for helping them how to write although they could only make slight improvements.
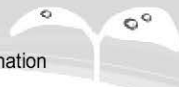
Discussion

The above findings are similar to those of the three studies mentioned in the literature review in spite of differences.

Attitude towards the effectiveness of process writing

Attitude is important to the success of process writing. The post-test survey in this study showed that students liked process writing more than the conventional method. This finding echoes Lam's in which seven out of his eight subjects expressed in favour. Contrary to Lam's study in which 43.8% did not find the pre-writing activities useful in organising their thoughts, the students in the present study generally found pre-writing activities useful for organising thoughts and gave a mark of 3.7 to the question 'Do you find the drafting activities useful in: b. organizing your ideas?' in the post-study questionnaire. This trend could be due to the greater attention of this study to organisation as well as contextual and genre information while Lam's study was more concerned with the generation of ideas for writing.

Students in the present study agreed that reading their peers' writings and peer review were useful in helping them learn ideas. In the post-test survey, they gave 3.7 marks to both items 'You learn the following things from your classmates' writing: a. idea' and 'Your classmate's suggestions help you improve your writing in: a. ideas'. But this is not the case in Lam's study where nearly 70% of students considered peer review incapable of helping them improve their content. This difference in finding could be due to peer review design – Lam's peer review worksheets only required students to evaluate peers in term of grammar, while the present study required them to comment on their peers in terms of grammar as well as content and organisation. This is why Huang (2004, p.18) stated that how the writing process instruction was implemented played an important role in whether it would be likely for the students to acquire basic writing skills. Moreover, unlike his Form 1 students, the Form 6 students in the present study were more mature when giving constructive and useful feedback to their peers and so would be slight more positive towards peer review and reading peers' writing.

The adoption of process writing could encourage students (especially the weaker ones) become slightly more positive. This change in attitude may be due to the short-term effect produced by process writing, particularly its pre-writing activities. In the post-test interview, the weak student clearly pointed out that the pre-test activities had given him more ideas to write. This is the immediate positive effect he was exposed to, and is compatible with Lam who expressed that weak students could get more ideas in the pre-test activities.

But even though the weak students' attitude had changed, they were not as positive as the students of medium to higher ability because of the lack in competence to comprehend and evaluate their peers' writing. That is why Ho (2004) stated that peer review could not benefit the weaker ones as two-thirds of his subjects were frustrated by their low English standard and could not understand the peer review task sheet, identify grammatical mistakes and express their thoughts clearly. Similarly, only 56.3% of the Form 1 students in Lam's study thought peer review was useful. In the present study, students liked process writing the most.

Process writing provides a supportive yet competitive environment for learning how to write according to the three interviewees who had expressed a wish to compare themselves with one another. Average-ability and strong students did not mind reading those writings which were better or worse than theirs because they could either learn from their peer's writing or help their peers by giving comments with their linguistic and cognitive knowledge. This positive feeling had not been mentioned in the previous three studies.

Improvement in English proficiency

Gaining students' empathy is important but whether process writing is effective for teaching them how to write is another question. The present study shows that students' writing quality improved in grammar, content as well as organisation. Their increase in scores may indicate that process writing could in general help students at different proficiency levels to prepare for their short story/drama writing section in the HKDSE examination. This generalisation is, however, not applicable to performances in some grammatical items and proof-reading skills in spite of improvements in the usage of tenses and proof-reading. Incidentally, Lam also found fewer mistakes with tenses when comparing his subjects' drafts and fair copies in spite of the need for further proofs.

Conclusion

The present study finds that process writing motivates the students to write to a certain degree and helps them to improve in terms of the organisation and content of writing. However, since the student participants at different proficiency levels had different needs and wishes, their overall attitude towards process writing was only slightly positive. The marks they got in the examination shows that they had made improvements but not in the skills of proof-reading. Further research is needed to see whether the increase in scores is due to improved proficiency or the nature of the writing task. In general, improvements in writing are not as obvious as the change in attitude.

The present study has some implications on teaching. The extensive implementation of process writing in the average and strong English classes could create a positive and supportive learning environment for language development, since they already have sufficient competence to complete a variety of process writing tasks. The approach could also be applied to weaker class provided that more attention is given to pre-test writing activities and peer review. Instead of asking students to evaluate their peers' writings, it would be better for the teacher to share a piece of writing in front of the class. This would eliminate the feeling of failure and a more positive learning experience could be promoted.

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Appendix I: Topics for the present study

One drama question and one short story question were chosen for the present study. The questions are shown as below. The former one was used for process writing project I and the latter one was used for the project II.

Learning English through Short Stories (PP-DSE-ENG LANG 2-4)
You are a reporter for the school magazine.
You recently attended some events at the Hong Kong Book Fair.
Your favourite one was a talk by three different authors on what makes a good short story.
You are now writing an article about the event, explaining why you found it interesting and what you learnt.

Contextual information:
Who are you?_____
To whom you are writing to? _____
Relationship: _____ (formal/informal/semi-formal)
Aim(s)/purpose(s) of your writing?_____
Format:_____

Draft:

Learning English through Drama
(similar to 2006 HKDSE sample question)

You are a member of the Drama Society. You recently went to see the opening performance of a play. The performance was outstanding. Write a review of the performance for the school newspaper, describing what the play was about and explaining what made it outstanding.

Draft:

Appendix II: Pre-test questionnaire

Name:_____   Class:_____ (   )

		Strong Agree		Neutral		Disagree
1.	You like short stories/drama writing.	5	4	3	2	1
2.	It is easy to do short stories/drama writing.	5	4	3	2	1
3.	You always have sufficient/enough ideas for short stories/drama writing.	5	4	3	2	1
4.	It is easy to think of the right short story/drama vocabulary and expressions for writing.	5	4	3	2	1
5.	You always make a draft before you write for short stories/drama.	5	4	3	2	1
6.	It is easy to make a draft for short stories/drama writing.	5	4	3	2	1
7.	You always do proofreading after writing.	5	4	3	2	1
8.	You know how to do proofreading after writing.	5	4	3	2	1
9.	It is easy to find out and correct your grammatical mistakes when you do proofreading.	5	4	3	2	1
10.	What do you want to learn most when you write for short story/drama questions?	_____				
11.	What do you want your English teacher do to help you do short stories/ drama writing? (include drafting, proofreading…)	_____				

Appendix III: Task sheets used for two topics

The task sheet for short story writing:

Evaluator:_____   Writer:_____

Task 1:

Put '✓' to the right boxes.

Expositive article	Well Done	OK	Could have written better	Forgot to do
1. Has indicated the question she/he attended clearly				
2. Has a title				
3. Has a beginning, middle, and an ending				
4. Has told why he/she wrote the article in the paragraph				
5. Has told details about a talk given by three authors				
6. Explain why he/she found the talk interesting				
7. Has told what was learnt				
8. Has told his/her feeling				

Task 2:
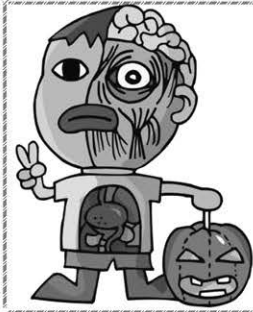
a) Highlight and put stickers next to the ideas/ paragraphs/ words that you like.

b) Put a '?' if you want him/her to write more.

c) Correct the underlined mistakes.

Task 3 (optional)
Find other mistakes and correct them.
Rewrite a part if time is allowed.

_____
_____
_____
_____
_____

Task sheet for drama writing:

Name:_____

Task 1:

Quick check on content, format and organization

Expositive article	Done	Partly Done	Forgot to do
1. Has indicated the question she/he attended clearly			
2. Has a title			
3. Has a beginning, middle, and an ending			
4. Has told why he/she wrote the article in the 1st paragraph			
5. Has a story			
6. Has a storyline (setting, climax, ending)			
7. Has told his/her feeling on the play			
8. Has shown his/her view on the play (e.g. moral lesson)			
9. Has shown his/her view on the characters (leading/supporting roles)			
10. Has shown his/her view on the acting skills			
11. Has shown his/her view on the other drama stuff (props, costumes, music, lightning…)			
12. Has asked people to watch the play			

Task 2:

-Put stickers next to (a) paragraph (s) that you like. And explain why.

-Put stickers next to the words (which are related to drama) that you like. <at least three words>

Task 3:

Help your student to do proofreading.

Underline the mistakes and correct them.

1	Simple past for the story	T We go cycling last week.	went
2	spelling	Sp The sky is bule.	blue
3	number	N The actor cooperated with each other well.	actors
4	punctuation	I was reading, suddenly my mother came home.	. Suddenly
4	agreement	Ag The actor have a good voice Hong Kong do not have a good drama show now.	has does not have
5	others		

Task 4
Rewrite a part

The part which I think could be rewritten better was
_____
_____
_____

How? Rewrite it here.
_____
_____
_____

An Example of Task 2

Appendix IV: Worksheets for appreciation

Worksheet for Short Story

Appreciation I

Use of adjectives

- I learnt that the story will be lively if you have good writing skills, like adding more adjectives to the story to let readers image the scene. (Kwok)

I learnt how to use the words such as 'clever', 'naïve', 'cruel' and evil to describe the characters in my story.

(modified from Kwong's writing)

Read more

- Margaret Atwood shared her secret to us. She told us when she was small, she liked reading books so she could write a good story. She thought reading books could let us learn from the books and it could improve our writing skills.(Carman)

SOHOT®

Write with heart

Some students blamed that they couldn't write a good story, but in fact, they didn't use their heart to write a story so they may have a misunderstanding for writing.

(Ng)

SOHOT®

Attitude towards writing a short story

- They enjoy writing. Writing is their hobby. Writing a story makes them feel creating their own world. Their role was like a God who controls everything. When I heard that, I couldn't burn out to laugh. I discover that writing short stories is a way to reduce pressure. (modified from Kristy's writing)

Faith

- I have learnt we must have faith in our life. JR. Jowling commented that it was hard for her to be a good author. She wrote on receipts when she was free. We have to spend many times to be a good writer. But if we keep going, friends and parents will support us. (modified from Kwong's writing)

SOHOT

Characterization

SOHOT®

One of them said 'Let the story write itself'. Different characters had different personalities. Let them do the things they want in the story. And what you could control was the context and way to report their things. (modified from Lee's writing)

Encourage the others to write

- -The authors encourage us try to write and don't feel scared to fail. (Ng)

Worksheet for Drama Script Writing

Plot

I shared this play to all of you because the storyline seemed amusing and inspiring. You couldn't imagine that a teddy bear can have a dream like this. (Heidi)

I think the content was creative and interesting. (Yuki)

Moral Lesson

This drama had one message to tell us. That is the more countries you visit, the more you can learn about life. (Zhang)

In the play, in order to save her friend 'Angel May', 'Angel Mary' killed May's lover 'Evil'. May blamed Mary but Mary didn't feel regret at all. She thought that was friends were for. However, nowadays, there is no friendship among Hong Kong people. (modified from Cheng's writing because it was too long)

Acting skills

They had enough practice before their performance. In the performance, they did make any mistake. Next, their performance can make the audience got into character and understand their emotion. (Ng)

Actors in the play used facial expression correctly and hence the audience knew what the feelings of actors were. (Zam)

Theme

I love this performance because the theme of the performance is related to environment. After watching this theme, I think more people will have the responsibility to do something to help our environment. (modified from Kristy's writing)

Light

The thought of the character was vividly conveyed by the actor with the help/assistance of spotlight. For instance/example, in the scene which the male leading role failed to find his love, the lighting changed from the floodlight to the spotlight. This drew the attention of the audience to the male leading role. (modified from Toby's writing)

Props

The props were fascinating. I appreciated the final scene. The stage was filled with dried flowers. It conveyed the romantic feeling vividly. (modified from Toby's writing)

Their make up was so good. Their costumes show which characters are rich and poor clearly.

(from Carman)

Director

How did the director of this play make this play become outstanding? The director Mr Mak used the sad ending to close the play since he wanted to make the audience became more shocked with the play. (Kwok)

The director of this play wanted to trick the audience by some special twists. In scene two of this play, a role called 'Miss Chan, the dancing teacher of the team was acted by a boy. This made all the audience laugh. (Law)

Music

Moreover, they also added singing elements to the performance. This made the drama more interesting and funny. (Ng)

Appendix V Post-study Questionnaire on Writing Lessons

Name:_____   Class:_____ (   )

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1. Now, you like short stories/drama writing more.	5	4	3	2	1
2. You feel easier to do short stories/drama writing.	5	4	3	2	1
3. You have more ideas for short stories/drama writing.	5	4	3	2	1
4. It is easier to think of short story/drama vocabulary and expressions for writing.	5	4	3	2	1
5. It feels easier to make a draft for short stories/drama writing.	5	4	3	2	1
6. It is easier to find out and correct your own grammatical mistakes.	5	4	3	2	1
7. You have tried your best in the drafting activities.	5	4	3	2	1
8. You enjoyed writing the draft together you're your classmates.	5	4	3	2	1
9. Do you find the drafting activities useful in:					
a. getting ideas?	5	4	3	2	1
b. organising your ideas?	5	4	3	2	1
c. getting the right words and expressions?	5	4	3	2	1
d. learning how to write a draft?	5	4	3	2	1
10. You enjoyed reading your classmates' writing.	5	4	3	2	1
11. You have tried your best in helping your classmate to improve his/her writing.	5	4	3	2	1
12. You learn the following things you're your classmates' writing.					
a. Ideas	5	4	3	2	1
b. Grammar	5	4	3	2	1
c. organisation	5	4	3	2	1
13. Your classmate's suggestions helped you improve your writing in:					
a. ideas	5	4	3	2	1
b. grammar	5	4	3	2	1
c. organisation	5	4	3	2	1
14. You have a better idea on how to do proof-reading.	5	4	3	2	1
15. It is easier to rewrite than writing the first composition.	5	4	3	2	1
16. You find your rewritten composition better than the first composition as far as _____ is concerned:					
a. language	5	4	3	2	1
b. content	5	4	3	2	1
c. organisation					
17. Any other comments:					

探討應用「合作學習」教學策略於小二及小三中、英、數科目以改善學生的學習態度和成績

馮停珍

聖伯多祿天主教小學

摘要

為配合小班教學的擴展，聖伯多祿天主教小學本學年於小二及小三，以「探討應用合作學習教學策略對改善學生中文、英文和數學科的學習態度和成績」為研究題目，並與過去兩年的研究結果作比較，希望從中獲得啟示，以強化小班教學的成效。研究結果顯示，應用「合作學習」教學策略能提升學生的學習態度，而學生的學業成績亦有上升的趨勢。此外，以教師學習圈方式來推行課堂研究，能有效提升教師的專業技巧。

引言

不少有關合作學習的研究顯示，應用合作學習教學策略能幫助兒童掌握社會技巧、改善人際關係、增進課堂學習氣氛與及有效提升學生的學習興趣（劉秀嫚，1998；周立勳，1998；陳俐燁，2012；Hsiung, 2012；Drakeford, 2012；Tsay & Brady, 2010），因此，大部份學校為提升教學效能，都積極鼓勵老師應用合作學習教學策略。

聖伯多祿天主教小學於 2009 至 2010 年度開始，為改善學生的學習態度和提升老師的教學技巧，以「合作學習」教學策略進行教學行動研究，為期三年。過往兩年，學校聘請校外專業人士先後分別帶領小四中、英、數、常科目老師（2009/2010 年度），及小二中、英、數科目老師（2010/2011 年度）以「合作學習」教學策略規劃課題，進行教學，希望藉此提升學與教的效能。

為配合學校小班教學的擴展，學校本學年參與了由香港教育學院小班教學研中心舉辦的「促進實踐社群以優化小班教學」校本支援計劃，為小三數學科老師提供支援；而行動研究的對象亦改為小二及小三學生，研究科目為中文、英文和數學科，繼續以「探討應用合作學習教學策略，對提升教師的教學技巧，以及改善學生的學習態度和成績」為研究題目，研究結果除反映學生本年度的表現外，亦與以往研究結果作比較，希望能從中獲得啟示以強化「合作學習」的教學成效。

文獻探討

　　教育局於 2004/05 學年開始進行香港「小班教學的研究報告」，2008/09
學年完成，根據研究結果，為教師建議以下六個「小班教學」的設計和教學原
則：

- 學習目標：以學習過程為重點，向學生闡明學習目標；
- 提問技巧：提問時讓學生有更多時間思考；
- 學生參與：鼓勵學生參與課堂討論；
- 學生協作：透過二人 / 小組活動，促進學生互相合作；
- 提供回饋：協助學生自己找出錯處；
- 評　　估：善用評核結果，改善日後的教授方式。

　　為促使教師改變有關教學策略的觀念，研究報告建議推廣「學習圈」的支
援模式（圖一），以便學校與學校間，以及學校內的不同科組分享教學經驗，
每次共同探討某一特定教學課題，讓教師互相觀摩和評鑑課堂教學和策略運
用，以提升參與教師的專業水平（教育局，2010）。

圖一　教師學習圈
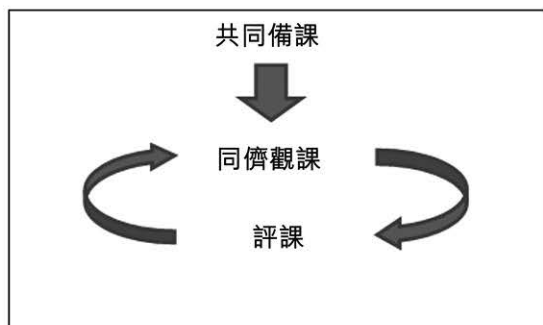
　　小班教學並非一套特定的教學方法，它只是把老師從大班教學的困局中釋
放出來，令教學更靈活。小班教學並不等於合作學習，事實上，無論大班小
班，課堂裏個人學習、小組學習、全班學習三種形態也會交替出現（葉建源，
2009）。香港的老師常以合作學習為小組學習的主要策略，原因是老師們希望
可以透過合作學習的理念以強化小組學習的成效（葉娟卿、蘇詠梅、黎敏兒，
2010）。學校本學年把小班教學推行至小三年級，因此研究亦順應以小二及小
三學生為對象。

研究目的及方法

教研進入第三年，學校繼續探討應用「合作學習」教學策略對學生的學習態度和成績的影響。學習態度包括：學習興趣、對課堂的投入程度、參與程度和互助文化。研究結果將與過去兩年研究結果相比較，期望獲得更多啟示。

研究採用行動研究法，分別由課程主任帶領小二中文、英文和數學科及小四中文和英文科共五個不同的學習圈，以及由香港教育學院小班教學發展研究中心古學俊導師帶領小三數學科老師進行此項研究。2011 年 11 月開始至 2012 年 6 月期間，同級科任老師組成不同的教師學習圈，共同設計應用合作學習的教學計劃，並由該級科任老師輪流試教，同一學習圈的科任老師一同參與觀課評課，並修訂教學設計；接着由下一位科任老師試教已修訂的教學計劃，科任老師又再次參與觀課、評課及優化教學計劃，如是者直至同級所有班別完成為止。小三數學科以此模式共進行兩個課題的規劃，古學俊導師共參與五次觀課和評課會議，而課程主任則參與全部會議，協助或帶領討論環節。此外，教研計劃內所有課堂均進行錄影，並交回科任老師作個人專業發展之用，學校亦可徵求老師同意後引用部分片段作教學分享用途。

基於學校時間表的規範以及人手問題，安排代課會較為困難，小二中、英、數及小三中、英文科教師學習圈簡化為：同級科任老師共同備課、於一班進行同儕觀課、評課，並在修訂教學計劃後，其餘科任老師於所屬班別進行教學，最後於同儕備課時段進行課後檢討，分享教學心得。校方於 6 月進行資料收集、分析及反思。二年級有三班，2A（14 人）、2B（21 人）、2C（27 人）共 62 人。三年級有四班 3A（18 人）、3B（17 人）、3C（26 人）及 3D（28 人）共 89 人。當中 2B、2C、3C 及 3D 以普通話作為中文科的授課語言，其餘班別則以廣東話為授課語言。七班皆以混合能力分班，老師會採用異質分組以觀察合作學習的成效。此外，為照顧有特殊教育需要的學生，學生於中文和英文課堂時，A、B 班學生會混合再分為大、小兩組，A 班人數較少，多數為有特殊教育需要學生，而 B 班人數較多，當中並沒有特殊教育需要學生。

在外援人員古先生及課程主任帶領下，所有參與研究的教師透過同儕觀課，記錄學生的反應（附件一），並於課後評課會議交流心得，以及對教學設計進行反思和修訂。參與教研的老師與其他科任老師於分科會議及評課會議上分享心得。參與班別以問卷進行前測和後測，比較學生對中文、英文和數學科的學習態度以評估研究的成效。問卷共 15 題，以四點量表法（非常喜歡、喜歡、不喜歡、非常不喜歡）方式填答，主要調查學生學習態度的三個因素（對學科的學習興趣、對學科的投入程度和參與程度），以及課堂合作互助文化（表一及附件二）。

研究比較二年級三班及三年級四班上學期測驗（實驗前）和下學期大考（實驗後）研究科目的成績是否有進步。

表一　學生學習態度問卷分析

題號	題目	範疇
1	我對中文科的喜歡程度是	學習興趣
2	我對英文科的喜歡程度是	
3	我對數學科的喜歡程度是	
4a	在中文的課堂，我專心上課	投入程度
4b	在英文的課堂，我專心上課	
4c	在數學的課堂，我專心上課	
5a	在中文課堂內，我愛動腦筋解決學習上的疑難	
5b	在英文課堂內，我愛動腦筋解決學習上的疑難	
5c	在數學課堂內，我愛動腦筋解決學習上的疑難	
6a	我積極參與中文課堂內的學習活動（例如：常舉手發問及答問、積極參與小組討論等）	參與程度
6b	我積極參與英文課堂內的學習活動（例如：常舉手發問及答問、積極參與小組討論等）	
6c	我積極參與數學課堂內的學習活動（例如：常舉手發問及答問、積極參與小組討論等）	
整體而言：		
7	在課堂內，我會協助我班的同學學習	互助文化
8	在課堂內，我班同學會協助我學習	
9	我班同學能互相幫助，互相勉勵	

　　為使小班教學順利推行，學校制定了「校本小班教學政策」文件，當中臚列各項相關措施，包括教師培訓、小班教學環境、校本課程及評估等。此外，學校更把「合作學習」列為小班教學策略之一，把各班的座位編排、分組方式、組別命名及各項分組常規等詳細描述，務求統一學生分組的常規，令全體老師使用同一準則，以提高合作學習的成效。文件於 8 月公佈，並於 9 月及 10 月由班主任及科任老師合作推行（表二）。學生於 11 月份已能初步掌握分組常規，有利各科推行合作學習的教學活動。此外，課程主任亦於 9 月初為二、三年級進行學生學習態度問卷調查，作為日後研究比較之用。

表二 研究進程

日期	進行事項
2011 年 8 月	舉辦「促進實踐社群以優化小班教學」工作坊 派發「11-12 年度校本小班教學」政策文件
9 月	於小二及小三班別進行前測問卷
9 至 10 月	班主任於班內進行分組，科任老師於課堂協助建立小組技巧訓練，包括：分組、組形、認識暫停訊號、基本社交及溝通技巧訓練
11 月至 2012 年 5 月	中、英、數科目選定課題進行共同備課 中、英、數教師學習圈進行同儕觀課和評課
2012 年 6 月	小三數學科於各班課堂中應用第二次合作學習教學策略
6 月至 7 月	資料搜集、分析

　　2011 年 11 月至 2012 年 5 月期間，各學習圈已完成首輪以「合作學習」為重點規劃課題，並透共同備課、觀課和評課及修訂教學計劃。2012 年 6 月，三年級數學科參與老師再以學習圈模式進行第二輪互相觀摩及進行教學交流。課堂研究活動至此結束，共設計及完成試教七個教學計劃（表三）。當各項合作學習活動完成後，課程主任隨即於二、三年級進行學生學習態度問卷調查，收集教師意見和訪問學生以檢視研究的成效。

表三　教學計劃大綱

年級	科目	課題
小二	中文	二上 12. —— 吹泡泡
	英文	Book 2B （Chapter 3） —— Free time
	數學	2 上 A 冊 12. —— 錐體
	中文	三上 13. —— 跳高，擬人法
	英文	Book 3B （Chapter 1） —— Meet my class
	數學	3 下 A 冊 10 —— 三角形（一）
	數學	3 下 B 冊 19 —— 毫升

研究發現和分析

總結參與老師的「同儕觀課紀錄」，於應用合作學習教學策略的課堂表現評分為 3 分或以上的結果如下：

- 學生參與課堂的機會（100%）；
- 課堂的學習氣氛（100%）；
- 照顧學習差異（96.2%）；
- 提升學習的效能（96.2%）。

參與教研計劃的老師於評課會議及分科會議上，一致認同小班教學環境有利應用合作學習教學策略。教師更能照顧學生個別差異並給予適切指導，尤其是當進行分組活動時，由於學生活動空間較大，有助分組活動的進行。此外，大部份老師認同透過學習圈的模式進行教學交流，更能觀察學生的反應與及促進同儕互相交流和學習。雖然每班學生的背景及素質不同，修訂後的教學計劃未必能符合所教的班別，科任老師需因應其學生的特質再自行調節，但老師在觀課和評課的過程中，確實能促進同儕互相學習與及提升個人專業技巧。從老師觀察所得，大部分課堂學生表現投入、學習氣氛濃厚、在互動互補的情況下能激發學生的創作能力和增加生生互動的機會。老師更反映透過訓練學生分組常規的同時能提升學生的課堂紀律。

學生學習態度問卷調查結果（附件四），學生對學科的學習興趣及投入程度選擇喜歡及非常喜歡的答案結果見下：

級別	科目	學習興趣	投入程度	
			4. 專心上課	5. 愛動腦筋解決學習上的疑難
二年級	中文	+3.18%	+1.62%	+1.61%
	英文	+4.84%	+1.61%	+19.44%
	數學	+1.61%	+8.07%	+1.61%
	平均	+3.21%	+5.66%	

級別	科目	學習興趣	投入程度	
			4. 專心上課	5. 愛動腦筋解決學習上的疑難
三年級	中文	+2.25%	+2.25%	+2.25%
	英文	+5.56%	+1.12%	+13.48%
	數學	+4.5%	+4.5%	+2.25%
	平均	+3.94%	+4.31%	

二、三年級學生於中文、英文和數學三科學習興趣和投入程度均有不同的升幅。學習興趣方面：二年級 +3.21%、三年級 +3.94%，當中，無論二、三年級，學生對英文科的學習興趣均有較大的提升（+4.84%,+5.56%）。投入程度方面，兩級升幅分別為 +5.66% 及 +4.31%，相差不大，較明顯的升幅是在英文科課堂，學生較研究前更喜愛動腦筋解決學習上的疑難（二年級 +19.44%，三年級 +13.48%）。

學生的參與程度結果比較，兩級差異較大，二年級平均上升 10.76%，三年級則只上升了 2.62%；當中，二年級英文科（+14.52%）及三年級數學科（+6.74%）為升幅最大的科目。課堂互助文化方面，二年級較三年級的平均升幅顯著，分別是 +12.9% 及 +1.87%，當中二年級以「在課堂內，我班同學會協助我學習」的升幅最大，有 +24.3%。

綜合問卷調查結果，可見於課堂應用「合作學習」教學策略有助提升學生的學習興趣和投入程度，當中，以英文科的改變最為突出。原因可能是老師在設計應用「合作學習」的教學活動時，能打破一般課堂以老師為主導的教學模式，轉而以學生為中心的教學模式，讓學生透過互動進行學習。此舉不但為學生提供較生動的學習情景，同學亦可透過以「互賴達標」原則設計的課堂活動，激發同學主動學習，間接提升學生的學習興趣和投入感；而學生於不同科目表現差異的原因有許多，但相信除學習模式的轉變外，教學活動的設計亦是主要關鍵。

問卷調查結果顯示，二、三年級在互助文化方面的升幅差異亦較大，究其原因，相信是三年級學生於去年的課堂已習慣了老師應用「合作學習」進行教學，他們對分組學習已有一定程度的掌握，而學生的前測數據已很高（平均87.27%），因此，升幅較小；相反，小二學生由於是初次參與應用「合作學習」教學策略的課堂活動，學生自然感覺與傳統教學的上課模式分別較大，升幅亦較明顯。總結學生態度問卷調查結果，見下列表五。

表五　學生學習態度總結

級別	範疇	前測（%）	後測（%）	平均上升／下降 百分比（%）
二年級	學習興趣	81.73%	84.94%	+3.21%
	投入程度	12.27%	18.03%	+5.66%
	參與程度	67.2%	77.96%	+10.76%
	互助文化	68.28%	81.18%	+12.9%
三年級	學習興趣	81.65%	85.75%	+4.10%
	投入程度	82.77%	87.08%	+4.31%
	參與程度	80.9%	83.52%	+2.62%
	互助文化	87.27	89.14%	+1.87%

圖二：應用「合作學習」學生態度問卷調查結果（2011-12）
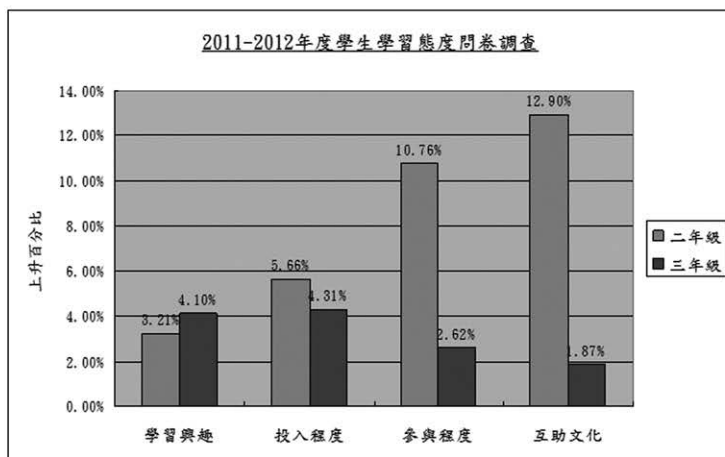
比較全級學生（共83人）於上學期測驗及大考成績，有以下發現（表六）。

表六　學生學業成績的比較

級別	科目	進步人數（人）	百分比（%）	平均進步人數百分比（%）
二年級	中文	50	80.65%	59.67%
	英文	28	45.16%	
	數學	33	53.21%	
三年級	中文	49	55.06%	63.05%
	英文	55	61.80%	
	數學	67	75.28%	

　　小二學生於中文、英文和數學科有進步的人數百分比分別為：80.65%、45.16%、53.21%，三科平均進步百分比為59.67%，約半數學生成績有進步，當中文科的進步較明顯。小三學生於中文、英文和數學科有進步的人數百分比分別為：55.06%、61.80%、75.28%，三科平均進步百分比是63.05%，與二年級的結果相若。

　　大考後，課程主任於二年級三班以隨機抽樣形式對六名學生進行訪問，讓他們就課堂應用合作學習教學策略的觀感發表意見，參與學生包括：2A 秋盈、啟駿、2B 嘉慧、阿正、2C 潔詠、金堂。訪問內容如下：

1. 老師在課堂教學加入小組合作學習，你喜歡這種學習方式嗎？為甚麼？
2. 你覺得採用這種方式學習，會否增加你的學習興趣？
3. 同學之間能否互相幫助完成任務？
4. 你的同學有幫助你嗎？
5. 你有否幫助你的同學？
6. 你覺得課堂學習氣氛濃厚嗎？（是否所有同學皆進行學習活動？）
7. 有否增加你對學科的投入程度？
8. 同學之間是否有更多溝通、協作的機會？
9. 你最喜歡哪一科採用「合作學習」教學？中文、英文、數學？

　　受訪學生一致贊成老師多採用「合作學習」於課堂教學，原因是同學們覺得活動有新鮮感、有趣和可以在課室中走動；透過小組活動不但增強了個人的學習自信，還增加了彼此溝通的機會。此外，同學亦反映「合作學習」的課堂學習氣氛較傳統教學的學習氣氛為佳。最後，學生最希望老師應用「合作學習」的科目是常識科，其次是英文科和數學科。另一方面，學生表示不喜歡與欠自律、品行差同學合作，因為最終多要獨自完成工作；亦有一名學生表示，雖然分組時沒有搬動枱椅的必要，但仍覺得很麻煩。

常識科不是本研究的重點科目，但在訪問過程中發現，不少常識科老師已在各班應用「合作學習」策略進行教學，同學們反應正面，相信對提升學生的學習興趣很有幫助。調查同時發現，一些學生對較陌生和難掌握的科目（例如英文科和數學科）課堂設計如包含「合作學習」的活動，學生明顯會有較高的參與感和投入感，原因可能是學生在活動的過程中常常被要求完成一些個人任務，因而迫使其提升學習的主動性；加上「合作學習」的課堂較活潑，為同學提供大量生生互動的機會，故學生的學習態度較傳統教學為佳。比較二年級2009 至 2012 年三年的研究結果如下（表六）：

表六　2009-2012 研究結果比較

項目	平均上升 / 下降百分比		
	2009/10（小四）	2010/11（小二）	2011/2012（小二）
1. 學習興趣	+11.36%	+7.31%	+3.21%
2. 投入程度	+12.38%	+9.36%	+5.66%
3. 參與程度	+12.50%	+8.11%	+10.76%
4. 互助班風	+11.36%	+4.74%	+12.9%
5. 學業成績	65.94%	67.27%	59.67%

綜合三年研究結果，應用「合作學習」教學策略後，小二至小四學生對中、英、數科目的學習興趣、投入程度、參與程度及互助班風等皆有不同程度的上升，正好印證了「合作學習」的設計理念——以互動合作為動力資源的一種教學活動，強調學生的參與、溝通和合作以提升學生的學習動機，使其樂於學習（王坦，2002）。學業成績方面，雖然連續三年研究結果顯示約有六成學生的學業成績有上升，但這現象是教師應用了「合作學習」教學策略的直接結果或是間接結果？又或當中並無因果關係？基於研究缺乏控制組和限於研究時較短暫，其可信性有待進一步研究。

整體而言，學生普遍喜歡老師於課堂應用「合作學習」教學策略，大部份學生表現合作和積極。此教學策略亦能配合小班教學的理念，有助強化小班教學的成效，值得繼續推行。

總結三年研究經驗，教師實踐合作學習教學時必須注意以下各項（冼玉珍、何明生，2008）：

1. 擬定切合學生的學習目標和學習材料；
2. 選擇合適的「合作學習」活動形式；
3. 引入合作要素的活動；
4. 注意課室管理的安排，包括；座位、秩序管理、進程控制等；
5. 決定評估的方法和；
6. 定期檢討教學成效。

反思及建議

　　校本行動研究持續了三年，學生不但在學習態度上有改變，連帶課堂紀律亦有改善。學校成功地應用「合作學習」作為小班學策略之一，並配合小班教學的發展把策略逐年擴展。校內大部份老師對此教學策略亦已有一定認識，部份參與教研老師對箇中技巧更掌握純熟，可擔任教師學習圈的領導角色。

　　以教師學習圈的模式進行教研，能提供機會讓老師作專業的交流和分享。在學校此模式已具雛形，要進一步使之成為學校文化與及提升學習圈的質素和成效，有賴課程主任仔細策劃和推行，相信透過分享與及校長的支持，可令老師較容易接受並認同學習圈的價值。學校日後如需推行新措施，亦可鼓勵較積極的老師先參與，期望能產生鯰魚效應[1]以帶動改革。

總結

　　歷時三年的研究，結果成績美滿，應用合作學習教學策略能提升學生於課堂的學習興趣、投入程度、參與程度和互助文化等，同時亦令學生的學業成績有增長趨勢。此外，合作學習能配合小班教學的優勢，促進教學的效能；而教師學習圈的課研模式，則讓老師得以互相交流和觀摩，有助促進教師專業的發展。基於時間和人力資源的限制，是次研究未能確實應用合作學習對提升學生學業成績的影響，有興趣者可深入探究以增加研究的可用性。

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[1]　鯰魚效應（Catfish Effect）。鯰魚效應是指新加入的競爭者參與可以激勵整個團隊的士氣，此方法用於現代人力資源管理，用以喚醒員工的危機意識從而促使他們改進自己的工作。在挪威，生猛的沙甸魚比急凍的要貴好幾倍。有說，在當地長期以來只有一艘漁船能做到將生猛的沙甸魚帶上岸，而箇中祕訣，只有船長一人知，且始終沒透露半句。他離世後，漁民在他的漁獲盛器中發現一條鯰魚東游西竄，原來裝入魚槽後，由於環境陌生，便四處游動，沙甸魚為閃避牠而改變其一貫的惰性，加速游動，以求保命，終得以存活下來。

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附件一

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聖伯多祿天主教小學
「合作學習」同儕交流觀課表

</div>

觀課日期：	時間：	科目：*中文 / English / 數學
班別：	授課老師：	觀課老師：

備課老師：

教學語言：　廣東話 ☐　　普通話 ☐　　英語 ☐

課題：

表現指標	優點/建議/備註
一. 學習目標 　☐ 學習目標具體清晰 　☐ 學習目標建基於學生已有知識 　☐ 課堂完結前，能與學生總結學習重點	
二. 教學組織 　☐ 教學內容能配合教學目標 　☐ 教學活動能切合教學目標 　☐ 教學活動編排有序	
三. 教學策略 　☐ 能提供有層次的提問 　☐ 能照顧學習差異 　☐ 足夠的師生/生生互動	
四. 應用「合作學習」策略 　☐ 活動能應用合作學習策略 　☐ 所有學生有參與學習的機會 　☐ 組員的個人任務明確適切 　☐ 小組的集體任務明確 　☐ 活動能達到互賴達標的目的 　☐ 活動能促進組員間的相互學習 　☐ 小組活動時間分配恰當 　☐ 活動能反映學生對學科的認識	
五. 其他 　☐ 善用資源促進學習 　☐ 已建立良好的課室常規 　☐ 提出適時/正面/具體的回饋	

配合學校關注事項「合作學習」總評	整體評分（4分為最佳）			
	4	3	2	1
1. 學生參與課堂的機會				
2. 課堂的學習氣氛				
3. 照顧學習差異				
4. 應用「合作學習」教學策略提升學習的效能				
5. 其他（例如：學生的學習興趣、投入程度等）				

觀課及評課教師簽署：＿＿＿＿＿＿＿＿＿＿　　　日期：＿＿＿＿＿＿＿＿＿

附件二

<div align="center">
聖伯多祿天主教小學

＿＿＿＿＿＿班問卷調查
</div>

各位同學：請根據個人情況，誠實地回答下列題目，在適當的方格內加上✓。	喜歡程度（4分為最高）			
	4 非常喜歡	3 喜歡	2 不喜歡	1 非常不喜歡
1　我對中文科的喜歡程度是				
2　我對英文科的喜歡程度是				
3　我對數學科的喜歡程度是				
4a　在中文科的課堂，我專心上課				
4b　在英文科的課堂，我專心上課				
4c　在數學科的課堂，我專心上課				
5a　在中文課堂內，我愛動腦筋解決學習上的疑難				
5b　在英文課堂內，我愛動腦筋解決學習上的疑難				
5c　在數學課堂內，我愛動腦筋解決學習上的疑難				
6a　我積極參與中文課堂內的學習活動（例如：常舉手發問及答問、積極參與小組討論等）				
6b　我積極參與英文課堂內的學習活動（例如：常舉手發問及答問、積極參與小組討論等）				
6c　我積極參與數學課堂內的學習活動（例如：常舉手發問及答問、積極參與小組討論等）				
整體而言：				
7　在課堂內，我會協助我班的同學學習				
8　在課堂內，我班同學會協助我學習				
9　我班同學能互相幫助，互相勉勵				

附件三

<div align="center">

聖伯多祿天主教小學
課堂活動設計

</div>

負責老師：陳老師	年級：二年級	教學節數：1 節（35 分鐘）
單元及課題：單元六 第十二課　吹泡泡		
學生已有知識： 1. 已理解課文內容 2. 理解課文詞語的意思		
學習目標： 1. 學習句式「……像……」 2. 培養學生的想像力		
教學重難點： 教學時，宜引導學生說出被描述事物和用來描述的事物之間相像的地方，並着重培養學生的想像力。		

第三教節

教學流程：

1. 讀課文
2. 老師說出教學目標，並請學生在課文中找出「……像……」句子
3. 老師舉出例子：泡泡又圓又大，像一個個氣球。說明原本的事物、用作比喻的事物，相像的地方
4. 小組活動：找出相像的事物（工作紙：9 題），匯報
5. 小組活動：完成工作紙第一題第一小題。每人造一個句子
    a. 用簡報列出 4 種事物，要學生找出和它們相像的事物，相像的地方
    b. 每人口頭造句
    c. 匯報
6. 個人工作：重組句子
7. 分組造句
8. 繼續第一題：找出相應的事物，造句
9. 總結

備注：

1. 學生活動需時，建議教學節數改為 2 節
2. 有學生未能找出事物相像的地方，可增加一個找事物相像的地方的練習
3. 如學生能力弱，可以在圖片上附加詞語說明

Level: P.2
Topic: Bk 2B Ch.3 Free time
Learning objectives: 1. To review previously learnt weekly activities with pupils
                        2. To talk about weekly activities
                        3. To ask and answer about weekly activities
Procedures: T — Teacher   P — Pupils

Time	Interaction	Learning activities	Questioning / Exposition / Introduction	Teaching Aids	HW / Classwork
3'	T - P	Revision	- P read aloud the weekly activities on textbook P.23 - P read aloud the weekly activities again with the words being covered	- textbook P.23	
5'	T - P	Match the weekly activities with the suitable pictures	- P do the matching on the activity worksheet - T checks the answers with the whole class - P look at the pictures and read aloud the weekly activities	- visualizer	- Activity worksheet part A
10'	P - P (pair work)	Talk about weekly activities	- P choose five weekly activities and put the appropriate stickers on the table "My notebook" - P tell their weekly activities to the whole class - P take turn to tell his / her weekly activities to the partner " I (go to church) on (Sundays)." " I'm free on (Tuesdays) and (Fridays)."	- visualizer	- Activity worksheet part B
17'	P - P (pair work, group work)	Ask and answer about weekly activities	- Pupil A asks Pupil B about his / her weekly activities and puts the appropriate stickers on the table " _____'s notebook" - Pupil B answers the questions according to the table "My notebook" - Pupil A writes about Pupil B's weekly activities according to the table "_____'s notebook" - P take turn to tell their classmates' weekly activities to the other group members " What do you do on (Sundays)?" " I (go to church) on (Sundays). I'm free on (Mondays)."	- visualizer	- Activity worksheet part C

Remarks   - It's difficult to remove the back sheet of the stickers. So it is suggested to use glue to stick the pictures.
            - For Part C, Round table is recommended after the pupils have taken turn to present their weekly activities in their group.
            - Double lessons are recommended.

聖伯多祿天主教小學
數學科教案

負責老師：馮老師		級別：2B	範疇：圖形與空間
課題：2 上 A 冊　第 12 課錐體（第一教節）		時間：35 分鐘	日期：2011 年 11 月 9 日

學生已有知識：
1.能辨別柱體和錐體
2.能辨別角錐和圓錐

本節教學目標：
1. 讓學生認識錐體的各個面
2. 學生能分辨各種錐體

教具：柱體、錐體、紙圓錐體、「柱體和錐體」的動畫投影片、匯報卡

教學程序	教學內容/活動	教學策略	小結	時間
導入	一. 分辨柱體和錐體 1.教師出示不同的立體，着學生從中找出錐體。	提問	立體圖形有： 柱體、錐體和球體	3'
初步概念	二. 複習錐體的概念 1. 鼓勵學生說出錐體的特點。 　　（它們都有一個尖頂，底是平的。） 2. 教師播放「柱體和錐體」的動畫加深學生的認識。 3. 着學生分組，把每組不同的立體分為柱體和錐體 4. 着各小組 1 號同學到鄰組檢查答案。	討論	錐體的概念	5'

教學程序	教學內容/活動	教學策略	小結	時間
發展	三. 認識不同的錐體 1.說故事：「小明和小芬參加了一項比賽，小明要找尋角錐（老師出示），小芬要找尋圓錐（老師出示），現請各組同學把小組內的角錐和圓錐分為兩組。 2.老師總結，角錐和圓錐都有一個尖頂，底是平的，而圓錐的底是一個圓形。 3.堂課研習 　提問課文（P.71）中的物件像甚麼立體？（角錐/圓錐） 　-鼓勵同學說出一些與角錐和圓錐相似的物件。 　（雪糕筒 / 告示牌）	辨別	錐體的特點	6'
	四. 認識錐體的特點 1. 教師展示不同的錐體，將尖頂向上，並指每個錐體只有一個底，其餘的稱為側面。 2. 教師引領學生發現錐體的側面都是三角形。 3. 教師出示四角錐體並指出，錐體以底命名，因此，這是一個四角錐體，並說出：「這是一個四角錐體，共有 5 個面，它的底是一個四邊形」。 4. 教師提問：「圓錐體的側面是甚麼形狀?」讓學猜想。 5. 教師剪開一個紙圓錐體，與學生一起找答案。（曲面） 6. 分組活動： 　- 學生分組找出不同錐體的底（以貼紙貼上以識別）。 　- 學生於每人取一個錐體，觀察後依指示於組內輪流介紹。「這是一個 x 錐體，共有 x 個面，它的底是一個 x 形」。 學生輪流到鄰組介紹。	觀察	錐體的特點	12'

教學程序	教學內容/活動	教學策略		時間
總結	1. 老師着某一小組派組員匯報結果	匯報		6'
鞏固	1. 家課：書（P.72-73），活動冊：Ex12（P.25）	練習		3'

備註：

1. 教學活動有意義，能達到課堂教學目的。
2. 能力較弱的學生可以二人一組進行活動。

擬人法教學設計

科目：中文

年級：三年級（上學期）

課次：第十三課　跳高

教具：電腦、投影機、實物投影機、簡報、工作紙（一）、工作紙（二）、工作紙（三）

教節：一教節

時限：35 分鐘

已有知識：1.學生已掌握課文的字詞及能朗讀課文

　　　　　　2.在九、十課中，學生對擬人法已有初步認識

教學目的：1.藉着課堂的互動，把聆聽、說話、閱讀和寫作結合。

　　　　　　2.對擬人法有進一步認識，並能用擬人法創作句子。

教學計畫：

時間	教學內容	提問技巧	教具
3 分鐘	**一. 引起動機** 1. 提問： ・「可憐的風兒沒有家，跑東跑西也找不到一個休息的地方；飄流的雲沒有家，天一陰就急得不住地流眼淚。」 　詩歌裏的風真的會跑嗎？（不會） 　雲兒真的會流眼淚嗎？（不會） ・「大海輕輕歌唱，唱給船兒聽，唱給海鷗聽，唱給夕陽聽。」 　詩歌裏的大海真的會唱歌嗎？（不會） ・作者為甚麼說風兒有家，雲流眼淚？大海會歌唱？ 　（待學生思考一下） 　他運用了甚麼修辭手法來寫這首詩？為甚麼？ 　（因為海浪的聲音好像人們的歌聲，作者運用擬人法寫作，把文章中的日月星辰、花草樹木等事物當作人來描寫，讓它們有人類的感情、思想、動作，這種寫作方法，幫助我們把事物寫得更加**生動**和**有趣**。） ・現在，就讓我們更深入地學習擬人法。 **（板書課題：擬人法）**	思考 分析	電腦 投影機 實物投影機 簡報
10 分鐘	**二. 閱讀短詩，分析詩中哪些內容運用了擬人法。** 1. 老師分派工作紙（一），每組一張，各有一首不同的短詩。 2. 兩人一組討論（1a、1b 組做工作紙一 a；2a、2b 組做工作紙一 b……如此類推），用鉛筆在詩中圈出運用了擬人法的字詞，然後 1a、1b 組互評大家的工作紙，找出共識，由四位同學選出一人匯報，限時 4 分鐘。 3. 分組匯報。	分析 思考 討論 交流	電腦 投影機 實物投影機 簡報 工作紙（一）

時間	教學內容	提問技巧	教具
20 分鐘	**三. 運用擬人法創作句子。** 1. 老師舉例說明運用擬人法的好處。 　例 1：在微雨下，燈柱默默地守護着來往的行人，為他們 　　　引路。 　　　（能為事物添上鮮明的感情色彩，加強感染力。） 　例 2：青山含笑歡迎客人到來。 　　　（能化靜為動，令事物顯得具體生動。） 　利用對話使動物、物件變成有人的思想。 　句子： 　　a.一排水彩筆躺在文具盒裏，好像在說：「我會給圖畫添 　　上美麗的色彩。/畫上美麗的圖案。」 　　b.小樹在春風中搖擺，好像在說：「多舒服啊！/風姐姐， 　　謝謝你送給我的禮物。」 2. 配對活動： 　隨機叫學生出來配對句子。	知識 理解 分析	電腦 投影機 實物投影機 簡報 工作紙（二）

蝴蝶穿起漂亮的衣裳，	在花間展現美妙的舞姿。
「老爺車」喘着烏氣，	艱難地爬上斜坡。
堅強的樹幹雖被風吹彎了腰，	仍咬緊牙關挺下去。
鐳射唱機放開喉嚨，	快樂地高歌。

3. 老師引導學生創作擬人法句子。

現象	聯想到的某種行為或感受	想要補充說明的事
風很大	生氣	屋外的風生氣了，他不但「呼呼呼」地叫着，還無情地掀起屋頂，拔起樹木。
雨很大	嚎啕大哭	雨姐姐像是受到刺激一樣，嚎啕大哭，眼淚像是關不緊的水龍頭一樣，都停不下來。
見不到太陽月亮	躲起來	膽小的太陽和月亮躲起來了。

　颱風天的情景：

4. 老師分派工作紙（二），每組一張。
5. 要求學生分組討論，根據圖片內容，用擬人法完成句子（先四人一組合寫，然後與其他組別交換批改）。(限時 5 分鐘)。
6. 分組匯報，老師用實物投影機展示學生作品，並作出評講。

（提問技巧欄：應用 創作 合作）

時間	教學內容	提問技巧	教具
2 分鐘	**四. 總結** 1.老師重申利用擬人法創作可令事物描寫得更加生動和有趣。 2.完成書第 53 頁和作業（十三）		電腦 投影機 實物投影機 簡報

Primary 3

Book 3B   Ch.1 Meet my class

Language focus: Use prepositions to talk about positions

Lesson objectives:

Students are able to

- distinguish different prepositions about positions—in front of, behind, on the right of, on the left of, next to, between
- cooperate in a small group and make a seating plan with the use of prepositions to talk about positions
- present the work to other students

Teaching procedures

Time	Tasks / Activities	Teaching Resources / Materials
1 min	***Revise the prepositions about positions:*** in front of, behind, on the right of, on the left of, next to, between	-Word cards (6)
3 mins	***Warm up exercise—body movement to show positions*** -students work in pair (student A and B), each of them holding a card A/B -teacher gives instruction with the use of prepositions to talk about positions e.g. A is in front of B. - students use their body movements to show their understanding	-Letter cards A / B (15 sets)
8 mins	***Pair work*** -students work in pair -student A reads the sentences on the instruction card 1 to B -student B uses the name cards to make the seating plan on the desk (vice versa)	-Instruction card 1, 2 and a set of name cards (Mike, Tom, Ben, Gigi and Mary) (13 sets) -Power point
8 mins	***Group work*** -students work in groups of 4 -students cooperate to make a seating plan with the use of prepositions about positions -students in turns write the sentences to show where the students (Mike, Tom, Ben, Gigi	-Large papers (8) -Markers (8) -A blank seating plan (8)

	and Mary) sit -They have to draw a simple seating plan while they are writing the sentences	
10 mins	***Presentation*** -student presents their seating plan to other group. -students have to arrange the seating plan while they are listening to the presenter. -Presenter gives 1 mark to the group if the seating plan is correct. *(Time may only be available for the presentation of round 1 only if it is a single lesson)* *(Presentation of round 2 to 4 will continue in the next lesson)*	

Round 1 No. 1 presents	Round 2 No. 2 presents	Round 3 No. 3 presents	Round 4 No. 4 presents
Group 1 – Group 2 Group 2 – Group 3 Group 3 – Group 4 Group 4 – Group 5 Group 5—Group 6 Group 6 – Group 1	Group 1 – Group 3 Group 2 – Group 4 Group 3 – Group 5 Group 4 – Group 6 Group 5—Group 1 Group 6 – Group 2	Group 1 – Group 4 Group 2 – Group 5 Group 3 – Group 6 Group 4 – Group 1 Group 5—Group 2 Group 6 – Group 3	Group 1 – Group 5 Group 2 – Group 6 Group 3 – Group 1 Group 4 – Group 2 Group 5—Group 3 Group 6 – Group 4

3 mins	***Conclusion*** -Read aloud the prepositions about positions -Homework (worksheet)	

Remarks:

1. It is suggested that for students of lower abilities, teacher should revise the concept of 'left' and 'right'.

2. Most of students are interested in the activities and able to do the 'warm up exercise' and 'pair work'.

3. 3A can't do group work, so they do the activity in class.

聖伯多祿天主教小學
數學科教案（深）

負責老師：余、蕭、何、章		級別：三	範疇：圖形與空間
課題：3 下 A 冊 10.三角形（一）1/2			日期：

本節教學目標：

1.複習三角形的特徵

2.認識等邊三角形及不等邊三角形的特徵

3.學生能夠按三角形的特徵作出分類

教具：

圖片、powerpoint、工作紙

教學程序	教學內容/活動	教學策略	小結	時間
導入	1.各位同學，你們能否分辨出下列圖形？ （圓形、正方形、長方形、平行四邊形、三角形） 2.觀察一些三角形的實物，着學生說出其特性。	利用 powerpoint 展示一些已學過的圖形 利用 powerpoint 展示一些三角形的生活例子帶入課堂主題：三角形		5'

教學程序	教學內容/活動	教學策略	小結	時間
初步概念	1.老師利用簡報與學生重溫三角形的特性。 （其中一些三角形是有缺陷的） 2.展示一些真正及疑似的三角形實物，給予學生一些時間思考，讓學生自行說出它們是否三角形及說出原因。	利用 powerpoint 展示一些真正及疑似的三角形實物	三角形特性： 1.三條邊（直線和閉合） 2.三隻角 3.畫角時要畫上弧度	8'
深究	1.老師派發工作紙，內有等邊三角形及不等邊三角形，學生利用直尺進行量度，然後自行發現不同三角形的特性，最後作分組報告。（2 人/4 人一組） 2.老師總結學生量度的結果，分別帶出等邊三角形和不等邊三角形的特性，因而稱為「等邊三角形」和「不等邊三角形」，並解釋「等邊」是「相等邊長」的意思。	利用學生發現兩種三角形的特性帶出「等邊三角形」和「不等邊三角形」這兩個名字	等邊三角形的特性： 1.三條邊的長度相等 2.三隻角大小相同 不等邊三角形的特性： 1.三條邊的長度都互不相等 2.三隻角的大小都不相同	16'
總結	1.今天我們已對三角形的特性作複習。 2.着學生說出等邊三角形和不等邊三角形的特性。			3'
鞏固	1.請回家完成書本 P.58 及 60	讓學生利用所學的重點完成書本練習。		1'

探討應用「合作學習」教學策略於小三中、英、數科目以改善學生的學習態度和成績

聖伯多祿天主教小學
數學科教案

負責老師：余、蕭、何、章	級別：三年級	範疇：容量
課題：3 下 B 冊 19.毫升		日期：

本教節教學目標：

1. 複習公認的容量單位「升」（L）、「毫升」（ml）

2. 利用自製量杯進行量度活動，加強對容量單位的認識

3. 學生能估量日常器皿的容量

教具：

圖片、紙條、容量＞1 升的膠樽 6 個、紙條、鉛筆、量杯 6 個、工作紙、水杯（6）、水壺（6）、益力多樽（6）、碗（6）

教學程序	教學內容/活動	教學策略	小結	時間
導入	1. 提問學生知否捐血的血容量＝? 毫升（350-450 毫升） 2. 提問學生?毫升＝1 升 3. 各位同學，你們能否分辨出下列哪些器皿，容量少於 1 升（水桶、水杯、汽水罐、油桶）	－複習「升」、「毫升」的換算。 －板書： 1 升＝1000 毫升 －展示不同器皿的圖片讓學生判斷。	－1 升＝1000 毫升	5'
初步概念	1. 提問學生有何方法可準確量度一	－展示一個水杯讓學生思	－可利用量杯量度較小	2'

教學程序	教學內容/活動	教學策略	小結	時間
	個水杯的容量。（量杯）	考。	器皿的容量。	
	2. 展示一個 1 升的量杯			
深究	1. 學生用自製量杯量度下列器皿的容量： 　　水杯、水壺、益力多樽、碗 2. 引導學生在一個直身的透明容器上貼上紙條，把 100 毫升的水注入透明容器，每注入 100 毫升水加一刻度，共注入 10 次記上 1000 毫升/1 升。（四人一組） 3. 比較以上不同容器大小。	─讓學生先行估量各器皿的容量。 ─讓學生思考加上刻度的不同方法。（將紙條對摺出現 4 個刻度，每度＝250 毫升） ─展示輔助工具─量杯（每注入 100 毫升，便加上 1 刻度） ─讓學生利用剛量度的結果，完成工作紙	─可自製量杯量度不同器皿。	15'
應用	1. 計算一天飲水量?	─完成工作紙	─一天要飲 6-8 杯水	5'
總結	1. 1 升＝1000 毫升 2. 1 升的量杯可量度較小的器皿 3. 可憑觀察對一些較小的器皿進行			

教學程序	教學內容/活動	教學策略	小結	時間
	估量			
鞏固	1. 完成課堂學習冊 P.12			

備註：

1. 一個課節時間不足，連堂較佳；可考慮學生只製作 500 毫升，對一些能力較弱的班別可派發每組 100 毫升的容器，例如；益力多樽及一小桶清水，可減省傾倒水的時間。

2. 可着學生把各組完成刻度的作品放在一起作比較，深究結果不同的原因。

3. 深究活動：着學生加畫 50 毫升刻度，容器則更準確。

4. 學生對活動的興趣很大，教師指示必須清晰。

附件四

<div align="center">

聖伯多祿天主教小學

___二年級___ 問卷調查前測、後測結果比較

</div>

全級人數：62 人

各位同學： 請根據個人情況，誠實地回答下列題目，在適當的方格內加上✓。		喜歡程度（4 分為最高）				上升或下降百分比
		前測 （非常喜歡及喜歡）		後測 （非常喜歡及喜歡）		
		總數	百分比	總數	百分比	
1	我對中文科的喜歡程度是	51	82.3%	53	85.48%	+3.18%
2	我對英文科的喜歡程度是	49	79.03%	52	83.87%	+4.84%
3	我對數學科的喜歡程度是	52	83.87%	53	85.48%	+1.61%
					平均：	+3.21%
4a	在中文科的課堂，我專心上課	46	74.19%	47	75.81%	+1.62%
4b	在英文科的課堂，我專心上課	44	70.97%	45	72.58%	+1.61%
4c	在數學科的課堂，我專心上課	45	72.58%	50	80.65%	+8.07%
					平均：	+3.77%
5a	在中文課堂內，我愛動腦筋解決學習上的疑難	44	70.97%	45	72.58%	+1.61%
5b	在英文課堂內，我愛動腦筋解決學習上的疑難	38	61.21%	50	80.65%	+19.44%
5c	在數學課堂內，我愛動腦筋解決學習上的疑難	50	80.65%	51	82.26%	+1.61%
					平均：	+7.55%
6a	我積極參與中文課堂內的學習活動（例如：常舉手發問及答問、積極參與小組討論等）	43	69.35%	48	77.42%	+8.07%
6b	我積極參與英文課堂內的學習活動（例如：常舉手發問及答問、積極參與小組討論等）	39	62.90%	48	77.42%	+14.52%
6c	我積極參與數學課堂內的學習活動（例如：常舉手發問及答問、積極參與小組討論等）	43	69.35%	49	79.03%	+9.68%
					平均：	+10.76%.
7	在課堂內，我會協助我班的同學學習	44	70.97%	52	83.87%	+12.9%
8	在課堂內，我班同學會協助我學習	39	62.90%	54	87.10%	+24.2%
9	我班同學能互相幫助，互相勉勵	44	70.97%	45	72.58%	+1.61%
					平均：	+12.9%

聖伯多祿天主教小學

__三年級__ 問卷調查前測、後測結果比較

全級人數：共 89 人

各位同學： 請根據個人情況，誠實地回答下列題目，在適當的 方格內加上✓。		喜歡程度（4分為最高）				上升或 下降百 分比
		前測 （非常喜歡及喜歡）		後測 （非常喜歡及喜歡）		
		總數	百分比	總數	百分比	
1	我對中文科的喜歡程度是	70	78.65%	66	80.90%	+2.25%
2	我對英文科的喜歡程度是	64	71.91%	69	77.53%	+5.56%
3	我對數學科的喜歡程度是	84	94.38%	88	98.88%	+4.5%
					平均：	+4.10%
4a	在中文科的課堂，我專心上課	76	85.39%	78	87.64%	+2.25%
4b	在英文科的課堂，我專心上課	72	80.90%	73	82.02%	+1.12%
4c	在數學科的課堂，我專心上課	84	94.38%	88	98.88%	+4.5%
					平均：	+2.62%
5a	在中文課堂內，我愛動腦筋解決學習上的疑難	70	78.65%	70	80.90%	+2.25%
5b	在英文課堂內，我愛動腦筋解決學習上的疑難	58	65.17%	70	78.65%	+13.48%
5c	在數學課堂內，我愛動腦筋解決學習上的疑難	82	92.13%	84	94.38%	+2.25%
					平均：	+5.99%
6a	我積極參與中文課堂內的學習活動（例如： 常舉手發問及答問、積極參與小組討論等）	68	77.53%	68	77.53%	±0%
6b	我積極參與英文課堂內的學習活動（例如： 常舉手發問及答問、積極參與小組討論等）	70	78.65%	71	79.78%	+1.13%
6c	我積極參與數學課堂內的學習活動（例如： 常舉手發問及答問、積極參與小組討論等）	77	86.52%	82	92.13%	+6.74%
					平均：	+2.62%
7	在課堂內，我會協助我班的同學學習	76	85.39%	77	86.52%	+1.13%
8	在課堂內，我班同學會協助我學習	77	86.52%	79	88.76%	+2.24%
9	我班同學能互相幫助，互相勉勵	80	89.89%	82	92.13%	+2.24%
					平均：	+1.87%

學習單位分數的概念
以強化分數概念及分數大小比較的研究

楊詠盈、冼文標、黃鳳珠、陳巧卿
鳳溪第一小學

摘要

在小學數學學習領域中，分數的課題以螺旋式學習的模式出現，分數所涉及的概念是環環相扣，所以我們更加要重視分數認識的單元。在本研究中，教師嘗試把單位分數作為教學重點，藉此探討以單位分數為整套分數學習的基礎時，學生對於分數的認識，以及在分數大小比較的概念上是否能掌握得更好。研究顯示若教師在教學上，重視單位分數的概念和數學語言的培養，學生的學習成效更高，對分數能有更透徹的理解。

研究背景

在教育工作中，「教學相長」是每位教育工作者都渴望得到的成果。教育除了希望學生學會學習，還希望教師在教學過程中不斷反思，積極改進，優化課堂。課堂研究是指教師採取的一種行動，其目的是提高教學水平，並在實踐中檢驗教育理論（David Hopkins, 2009）。同時，香港課程發展議會（2002）提出的《基礎教育課程指引－各盡所能 ● 發揮所長》建議以協作行動研究模式，作為教師專業發展及校本課程發展的轉變策略。行動研究、教師發展及校本課程發展之間有密切的關係。

根據課程指引的安排，由小三開始，分數的課題以螺旋式學習的模式出現，學生在分數學習的能力強與弱，取決於小三對分數概念的學習情況，我們希望透過教學研究更準確地評估學生對分數的理解程度，以及學習上的難點，再進行共同備課和互相觀摩，以改善教學策略及優化課堂，藉此強化學生在分數概念和數學方面的理解及解說能力，為日後更高階的分數課題奠下重要的基石。我們在研究小三分數教學的單元中，既積極推動教師互相合作及交流，又提升學生在分數概念的理解能力，切實做到「教學相長」的目標。

在第一學習階段「數」的學習範疇中，整數學習皆以實物輔助，以具體的物件配合數數活動，使學生在整數學習及運算方面得到完整的發展。很多研究者認為學習分數的難處在於學生不能把舊知識過渡至新知識（鄭振初，2006），「分數」跟整數雖然皆是有理數，但分數學習的起點較為抽象，分數（真分數）所表示的為非自然數，學生要清楚知道真分數是比 0 大而又比 1 小，但卻難以如整數般以數數活動道出，學生有點無所適從。以我校過往的經驗為例，小三學生在分數的認識紙筆評估中，成績尚算滿意，但是當老師提問學生

甚麼是三分之一時，大部份學生只能說出三份中的一份，甚少學生提及等分的重要概念，情況叫人失望。另外，當提問學生如何得知分數值的大小時，發現學生都有如機械式般說出「分母的數值較小，所以分數值愈大」等口訣，但老師再追問當中的原因時，學生便啞口無言。

在課程發展議會（2002）編訂的數學教育學習領域課程指引中，數學科的課程宗旨首要是培養學生的批判性思考、創意、構思、探究及數學推理的能力，以及利用數學來解決日常生活的問題。如果學生只集中於背誦結果，那麼便會妨礙了數學上推理及思考的發展。鄭振初（2006）指出學生覺得分數難學，其中一個原因是分數教學中有太多口訣，並且經常以口訣代替概念。三年級的口訣例子有「如果分母相同，分子愈大，分數值則愈大；如果分子相同，分母愈小，分數值則愈大」。這麼兩句如此相似的句子，如非真正理解分數的本質，確實一點也不好記。經過反思，我們認為學習分數時，不應只是流於表面背誦，因此，我們在本學年三年級的分數認識教學設計上，會更加強調「單位分數」，以強化學生在等分概念及分數比較上的了解。並且我們深信單位分數是整套學習分數的共通概念，所以嘗試在三年級引入及為此作研究。

文獻探討

分子是 1，分母大於 1 的自然數的分數叫做單位分數（柯召、孫琦，2002）。劉秋木（1996）指出兒童假如有了單位分數的概念，很容易就可以導入真分數的概念。以單位分數開始，一個整體等分為四份，當中的一份稱為四分之一（頁 384）；四分之二就可說成個整體等分為四份，當中的一份的兩倍；四分之三就是成個整體等分為四份，當中的一份的三倍。林碧珍（2006）指出單位分數教學的重要概念「整體一是甚麼」，教師要求學生指出整體一在哪裡？接著是平分成幾等份，教師也需要要求學生指出等份份數在哪？一份在哪裡？

江蕙（2008）提出分數單位是作為分數的計數單位，是所有後續知識、技能的基礎，包括分數的意義、分數的基本性質、分數的大小比較、約分、通分、分數的加減法、分數的乘除法以及有關分數的實際問題的解決。他強調要學習分數，首先是認識分數單位。林碧珍（2006）指出學生在比較兩個分數時，學生能用語言說出「分的比較少，格子就愈大」，即相對同一個整體，分的分數愈少，每一份就佔得愈多，但是學生是無法配合著分數的符號說出 $\frac{1}{4}$ 比 $\frac{1}{6}$ 大，他們即使能口背理論，但解釋卻未能完整配合。

楊德清、洪素敏（2008）引述 Cramer et al.（2002），Hart（1988），Post, Cramer, Behr, Lesh & Harel（1992）指出許多學生由於不了解分數的意義，受整數基模影響，將分數的分母部份和分子部份視為兩個獨立的數，因而在進行比較分數大小時，產生了一些迷思。例如比較 $\frac{1}{2}$ 和 $\frac{1}{3}$ 時，由於整數學習時 3>2，所以學生得出結論 $\frac{1}{3} > \frac{1}{2}$。游政雄、呂玉琴（2002）指出中年級學童普遍地運用整數知識來處理分數問題，學童直接拿分子作比較來解同分母分數大小比較問題，即可正確回答問題；但學童在處理異分母的分數大小比較問題時，將分子和分母分開作整數大小比較，以決定分數的大小，卻造成錯誤的回

答。鄭振初（2006）指出強記計算次序不僅沒有生成概念，還加重學生的記憶負擔和心理負擔，而且經常要求學生記口訣，容易養成學生不求甚解的態度。綜合上述參考資料，學生在分數大小比較中所遇到的困難，是在學習概念時知識不夠清晰及牢固，若在分數認識時出現了誤解，將影響日後整套分數學習。因此，我們認為在小三分數的認識時，可先強調學習單位分數，再運用單位分數中倍的概念認識真分數。而一般的教科書只是先說明分母是等分的意思，分子就是所佔的份數。我們認為這只是一個結果，教師是有必要向學生說明結果的由來——單位分數的倍。

研究問題，方法

本研究主要問題如下：

（a） 在教授小三分數時引入「單位分數」，能否提升學生在解答分數大小比較類型題目的成績？

（b） 運用「單位分數」為基礎，在課堂中強調單位量，並要求學生運用數學語言解釋，能否提升學生對分數概念及分數大小比較的認識？

　　是次研究的對象是四班三年級學生，共 104 人。兩班為實驗組，另外兩班為控制組。而兩組中各分成高、中及低能力三組，每個能力組別皆選出兩位學生作訪談。收集數據的方法包括：前測（附件一）、後測（附件二）、前後測訪談及同儕觀課。先以前測成績將研究對象分組，按成績分出高、中及低能力三組學生，再按班別分成實驗組與控制組。研究者會在課堂前進行多次共同備課及課後檢討。在實驗班上實行研究者設計的課堂，在教學過程中強調以「單位分數」理解分數的基本概念，並要求學生運用數學語言解說如何比較分數的大小。兩組所花的教節相同，課堂教學重點如下：

教學重點	
控制組	實驗組
以下教學重點是參考教科書列出： 1. 認識分數作為整體的部分； 2. 認識分數的各部分名稱； 3. 認識在分數中，「1」表示全部或整體； 4. 明白分數可用作表示一組事物的部分； 5. 能夠從「整體中的一部分」找出實際數量； 6. 能夠比較同分母分數的大小； 7. 能夠比較同分子分數的大小。	1. 認識分數作為整體的部分； 2. 說出運用分數可用作表示整體的部份（連續量／離散量 *）； 3. 正確地讀出一個分數及辨別各組成部份； 4. 認識單位分數，並能正確地分份； 5. 認識單位分數倍的概念，以此說明分數的分份及取份； 6. 認識在分數中，「1」表示全部或整體； 7. 將全部物件的數量作為分母； 8. 認識以單位分數倍的概念比較同分母分數的大小； 9. 認識以單位分數倍的概念比較同分子分數的大小。 * 整個流程會分別應用於連續量及離散量上各一次。 * 第 4,5,7 及 8 項為本研究就教科書上的教學重點加以修改及更詳細地列出。

以 $\frac{2}{3}$ ▢▢▢ 為例子，一般只會強調一個整體平均分成 3 份，取去 2 份就是三分之二。而在實驗組中，我們不僅要求學生能説出這點，學生要知道三分之二就是將一個整體平均分成 3 份，其中一份佔全圖的三分之一，而分子是 2，則是取去三分之一的 2 倍。我們希望在開始認識分數時把這重要的關係展示給學生，令學生在分數大小比較時進行得更容易。以比較 $\frac{2}{5}$ 及 $\frac{4}{5}$ 為例子，$\frac{2}{5}$ 是指 2 個 $\frac{1}{5}$，而 $\frac{4}{5}$ 是指 4 個 $\frac{1}{5}$，學生要清楚明白 2 個比 4 個少，所以不論分母是甚麼，這麼看似複雜的比較又回歸整數比較上，所以 $\frac{2}{5} < \frac{4}{5}$。又以 $\frac{2}{3}$ 及 $\frac{2}{5}$ 為例子，學生應能説明由於 1 個 $\frac{1}{3}$ 比 1 個 $\frac{1}{5}$ 大，所以即使 2 個 $\frac{1}{3}$ 也是比 2 個 $\frac{1}{5}$ 大。而在課堂上，施教者要多引導學生討論，鼓勵解釋答案。

由於四班課堂不是由同一施教者進行，雖然已經進行多次共同備課，統一教學內容，但畢竟各班的施教者（科任老師）不是同一人，難免因而出現誤差。

研究結果及分析

在量性的評量方法中，我們透過比對前、後測的測驗分數，可分別得知各組高、中、低能力學生在分數大小比較的能力上有否提升，實驗組與控制組之間的成績差異及進步比率。而質性的訪談中，由學生親自説出在前測及後測時如何解答開放題題目，從而得知學生的概念是否正確，教師亦可以檢討教學設計。

前測卷的首八題的題目為計分題，答對得 1 分，答錯 0 分，再將得分按比例倍大。按前測首八題的成績把學生分成高中低能力三組，高能力組別學生得分為 70 分以上，中能力學生為 50 分至 70 分之間，而 50 分以下的學生為低能力組別。

圖一為實驗組中各組別的前後測平均成績，明顯地，三個組別的學生成績均有提升。當中以低能力組別的學生升幅為最大，由平均分少於 40 分提升至接近 90 分；而中能力組別的學生成績平均分也有接近 30 分的上升；高能力組別的學生成績平均分也有約 10 分的上升。

圖二為控制組中各組別的前後測平均成績，同樣地，三個組別的學生成績均有提升。而低能力組別的學生升幅亦為最大，約有 50 分提升；而中能力組別的學生成績平均分約有 20 分提升。高能力組別的學生成績平均分亦也有約 10 分的上升。

圖一：實驗組
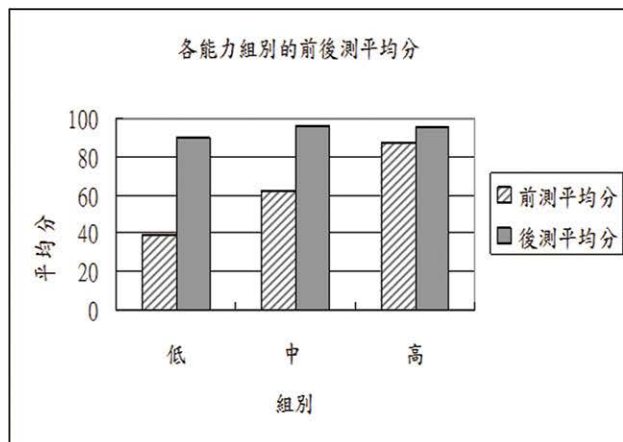
圖二：控制組
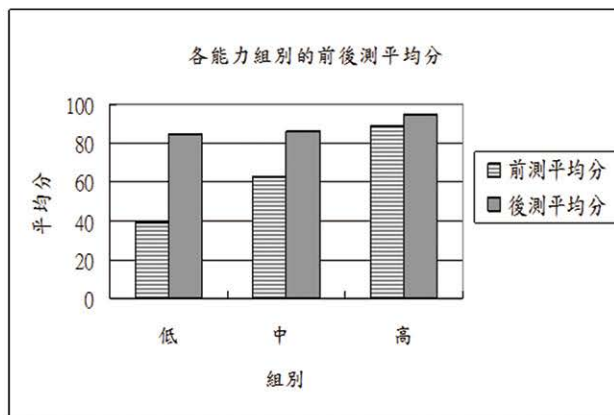
　　表一及表二分別說明兩個不同能力組別學生的平均成績進步百分比。從數據上可見兩個組別的學生均有進步，而且兩組的低能力組別學生皆有最明顯的進步。而兩個組別中以實驗組的進步較多，可見引入「單位分數」是有助中低能力學生的學習。表三的數據顯示了，實驗組與控制組各能力組別學生後測的 t-檢驗，從兩組高能力學生的 p 值得知兩組之間的成績沒有顯著差異。而兩組的中能力及低能力組別學生的後測分數均有顯著差異，拒絕接受虛無假設，即實驗組的中、低能力學生的平均成績比控制組的中、低能力學生的平均成績高。雖然不是三個組別學生的成績一致說明兩組學生成績間有差異，估計是因為兩個組別的高能力學生水平相約及本身在前測時的成績已得不錯，所以進步的空間比中、低能力的學生較少，以至不能從 t- 檢測中得到顯著差異。而取中、低兩個組別學生的成績對比，可見引入「單位分數」更能提升學生在解答分數大小比較類型題目的成績。

圖一：實驗組

	平均成績進步百分比
高	8.9%
中	54.0%
低	128.5%

圖二：控制組

	平均成績進步百分比
高	6.9%
中	38.4%
低	119.3%

表三　實驗組與控制組各能力組別學生後測的 t- 檢驗

	t（觀測值）	p- 值（單尾）	顯著水平 α	結果
高能力	0.964	0.825	0.05	接受 H_0
中能力	2.363	0.011	0.05	拒絕接受 H_0
低能力	0.242	0.405	0.05	拒絕接受 H_0

假設：　μx 為控制組同學後測的平均成績，μy 為實驗組同學後測的平均成績
　　　　H_0：$\mu x = \mu y$
　　　　H_1：$\mu x < \mu y$
檢測 H_0：$\mu x = \mu y$　及 H_1：$\mu x < \mu y$

　　　　從收集的數據中得出，中、低能力各組別學生的成績皆有進步，實驗組的進步較多，可見引入「單位分數」更能提升此類學生在解答分數大小比較類型題目的成績。兩組高能力學生的學習成績及進步百分比差別不大。在前測時，我們在實驗組與控制組中隨機在各個能力選出兩位學生，共十二位學生作追蹤性研究，前測及後測後這十二位學生亦會接受一次訪談，科任老師亦會定時紀錄及留意他們的課堂表現。這部份我們每組各選取三位在半開放式題目答案中有明顯改變，及能寫出數學語言的學生討論。

題目一：「同分母分數的大小比較」
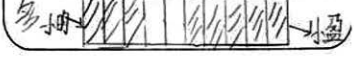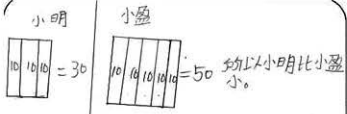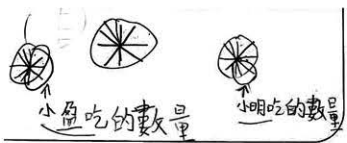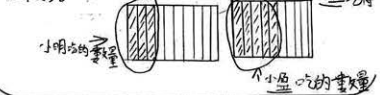
　　　　參閱表四，在前測的訪談時，實驗組的學生都盡力去解釋小盈比小明吃得較多。然而在組織上仍欠條理，未能準確解釋哪個分數比較大。在上表展示的後測卷中，顯示經過學習單位分數後，各能力組別的學生也能寫多一些，盡力將分數的意義用文字紀錄，可見他們的表現均有改善。當中以 S1 及 S3 的表現較佳。以下為 S1 訪談時的部份內容：
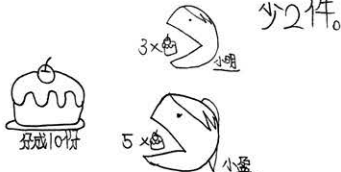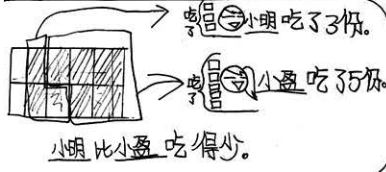
> 老師：你能說明為什麼你認為小明比小盈吃得較少？
>
> S1：因為蛋糕一個平均分成 10 份，每份就是一樣，一份叫做 $\frac{1}{10}$ 個蛋糕，小明吃了一份的 3 倍，小盈就吃 5 倍，我們比較倍數就知哪個吃得多，5 比 3 大，即小盈吃得較多，所以小明吃得較少。

S1 的回答表現出她的思路很清晰，充分了解題目中的單位量，她亦運用倍的概念去解釋。以及她帶出重要概念 $\frac{3}{10} = \frac{1}{10} + \frac{1}{10} + \frac{1}{10}$ 及 $\frac{5}{10} = \frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10}$，明確知道本身的單位量並不受分子的影響。同樣地，S3 在訪談時的對話內容跟 S1 亦類同，此處不贅。而 S2 在解說時則未能全面運用單位分數的概念表述，最後亦只急於集中說出結果「當分的份數一樣時，取的份愈多，表示分數數值愈大」。S2 所說的話沒有錯，她對分數大小比較的內涵亦有保存，亦同樣達到解題的效果。總結三位在實驗組學生的後測訪談中，我們看見學生能解釋得這麼全面，這絕對是對同分母大小比較有深入認識的表現。

表四　實驗組同學作答題目一

		一個蛋糕平均分成 10 件，小明吃了 $\frac{3}{10}$ 個，小盈吃了 $\frac{5}{10}$ 個，小明比小盈吃得較多 / 少 / 一樣多？請說明。	
		前測	後測
實驗組	S1 高		
	S2 中		
	S3 低		

表五　控制組同學作答題目一

一個蛋糕平均分成 10 件，小明吃了 $\frac{3}{10}$ 個，小盈吃了 $\frac{5}{10}$ 個，小明比小盈吃得較多 / 少 / 一樣多？請說明。		
	前測	後測
S4 高	因為小明只吃到十分之3，小盈吃到十分之5，所以小明比小盈吃得少。	一個蛋糕平均分成10件有=3件，有=5件，所以小明比小盈吃得少。
S5 中	少2件。	小明吃了3份。小盈吃了5份。小明 比小盈 吃得少。
S6 低	$\frac{5}{10}-\frac{3}{10}$ $=\frac{2}{10}$ 小明比小盈 吃得較少 因為 $\frac{5}{10}-\frac{3}{10}=\frac{2}{10}$ 所以小明比小盈吃得較少。	小明比小盈 吃得較少，因為小明 吃了 $\frac{3}{10}$，小盈 吃了 $\frac{5}{10}$，有和有相差2件所以盈 吃得較多。

（控制組）

　　參閱表五，比較實驗組與控制組的學生，明顯看到控制組的學生在用文字方面的解釋較弱。此組的教學沒有特別被要求多作口語作答的訓練，亦沒有特定的介入策略，所以可見兩組學生在紙筆作這類開放題目作答之間的差異。但是這組學生並不是不能解題。在訪談中，三位學生亦能正確地比較出哪個分數較大或較小。
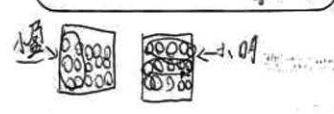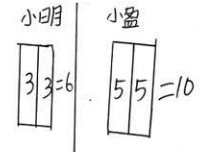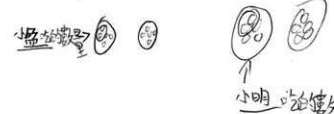
> 老師：你能說明為什麼你認為小明比小盈吃得較少？
> S5：一個蛋糕有 10 份，小明吃得 3 份，小盈就吃了 5 份，所以小明吃得比小盈少。

　　S5 也能用比較分子的方法去解釋哪個分數較大或小。而 S4 的答案也類同。S6 則用了分數相減的概念即十分之三減十分之五，明顯他對分數理解有點模糊不清。這三位控制組的學生，雖然在紙筆評估中也能答對，但對於這種實作評量表現稍遜，因此我們未能因此而評價出他們對同分母大小比較有多深入的認識。

題目二：「同分子分數的大小比較」

　　從表六，我們可見在前測時，三位實驗組的學生都沒有清楚說明如何比較這兩個分數，甚至答案是不正確的。而經過學習後，他們可以詳盡地解釋哪個分數較大或小。訪談時他們的解釋亦多能說出當分子相同，因為分份愈大，分數值就愈小。面對同分子比較時，學生沒有選擇以單位量去解釋，即未有指出因為 1 個 $\frac{1}{3}$ 比 1 個 $\frac{1}{5}$ 的數值大，所以即使 2 個 $\frac{1}{3}$ 也會比 2 個 $\frac{1}{5}$ 大。這可能是用單位分數去解釋同分子分數比較時較困難，所以學生亦未能就此完整解釋。同樣地，表七的控制組學生面對此題時亦未能清楚解釋。

表六　實驗組同學作答題目二

			媽媽買了兩盒數量一樣的朱古力送給<u>小明</u>和<u>小盈</u>，<u>小明</u>吃掉了 $\frac{2}{3}$ 盒朱古力，而 <u>小盈</u>吃掉了 $\frac{2}{5}$ 盒朱古力，<u>小明</u>比<u>小盈</u>吃得較多 / 少 / 一樣多？請說明。	
			前測	後測
實驗組	S1 高			
	S2 中			
	S3 低			

表七　控制組同學作答題目二

		媽媽買了兩盒數量一樣的朱古力送給<u>小明</u>和<u>小盈</u>，<u>小明</u>吃掉了 $\frac{2}{3}$ 盒朱古力，而<u>小盈</u>吃掉了 $\frac{2}{5}$ 盒朱古力，<u>小明比小盈</u>吃得較多 / 少 / 一樣多？請說明。	
		前測	後測
控制組	S1 高		
	S2 中		
	S3 低		

　　實驗組學生在後測時都能說出分數重要的概念－均分，而且能詳細地解釋如何對兩個分數作出比較。實驗組學生在同分母分數比較上能更清楚地解釋分數值較大的原因，在同分子分數比較上的解釋能力跟控制組相若，教師可在下一教學循環時再加強此部份的教學。在整個分數單元教學過程中，三年級的科任老師進行了七次同儕觀課，並就每課節作檢討及提出優化方案。在學習分數的認識過程中，學習均分及以 1 作分子的單位分數的課堂時，實驗組與控制組的學習氣氛相差不大，但在之後分數大小比較的課堂上，兩個組別的學習情況就有所不同。

　　實驗組的學生展示了一種積極討論的氣氛，而且他們運用不少正確的數學語言作討論，當有同學提出相反意見時或解釋未能完整時，另外一些同學會積極表達意見或再以別的觀點去說明以作補充，在討論過程中，完整且充滿數學意義的答案便出現了。以下便是其中一位任教實驗組的科任老師認為學生在課堂中表現良好的片段：

師　　：　這道題目的答案是甚麼？　$\frac{2}{5}$（ > / = / < ）$\frac{1}{5}$

生 1　：　$\frac{2}{5} > \frac{1}{5}$。

師　　：　為什麼？

生 2　：　將一樣東西分做 5 份，一個拿 2 份，另一個只拿 1 份，所以 $\frac{2}{5} > \frac{1}{5}$。

生 3　：　東西要平均分。

師　　：　將一個東西平均分成 5 份後，那麼每一份是多少？

生 4　：　東西平均分成 5 份後，每一份是 $\frac{1}{5}$。

師　　：　東西平均分成 5 份後，每一份是這個整體的 $\frac{1}{5}$。

生 5　：　拿 2 份即是有 2 個 $\frac{1}{5}$。

生 6　：　所以就是拿 2 個比 1 個多啊！

　　這麼一來一回的討論，真叫科任老師滿足，對話間充滿了意義，整個討論中學生能運用單位分數的概念，去說明同分母分數的大小比較，當中涉及的不只是師生互動，還有生生互動，這正是教師希望見到的學生學習態度。四位科任老師亦表示在課堂上，深深感受學生對分份與取份有了良好的基礎，而且對單位量的掌握很牢固，才能有就樣認真的討論。控制組的科任老師表示控制組的課堂討論氣氛沒有這麼熱烈，學生的答案多是簡短的，在運用數學語言討論的過程表現稍遜。

反思及建議

　　我們深感以單位分數為基礎建構分數概念，比只運用分份與取份的概念，所花的課時較長，學生初學運用一個單位分數，去說明一個真分數的意思時也感到疑惑，經歷了幾節講解後，大部分學生亦能用單位分數的倍這個概念，去說明一個分數的意思。這正正是教師所希望見到的，學生的學習不再只是流於表面的背誦，數學學習的意思不只重於學生能解決一道題目，而是明白題目背後的學理。學習數學的能力不再只是能解題，要求多一點，我們期望學生能解釋，語言是思維的載體，採取以訓練學生「說」來促進他們「想」的方法進行教學，逐步培養學生的邏輯思維能力。久而久之，學生會「想」會「說」，既培養了學生的語言表達能力，又發展了學生的邏輯思維能力（馮克誠，1999）。此單元後，我們看見學生多了討論數學，學習變得更加互動。

我們深信學生這樣認識了分數後，對他們在四年級學習分數加減法會起一定的幫助。例如計算 $\frac{1}{5}+\frac{2}{5}$ 時，學生會知道 1 個 $\frac{1}{5}$ 加 2 個 $\frac{1}{5}$ 就是 3 個 $\frac{1}{5}$，就這樣又能把不熟悉的分數回歸至整數加的概念。同樣，在之後的分數除法亦是同一概念，$\frac{2}{3}\div\frac{1}{3}$ 就是 2 個 $\frac{1}{3}$ 除以 1 個　就是 2。單位分數就是這麼重要的一個概念，貫穿整個分數學習領域，很值得我們在課堂上引入。同時，亦鼓勵同工設計教學時多引導學生多說數學語言，重視學生的學習過程，教學就能更相得益彰。

基於是次研究，在量性訪談時發現學生在運用單位分數解釋同分子分數比較時的表現有待改善，期望日後及下一教學循環時，科任老師能把這部分的演練加強，強化學生的數學語言。建議老師在此部分可做更多額外課堂例子，讓學生邊做邊說，以加深記憶。而在整套教學設計上，建議下次可加入一些學習日誌，期望學生能把自己每天學到的知識整理，這樣就能使其數學概念及數學語言更鞏固。對於未來就此課題的研究發展，由於本港的數學課程，分數是以螺旋式學習的模式出現，建議研究者可繼續追蹤實驗班的學生在學習分數的表現，以本學年學習單位分數為基礎，再設計日後的分數課堂，在高小分數的課題以單位分數解釋，一則能再為本研究題目作更強的顯證，二則使學生的學習更連貫。

作為教育工作者，應常檢討教學策略，往往在教學研究的過程中，同工會有很多意想不到的收獲，透過同儕之間的討論方知自己的課堂成效。在教學研究的歷程中，受惠的除了學生，更是教學者，「教學相長」的目標是值得我們堅持及繼續。

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附件一：前測

姓名：＿＿＿＿＿＿（　　）　班別：＿＿＿＿＿

請在橫線上填上適當的答案

1. 比較 $\frac{1}{6}$ 和 $\frac{5}{6}$，分數值較大的是 ＿＿＿＿＿。

2. 比較 $\frac{2}{8}$ 和 $\frac{2}{6}$，分數值較大的是 ＿＿＿＿＿。

3. 在 $\frac{2}{7}$，$\frac{6}{7}$，$\frac{4}{7}$ 這三個分數中，分數值最小的是 ＿＿＿＿＿。

4. 在 $\frac{5}{9}$，$\frac{5}{6}$，$\frac{5}{10}$ 這三個分數中，分數值最小的是 ＿＿＿＿＿。

5. 把 $\frac{8}{13}$，$\frac{6}{13}$，$\frac{10}{13}$ 由小至大排列。＿＿＿＿＿＿＿＿＿＿＿＿

6. 把 $\frac{4}{9}$，$\frac{4}{6}$，$\frac{4}{5}$ 由小至大排列。＿＿＿＿＿＿＿＿＿＿＿

7. 填括號

$$\frac{3}{11} < \frac{8}{11} < \frac{(\ \ )}{11}$$

8. 填括號

$$\frac{7}{8} > \frac{7}{(\ \ )} > \frac{7}{11}$$

9. 一個蛋糕平均分成 10 件，小明吃了 $\frac{3}{10}$ 個，小盈吃了 $\frac{5}{10}$ 個，小明比小盈吃得較多 / 少 / 一樣多？請說明。

10. 媽媽買了兩盒數量一樣的朱古力送給小明和小盈，小明把他的 $\frac{2}{3}$ 盒朱古力吃掉，而小盈把她的 $\frac{2}{5}$ 盒朱古力吃掉，小明比小盈吃得較多 / 少 / 一樣多？請說明。

附件二：後測

姓名：_____（ ）　班別：_____

請在橫線上填上適當的答案

1. 比較 $\frac{3}{8}$ 和 $\frac{5}{8}$，分數值較大的是 _____。

2. 比較. $\frac{3}{8}$ 和 $\frac{3}{5}$，分數值較大的是 _____。

3. 在 $\frac{2}{13}$，$\frac{6}{13}$，$\frac{4}{13}$ 這三個分數中，分數值最小的是 _____。

4. 在 $\frac{7}{13}$，$\frac{7}{9}$，$\frac{7}{11}$ 這三個分數中，分數值最小的是 _____。

5. 把 $\frac{7}{20}$，$\frac{3}{20}$，$\frac{9}{20}$ 由小至大排列_____

6. 把 $\frac{5}{9}$，$\frac{5}{6}$，$\frac{5}{14}$ 由小至大排列_____

7. 填空格

$$\frac{7}{20} < \frac{(\quad)}{20} < \frac{12}{20}$$

8. 填空格

$$\frac{5}{9} > \frac{5}{(\quad)} > \frac{5}{11}$$

9. 一個蛋糕平均分成 10 件，小明吃了 $\frac{3}{10}$ 個，小盈吃了 $\frac{5}{10}$ 個，小明比小盈吃得較多 / 少 / 一樣多？請說明。

10. 媽媽買了兩盒數量一樣的朱古力送給小明和小盈，小明吃掉了 $\frac{2}{3}$ 盒朱古力，而小盈吃掉了 $\frac{2}{5}$ 盒朱古力，小明比小盈吃得較多 / 少 / 一樣多？請說明。

The effectiveness of using songs incorporated with other activities to increase students' motivation and confidence to speak English in an EFL environment

YLPMSAA Ying Yip Primary School
Lam Nga Kit, Rachel

Success grows out of struggles to overcome difficulties

Abstract

How can I increase my students' motivation and confidence to speak English in an English as a Foreign Language (EFL) environment? This action research study shows the effectiveness of using songs incorporated with other activities such as body movements, dance and mini-drama to motivate students and develop their confidence in speaking. Students sang with some body movements in the first cycle. In the second cycle, they sang with a dance and a mini-drama. The data collection tools I used were questionnaires, interviews, students' diaries and observation sheets. As a result of this research project, I found that students had acquired new vocabulary and become motivated and gained more confidence to speak both inside and outside their English lessons through participating in different activities like singing, dancing and acting. I view action research as a way to improve my skills in order to become a more effective teacher. I believe that the better learner I am, the better teacher I will be.

Background

This research study was conducted at YLPMSAA Ying Yip Primary School, a subsidised mainstream school located in Tin Shui Wai. The vast majority of students do not have the opportunity to communicate in English because of their predominantly Cantonese-speaking environments at home and in school. They have very limited chances to use English in their everyday lives and so the language is not very meaningful and authentic to them. Most students only rely on their teachers and seldom take the initiative to speak even during English lessons. Genuine interest in using the language is missing. I identified this problem and tried to find ways out by conducting an action research study with thirty-two Primary 3 students in an elite class. I was their class teacher and so had more time to communicate with them and create a more authentic English learning environment. They loved singing in Putonghua and could recite the lyrics quickly. This inspired me to investigate the effectiveness of using English songs as a main source (incorporated with other activities such as body movements, dance and mini-drama) to increase their motivation and confidence to use the language in a Cantonese-dominated environment.

Literature Review

Brown (2000, p.17) points out that "motivation is one of the most important factors in your success in English". I believe I need to use different activities to develop students' intrinsic motivation to learn and speak English. As students loved singing, I inferred that songs could be used to arouse their interest in learning. Studies, in fact, identify songs as useful pedagogical tools to learn and speak English. Morales (2008), for instance, considers that students can improve their speaking skills and pronunciation when they sing. They can discuss different topics in the lyrics like love, revenge and hate, and also express their opinions and reflect on the content of the songs. Using songs in class also provides more chances for students to practise the rhythm, stress and intonation patterns of the language and to use lyrics as a stimulus for class discourse (Orlova, 2003).

According to Shumin (1997), "L2 or foreign language learning is a complex task that is susceptible to human anxiety (and is often) associated with feelings of uneasiness, frustration, self-doubt, and apprehension". Schoepp (2001) suggests that "the enjoyment aspect of learning language through songs is directly related to affective factors", which include things such as feelings, emotions, anxiety, frustration, motivation and confidence (Lin, 2000). Understanding them would enable us to know how and why songs can help students learn and speak English.

The affective filter is mentioned in the hypotheses of Krashen (cited in Schoepp, 2001), which explains why a positive attitude in learning exists when the affective filter is weak. Schoepp suggests that singing is a method to achieve a weak affective filter and can be used to present topics and stimulate discussions about attitudes and feelings. It provides a comfortable atmosphere and brings variety and fun to learning. Domoney & Harris (1993) & Little (1983) also find that pop music is a major source of English outside the classroom. Exposure to authentic English is an important factor in promoting learning in an EFL environment, so teachers can consider using songs as part of the speaking activities.

In the literature, drama is also considered a means for learning to speak. According to Barbu (2007), using drama as a teaching technique can result in real communication such as involving ideas, emotions, feelings, appropriateness and adaptability. Maley & Duff (2005) also state that drama is an enjoyable experience and motivation is fostered and sustained through the variety and sense of expectancy generated by the activities. Similar research studies (Maley & Duff, 2001; Phillips, 2003) suggest that drama can be an interesting way of motivating language learners and teachers. Students can play, move, act and learn at the same time (Phillips, 2003). Drama activities "give the students an opportunity to use his own personality in creating the material in which part of the language class is to be based" (Marley & Duff, 2001). This was why a script based on the story of a classmate who was going to leave this school had been written by a group of my students and then revised by me in the second cycle.

Drama activities are useful for the development of oral communication skills, as well as reading and writing. They help students communicate in English including those with limited vocabulary (Aldavero, 2008). The benefits of using drama in language lessons have been summarised by Desiatova (2009) as follows:

- Drama gives learners an experience (dry-run) of using language for genuine communication and real life purposes by generating a need to speak. It encourages guessing the meaning of unknown language in context. Learners need to use a mixture of language structures and functions ("chunks") if they want to communicate successfully.
- Drama makes language learning an active, motivating experience.
- Drama helps learners gain the confidence and self-esteem needed to use the language spontaneously. By taking on a role, students can escape from their everyday identity and "hide behind" another character. Giving students special roles encourages them to be that character and abandon their shyness.
- Drama emulates the way of acquiring language through play, makes the audience believe and enhances meaningful interaction.
- Drama makes what is learned memorable through direct experience and affect (emotions) for learners with different learning styles.

- When students dramatize, all communication channels (sight, hearing and physical exercise) are used and each student will be drawn to the one that suits them best. This means that they will be actively involved in the activity and the language will "enter" through the channel most appropriate for them.
- Drama can develop students' ability to empathize with others and thus become better communicators.
- Drama can help learners acquire language by focusing on the message they are conveying but not the form of utterance.

Drama after all can improve oral communication methodology and provide students with an opportunity to use English meaningfully, authentically and purposefully with targeted audiences. Vernon (2009) supports the view that students potentially read and then repeat their lines over a period of time. By repeating the words and phrases, they become familiar with them and can say them with increasing fluency by encouraging self-expression; drama motivates students to use language confidently and creatively. Goodwin (2001) states that drama is a particularly effective tool for teaching pronunciation because various components of communicative competence are practised in an integrated way. Desiatova (2009) also agrees that using drama can encourage students to speak and communicate with others through non-verbal communication channels, such as: body movements and facial expressions, and even with limited vocabulary. Involvement in the negotiation and construction of meaning during a drama performance can give insights into the relationship between context and language, and encourage students to link the language they are learning to the world around them (Maley & Duff, 1978). In a similar vein, Kao & O'Neill (1998) contend that confidence levels would increase when students have something to talk about and, most importantly, when they know how to express their ideas.

Research aims and methodology

Apart from teaching course-book materials in the lesson, I investigated the effectiveness of using activities like singing, body movement, dancing and acting to increase students' motivation and confidence to speak out in an enriched EFL environment whereby they had more opportunities to use and speak in the language. The research questions are as follows:

1. How can I motivate my students and make them feel confident to speak English in an EFL environment?
2. Should songs be considered useful pedagogical tools to increase students' motivation and confidence to speak English?
3. What other activities can be used with singing to further increase students' motivation and confidence to speak English?

Action research is "any systematic inquiry conducted by a teacher in the teaching/learning environment to gather information about how their particular schools operate, how they teach, and how well their students learn" (Mills, 2003, p.5). Its most important function "is to facilitate the 'reflective cycle', thereby providing an effective method for improving professional action" (Wallace, 1998, p.18). I used an action research approach to investigate the effectiveness of using songs incorporated with other activities to increase students' motivation and confidence to speak in English following a reflective cyclic pattern. It is a four-step process: identifying an area of focus, collecting data, analysing and interpreting the data, and developing an action plan (Mills, 2003) which is evaluated continuously in order to improve teaching. There are two cycles in my study (Figure 1):

Figure 1 The research cycles in this study
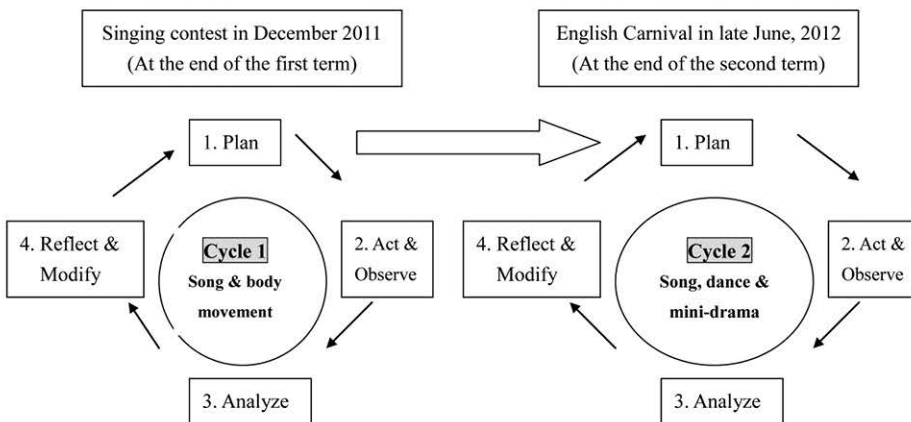
The first cycle of the study began with an introduction to "What a Wonderful World", "Top of the World", "Last Christmas", "Lemon Tree", "Shining Friends" and "Big, Big World" for the school contest in December 2011. Students voted "Big, Big World" as the first English song they would ever sing in the contest just because the melody and lyrics were simple. Some students could not recite the lyrics at first. I showed the video a few times to stimulate their visual senses first. Students worked in pairs to fill in the blanks while they were listening to the song. The first ten pairs (out of sixteen in the whole class) to finish the worksheet would get stickers as positive reinforces. I also explained the theme of the song and meaning of the words to them. They sang it during recess and lunch break for two weeks. They performed quite well in the singing contest and won a prize. A few students suggested that body movements could have been incorporated when they sang.

Data collection was done with questionnaire surveys, interviews and observations. All students were asked to fill in the questionnaires after the singing contest as I wanted to find out the effectiveness of using songs to increase their motivation and confidence to speak English. Two more capable students and two less capable students were interviewed. They shared their opinions in learning (i.e. speaking) English in these two weeks, and their willingness to participate in different activities was observed. Follow-up interviews were conducted for collecting further information about the effectiveness of using songs with respect to the following questions:

1. Did you have fun in the singing contest?
2. Are songs useful for motivating you to speak in English? If yes, how? If no, why?
3. Do you speak more in English now than in September? Have you gained more confidence when you speak in English to your classmates now?
4. Other than singing with some body movements, what other activities would you like to incorporate if you have a chance to sing on the stage again?

There would be another chance for my class to perform on the stage. My students would like to sing in English during the English Carnival at the end of the second term. After reflecting on what we had done in the first cycle, I made some changes in the second and gave them more time to prepare. I chose a song about friendship, which was more closely related to their real life experiences and should therefore be more motivating. "We're All in This Together" was sung because it was an inspirational and lively song about school life. Students sang it together with a dance and a mini-drama. The script (Appendix) was written by students and revised by me. A girl was about to leave the school and so the class decided to dedicate the drama script to her and perform it on stage. They hoped to encourage her to study hard, strive for her dreams and never give up. What they did this time was more meaningful and purposeful compared to the one in the first cycle.

First, I showed the music video (with lyrics) and explained the theme of the song and meaning of its lyrics in the lesson. Secondly, I divided students into groups of four. They listened to the song three times and finished the worksheet together. Thirdly, we sang the song in recess time and lunch break. A week later, they learnt to dance while singing and I asked for eight volunteers to write the drama script. I revised the script in the final stage. When the script was ready, students worked in groups of five (a narrator and four characters) and performed the mini-drama. They chose the best group to perform it during the English Carnival by voting. Meanwhile, I included mini-drama in the second cycle after receiving students' feedback because of its funny and entertaining nature and ability to maintain students' motivation to speak out.

The data collection tools I used this time were surveys, students' diaries and observation records. Students were also asked to fill in the questionnaires and write their reflection in their diaries after the performance so that I could find out how far singing together with a dance and a mini-drama had increased their motivation and confidence to speak English.

Data Analysis and Results

The first cycle

The questionnaire results collected in the first cycle were positive. In September, 75% of students spoke in English to their classmates and teachers during the English classes, with 3.1%, 12.5%, 31.3%, 28.1% and 25% stating "all the time", "always", "sometimes", "seldom" and "never" respectively.

Table 1 Changes in the habit and frequency of speaking in English

In the beginning of the school year (Early September, 2011)		
1a. Did you speak English to your classmates and teachers **during** English classes?	Yes No	24 8
1b. Refer to Q.1a – If yes, how often did you speak in English to your classmates and teachers during English classes?	All the time Always Sometimes Seldom Never	1 4 10 9 8
2a. Did you speak in English <u>outside</u> classes?	Yes No	6 26
2b. Refer to Q.2a – If yes, when did you speak in English outside the classes?	Recess, lunch break	
At the end of the first term (after the singing contest)		
3a. Do you speak English to your classmates and teachers <u>during</u> English classes now?	Yes No	28 4
3b. Refer to Q.3a – If yes, how often do you speak English to your classmates and teachers during the English classes now?	All the time Always Sometimes Seldom Never	5 8 11 4 4
4a. Do you speak English <u>outside</u> classes now?	Yes No	22 10
4b. Refer to Q.4a – If yes, when do you speak English outside classes now?	Recess, lunch break, in the park, at home	

* There are 32 students in this class.

The population of students who spoke in English to their classmates and teachers during the lesson increased from 75% to 87.5%, with 15.6%, 25%, 34.4%, 12.5% and 12.5% of them stating "all the time", "always", "sometimes", "seldom" and "never" respectively. Students spoke in English more often after choosing to sing an English song in the singing contest. Only 18.8% of students spoke in English outside the lesson in September. However, this proportion rose sharply to 68.8% at the end of the first term after the singing contest. Students spoke in English not only during recess and lunch breaks but also outside the school, such as: in the park and at home. The findings were encouraging, showing that their attitude towards speaking in English was positive.

Three out of four students enjoyed themselves in the performance. They all told me that they had never thought of having the courage to sing in English in front of their schoolmates. Three students said that songs could motivate them to speak more English because they could learn more vocabulary from the lyrics. Three others also reported that they spoke more English when they discussed something about the song. As one student said, "The learning atmosphere was less threatening, so I was more willing to express my ideas in English." Four of them told me that they had gained slightly more confidence in speaking in English now.

There was a student, however, who had not enjoyed himself in the performance and even felt a bit embarrassed during the interview. He told me that he disliked this song because its theme was about love and the mood was sad, and wanted me to choose a song with a happy mood and closer connection to his daily experiences. Furthermore, four other students suggested that I should include a mini-drama and dance instead of just having some body movements. Their suggestions were all very constructive.

Curtis (2001, p.75) contend that teachers could learn "a great deal about themselves, their students and their teaching and learning environments through action research". I really did after going through the first cycle. At first, most of them, especially the boys, were shy and sang very softly. However, after understanding the meaning of the words and listening to the song several times, they found it easier to remember the pronunciation of some difficult words with the rhythm. I heard them singing not only in my lessons, but also during the recess and lunch break. They even requested me to sing as a motivator before starting the lesson. As Brown (2002, p.17) points out, "Motivation is one of the most important factors in your success in English". I believe that my students were motivated to speak as a result of my introducing this English song to them. I was glad to hear them speaking in English not only to me, but also to their friends and other teachers. I realized that it was a "good start".

The atmosphere is also a major factor for learning (Baird, 2001). As students felt more relaxed and found it easier to recite the lyrics through singing, they became more confident in speaking out too. Some students rewrote part of the lyrics in their weekly diary as follows:

*"I'm a small small boy
in a big big school
it's not a big big thing
if you can't see me"*

*"It's a small small bird
in the blue blue sky
it's not a big big thing
if you can't see it"*

*"It's a fierce fierce dog
in the big big house
it is dangerous
if you go in"*

I displayed the three lyrics on the board as encouragement and designed some activities based on them. I divided the class into groups of four. Each group chose one piece of work, made up a story and chose a leader to tell it to the whole class. They also tried to sing with the new lyrics. The level of anxiety was lowered even for the passive students after participating in these activities.

The interview feedback was valuable too. I should have selected the songs more carefully. The theme of "Big, Big World" was about love and my students did not have such experience. Morales (2008) states clearly that teacher should choose a song that has the right characteristics to fulfil students' needs and interest and can introduce new elements of the language that are wanted. In the next cycle, I should also choose songs and incorporate them with other activities like mini-drama and dance to further increase students' motivation and confidence to speak in English.

The second cycle

Table 2   The results of the questionnaires about the changes in students' attitudes towards speaking in English

Rating scale
4: very high (greatest) 3: high (great)   2: low (less) 1: very low (least) 0: no

In September 2011 (The beginning of this academic year)

Items – How would you rate your	4	3	2	1	0
1. Motivation for speaking English	4	7	15	2	4
2. Confidence in speaking English	1	2	13	8	8
3. The enjoyment of speaking English	7	7	2	6	10
4. Anxiety about speaking English	6	5	7	4	10

In December 2011 (After the singing contest)

Items – How would you rate your	4	3	2	1	0
1. Motivation for speaking English	5	15	8	2	2
2. Confidence in speaking English	4	8	13	4	3
3. The enjoyment of speaking English	8	8	3	8	5
4. Anxiety about speaking English	5	5	8	3	11

In late June 2012 (After the English Carnival)

Items – How would you rate your	4	3	2	1	0
1. Motivation for speaking English	17	12	2	1	0
2. Confidence in speaking English	13	11	3	3	2
3. The enjoyment of speaking English	16	6	6	3	1
4. Anxiety about speaking English	0	4	4	3	21

As shown in Figure 2, students' motivation level for speaking English in September 2011, December 2011 (after the singing contest) and late June 2012 (after the English Carnival) was rising throughout the school year. In the beginning, 12.5% of students had "no" motivation and only 12.5% had "very high" motivation for speaking English. However, the proportions dropped to 0% with "no" motivation and rose to 53.1% with "very high" motivation after the English Carnival.

Figure 2 Changes in students' motivation for speaking in English
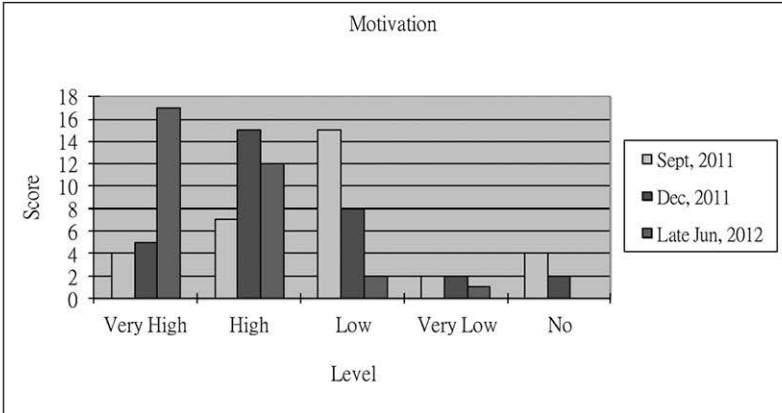
The results concerning the confidence in speaking in English throughout the school year were positive as shown in Figure 3. There were only 9.4% of students with high or very high levels of confidence in September 2011. This percentage rose sharply to 75% with high or very high levels after the English Carnival.

Figure 3 Changes in students' level of confidence in speaking in English
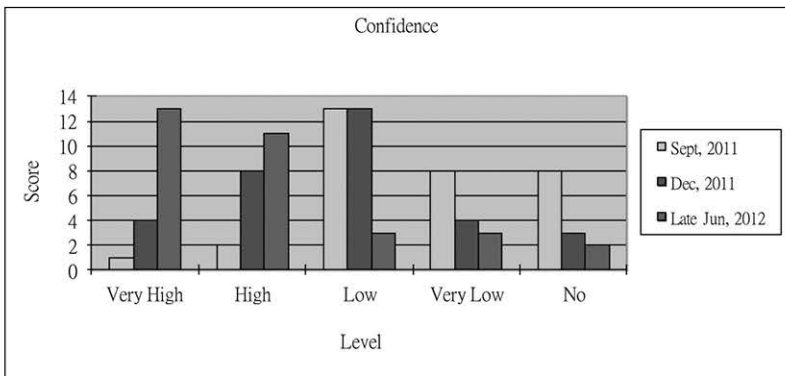
Students' enjoyment in speaking also kept on increasing throughout the year (Figure 4). The percentage of students with the "greatest" level of enjoyment of speaking English rose to 50% after the English Carnival. At the same time, the proportion of students with no anxiety in speaking rose from 31.3% in the beginning of the first cycle to 65.7% at the end of the second (Figure 5).

Figure 4　Changes in students' level of enjoyment for speaking in English
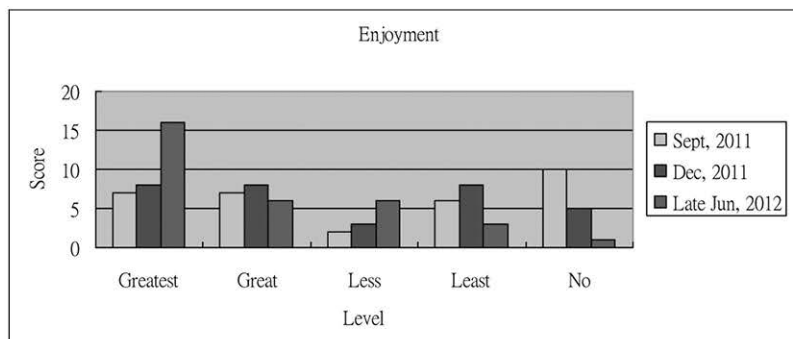
Figure 5　Changes in students' level of anxiety about speaking in English
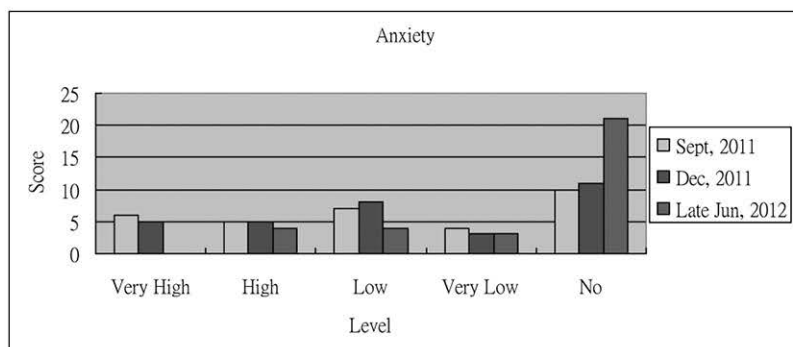
According to their own diaries, the changes in enjoyment and motivation are also encouraging and more students enjoyed learning and speaking English through a variety of activities. Some of their reflections were quite inspiring and impressive:

"I was an actress in this drama. At the beginning, I was afraid because I had to speak a lot of English in front of my schoolmates in the hall. Candy and Tina always said, 'You can do it.' We read the script in recess and after lunch. I read it to my dad, too. I am quite confident in speaking English now and I am not afraid of speaking English in front of people."

"I am very happy. I know some difficult words in the song, e.g. celebration, dreams come true and we're all stars. When I sing and dance, English is not so difficult. I speak more English now. I taught my mum how to sing the song. She is happy."

"I can speak in English to my friends now. Jerry, Marco and Lily taught me how to sing and dance so I could do it on the stage. I started to have an interest in learning and speaking English. I want to have many English lessons. I love singing English songs and dancing. Dancing helps me understand the meaning of some difficult words. I often listen to English songs on YouTube now."

"I am the narrator and need to present a long paragraph to my schoolmates on the stage. I have gained more confidence in speaking now. I think I can do it. I like speaking in English at school and outside the classroom. Although the practice was harsh, it gave me a lot of fun. I have learnt that team spirit and helping each other are very important for a good show."

"Last year, I had no confidence to speak English. This year, I have some confidence because I have spoken English in front of many people on the stage in the school hall. Ms. Lam is very friendly to me and always says, 'Tina, you can do it!' So I know I can do it."

"I am confident in speaking now. I was frightened but happy on the stage. I was an actor, singer and dancer. I didn't like English before but I like it now. I think I am a star. I feel a little bit proud of myself because I could do something that was impossible. If we always learn English like this, I can learn more."

"I have not had the experience of learning English in such a fun way before! I sang and danced at the same time. I sang the song to Ms. Lam. Ms. Lam was happy. I sang the song with my classmates. We sang the song very loudly and happily. Many teachers said we were very good."

A few of them were quite shy and dependent on their peers at first but they felt confident afterwards. I was happy to see them teaching each other to read the lyrics and scripts. I heard them speaking in English more often. The motivation and confidence to speak in English have increased obviously in this class. The classroom was filled with fun and laughter.

Body movements had been incorporated in the first cycle. Students' feedback from the interviews suggested that dance could be incorporated with singing just like drama. Both body movements and dance belong to the bodily/kinesthetic area of intelligence in Gardner's (1993) Multiple Intelligence Theory. Teaching through it could increase motivation and achievement in classroom assessment (Greenhawk, 1997). Students sang and had some body movements in the first cycle but they sang and danced in the second. Teachers used a wide range of techniques and methods to cater for learning diversity. The development of bodily/kinesthetic intelligence can certainly help to enhance motivation to speak in English in a fun-filled way.

Discussion

On the basis of the findings in this study, I strongly believe that songs are useful tools for learning English. The use of songs incorporated with other activities like a dance and a drama not only helps them develop speaking skills, but also help them internalize new vocabulary, improve pronunciation, intonation and fluency in a language-rich environment. Their anxiety level can be markedly lowered in such an encouraging and non-threatening atmosphere.

In the second cycle, I chose a song which was related to my students' experiences and interests. They told me that the experience was more challenging, enjoyable and fun. They helped and learned from each other. Their attitudes to speaking in English had changed too. Even the very quiet and unmotivated ones were willing to participate in the activities this time. Enjoyment and enthusiasm could motivate them, and they have a positive attitude now. Edge (1993, p.106) also supports this idea, saying "The more they enjoy the language skills, the more language ability they are likely to acquire." Most of my students could also realise the value of interaction in English.

Using songs incorporated with a dance and a mini-drama can help in vocabulary learning too. Drama with dialogue provides students with communication skills by placing them in a context that seems real. It makes the language easier to internalise and remember and can therefore support the learning of English as a foreign language. It was a valuable experience for my students to write a tailor-made drama script which was related to their real experiences. They were motivated to use English creatively. As a result, they were emphatic and gained a lot of satisfaction after the performance.

As a teacher, I have gained valuable experience too. When students work together cooperatively, they are capable of doing something that look impossible to achieve, such as: singing with difficult vocabulary and dancing at the same time. It was amazing that junior primary school students could perform such a good show. Both the peers' and teachers' encouragements had boosted their confidence in speaking. Dornyei (2001) also agrees that confidence can be promoted through experience with success and the reduction of anxiety.

Conclusion

The action research in this study involved inquiring into actual practices through a process of planning, acting, observing, reflecting and modifying on an issue in order to modify and enhance my teaching skills. Students' motivation and confidence to speak in English have increased as a result. The study allowed me to implicate, reflect, improve and innovate, and provided a stepping stone for me to further examine how to motivate students to speak English in Hong Kong.

Apart from teaching the materials in the course books, teachers should also use a variety of activities to nurture a language-rich environment for students to use and speak English with pleasure and joy. The data collected from students supported my assumption that using songs incorporated with other activities like body movements, dance and / or drama are effective in increasing their motivation and confidence to speak. Teachers should choose songs that students are interested in and familiar with, while bearing in mind that their own patience is also very important. Students are like babies who fall many times before they can walk. Teachers should accept that their students do make mistakes but students can find joy in speaking activities and thereby develop a positive attitude toward learning if all preparations are done. This view on the part of teachers would certainly help to increase students' motivation and confidence to acquire language ability and improve their speaking skills.

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Appendix - Drama script (We're Friends Forever)

Narrator: This story takes place in a P.3 class. Kelly comes from a broken family. Her parents left her since she was a baby. So, her grandmother took care of her. Until the day, her grandmother was in the hospital and was about going to die. Kelly's mother came from Canada and promised that she will take care of Kelly.

Candy	:	I'm going to leave this school. My grandmother is going to die and… (crying)
Damien	:	Yeah! Candy. Come and play together. It's fun! (shout loudly and happily)
Candy	:	No, Damien.
Tina	:	Candy, you look unhappy. What happened?
Candy	:	My grandmother is going to die… and I will have to leave my friends and teachers in this school…
Tina	:	Why?
Candy	:	I have lived with my grandmother since I was a baby. I don't know anything about my mother. She is a stranger to me. What I know is she lives in Canada. And… I need to leave my friends and teachers in this school.
Kelly	:	Hi. What happened?
Tina	:	Her grandmother is going to die and so she will leave us and live with her mother in Canada soon.
Kelly	:	Sorry, Candy.
Candy	:	It's ok. My grandmother wants me to be a good teacher. I want to be a teacher in Tin Shui Wai. I grew up in Tin Shui Wai. Many of my friends do not have parents to take good care of them and so I know a good teacher is very important for them. If I go to Canada, my dream can never come true.
Kelly	:	No, Candy. Even if you go to Canada, there are always children who need help. My uncle lives in Canada too and he told me that it was difficult to find a good English teacher in the China town.
Candy	:	So…
Kelly	:	No matter what happens, if we strive for our dreams, they will come true.
Tina	:	Yes. Even if you are going to leave this school, we will still be friends. We should work hard together and our dreams will come true one day.
Candy	:	Really?
Kelly	:	Yes!
Tina	:	Of course.

透過情景教學法提升幼兒運用代名詞的能力

溫志倫
善一堂安逸幼稚園

摘要

　　研究員在任教幼兒班（3-4 歲的幼兒）過程中，發現他們在談話及分組活動中，不清晰地運用代名詞。有時，幼兒會告訴教師：「我是我的老師。」其實幼兒是想表達「你是我的老師。」卻不懂得運用「你」字。幼兒在語言學習上有「自我」的傾向，一方面可反映幼兒在人稱代詞掌握與應用上，另一方面則可見於其在語言習得之上，如何受生活背景與已有知識影響（黃翼，1959）。以本研究員任教的地域為例，社區資源缺乏，照顧者甚少帶兒童出外，所以幼兒的生活經驗甚少。謝錫金（2006）曾引用 Huxley（1970）的研究，指出兩名實驗兒童的話語中，以「我」開頭的形式最為普遍（Lee, Wong & Leung, et al., 1996）對兒童在閱讀理解及運用「你」、「我」這些人稱代詞作出研究，發現兒童最先運用人稱代詞先是與「我」有關的。不僅是外國的兒童，就是中國兒童也有這種傾向。Tse（1990）以 60 名 3 歲至 5 歲 11 個月大的粵語兒童為研究對象，並按年齡及性別劃分為 3 個組別，結果發現所有組別兒童均會使用「我」、「你」，而「他 / 她」及「他們 / 她們」則出現得稍晚，且在 3 個年齡組別中亦不多用。陳幗眉（1995）指出兒童習得人稱代詞的次序為「我」、「你」，最後為距離自身最遠的「他」。反映兒童以自我中心之傾向。

　　皮亞傑的實驗表明，學前兒童的大部分談話，是屬於自我中心的。他亦指出，愈年幼的兒童愈會有自我中心的趨勢（Vygotsky, 2007）。研究員在任教期間觀察幼兒的語法，都屬於自我中心，而且有點混亂，例如自言自語以「我」為中心，並不有效地進行交流，亦不期望任何回答。有鑒於此，研究員選擇透過不同的情景及語文活動為研究的重點，透過活動從中幫助幼兒掌握口語表達的能力及運用代名詞的技巧。再者現時香港亦較少人探討及研究學齡前的兒童語文發展，期望給予幼兒教育的工作者一套新的語文發展體系以作參考。

研究目的、問題、方法

　　本研究期望能透過情景教學法，認識幼兒如何運用不同的代名詞，提升他們運用代名詞的能力，以及在不同情景下應用，提升幼兒正確使用人稱代詞的能力。

研究問題包括：
1. 情景教學法能否有效提升幼兒運用不同的代名詞的能力？
2. 情景教學法如何提升幼兒運用代名詞的能力？
3. 在哪一種情景下，幼兒能更有效運用代名詞？

本研究將全級 60 人平均分為三組，每組 20 人。研究者以三個月時間進行相關的教學計劃，為實驗組（一）及（二）進行教學，包括前測和後測，並以觀察記錄分析兩組幼兒對運用代名詞的能力。

研究假設透過以角色扮演（情景）教學的幼兒運用代名詞的能力比較強，以語文活動教學的幼兒運用代名詞的能力較為弱，假設教師所設計的情景教學法，是提升幼兒運用代名詞的重要元素，而幼兒學習代名詞是可以透過互動去掌握。

文獻回顧

謝錫金（2006）認為在學習或工作等活動上，我們都離不開語言，所以從小培養和發展幼兒的語言，讓幼兒正確地掌握語言是十分重要的。幼兒學會了語言，可以進行比較複雜的思維活動。語言可輔助幼兒學習，在幼兒教育的過程中具有重大的意義。不論向幼兒進行思想品德教育，或是教幼兒學習歌唱、繪畫、遊戲等，都必須運用語言。此外，只有幼兒具備一定的語言水平，才能聽懂老師和同伴的說話，接受教育和進行社交活動。因此不少學者提出幼兒的語言發展過程為社會化過程之體現（陳幗眉，1995；周兢，1997；黃瑞琴，1998）。

李池（1981）更深入地把代名詞「我」、「你」、「他」、「這」、「那」這五個詞分為兩類：「我」、「你」、「他」是一類、說語的人自稱為「我」；說話的人把聽話的人稱為「你」；說話的人向聽話的人說及另一個人，稱為「他」。邵敬敏（1999）認為這些詞不但出現的頻率特別高，用途特別大，個性特別強，而且用法也豐富多彩，如果不加以仔細的辨析，就會犯「錯誤」。其中代詞，主要起替代、指示、疑問三種作用，因此大體上可以分為三類：人類代詞，即是人稱代詞有：自己（我）、別人（你）、人家（他）、大家（我們）等。要注意的是「您」表示單數尊稱，至於表示複數的尊稱，以前常用「您二位」、「您幾位」等，近來「您們」已經在書面語上比較普遍地使用了，口語也偶爾可以聽到。

幼兒對語言的掌握均有一致性，就是從自我開始。黃翼認為幼兒最初掌握的語言是單字句，旨在表現嬰兒一己的需要、利益、情緒等。與其說是描述事實，倒不如說是熱切表示自己對事物的願望和態度有密切關係（黃翼，1959）。因此，陳幗眉指出兒童習得人稱代詞的次序為「我」、「你」，最後為距離自身最遠的「他」（陳幗眉，1995）。另外在 1970-90 年代的一些本地研究中，均發現兒童以本名代替「我」是頗常見的現象（Chan & Mak, 1992），亦反映兒童以自我中心之傾向。

呂叔湘（1998）主張學習語言的一般過程是「模仿→變化→創造」。幼兒學語言的第一步是模仿。在語言教學中要注意模仿的重要性。學習語言不是學

一套知識，而是學一種技能。大人說「給我一杯茶」，小孩子跟着說「給我一杯茶」，是模仿。說「給我一塊糖」，就是加以變化。把已經熟悉的語言材料下加入新的組織，也屬於變化，例如「把它吃了」和「吃得乾乾淨淨」組織成「把它吃得乾乾淨淨」。這些都是三四歲的兒童就能做到的。

幼兒能在不同的故事情景下，更有效地學習代名詞。Richards & Rodgers（1997）認為「情境語言教學法」主張口語為語言根基，而結構為口說能力的中心。它採用對文化教學的歸納式方法。單字或結構的含意，不是經由所教語言或當地語言的解釋而獲得，而是經由某種情景下所用形式的方法歸納出來。因此，這種教學法期望學習者，能透過某種情景下運用相關的字詞，引伸文法結構與字彙到新的情況中，是由歸納所產生的。研究員預期幼兒能應用其在課堂上所學語言於日常生活當中。

Richards & Rodgers（1997）引用 Pittman（1963），指出在學習初期，學習者被要求只聽與重複教師所說的，並且嘗試回答問題與命令。例如教師會由一些故事中，選擇一些適當的情景予學生聆聽。其後，教師鼓勵幼兒主動參與情景，在互動中運用相關的詞語。教師擔任三個主要的角色。在課程陳述（演譯情景）的階段，教師擔任模範，建立學習的語文結構所需的情況，請幼兒重複被仿效的新結構。教師要運用問題、命令及其他從學習者引出正確句子的提示。下一步，在課程實施的階段，教師在較少受控制的情況下，給予幼兒更多使用語言的機會。最後，教師要觀察幼兒的表現來整合課程，讓幼兒有修正及複習的機會。

研究方法

幼兒的口語發展，由字至詞，由詞至句，加上許政緩等（1996）指出兒童的語言發展對心理發展亦具備促進作用。以是次研究的代名詞為例，促使兒童間的互動和自我意識的發生，故此兒童在代名詞之習得亦是以「我」為先，「你」次之，與自身距離最遠的「他」則較後習得。因此，是次研究集中在幼兒運用代名詞的發展及概念的掌握。

本研究將透過對話錄音、筆記和整理，分析幼兒運用代名詞的各項表現。研究的實驗組（一）將會進行十四次教學活動，其中利用七份教學計劃，每個活動重複教學兩次，並且由「我」開始延展至「你」、「他／她（佢）」和日常生活環境。研究的實驗組（二）將會進行十五次教學活動，其中利用五份教學計劃，每個活動重複教學三次。然後，比較兩組幼兒的學習成果。

研究對象為三至四歲的幼兒（K1），研究員把全級幼兒共 60 人平均分為三組，每組二十人（不分男女及年齡，以隨機方式進行）。第一組（全日幼兒 A 班）利用情景教學法進行教學，並且重調幼兒以第三身的身份進行角色扮演，為實驗組（一）（假設幼兒是故事或情況中的一個角色，以該角色的身份回答相關問題）。第二組（全日幼兒 B 班）是透過語文活動進行教學，並且重調幼兒以第一身的身份進行互動學習，為實驗組（二）（即是，在幼兒回答問題時，以自己的身份來作答）。最後一組（上午幼兒班）為控制組，只會進行前測和後測，並且按校方編排的課程進行學習。

研究者會為實驗組（一）、（二）及控制組進行前測和後測。研究者以兩個月的教學計劃為實驗組（一）及實驗組（二）進行教學，計劃前後都會進行前測和後測，以觀察記錄分析兩組幼兒對運用代名詞的能力。本研究是採用行動研究法，行動研究是指研究員（教師）本身作為一個參與研究工作者，並且透過應用研究方法技巧，對個人的教育實務工作進行系統反思的過程。此研究是依從本人在教學經驗發現，剛入學的幼兒運用人稱代名詞表達及溝通感到困難，故此以幼兒班（三至四歲的幼兒）為主。目的在於透過活動提升幼兒運用代名詞的能力。研究者借助了觀察法和評量表來了解幼兒運用代名詞的能力。

研究者主要採用觀察法，對於幼兒運用代名詞的掌握，觀察幼兒的表現並做出觀察紀錄。研究工具是採用多元資料搜集法，主要是多角度收集資料，豐富分析素材。整個研究過程中主要以錄音進行，然後配以文字以紀錄內容及分析。對於幼兒使用代名詞表現能力的評估，研究者會運用參與性觀察，以降低幼兒的心理防衛和了解其真實的表現。由於要清楚個別幼兒對概念的認知，所以會透過焦點觀察進行事件取樣。目的在有系統地即時記錄幼兒的反應。而且，研究員會運用評量表作為測試工具。錄音筆會記錄整個活動過程。在活動後，研究者聆聽片段，並採用紙筆記錄及評量，測試在不同情景下幼兒對運用代名詞的能力。鑑於個人私隱的關係，故此上述數據在研究前已獲取校方及家長的同意，並承諾資料只作研究用途。

本研究步驟分為 1. 教學活動設計；2. 擬訂代名詞前測評量表；3. 教學活動的推行；4. 活動的觀察及記錄；5. 後測評量表；6. 資料整理分析與詮釋；7. 研究結果與討論；8. 因應研究結果進行反思，以分析教學活動的成效及深入討論。本計劃包括質與量的研究，所以會用評量表為三組幼兒進行前測和後測，分析三組幼兒在計劃前和計劃後對於代名詞的掌握，亦會用觀察法和軼事記錄來觀察幼兒在活動中表現。研究員會把整個教學過程錄音，以便分析使用。目的是了解在語文活動中有否促進幼兒對代名詞的掌握。

教學方面，會選擇在幼兒平日上課的課室進行，減低幼兒陌生的感覺，給予幼兒開放、安全及可以自由表達自己的環境下進行研究。在觀察方面，研究員會運用非掩飾觀察法，與幼兒一邊玩耍，一邊觀察。

對於質化的資料，研究員會比較及分析不同教學活動，對幼兒的學習表現的影響，以探討教學的成效和學習代名詞的成功原因。對於量化的資料，會以圖表方式，顯示研究結果，利用幼兒前測和後測的結果進行對比分析，了解情景教學對幼兒運用代名詞的成效。

研究結果

根據表一，研究結果的標準差，最常用作統計分佈程度。這些結果為非負數值，與數據資料具有相同單位。由於結果屬正數，而且數值亦少於 2，顯示這幾組數，都較為集中。即代表這些幼兒的個別差異較低，而且在學習後的標準差更有所下降。因此，在教學活動後有平均的增長，差異亦更進一步減少。這代表兩組幼兒的學習能力相當接近，同時反映活動的效果。

表一：控制組及實驗組在前後測的標準差

* 標準差（表現項目）	前測	後測
控制組	1.15	1.02
實驗組（一）	1.14	0.91
實驗組（二）	1.09	0.94

（* 標準差是比較兩組數的趨向性集中，例如：控制組與實驗組（一）作比較，以了解每組幼兒的整體表現。）

計劃推行的結果

　　研究結果顯示這兩種教法，均能提升幼兒運用代名詞的能力。從觀察紀錄中分析及觀察到兩組實驗組的兒童在經過教學活動後，能運用代名詞能力有不同程度的提升。參考表二，實驗組（一）在前測和後測的平均值有八倍多的增長；實驗組（二）在前測和後測的平均值有七倍多的增長，控制組在同樣的計算下則只有一倍多的增長。

表二：控制組及實驗組在前後測的平均數

* 平均數（表現項目）	前測	後測
控制組	1.45	1.75
實驗組（一）	1.4	11.75
實驗組（二）	2.05	8.95

（* 將一組兒童的表現總水平相加起來，再除以該組兒童的人數。）

　　這顯示兩個實驗組相對控制組都有增長。這反映兩個實驗組的教學活動具一定的成效。其中，兩個實驗組，都存在一定的差異。實驗組（一）對比實驗組（二）的增長較大。這顯示透過情景教學的成效較佳，形成實驗組（一）的幼兒在後測的表現項目有所提升（參考圖一）。

圖一：

情景教學提升代名詞的能力

實驗組(一)
實驗組(二)
控制組
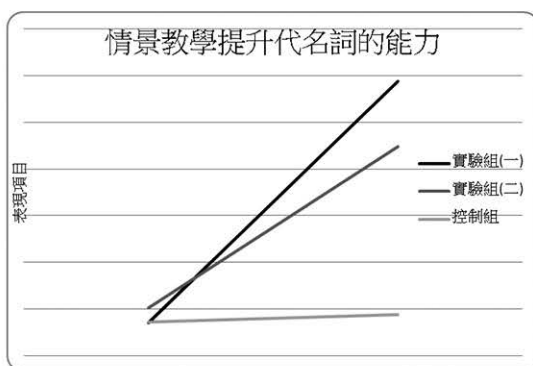
（前測與後測的增長率）

在表三中，研究員運用 T 檢定法來比較三組數據，若在 P 值大於 0.1 以上，即反映控制組數據是有所差異。由於，控制組的幼兒並沒有經驗過相關的教學活動，所以這些差異是幼兒生活經驗的累積而成。兩組實驗組的 P 值少於 0.01 以下，顯示著有非常明顯的差異。結果反映出是次研究能達至一定的效果。不過，研究員認為還有不足的地方，例如評量表的表現項目較少，未能全面及客觀地檢查幼兒的能力，建議增加表現項目。

表三：以下檢定法比較三組數據

	分數	P 值
控制組的平均增長 （後測 - 前測）	0.3	0.11*
實驗組（一）的平均增長 （後測 - 前測）	10.35	0.00** （2.47833E-18）成對
實驗組（二）的平均增長 （後測 - 前測）	6.9	0.00** （3.76521E-15）成對
實驗組（一）與控制組比較 （實驗組（一）－控制組）	9.5	0.00** （1.91809E-29）不成對
實驗組（二）與控制組比較 （實驗組（二）－控制組）	6.7	0.00** （5.11542E-24）不成對

* 差異達到 0.1 以上有所差異
** 差異達到 0.01 以下有顯著的差異

綜合上述，幾個表的數據都顯示兩種教學法都是有效的。若要知道哪一種較為有效，就必須再深入比較實驗組（一）與實驗組（二）的數據。首先，由平均增長率來看，可以得知實驗組（一）相對實驗組（二）有較大的增長。整體幼兒的學習表現較佳。在表三中，實驗組（一）與控制組的比較是 9.5，相對實驗組（二）的 6.7 高 2.8。這反映實驗組（一）的情景教學法更為有效。

討論

本港有關如何幫助兒童學習人稱代名詞的研究仍很缺乏，相關文獻甚少。本研究只可就有關課題作初步建議及分析。本研究發現，幼兒透過情景教學的課程後，對有關故事或情景中的人物十分好奇。他們亦會經常向研究員問及，書中的說話是由誰講述或表達。他們在情景中，不知不覺地明白人與人之間的關係。特別是相對實驗組（二）運用語文教學的幼兒，更表現出深感興趣。研究員觀察認為是有情景的代入，使幼兒能置身當中，投入活動。

黃翼（1959）指出幼兒在語言學習上有「自我」的傾向，一方面可反映幼兒在人稱代詞的掌握與應用；另一方面則可見於其在語言習得之上，如何受生活背景與已有知識影響。由於情景教學法的活動內容，均為具生活化背景的素材，例如《有禮貌》及《良好的行為》等。所以當教材與幼兒的已有知識相關時，幼兒是較為容易掌握和應用。

在後測中，相對實驗組（二）的幼兒學習表現上，可以觀察到情景教學法的幼兒表現較佳。其中，研究員發現他們在運用「他」的能力上更為明顯。與呂叔湘（1998）所主張的接近，學習語言的一般過程是「模仿→變化→創造」。因此，在教學活動中，研究員會給予幼兒機會模仿情景中人物的對話。經過模仿後，幼兒可以互相交換人物角色，產生變化形成新的經驗。幼兒並能在生活中按實際需要來創造及使用代名詞。由於上述的因素及在有系統的情景下，這種教學法的成效較切合幼兒的需要。

在實驗組（二）的語文活動中，後測結果顯示幼兒在掌握「我」和「你」的能力有明顯的提升。研究員在檢視課程中，可以得知原因。在第一個活動中，以認識自己，對「我」產生概念為開始。在活動中給予兒童照鏡子，教師從旁說出兒童的名字，讓兒童增加對自我的認識。教師告訴兒童鏡子中的人，就是「我」。活動中，幼兒開始運用「我」來代替自己的名字。活動二，就是在活動一的基礎上設計，並深化相關概念。例如教師利用四至五件日常物品，請兒童辨別自己的物件並說出這是屬於誰的，以學習運用句式「這是我的。」來表達屬於自己的物品。然後，研究員與兒童以電話對話及互相傳球的遊戲，來學習「你」和「我」。最後，活動四及五才涉及「他」的概念。雖然，「我」、「你」和「他」的概念，按陳幗眉（1995）指出，兒童習得人稱代詞的次序為「我」、「你」，最後為距離自身最遠的「他」的理念來設計，但是兒童在掌握「他」的概念上，卻未如理想。研究員認為是活動內容的概念不具體，有改善的空間，例如在玩滾球遊戲中，兒童不明白由「你」傳向「他」的概念。

這兩種教學活動除了能提升幼兒運用代名詞的能力外，研究員更發現活動對幼兒有其他的得益。在情景教學法中，教材的情景包括《有禮貌》及《良好的行為》等德育故事。幼兒在運用禮貌語方面亦有所提升。雖然，禮貌語並非本研究的項目，但是幼兒更明白如何與人相處，例如當兒童接受別人的幫忙後，會主動說「謝謝你」。

總結及建議

本研究目的是透過情景教學法，讓幼兒明白如何正確運用代名詞，並且促進幼兒同儕之間的互動，亦期望幼兒能正確地表達自己。研究員在兩種教學法當中，歸納出情景教學對幼兒相對較為有效。這些期望及目的，都透過是次研究來達到，也能提升幼兒運用代名詞的能力，即驗證研究的成效。

研究員在進行研究時，是根據不同文獻資料，再自行設計情景活動，也是行動研究之一，目的在於提升幼兒運用代名詞的能力。王文科（1991）提出行動研究的目標是把研究方法應用於教室情境中的教育問題，以提升學生的能力。所以，情景活動的目標十分明確，就是解決小朋友自我表達的需要。

研究員運用全級幼兒班來進行是次研究。由於研究員主要在推行計劃的班別中試教，所以無法準確深入地分析每組幼兒之間的分別，亦未能準確分析幼兒班兒童平日的學習情況及生活經驗。因此，研究員建議下次可以利用上午及下午班，由研究員負責擔任教師，就更能觀察幼兒的學習情況。再者，全級幼兒的人數眾多，研究員需花很多時間進行評估及教學，建議增加研究人員的數量，以更有效地收集數據，同時透過共同備課及反思，了解兒童的能力及不同

教學法的成效，並且有系統地進行研究。

此外，透過是次研究，研究者建議可以把整個相關的教學活動推行到全校實施，讓每一位兒童都能透過語文活動，提升他們運用代名詞的能力。研究員有關透過是次研究，能與從事幼兒教育的同工分享、互相學習。過程中更讓研究員明白到研究的意義，嘗試更多不同的教學方法以提升兒童的能力。

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附件一

教學計劃－包括實驗組（一）和實驗組（二）

情境教學（一）
活動日期：2011 年 11 月 29 日－12 月 1 日
地點　　：課室
任教老師：溫志倫主任
班別　　：全日幼兒 A 班（實驗組一）
人數　　：20 位兒童
形式　　：每二十分鐘為一節，以分組形式進行扮演。
教學目標：
1.　學習以情景形式，運用代名詞（主要是「我」）。
2.　透過情景來學習代名詞。
3.　培養幼兒在互動使用代名詞。

時間	教學內容	教具/教材	注解
60mins	1.　教師展示圖卡，給幼兒欣賞。 2.　教師提問幼兒圖卡的內容，並且引導幼兒說出情景中角色在做甚麼？ 3.　教師透過《好品德》的故事情景來引導幼兒說出代名詞。 4.　教師說出故事的內容，並示範如何在適當的情景下正確地運用代名詞如： 　✓　青菜、肉、蛋我都吃，不挑食營養才會均衡。 　✓　弟弟、妹妹年紀小，我會幫忙照顧他們。 　✓　洗完手記得關水龍頭，才不會浪費水資源。 　✓　早睡早起，睡眠充足，我每天都很有精神啊！ 5.　教師請幼兒覆述一次情景中的對話。 6.　教師重調及介紹情景中所運用的代名詞，例如：我。 7.　請幼兒進行模擬遊戲，教師從中觀察是否正確。 8.　在模擬遊戲中，教師請幼兒向對象說話時要用手指向着他，以帶出第二身或第三身代名詞。 9.　重溫一次活動的情境。 10.　鼓勵幼兒作句，表達自己：我會＿＿＿＿＿＿＿。	故事書及圖卡	

情境教學（二）
活動日期：2011 年 12 月 6 日－12 月 8 日
地點　　：課室
任教老師：溫志倫主任
班別　　：全日幼兒 A 班（實驗組一）
人數　　：20 位兒童
形式　　：每二十分鐘為一節，以分組形式進行扮演。
教學目標：
1.　學習以情景形式，運用代名詞（主要是「我」和「你」）。
2.　透過情景來學習代名詞。
3.　培養幼兒在互動使用代名詞。

時間	教學內容	教具/教材	注解
60mins	1.　教師展示圖卡，給幼兒欣賞。 2.　教師提問幼兒圖卡的內容，並且引導幼兒說出情景中角色在做甚麼？ 3.　教師透過《好品德》的故事情景來引導幼兒說出代名詞。 4.　教師說出故事的內容給幼兒，並且示範如何在適當的情景下正確地運用代名詞，如： 　✓　我會把髒衣服放進洗衣籃，不會到處亂丟，製造髒亂。 　✓　哎喲！不小心跌倒了！沒關係！我會自己爬起來。 　✓　吃完東西後，我會把紙盒丟進垃圾桶裏。 　✓　朱古力蛋糕看起來很好吃呀！我會和妹妹一起分享。 　✓　我會愛惜玩具，不玩時就放進玩具箱。 　✓　爺爺、嫲嫲最疼我了，我應該尊敬孝順他們。 　✓　媽媽煮飯很辛苦，我會幫忙擺碗筷。 　✓　我最勇敢，不怕看牙醫，定期檢查，才不會蛀牙。 　✓　我不會隨便採摘花朵，漂亮的花應該讓大家欣賞。 5.　教師請幼兒覆述一次情景的對話。 6.　教師重調及介紹情景中，所運用的代名詞，例如我和你。 7.　教師提問幼兒上述的情景是否正確。 8.　請幼兒進行模擬遊戲，教師從中觀察是否正確。 9.　在模擬遊戲中，教師請幼兒向對象說話時要用手指向着他，以帶出第二身或第三身代名詞。 10.　重溫一次活動的情境。 11.　鼓勵幼兒作句，表達自己：我會＿＿＿＿＿＿。	故事書及圖卡	

情境教學（三）
活動日期：2011 年 12 月 13 日－12 月 15 日
地點　　：課室
任教老師：溫志倫主任
班別　　：全日幼兒 A 班（實驗組一）
人數　　：20 位兒童
形式　　：每二十分鐘為一節，以分組形式進行扮演。
教學目標：
1. 學習以情景形式，運用代名詞（主要是「我」、「你」和「他」）。
2. 聆聽情景內容說出相關的代名詞。
3. 培養幼兒在互動使用代名詞。

時間	教學內容	教具/教材
60mins	1. 教師展示圖卡，給幼兒欣賞。 2. 教師提問幼兒圖卡的內容，並且引導幼兒說出情景中角色在做甚麼？ 3. 教師透過《有禮貌》的故事情景來引導幼兒說出代名詞。 4. 教師說出故事的內容給幼兒，並且請幼兒用心聆聽情景內容，指出相關的代名詞，如： 　✓ 需要別人幫忙的時候，我會說：「請你幫我，好嗎？」 　✓ 走路不小心撞到人時，我會很有禮貌地說聲：「對不起！」 　✓ 東東把心愛的玩具借給我玩，我會對他說：「謝謝你！」 　✓ 看到行動不便的人，我會讓座，並小心扶持他。 　✓ 在街上，遇到朋友真開心，我會跟他打招呼，問聲：「你好嗎？」 　✓ 早上，爸爸準備出門上班，我會到門口送他，並揮手說：「再見！」 　✓ 到公園溜滑梯，我會排隊輪流玩，這樣大家又能玩得開心。 　✓ 看見行動不便的老公公要過馬路時，我會幫忙扶他安全過馬路。 　✓ 我會排隊等候巴士，也會遵守秩序上下車，絕不爭先恐後。 5. 教師請幼兒覆述一次情景的對話。 6. 教師重調及介紹情景中，所運用的代名詞。 7. 請幼兒進行模擬遊戲，教師從中觀察是否正確。 8. 教師抽取學生，進行與教學情景相關的提問。	故事書及圖卡

情境教學（四）
活動日期：2012 年 1 月 10 日－1 月 12 日
地點　　　：課室
任教老師：溫志倫主任
班別　　　：全日幼兒 A 班（實驗組一）
人數　　　：20 位兒童
形式　　　：每二十分鐘為一節，以分組形式進行扮演。
教學目標：
1.　　學習以情景形式，運用代名詞（主要是「我」、「你」和「他」）。
2.　　為不同的情景內容配上相關的代名詞。
3.　　培養幼兒在互動使用代名詞。

時間	教學內容	教具/教材
60mins	1.　教師展示圖卡，給幼兒欣賞。 2.　教師提問幼兒圖卡的內容，並且引導幼兒說出情景中角色在做甚麼？ 3.　教師透過《有禮貌》的故事情景來引導幼兒說出代名詞。 4.　教師說出故事的內容給幼兒，並且請幼兒用心聆聽情景內容，指出相關的代名詞，如： 　✓　吃完飯要離開座位時，我會將椅子歸位，並說：「請慢用！」 　✓　上完廁所，我不但會洗手，還會將衣服整理好再離開。 　✓　進入別人的房間前，我一定記得先敲門，絕不會冒冒失失闖進去。 　✓　爸爸媽媽工作很辛苦，當他們休息時，我一定會輕聲走路才不會吵醒他們。 　✓　吃飯的時候，我會細嚼慢嚥，不會敲打碗筷，以免造成別人的困擾。 　✓　打噴嚏的時候，我會用手遮住口鼻，這樣才有禮貌。 5.　教師請幼兒覆述一次情景的對話。 6.　教師重調及介紹情景中所運用的代名詞。 7.　請幼兒進行模擬遊戲，教師從中觀察是否正確。 8.　教師抽取學生，進行與教學情景相關的提問。 9.　教師會展示新的圖片，請幼兒為圖片配上適合的情景。	故事書及圖卡

情境教學（五）
活動日期：2012 年 1 月 17 日－1 月 19 日
地點　　：課室
任教老師：溫志倫主任
班別　　：全日幼兒 A 班（實驗組一）
人數　　：20 位兒童
形式　　：每二十分鐘為一節，以分組形式進行扮演。
教學目標：
1.　學習以情景形式，運用代名詞（主要是「我」、「你」和「他」）。
2.　為不同的情景內容配上相關的代名詞。
3.　培養幼兒在互動使用代名詞。

時間	教學內容	教具/教材
60mins	1.　教師展示圖卡，給幼兒欣賞。 2.　教師提問幼兒圖卡的內容，並且引導幼兒說出情景中角色在做甚麼？ 3.　教師透過《衛生與保健》的故事情景來引導幼兒說出代名詞。 4.　教師說出故事的內容給幼兒，並且請幼兒用心聆聽情景內容，指出相關的代名詞，如： 　✓　我不會撿地上的東西吃。 　✓　我會注意口腔衛生，經常保持口腔清潔。 　✓　弟弟最愛哭了，我更要和他玩呢！ 　✓　我和明明是好朋友。 　✓　吃飯的時候，我會細嚼慢嚥，否則會肚子痛。 　✓　打噴嚏的時候，我會用手遮住口鼻，這樣才有禮貌。 5.　教師請幼兒覆述一次情景的對話。 6.　教師重調及介紹情景中所運用的代名詞。 7.　請幼兒進行模擬遊戲，教師從中觀察是否正確。 8.　教師抽取學生，進行與教學情景相關的提問。 9.　教師會展示新的圖片，請幼兒為圖片配上適合的情景。	故事書及圖卡

情境教學（六）
活動日期：2012 年 2 月 14 日－16 日
地點　　：課室
任教老師：溫志倫主任
班別　　：全日幼兒 A 班（實驗組一）
人數　　：20 位兒童
形式　　：每二十分鐘為一節，以分組形式進行扮演。
教學目標：
1.　學習以故事形式，運用代名詞。
2.　透過聆聽故事來學習代名詞。
3.　培養幼兒在互動使用代名詞。

時間	教學內容	教具/教材
60mins	1.　故事講述 2.　教師請幼兒先觀察圖片後，再說出故事情景。 3.　《毛蟲家族去購物》 這一天，毛蟲爸爸和毛蟲媽媽帶着小毛蟲來到了城裡最大的購物中心。小毛蟲好喜歡跟着爸爸媽媽去購物！他們東看看、西瞧瞧，挑選自己最喜歡的東西。 　✓　班班他選了一盒玉米片；艾兒則挑了一罐軟糖；小布藍尼拿了一盒巧克力夾心餅。 　✓　毛蟲媽媽把要買的東西放進手推車裡，毛蟲爸爸推着車子跟着走。 　✓　他們準備要去收銀處結帳時，遇見了松鼠太太史庫琪。史庫琪太太也來買東西。她買了許多許多，手推車裡的東西多到都掉出來了。 　✓　班班、艾兒和小布藍尼趕緊幫史庫琪太太把東西撿起來，小心地放回手推車裡去。 　✓　小毛蟲合力幫忙史庫琪太太把沉重的手推車推到收銀處前。史庫琪太太對小毛蟲說：「太謝謝你們了！你們真是個好孩子！」 　✓　毛蟲爸爸和毛蟲媽媽看見小毛蟲能主動幫助別人，心裡很高興。毛蟲爸爸還為他們各人買了一個冰淇淋甜筒作為獎勵呢！ 4.　分組扮演及提問一些情景下如何使用代名詞。 5.　教師請幼兒覆述一次情景的對話。 6.　教師重調及介紹情景中，所運用的代名詞。 7.　請幼兒進行模擬遊戲，教師從中觀察是否正確。 8.　教師抽取學生，進行與教學情景相關的提問。	故事書

情境教學（七）
活動日期：2012 年 2 月 21 日－23 日
地點　　：課室
任教老師：溫志倫主任
班別　　：全日幼兒 A 班（實驗組一）
人數　　：20 位兒童
形式　　：每二十分鐘為一節，以分組形式進行扮演。
教學目標：
1. 學習在日常生活中運用代名詞。
2. 透過模擬遊戲來學習代名詞。
3. 培養幼兒在互動使用代名詞。

時間	教學內容	教具/教材
60mins	1. 教師展示之前所學習的情境，請幼兒講述內容。 2. 分組扮演及提問一些情景下如何使用代名詞。 3. 教師請幼兒覆述一次情景的對話。 4. 教師重調及介紹情景中所運用的代名詞。 5. 請幼兒進行模擬遊戲，教師從中觀察是否正確。 6. 教師抽取學生，進行與教學情景相關的提問。 7. 教師製作模擬日常生活的環境，請幼兒運用正確的代名詞來表達。	圖卡

實驗組（二）語文活動（一）

活動日期：2011 年 11 月 28 日－12 月 2 日
地點　　　：課室
任教老師：溫志倫主任
班別　　　：全日幼兒 B 班（實驗組二）
人數　　　：20 位兒童
形式　　　：每十五分鐘為一節，以分組形式進行，每組五位幼兒。

教學目標：

1. 初步認識自己，對「我」產生概念。
2. 能作自我稱呼。
3. 學習運用句式：「我叫（兒童的名字）。」

時間	教學內容	教具/教材	注解
15mins	1. 給兒童照鏡子或欣賞自己的照片，教師從旁說出兒童的名字，讓兒童增加對自我的認識。 2. 教師告訴兒童鏡子中的人，就是「我」。 3. 教師展示自己的名牌，告訴兒童這是我的。 4. 教師利用貼有兒童照片的名牌，教他讀自己的名字，然後問：「你叫乜名？」鼓勵他說出自己的名字，我叫＿＿＿＿。 5. 分組時，請兒童選擇不同的名牌，逐一到教師面前，先說出自己的名牌，然後說出句式「這是我的名牌」。	－照片 －鏡子 －名牌 －自製名牌	個人方式，單對單進行 小組教學

教學活動
實驗組（二）語文活動（二）
活動日期：2011 年 12 月 5 日－9 日
地點　　：課室
任教老師：溫志倫主任
班別　　：全日幼兒 B 班（實驗組二）
人數　　：20 位兒童
形式　　：每十五分鐘為一節，以分組形式進行，每組五位幼兒。
教學目標：
1.　初步認識「你」和「我」的概念。
2.　在互動的情況下，運用「你」和「我」。
3.　學習運用句式：「我想要，　　　。」

時間	教學內容	教具/教材	注解
15mins	1.　教師展示不同兒童的物品。 2.　利用四至五件日常物品，請兒童辨別自己的物件並說出這是屬於誰的。如：「條手巾邊個呀？」「這是我的。」「個書包邊個呀？」「這是你的。」 3.　跟兒童開茶會，教師詢問兒童。如：「邊個想食蛋糕？」「邊個想飲汽水？」 4.　鼓勵兒童以「我」來代替自己的名字來表示需要，並且學習句式：「我想要，　　　。」 5.　教師展示兒童的看圖認字卡片，把它們分成兩份，兒童和教師各持一份。 6.　教師拿出一張卡片，向兒童：「我有一尾魚，你有甚麼？請你給我看一看。」 7.　教師請兒童拿出一張卡片說：「我有一輛小汽車，你有甚麼？請你給我看一看。」 8.　遊戲可反複進行，或請兩位兒童自己進行小組互動。	日常物品 認字卡片	小組教學

教學活動
實驗組（二）語文活動（三）
活動日期：2011 年 12 月 12 日－16 日
地點　　　：課室
任教老師：溫志倫主任
班別　　　：全日幼兒 B 班（實驗組二）
人數　　　：20 位兒童
形式　　　：每二十分鐘為主題活動，以分組形式進行，每組五位幼兒。
教學目標：
1.　在互動的情況下，運用「你」和「我」的能力。
2.　學習使用電話的方法。
3.　培養兒童使用代名詞的能力。

時間	教學內容	教具/教材	注解
60mins	1.　教師展示電話，並且提問幼兒如何使用它。 2.　教師請幾位學生嘗試使用電話。 3.　教師請其中一位兒童跟他玩打電話遊戲，以對答式來進行，如 　　「你好！」「我是老師。」 　　「你係邊個？」「明仔？」 　　「係邊個搵佢？」「陳小明」等 4.　教師示範後，再請幾位學生嘗試使用電話，並且從中觀察。 5.　教師請兒童在分組活動中，請兒童使用電話進行互動。	電話	全班 （主題教學） 兩人一組

教學活動
實驗組（二）語文活動（四）
活動日期：2012 年 1 月 9 日－13 日
地點　　：大肌肉室
任教老師：溫志倫主任
班別　　：全日幼兒 B 班（實驗組二）
人數　　：20 位兒童
形式　　：每十五分鐘為一節，以分組形式進行，每組五位幼兒。
教學目標：
1.　初步認識「你」、「我」和「他」的概念。
2.　在互動的情況下，運用「你」、「我」和「他」。

時間	教學內容	教具/教材
60mins	1.　與兒童坐在地上玩滾球遊戲，一面玩，一面說：「碌俾你」。（以小組形式進行，教師強調「俾你」的代名詞）	波
	2.　兩位教師（A、B）與兒童一起吃果仁，A 將果仁給 B，並說：「俾你」，然後 B 將果仁交予兒童，並說：「俾你」，請兒童將果仁交予 A，並模仿以上說話。（可以利用以上三人組合，進行其他活動並教導其他代名詞）	果仁
	3.　教師分辨出示屬於自己的東西，並說：「我嘅。」及分辨屬兒童的東西，並說：「你嘅。」然後請兒童做。	
	4.　教師問：「邊個有手巾？」「邊個着咗鞋？」要求兒童舉手並答：「我嘅/你嘅。」	
	5.　教師與兒童各有數件不同的食物，教師問：「邊個有百力滋？」並示範答：「我有」，然後問一樣的兒童有而教師無的食物，如：「邊個有糖果？」示範答：「你有」然後輪到兒童作答。（可增加人數帶出「他」的代名詞）	食物 圖片
	6.　利用有關人物圖片，教師問「佢係邊個？」「佢做緊乜野？」等要求兒童亦使用「佢」的代名詞作答，如「佢係媽媽！」或「佢食野」等。	

教學活動
實驗組（二）語文活動（五）
活動日期：2012 年 1 月 16 日－20 日
地點　　：音樂室
任教老師：溫志倫主任
班別　　：全日幼兒 B 班（實驗組二）
人數　　：20 位兒童
形式　　：每三十分鐘為一節，以小組教學形式進行，每組十位幼兒。
教學目標：
1. 認識「你」、「我」和「他」的概念。
2. 明白在互動下，非參與及距離自身最遠的是「他」。

時間	教學內容	教具/教材	注解
60mins	1. 教師介紹兒歌《老師喜愛…》 2. 請兒童聆聽教師朗讀示範。 3. 教師請學生以圓形的方式坐下，教師站在圓的中心。 4. （兒歌）老師喜愛我我我（請幼兒用手指指向自己），老師喜愛你你你（請幼兒用手指指向教師，以回應互動者），老師喜愛他他他（請幼兒用手指指向身邊的一位小朋友） 5. 教師利用手指棒與個別兒童對唱。 6. 教師利用手指棒與小組兒童對唱。 7. 教師利用手指棒與全班兒童對唱。 8. 教師請輪流兒童出來圓的中心，來帶領其他兒童唱歌。	手指棒	音樂活動

附件二

評量表

表現項目	表現水平	
	能達到	未能達到
1. 掌握姓名外，運用「我」的能力。	知道相片內的小朋友是自己，能說出句式「這是我的相片」、或「（兒童的姓名）是我」。	知道相片內的小朋友是自己，卻未能正確地表達相片中的內容。
2. 知道「我」是有意義，代表屬於自己的東西。	知道這些物品，都是屬於自己，並且能說出「全部（物品的名稱）都是我的。」	知道這些物品，都是屬於自己，卻未能正確地表達有關的內容。
3. 初步分辨「你」和「我」的所代表的用途。	明白一條毛巾是屬於成人；另一條毛巾是屬於自己，能正確地說出「一條毛巾是你。」及「一條毛巾是我。」	明白兩條毛巾分別是屬於誰，但未能正確地表達有關的內容。
4. 分辨「你」和「我」的意義。	會分辨兩類不同的物品是屬於誰，能說出「這是我的。」或「這是你的。」等句式來表達。	知道這些物品，都是屬於誰，卻未能正確地表達有關的內容。
5. 運用「你」的能力，進行提問。	明白在互動對話下，運用「你」來提問同學相關的問題。	未知道如何運用適合的代名詞進行提問。
6. 初步運用「他」的能力。	在第一條提問後，懂得正確地運用「他」來表達課室中的其他小朋友。	經過兩條問題後，只能說出班中其中一位幼兒的名稱。
7. 在適當的情景下，運用「他」的能力。	明白成人與幼兒互動下，為距離自身最遠的「他」，並且以「他」作為回答。	不能掌握正確地運用「他」的能力。
8. 在適當的情景下，運用「他」的能力。	明白成人與幼兒互動下，明白圖中的小朋友卻不在其中，並且以「他」作為回答。	不能掌握正確地運用「他」的能力。
9. 運用「他」的能力。	明白教師與幼兒互動下，另一位幼兒為「他」，並且以「他」作為句子的開始。	不能掌握正確地運用「他」的能力。
10. 在適當的情景下，運用「你」、「我」、「他」的能力。	在對話中能正確地理解及運用「你」、「我」、「他」來配合情景。	不能掌握正確地運用「你」、「我」、「他」的能力。
11. 在適當的情景下，運用「我」的能力。	明白運用「我」來，表達自己的需要。	不懂得運用「我」來，表達自己的需要。
12. 在適當的情景下，運用「你」的能力。	懂得運用「你」來，向同儕進行互動。	不懂得運用「你」來溝通。
13. 在適當的情景下，運用「他」的能力。	透過情景理解人物的關係，並且利用「他」來表達。	未能理解情景人物的關係，不會利用「他」來表達。

附件三

前測、後測的問題

教師以個別形式向兒童進行以下提問，了解兒童對運用代名詞的各項目能力：

教師在事前提示幼兒在整個活動中，除了幼兒自己的姓名外，更應嘗試運用其他詞彙。

T：代表教師的提問內容：

項目一：掌握姓名外，運用「我」的能力。

展示一套全班幼兒的個人相片集，教師並指出相關幼兒的相片給幼兒看

T：小朋友，這幅相片內的人是誰？

答案：我/自己（要運用代名詞，不接受幼兒用自己的姓名）。

項目二：知道「我」是有意義，代表屬於自己的東西。

T：教師拿出幼兒的個人物品，包括：個人學生證、書包、親子週記及個人相片集（這些物品皆有幼兒的相片及姓名），教師把每一件物品提問兒童這是什麼？請兒童說出來，這些物品是誰的？

答案：我（的）/自己（的）（不接受幼兒用自己的姓名）。

項目三：初步分辨「你」和「我」的所代表的用途。

教師展示兩條毛巾，一條為紅色；一條為藍色。

T：教師讓兒童自己選擇其中一條毛巾，先提問幼兒手上的毛巾是誰，再提問幼兒邊個有他手上相反顏色的毛巾，例如：教師手上的毛巾是誰？

答案：我（的）/你（的）（不接受幼兒自己本身的姓名及教師的名稱）。

項目四：分辨「你」和「我」的意義。

兒童已能分辨四件物品，其中兩件是學生的個人物品；兩件是教師專用的物品是屬於誰？

T：小朋友！請你把物品分類，並告訴我它是屬於誰的？

答案：*這是你的，這是我的（不接受幼兒用自己的姓名及教師的名稱）。*

項目五：運用「你」的能力，進行提問。

T：你想問同學 X，誰是他的好朋友呢？應該說甚麼呢？

答案：*請問你的好朋友是誰呀？（不接受有同學X的名稱）。*

項目六：初步運用「你」的能力。

T：小朋友！課室內還有甚麼人呢？請幼兒選擇其中一位同學的名稱，再問幼兒可以用甚麼詞語來表示？

答案：*他（不接受有同學的名稱）。*

項目七：在適當的情景下，運用「他」的能力。

T：教師與幼兒互動期間，提問幼兒你的校服和誰一樣，再問幼兒可以用甚麼詞語來表示？

答案：*佢（他）（不接受有同學的名稱）。*

項目八：在適當的情景下，運用「他」的能力。

T：請觀察以下圖片，這位小朋友在做甚麼呢？

答案：*佢（他）在做功課。*

項目九：運用「他」的能力。

T：教師讚賞幼兒 X 今天樂於助人，你又會說甚麼呢？

答案：*佢（他）好乖。*

項目十：在適當的情景下，運用「你」、「我」、「他」的能力。

T：教師出示對話機，告訴幼兒：「你好！我是老師，請問你是誰？」及「你想請哪一位小朋友聽電話（請指出來）？」

答案：*我是XXX，我想找他（佢）。*

項目十一：在適當的情景下，運用「我」的能力。

T：你想向教師表達，要去洗手間，應該說甚麼呢？

答案：我想去洗手間。

<u>項目十二：在適當的情景下，運用「你」的能力。</u>
T：圖中這位小朋友未清潔雙手，就想進食蛋糕。你會說甚麼使他洗手呢？
答案：請你洗手。

<u>項目十三：在適當的情景下，運用「他」的能力。</u>
T：美美告訴你，圖中這位小朋友幫她找到她的小狗。你認為是誰的行為正確呢？
答案：佢（他）。

例証

T：代表教師　　　C：代表兒童

在語文活動中兒童的表現：

例証一
T：你在鏡中看到甚麼呀？（教師指着鏡子）
C：達明囉！
T：係呀！還有呢？
C：有鼻，有口，
T：係呀！個鼻同口係邊個嫁？
C：達明嫁！
T：對啦～你可以講這是我的鼻和口。
T：（教師請幼兒指着鏡子）教師請幼兒說出這是我

例証二
T：小朋友！這條毛巾是邊個嫁？（教師手中拿着）
C：係老師！
T：除了叫老師還可以叫甚麼呢？
C：五知道！
T：這條毛巾係五係你手上呀？
C：無呀！
T：係老師手上，不是係你手上，你可以說不在我手上
C：係呀！我無呀！因為，係你手上囉！

例証三
T：如果有人需要別人幫忙的時候，你會說甚麼？
C：我會說：「請你幫我，好嗎？」
T：如果有人把心愛的玩具借給你玩的時候，你會說甚麼？
C：我會對他說：「謝謝你！」

例証四
T：如果在街上，遇到朋友的時候，你會說甚麼？
C：我會對他說：「你好嗎？」

四至五歲兒童對地球地心吸力迷思的概念轉變

黃晨芸
國際英文幼稚園

摘要

關於兒童對地球的知識學習，兒童的樸素理論（naïve theory）有兩種看法，分別是一致的（coherent）或分散的（fragmented）（Marthe, Han & Brenda, 2008）。透過「指向概念轉變教學」的教學策略，結果顯示能有效地改變 4-5 歲兒童對地球（地心引力）的概念轉變。也發現兒童對地球知識的學習是一致的，即能夠回答「為甚麼」問題（鄧賜平等，2002）。

引言

在台北市的國科會目標導向計劃成果報告中指出，科學教育常以小學中高年級以上學生為對象，較不重視低年級階段，更忽略了幼稚園階段，錯失培養科學和態度的重要時期。科學知識抽象難明，包括物理（地球）一向被認為不適合學前兒童應當深入探討的科目，故此關於兒童對地球的迷思，特別是在香港，相關的研究很少。這也帶出了一些問題：「兒童在甚麼時候才適合學習科學？」17 世紀的洛克，在反對「天賦觀念」的同時，提出了一個有名的論點，即「白紙説」。他指出「我們可以假定人心如白紙，沒有一切標記，沒有一切觀念」（洛克，1981，第 68 頁）。所以我們應反省是否低估了兒童的能力，從而一口咬定地球的科學概念與學前兒童完全無關？

研究目的及問題

本研究希望透過了解兒童對地球的迷思，從而制定一套關於地心吸力的有效教學策略。而研究問題則包括：
1. 兒童對地球（形狀）的迷思是甚麼？
2. 兒童對地球（地心吸力）的迷思是甚麼？
3. 比較「指向概念轉變的教學」與「教導式教學」，哪一種的教學策略更為有效？

文獻探討

關鍵字的定義

迷思概念：兒童進入課堂前就已在日常生活及以往的學習中形成了大量的經驗。這些經驗中有些與科學的解釋基本一致，有些與科學的解釋相違背，我們把這些違背科學解釋的概念稱為迷思概念（徐傑、張俊、李青、馬柳新，2009）。

概念轉變：是兒童對日常生活中已經形成的迷思概念，進行修正和改變的的過程（Posner, 1982）。

學者對兒童地球知識學習的不同觀點

關於兒童對地球的知識學習，兒童的樸素理論有兩種看法，分別是一致的（coherent）或分散的（fragmented）。Marthe , Han & Brenda（2008）的研究透過紙筆測試（paper-and-pencil test），收集大量數據，研究結果顯示兒童對地球的知識會隨着年齡的增長而慢慢了解，這亦支持了兒童對地球的樸素知識是分散的。

所謂兒童的認識是零散的，是指兒童認識與知識之間是有關係的，不具內聚性（內在一致性），兒童之前和之後的說法可以是互相矛盾的，認識沒有連續性。兒童的認識具有零散性，是不內聚的、不連貫的，因而這類的研究並不多見。DiSessa（參見 Reiner, et al., 2000）曾指出，兒童的知識僅僅是一些「碎片」（knowledge in pieces），是一些片段的搜集，鬆散地聯接在一起的知識點。

除此之外，亦有學者持有不同的見解。近期關於兒童樸素理論的研究表明，兒童對周圍世界的認識有獨特的模式。這些樸素理論認為「一個理論包含一系列關於某一領域實體，以及這些實體間關係的信念。理論尤其不同於其他類型的心理表徵，理論是解釋性的，能夠回答為甚麼的問題」（鄧賜平等，2002，第 23 頁）。也就是說，兒童關於物理、心理、生物的認識並不是零散的。相反，兒童在各領域的知識，是相互聯繫地使用一系列概念，並根據這些「關係」解釋和預測周圍的各種現象。因此本研究將會研究兒童對地球知識的習得，是分散的或一致的，如果結果顯示兒童可透過一些教學策略能有概念上的轉變，亦即證明兒童地球知識的獲得是一致的或不是零散的。

教學策略

「指向概念轉變的教學」乃相對於「教導式教學」，前者以兒童為中心，教學活動是針對兒童的迷思概念設計的，在教學過程中，教師尊重兒童並給予充分展現其迷思概念的機會，既重視兒童與物的互動，也重視人際的互動，使兒童通過與同伴和教師的交流，協調自己已有的信念，觀察多方面的事實證據（徐傑、張俊、李青、馬柳新，2009）。

　　皮亞傑的觀點指出，兒童是通過與環境的相互作用而建構知識的。他們不是等待命令，而是不停試圖弄清楚所面對的一切（Rosalind & Karen, 2003）。卡密（Constance Kamii）也認同皮亞傑對兒童獲取知識的觀點，他認為孩子通過遊戲和不同的活動解決了他們思想構成挑戰的問題時，應該受到獎勵，但過程中，孩子必須運用具體的材料去主動解決真正的問題（Rosalind & Karen, 2003）。

　　另一方面，著名的教育學家布魯納亦提出，科學學習的策略——發現學習，其特徵是教師與學習者在探索學習過程中的協助關係，學習者從探索中主動學習活動。當學習者遇到學習的分歧點，他們要作出選擇思維，決定解決問題之假設，總結所搜集之各種資料，繼而解決問題（陳峰津，1982）。

　　總結以上的學習策略理論，這與研究中所運用的「指向概念轉變的教學」理念是一致的，兩者均着重兒童與人或環境之間的互動和交流，讓兒童主動觀察，有充份探索的機會，當中必須要有實物的操弄和探索。

研究方法

一. 研究對象
學校： 國際英文幼稚園（九龍塘）
班級： 低班
年齡： 4-5 歲
人數： 4人（實驗組）　　女：2人　　男：2人
　　　 4人（對照組）　　女：2人　　男：2人

二. 研究過程
了解兒童的迷思過程
　　首先透過半結構式的問題（附件二），以歸納兒童對地球形狀和地心吸力的迷思，為彌補 4-5 歲兒童語言表達上的不足，老師請兒童繪畫出地球的形狀，人住的位置和天空的位置等（附件一）。另外，Georgia, Gavin & Robin, 2006) 發現使用預設選擇題和立體模型選擇方法所得出的結果顯示，兒童對於地球知識的理解更傾向科學性。所以，老師請兒童選擇預設選擇題（附件三）和最接近對地球想法的立體圖形（附件四），從而了解他們對地球形狀的迷思。

針對兒童對地球（地心吸力）迷思的教學策略
　　教學為期兩個星期，每星期兩堂，每堂半小時。研究員將研究對象分為實驗組和對照組，兩組學生均進行「問題訪談」前測（附件二）。每組四人，性別和組別均以隨機抽籤形式決定。實驗組的學生接受「指向概念轉變的教學」，將其相對的教學稱為「教導式教學」。完成四堂後兩組學生均進行「問題選擇和問題訪談」的後測。（附件五）。

　　教學設計分四堂，每堂都會針對一個科學概念，逐步讓兒童達至對地心吸力的概念轉變。當中教師會注重提問技巧和材料的準備，以增加兒童與教師、兒童與兒童、以及兒童與物料之間的互動。四堂的目的如下：
（1）讓兒童親身感受地心吸力的影響；
（2）透過光碟讓兒童了解地心吸力來自地球，地心吸力將地球上的所有事物

吸向地球；

（3）和（4）透過磁石實驗，讓兒童明白即使人居住在地球的下方亦不會跌下的原因是地心吸力（詳細教學內容請閱附件六）。其模型解釋如下圖所示：

> 人、屋和樹模型等的底部貼上磁石，模型所用的物料不能太重。
> （磁石之間的力代表地球的地心吸力）

> 球面貼滿與地球上不同物件相吸的磁石。

真實的磁石實驗模型製作過程如下：

> 在發泡膠球上貼滿圖釘，將報紙條用白膠漿貼在球上，最後塗上水彩。

> 以硬卡紙繪畫人形後剪出，在底部貼上磁石。
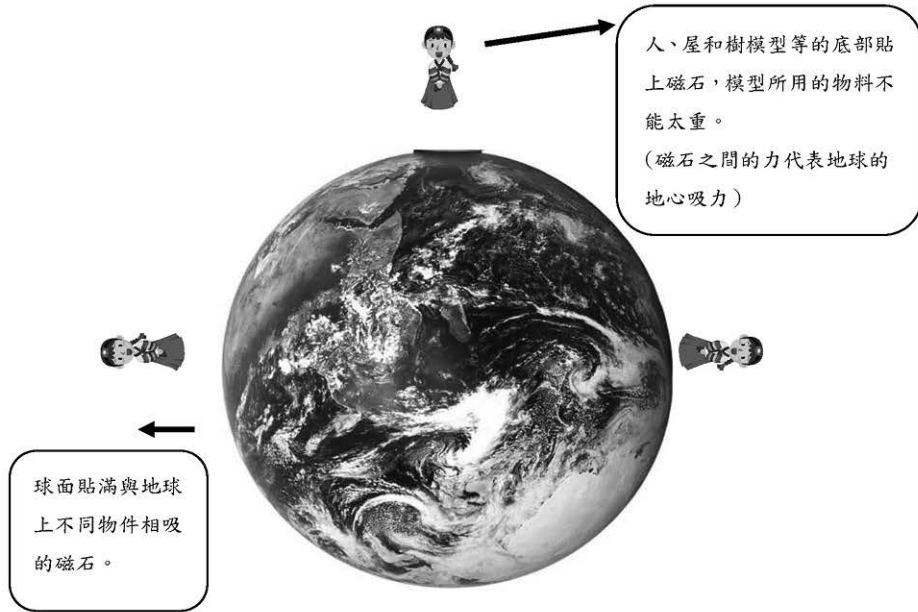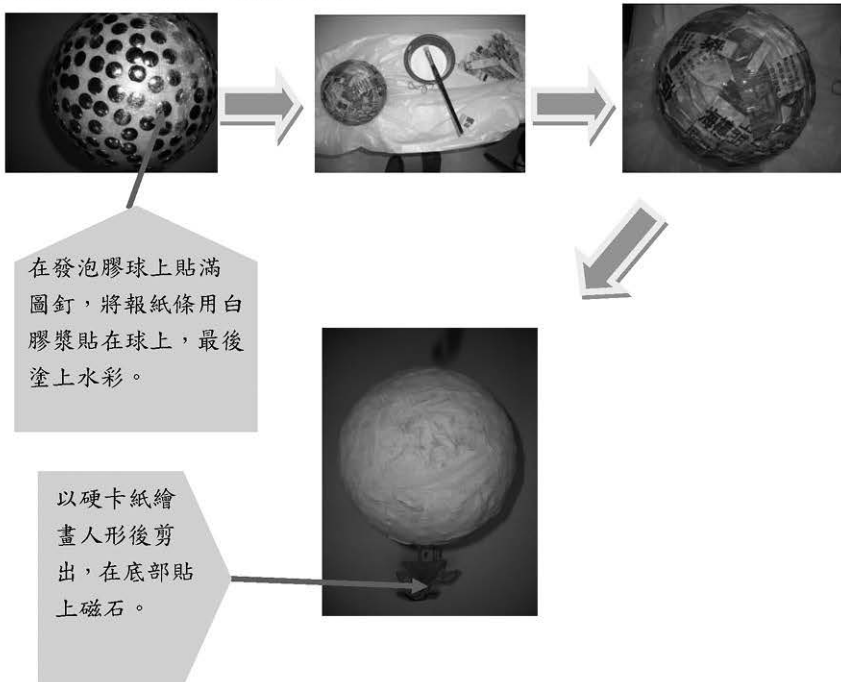
三 . 評量與分析方法
迷思的評量方法

　　透過半結構式的問題訪談與繪畫後，從兒童的對話中歸納他們對地球的形狀和地心吸力有那些迷思，然後初步統計不同迷思的種類和人數。與形狀有關的迷思歸納見表一，而與地心吸力有關的迷思歸納見表二。

地心吸力教學策略的評量方法

　　進行前測和後測，以分析和比較哪種教學策略有助兒童對地心吸力的概念轉變。測試的工具分別會以「問題選擇和問題訪談」選擇進行。而測試問題會在了解兒童地心吸力迷思的種類再歸納後才設立。若果實驗組的兒童在進行「指向概念轉變教學」後，回答問題一（表二的實驗組）的答案為8（她不會掉下來，因為地球有地心引力）的人數有明顯增加，另外回答問題二的答案為7（球會掉到地球的中心）的人數亦有明顯增加，即表示「指向概念轉變教學」能幫助兒童對地心吸力的概念轉變。

研究結果

一、 兒童對地球（形狀）的迷思

表一：以預設選擇題了解兒童對地球形狀迷思統計圖

模式	人數
圓	4
中空的圓	4
扁平的地球	0
兩個地球	0

表二：請兒童選擇最接近地球形狀的立體圖形統計圖

選擇球體

■ 人數
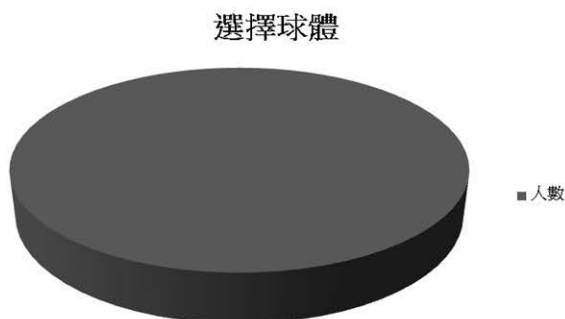
結果：此統計圖表示所有兒童在立體圖形的選擇中都選擇了球體，他們認為球體是最接近地球的立體形狀。

表三：以訪談進一步了解兒童對地球形狀的迷思統計圖
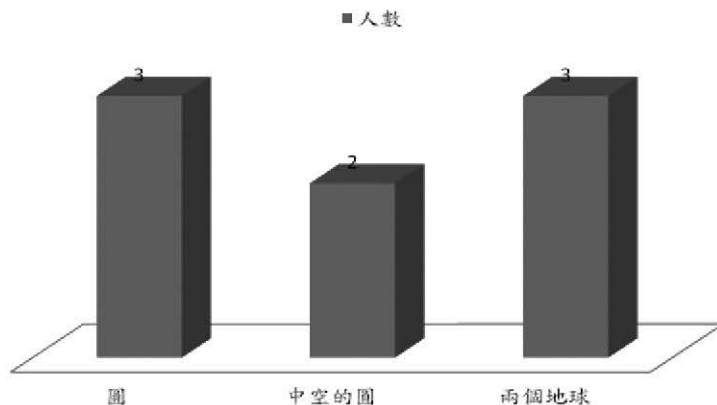
二、兒童對地球（地心吸力）的迷思

表四：兒童對地心引力的迷思（在了解兒童地心吸力迷思的種類後歸納出的測試問題）

實驗組：

問題1：假使有個小女孩站在地球的下面，她會不會掉下來？		
	前測（人數）	後測（人數）
a.她會掉下來，掉到太空去。	2	0
b.她不會掉下來，因為地球有電會吸住他。	1	0
c.她不會掉下來，因為人會「黏」住地球。	1	0
d.她不會掉下來，因為地球有地心引力。（正確的地心引力概念）	0	4
問題2：如果在地球下面的這個小女孩，手持一個球。如果她把球丟下，球會到那兒？		
a.球會掉到太空。	1	0
b.球會掉到海裏。（兒童畫了一個圓圈代表地球，在地球下畫了海）	1	0
c.球會掉到下面。（兒童畫了個圓形代表地球，在圓形的下方畫了一條線代表地下。）	1	0
d.球會掉到地球的中心。（正確的地心引力概念）	1	4

對照組：

問題1：假使有個小女孩站在地球的下面，她會不會掉下來？		
	前測（人數）	後測（人數）
a. 他不可以站在地球下面，因為如果這樣人的頭會朝下，整個人反轉了。	1	0
b. 他會掉到金星，因為地球下一個星球是金星。	0	1
c. 他會掉到地上。（兒童畫了一個圓圈代表地球，在地球下畫了一條線代表地上）	0	2
d. 他不會掉下來，因為他住在國家裏面。	1	0
e. 他不會掉下來，因為他住在屋裏。	1	0
f. 他不會掉下來（正確的地心引力概念）	1	1
問題2：如果在地球下面的這個小女孩，手持一個球。如果她把球丟下，球會到那兒？		
a. 球會掉到太空	3	0
b. 球會掉進屋裏。	1	0
c. 他會掉到金星，因為地球下一個星球是金星。	0	1
d. 球會掉到地上。（兒童畫了一個圓圈代表地球，在地球下畫了一條線代表地上）	0	2
e. 球會掉向地球的中心。（正確的地心引力概念）	0	1

三、比較「指向概念轉變的教學」與「教導式教學」，哪一種的教學策略更能對兒童地心吸力的概念轉變更為有效？

表五：比較實驗組和對照組對地心吸力概念轉變統計圖

地心吸力概念轉變統計圖
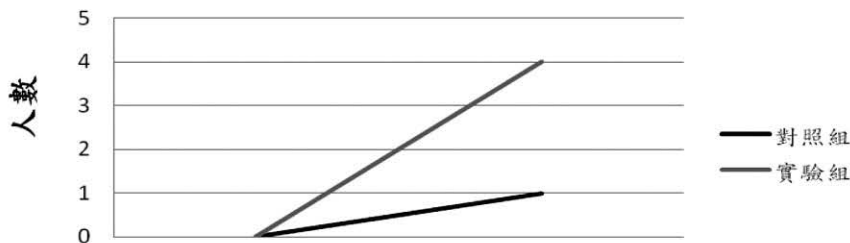
結果：統計圖中，對比實驗組和對照組的兒童概念轉變情況，實驗組中的四位兒童在進行「指向概念轉變教學」後均能答出球會跌向地球中心（正確的地心吸力概念）。相對於對照組的「教導式教學」只有一個兒童能達至地心吸力的概念轉變。由此可見，「指向概念轉變教學」較「教導式教學」能更有效達至地心吸力的概念轉變，意即是前者教學更為有效。

討論與建議

一、兒童對地球（形狀）的迷思
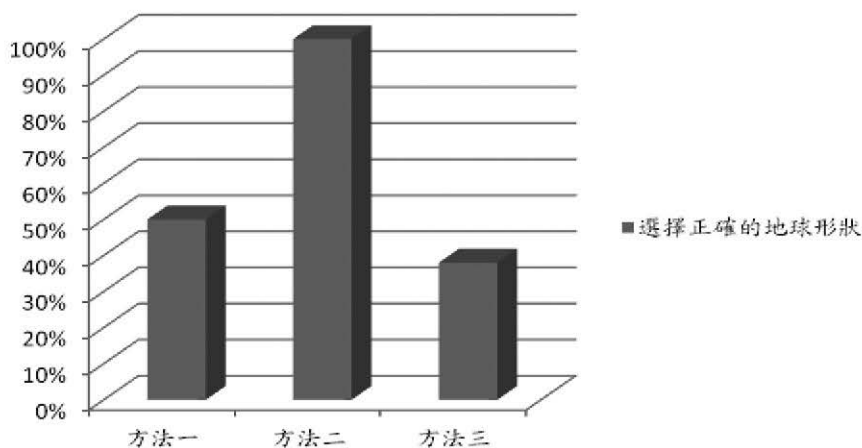
方法一：預設選擇題；方法二：立體圖形選擇；方法三：問題訪談

　　比較三種了解兒童對地球形狀迷思的方法，結果顯示方法一和二兒童選擇的地球形狀更接近現實。正如 Georgia, Gavin & Robin 發現使用預設選擇題和立體模型選擇方法，令兒童對於地球知識的理解更傾向科學性，同時亦發現兒童對地球科學的認知較我們認為的更多。

　　在立體圖形選擇中，所有兒童均選擇最接近地球的形狀是球體。意即他們認知到地球的形狀，可能是周遭的大人告訴他們的。但與生活中他們所見的地面是平坦的，推測地球應該是平的，這些生活經驗與科學概念相違背時，造成了他們對地球形狀的迷思。接着他們會合理化和意義化在認知上的衝突，而產生他們心目中的地球的形狀與人的關係。

訪談內容：
老師：人住係地球邊度？
偉偉：我住係香港。（兒童在地球上點出香港的位置）
老師：人可唔可以住係地球下面？
偉偉：可以，因為呢個裏邊有個國家。
老師：人如果住係呢個國家，人會唔會跌？
偉偉：唔會，因為地球會包住佢。

圖一：地球是中空的圓，人居住在下半球體的橫切面平坦處

　　偉偉在合理化他對地球形狀的認知衝突，他畫了圓代表地球的形狀是圓的，又將人畫在地球中心的平地上，以意義化生活經驗與認知的矛盾。

二、兒童對地球（地心吸力）的迷思

　　兒童對人與地球關係的迷思，源於他們缺乏對地心吸引力的認知，所以他們會認為人是住在地球裏面，因為若地球是球體，人不能站立於地球的下方，在他們的生活經驗中，任何東西在球的下方是會跌下的。

　　由以上的研究所得，有 50% 的兒童認為人是住在地球裏面（參閱表一），兒童有此一迷思，Glynn & Yeany(1996) 解釋為兒童相信地球是空心球體，因為他們不能理解人們如何能生活在球體底端而不掉落下去，和他們無法克服他們先有概念地球是平的與地球是圓理念間矛盾。另一個造成迷思的原因，是由於他們暫時未能理解甚麼是地心引力。基於缺乏對地心吸力的認知，然後透過不同的教學活動再配合「指向概念轉變的教學」後，看看是否能讓兒童理解地球的地心吸力。

了解地心吸力的訪談記錄：
老師：人可唔可以生活係地球下面？
頤頤：可以，因為有間屋。
老師：咁係操場度有無屋。
頤頤：無。
老師：無屋都唔會跌，點解呢？
頤頤：因為有平地就唔會跌。
老師：如果有個女仔企係地球下面，佢會唔會跌落黎？
頤頤：唔會，因為有屋。
老師：如果個女仔手持個球，佢一放手，球會點樣？
頤頤：個波波會跌落間屋度。

圖二：兒童認為人住在屋裏，就可以住在地球的下方

三、比較「指向概念轉變的教學」與「教導式教學」，哪一種的教學策略更能對兒童地心吸力的概念轉變更為有效

表五：比較實驗組和對照組對地心吸力概念轉變統計圖
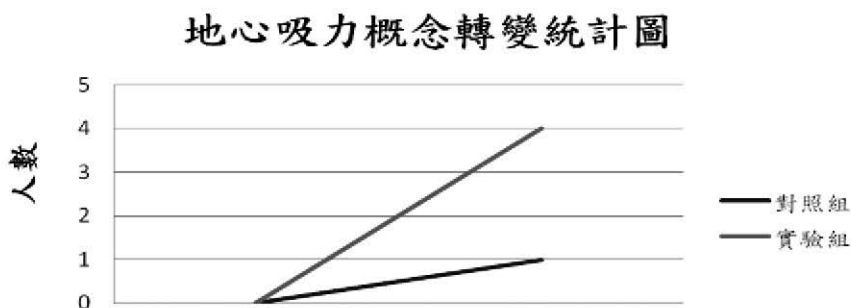
由表五所得的結果，「教導式教學」能更有效達至地心吸力的概念轉變，即是此教學方法更為有效。正如布魯納（Bruner, 1961）曾說過「學生不是一個被綁於椅條上的傾聽者，他應該是活躍地涉入學習過程中。」這視乎我們有否給予他們發現概念的機會，他認為任何時間允許之下，兒童應該給予機會讓他們自己發現概念，容許學習者發現訊息與組織訊息是學習解決問題技巧所必須的（Cliatt & Shaw, 1992）。這與「指向概念轉變的教學」的教學原則是一致的。教學過程中的第一堂，我們已讓兒童感受地心吸力和其方向，再加上不同的書籍、光碟和實驗，讓兒童有充分展現迷思概念的機會。

環境的配合也是教學有效的其中一個因素，正如皮亞傑的觀點指出，兒童是通過與環境的相互作用而建構知識的（Rosalind & Karen, 2003）。兒童透過地球儀、放大鏡和圖畫書等的環境刺激和互動，以建構地心吸力的知識。

圖三：兒童正在探索地球儀上的不同國家，並在過程中討論曾經去過的國家

四、對研究的啟示和建議

　　研究員在本學年有更多的時間與研究對象進行訪談，能更深入地了解兒童對於地球形狀和地心引力的迷思，進一步制定有效的教學策略，所以足夠的研究時間是相當重要的。由於每一個地方的兒童認知有所差異，在應用其他研究者的訪談問題時，也要因應兒童的反應做調整，例如大部份兒童不明白甚麼是終點，即使回答也與問題完成無關，也就是說即使問了也對該研究沒有幫助，最後此問題應取消。

實驗組：
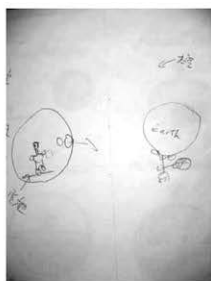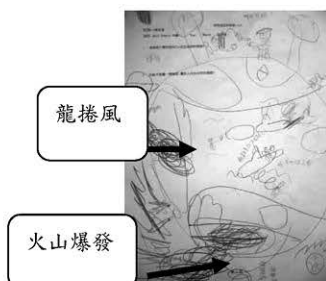
圖四：教學前所繪畫的地球　　圖五：學後所繪畫的地球

對照組
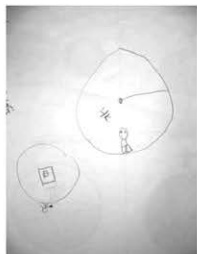
圖六：教學前所繪畫的地球　　圖七：教學後所繪畫的地球

比較圖四和圖五，兒童在經歷「指向概念轉變的教學」之後，對地球有更多的了解，兒童能表達地球會發生的不同事情，例如有龍捲風和火山爆發，而兒童所繪畫的方向都是符合地心吸力的方向和概念。相較於「教導式教學」，兒童對於地心吸力迷思仍然存在。另外，在教學的第一天讓兒童親身感受地心吸力，有助兒童了解這項概念。兒童在訪談的過程中亦會運用先前所做的實驗，例子如下：

兒童對地心吸力的訪談記錄
老師：人可唔可以生活係地球下面？
泰泰：可以。
老師：如果有個女仔企係地球下面，佢會唔會跌落黎？
泰泰：唔會，因為有地心吸力。
老師：咩係地心吸力？
泰泰：即好似我地跳起，就會被地心吸力吸落黎。

五、對教學的啟示和建議

在教學過程中，改善教學的第一步，便是老師必須明白，兒童對老師要教授的東西會有不同的理解，於是老師的首要任務，便是要找出兒童對學習內容不同的理解，然後再思考如何建構教學，讓兒童掌握新的知識。在是次研究中，老師首先透過繪畫、訪談問題、立體圖形選擇和選擇性問題，以了解兒童對地球的形狀和地心吸力的迷思，從而制定有效的教學策略。其次，老師要放下對兒童的框框，運用有效的提問引導他們思考。尤其是較為抽象的概念——地心吸力，老師就更需要有充足的耐性。老師本身除了要掌握所要教授知識的關鍵屬性，也要明白兒童對於理解關鍵屬性存在的困難，這才能將地心吸力的概念凸顯出來，再配合「指向概念轉變的教學」。

研究結果顯示這能有效達致地球地心吸力的概念轉變。如果有更充足的資源，可讓兒童有更多的親身經驗，例如帶他們到太空館，與幼兒一同閱讀更多與地球有關的圖書。或與他們一同觀看和討論地球光碟，進行更多地心吸力的實驗，亦有助兒童建構知識。

總結

透過「指向概念轉變教學」的教學策略，結果顯示能有效地改變 4-5 歲兒童對地球（地心吸力）的概念轉變。也發現兒童對地球知識的學習是一致的，即能夠回答「為甚麼」的問題（鄧賜平等，2002）。這次的研究更進一步證實了，不應小看兒童對科學的熱愛和能力。

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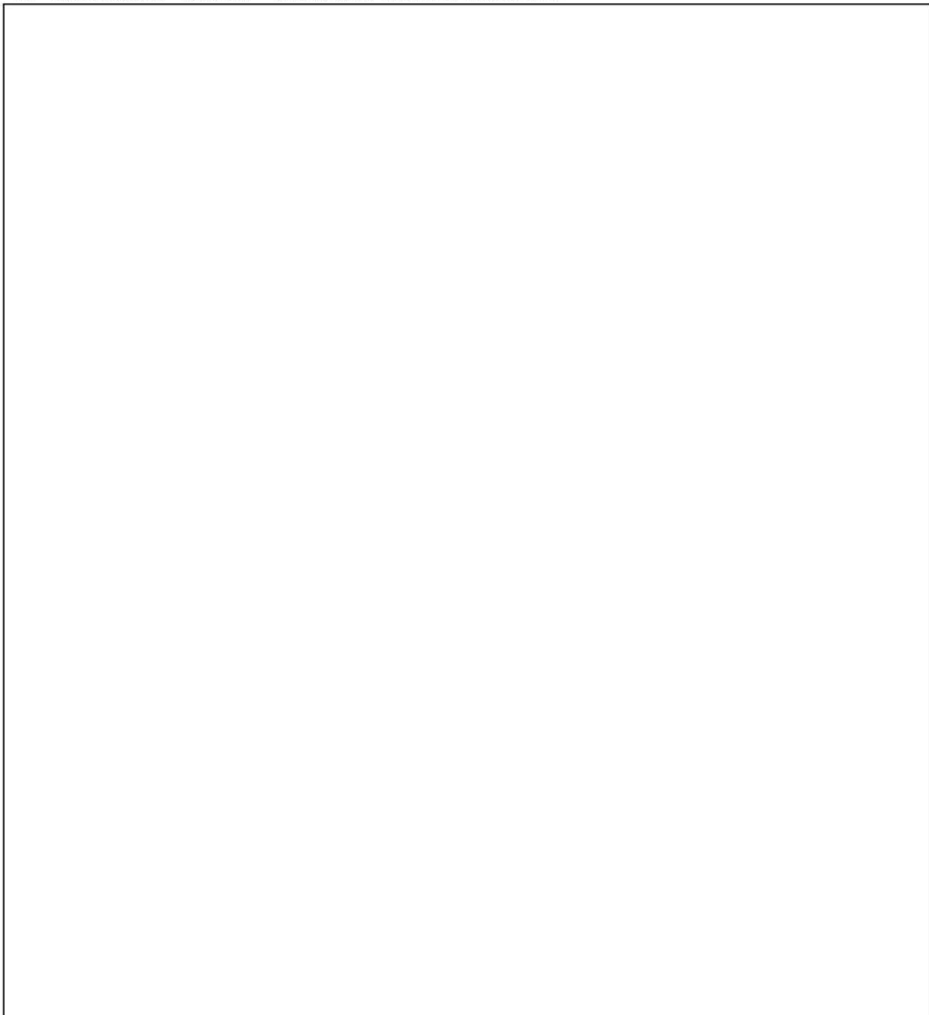
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附件一

繪畫地球形狀

| 性別：男/女 | 年齡：＿＿＿＿ 歲＿＿＿＿個月 | 訪問者： |

1. 地球是甚麼形狀的？人住在地球的哪裡？

2. 你能不能畫一個地球，然後畫出人住在地球的哪裡？

附件二

訪談：有關地球形狀和地心吸力的迷思

了解地球形狀迷思的訪談問題：
● 地球是甚麼形狀呢？
● 人們住在地球的甚麼地方呢？
● 人們可住在地球的底部嗎？（如果兒童答可以，應繼續追問其原因。）
● 如果你挖一個洞，貫穿地球，你會看到什麼？
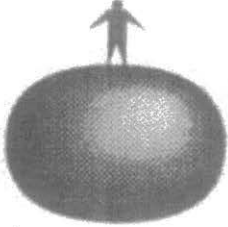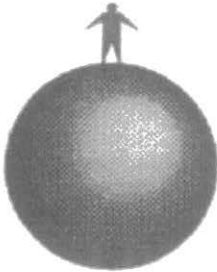● 從這些模型中選一個與地球形狀相同模型（附件五的立體圖型）。
● 人們住在地球的哪邊？用你的模型指給我看。
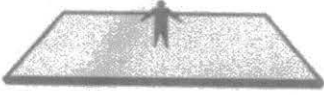
了解地球地心吸力迷思的訪談問題：
● 人可以生活在地球的底部嗎？
● 現在記著這是地球（展示地球儀），假設有一位女生站在地球底端，她會掉下去嗎？
● 如果在地球下面的這個小女孩，手持着一個球。如果她鬆開手，球會到哪呢？
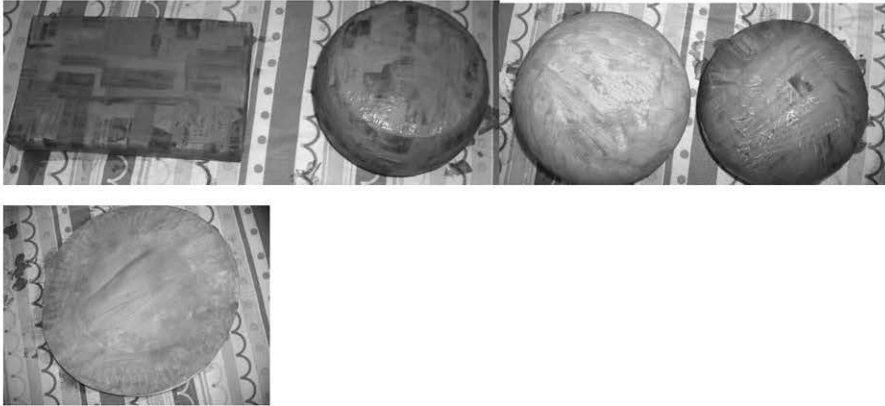
（問題參考資料來源：Brewer, Hendrich, & Vosniadou,1987）

附件三

選擇題：這裡有幾幅圖，你覺得哪一幅最接近地球的形狀？

1. 地球是方的，人住在上面	2. 地球是碟子的形狀，人住在平面上
3. 地球是天上的球，人住在地上	4. 地球是扁的球，人住在表面上
5. 地球是個球，人住在球的裡面	6. 地球是個球，人住在地球的表面

附件四

對地球想法的立體圖形

不同立體模型（請兒童選擇最接近地球的立體模型）

（由上至下、左至右說明立體模型：長方體、上面和下面是平的立體、球體、只有上面是平的立體、像碟般的圓形模型）

附件五

兒童對地心吸力的迷思（在了解兒童地心吸力迷思的種類後歸納出的測試問題）

實驗組：

問題1：假使有個小女孩站在地球的下面，她會不會掉下來？	前測（人數）	後測（人數）
a. 她會掉下來，掉到太空去。	2	0
b. 她不會掉下來，因為地球有電會吸住他。	1	0
c. 她不會掉下來，因為人會「黏」住地球。	1	0
d. 她不會掉下來，因為地球有地心引力。（正確的地心引力概念）	0	4
問題2：如果在地球下面的這個小女孩，手持一個球。如果她把球丟下，球會到那兒？		
a. 球會掉到太空。	1	0
b. 球會掉到海裏。（兒童畫了一個圓圈代表地球，在地球下畫了海）	1	0
c. 球會掉到下面。（兒童畫了個圓形代表地球，在圓形的下方畫了一條線代表地下。）	1	0
d. 球會掉到地球的中心。（正確的地心引力概念）	1	4

對照組：

問題1：假使有個小女孩站在地球的下面，她會不會掉下來？	前測（人數）	後測（人數）
a. 他不可以站在地球下面，因為如果這樣人的頭會朝下，整個人反轉了。	1	0
b. 他會掉到金星，因為地球下一個星球是金星。	0	1
c. 他會掉到地上。（兒童畫了一個圓圈代表地球，在地球下畫了一條線代表地上）	0	2
d. 他不會掉下來，因為他住在國家裏面。	1	0
e. 他不會掉下來，因為他住在屋裏。	1	0
f. 他不會掉下來（正確的地心引力概念）	1	1
問題2：如果在地球下面的這個小女孩，手持一個球。如果她把球丟下，球會到那兒？		
a. 球會掉到太空	3	0
b. 球會掉進屋裏。	1	0
c. 他會掉到金星，因為地球下一個星球是金星。	0	1
d. 球會掉到地上。（兒童畫了一個圓圈代表地球，在地球下畫了一條線代表地上）	0	2
e. 球會掉向地球的中心。（正確的地心引力概念）	0	1

附件六

教案
班級：低班
年齡：4-5歲
人數：10人（實驗組）　　10人（對照組）

教學步驟	教學材料
第一堂： 目的：讓兒童親身感受地心吸力的影響和方向 1．老師準備一個球，提問兒童當老師放手後，球會怎樣？為甚麼？ 2．老師可嘗試不同的物件做同樣的提問。是否在課室內物件才會向下跌？在其他地方，會有同樣的結果嗎？（向兒童感受地心吸力是無所不在） 3．老師請兒童自行操弄此實驗。地點轉換為課室、操場和音樂室等。 4．待實驗後，老師提問：「物件跌的方向是？」 5．老師讓兒童跳高後，最後會怎樣？（跌下）為甚麼？（再一次讓兒童感受地心吸力亦影響人，同時感受地心吸力的方向。當然兒童此時並不知道「地心吸力」的專有名詞。） 6．老師請兒童將實驗的結果繪畫出來。當中請兒童同時記錄物件跌下的方向。	球、石頭、筆等 紙和筆
第二堂： 目的：透過光碟讓兒童了解地心吸力來自地球，地心吸力將地球上的所有事物吸向地球。 教學步驟： 1．重溫兒童第一堂所感受的地心吸力，提問兒童為甚麼物件總是向下跌呢？ 2．老師繼續提問：如果不想令物件跌下有甚麼方法？將物件的重量提升後提問同一問題。課室中的各樣物件均貼近地下，如何改變其方向。兒童有機會需合力將桌子搬起。（讓兒童再一次感受地心吸力和其方向，亦讓兒童感受所有物件均受地心吸力的影響） 3．請兒童觀看光碟，光碟內會提及所有人和物件都會受地球的地心吸力吸引。	光碟
第三/四堂： 目的：透過磁石實驗，讓兒童明白即使人居住在地球的下方亦不會跌下的原因是地心吸力。 教學步驟： 1．老師展示地球模型，將兩個人形紙板，一個有貼磁石，一個則沒有貼磁石，分別放於地球模型的下方，請兒童觀察有甚麼不同。 2．請兒童親身做此實驗，提問為甚麼其中一個人形紙板不會跌下。 3．請兒童親身感受兩個磁石之間產生的磁力。（從而明白地心吸力如磁石	於人型和屋的紙板模型底部貼磁石 地球模型（已貼滿磁石）

般，雖然看不見，但力仍存在。而且地心吸力比磁石的力大得多）

※ 準備物料時需留意人型的磁石面要與地球的磁石面相吸。（磁石兩面分別
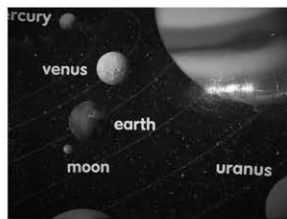　 會有相吸與排斥的力）
※ 圖書角會放置相關圖書，讓兒童可隨時閱讀。

環境配合：
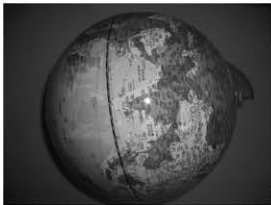
地球儀　　　　　　　　　　　　　　　放大鏡

與地球有關的大畫報：

附件七

地心吸力的訪談記錄

前測	後測
對照組	
學生一 老師：人可唔可以生活係地球下面？ 翹翹：可以。 **老師：如果有個女仔企係地球下面，佢會唔會跌落黎？** **翹翹：唔會，因為地球有地心吸力。** **老師：如果個女仔手持個球，佢一放手，球會點樣？** **翹翹：跌落下面，外邊係太空。** 老師：老師在課室示範放手後球會跌落邊？ 翹翹：地下。 老師：點解地球無跌去太空？ 翹翹：唔知。 老師：人可唔可以住係地球裏邊？ 翹翹：唔可以。 老師：點解唔可以？ 翹翹：因為地球裏邊有火。 老師：人如果住係裏邊會點？ 翹翹：會燒死。	地心吸力 老師：人可唔可以生活係地球下面？ 翹翹：唔會。 **老師：如果有個女仔企係地球下面，佢會唔會跌落黎？** **翹翹：唔會，因為有地心吸力。** 老師：咩係地心吸力？ **翹翹：即係地球會吸住個人，不會跌。** **老師：請畫出。** **翹翹：地球地下有D吸力。** 老師：如果個女仔手持個球，佢一放手，球會點樣？ 翹翹：波波會跌落地球既地下。（畫出地球的地下，在圈的線上） 老師：地球有無海洋？ 翹翹：有。 老師：地球有無雲？ 翹翹：除了地球的下方，其他地球的上方都有雲。 老師：地球下面住了人，抬頭見到甚麼？ 翹翹：見到太空。 老師：如果下雨，雨會落去邊？ 翹翹：落去地下。 老師：點解全部都落去地？ 翹翹：因為佢向住方向嘛。 老師：點解全部都向住地下？ 翹翹：停了一會兒。 **老師：人住係地下，海、樹都係地球地下係因為咩？** **翹翹：地心吸力。**

學生二 老師：人可唔可以生活係地球下面？ 偉偉：可以，因為呢到有國家。 老師：如果有個女仔企係地球下面，佢會唔會跌落黎？ 偉偉：唔會。 **老師：如果個女仔手持個球，佢一放手，球會點樣？** **偉偉：就有跌左地球下邊，如果一方手就會跌落呢度（下邊）。** **老師：咁下邊係咩？** **偉偉：太空，一放手就會跌落去太空。** 老師：點解人可以住係地球裏面？ 偉偉：地球係天空上邊，所以人就可以住係裏邊。 偉偉：人住係地球地下的屋。 老師：但真係住係呢度會點？之前人可以住係人既下面，依家人點解唔可以住係地球上面？ 偉偉：因為佢無包住野，佢咁樣就會瞓低。佢係腳係下邊，頭係上邊。（繪畫：畫了頭頂着地球） 頂個地球上去。	老師：人可唔可以生活係地球下面？ 偉偉：唔會。 老師：如果有個女仔企係地球下面，佢會唔會跌落黎？ 偉偉：唔會，因為佢係地球入邊。 老師：入邊既意思既係咩？ 偉偉：地球裏邊。 老師：如果女仔企係裏邊就唔會跌？ 偉偉：係。 老師：咁如果女仔係地球下邊會唔會跌？ 偉偉：啊（表現奇怪的眼神），唔會。 老師：點解唔會？ 偉偉：即係似呢個咁。 老師：即係佢企企係，反轉？ 偉偉：係。 老師：佢企企係點樣反轉？ 偉偉：咁就會跌落去。 老師：如果佢企係地球下邊就會跌落去。 偉偉：係。 老師：如果個女仔手持個球，佢一放手，球會點樣？ 偉偉：會跌，跟住會上返。 老師：點樣上返？ 偉偉：沒有回應。 **老師：咁如果女仔放手，個波波會點？** **偉偉：會跌左落去。** 老師：跌去邊？ 偉偉：地球下一個星球係咩？ 老師：好似係火星。 偉偉：會彈落火星，又彈落水星，彈黎彈去。 老師：如果係個唔彈既波波，咁個波波會跌去邊？ 偉偉：會跌去火星，跟住就停左係度。

學生三	老師：人可唔可以生活係地球下面？
老師：人可唔可以生活係地球下面？ 頤頤：可以，因為有間屋。 老師：咁係操場度有無屋？ 頤頤：無。 老師：無屋都唔會跌，點解呢？ 頤頤：因為有平地就唔會跌？ 老師：如果有個女仔企係地球下面，佢會唔會跌落黎？ 頤頤：唔會，因為有屋。 老師：如果個女仔手持個球，佢一放手，球會點樣？ 頤頤：個波波會跌落間屋度。 （在科學性的選擇題中，頤頤選了地球的形狀似波波，而人住在地球裏邊。）	頤頤：（遲疑。） 老師：如果有個女仔企係地球下面，佢會唔會跌落黎？ 頤頤：係間屋裏邊就得。 老師：如果係地球下邊，人會唔會跌落去？（老師繪畫了一個人在地球的底端） 頤頤：如果有地下就可以。 老師：哦，如果呢到有地下，佢可唔可以企係地下？（兒童表示在圈形（地球）的下方有條線代表地下） 頤頤：佢就跌地下，跟住企返起身。 老師：係哦，佢跌落地下，跟住企返起身就無事啦？ 老師：呢個地球，下面就有個地下。 頤頤：係啊。 老師：如果無個地下，佢會跌去邊呢？ 頤頤：會跌去好危險既地方。 老師：係咩地方咁危險？ 頤頤：唔知道。 老師：咁可唔可以企係上面？ 頤頤：會碌走左。 老師：咁企係則邊得唔得？ 頤頤：會（滑）左落去。 老師：會（滑）去邊？ 頤頤：跌去好危險既地下。如果下邊有地下，佢就會（滑）左地下，跟住企返起身就無事。 老師：如果個女仔手持個球，佢一放手，球會點樣？ 頤頤：球會跌落地下。

學生四 老師：人可唔可以生活係地球下面？ 元元：唔可以，人會反轉。 老師：如果有個女仔企係地球下面，佢會唔會跌落黎？ 元元：唔會。 老師：如果個女仔手持個球，佢一放手，球會點樣？ 元元：地下（畫了在圓形面，畫了一條線代表地下） 老師：除了地下，地球上有無海洋、有無樹、有無屋？ 元元：有。 老師：屋會唔會跌？ 元元：唔會，因為地球會黏穩，黏穩樹、海。 老師：咁會唔會黏住元元？ 元元：會。 老師：點解選第6？ 元元：因為人住係上邊。 老師：會唔會住係裏邊？ 元元：因為你見到地球個肚腩好大，跟住你就會走開。 老師：你住係裏邊，見唔到地球肚腩，咁仲會唔會驚肚腩？ 元元：因為你見到路，就會跌落天空。 老師：天空係邊？（老師畫在地球的周圍有天空，兒童點頭）周圍都有天空。 元元：（點頭） 老師：咁樣成個天空包住地球？ 老師：咁係可唔可以站在地球的另一方，他會見到天空嗎？ 元元：咁樣就會跌落地下，就會撞到暈左啦！ 老師：咁地下係邊？ （元元在地球的下方畫了一條線代表地下）	老師：人可唔可以生活係地球下面？ 元元：唔可以。 老師：如果有個女仔企係地球下面，佢會唔會跌落黎？ 元元：會跌，跌落地下（在表示地球的下方，畫了一條線代表地下） 老師：如果個女仔手持個球，佢一放手，球會點樣？ 元元：呢度。 老師：地球下方係咩地方？ 元元：唔知。 老師：可唔可以企係呢度？ 元元：因為坐係到可以好舒服。 老師：如果呢到係人，雲會係邊度？請你畫出黎…… 老師：人可唔可以企係呢度？（地球上方） 元元：可以。 老師：咁可唔可以企係則邊。 元元：可以。 老師：點解可以？ 元元：因為地球會黏住。 老師：咁可唔可以企係呢到？ 元元：唔可以。 老師：點解唔可以？呢個成個都係地球，呢個可以黏住，點解唔可以黏住呢個人？（地球底端的人） 元元：因為你轉左頭，你個頭係地下呢度。 老師：係唔係個頭會跌落地下？ 元元：係啊。

實驗組：	
學生五 老師：人可唔可以生活係地球下面？ 穎穎：唔可以，因為會跌落去。 老師：如果有個女仔企係地球下面，佢會唔會跌落黎？ 穎穎：**會跌落去 SPACE。** 老師：如果個女仔手持個球，佢一放手，球會點樣？ 穎穎：球會跌落去下邊，會碌落下邊，跟住跌落 SPACE 度。 老師：有無見過 SPACE？ 穎穎：係黑，有地球，係圓形，有邊圍住。 老師：你可唔可以畫出黎。 穎穎：（畫了個土星。） 老師：（指着地球儀）呢個係地球，藍色係代表咩？綠色代表咩？ 穎穎：藍色代表海，綠色代表土地。 老師：人可唔可以站在土地上面？ 穎穎：可以。 老師：老師指着地球上邊的土地問，人可唔可以住係呢個土地。 穎穎：可以。 老師：指着地球不同位置的綠色部份（問兒童）人可唔可以站立？ 穎穎：可以。 老師：形容呢個係地球，周圍係你先前形容的 SPACE，人可唔可以站立在地球的下方？ 穎穎：唔可以。	老師：人可唔可以生活係地球下面？ 穎穎：唔會。 老師：如果有個女仔企係地球下面，佢會唔會跌落黎？ 穎穎：唔會，因為有地心吸力。 老師：地心吸力係點，點樣吸住？ 穎穎：**會吸住我地腳。** 老師：如果個女仔手持個球，佢一放手，球會點樣？ 穎穎：會跌去太空。（畫了圈以外的地方是太空） 老師：咁地心吸力吸唔吸到波波？ 穎穎：吸唔到。 老師：咁之前我地做過實驗，手拿着波波一放手，波波會跌去邊？ 穎穎：跌去地下。 老師：地球個地下係邊？請你畫出黎。 老師：咁仲會唔會跌落太空？ 穎穎：唔會，因為…… 老師：咁人唔會跌落太空，係因為咩？ 穎穎：因為地心吸力。 老師：咁波波跌落地下係因為咩？ 穎穎：都係因為地心吸力。 老師：咁建築物會唔會跌落太空？ 穎穎：唔會，因為地心吸力。 老師：咁樹/海洋/火山？ 穎穎：因為地心吸力。 老師：地心吸力可以吸住所有野？ 穎穎：係啊。 老師：咁如果個女仔放手，個波波會唔會跌落太空。 穎穎：唔會，因為地心吸力。

學生六	
老師：人可唔可以生活係地球下面？	老師：人可唔可以生活係地球下面？
玥玥：可以。	玥玥：唔可以。
老師：如果有個女仔企係地球下面，佢會唔會跌落黎？	老師：如果有個女仔企係地球下面，佢會唔會跌落黎？
玥玥：唔會，會。	玥玥：唔會，因為有地心吸力。
老師：如果個女仔手持個球，佢一放手，球會點樣？	老師：咩係地心吸力？
玥玥：波波會跌落海，因為無人住，就會碌落去海。	玥玥：吸住人。
老師：人點解可以黏住地球，有無膠水？	老師：咩都可以吸？
玥玥：因為佢既腳會黏住地球。	玥玥：水、建築物、山。
老師：人站在下邊時，人一放手，球會跌去邊？	老師：所有野？
玥玥：球會跌落海度。	玥玥：係。
（玥玥繪畫：圓圈代表地球，人在地球下方，圓圈下方有海，球會跌落海度。	老師：如果個女仔手持個球，佢一放手，球會點樣？
當問及先前兒童說地球上的藍色部份代表海洋，而此時又將海洋畫在地球的下方時，兒童不懂得回答。）	玥玥：地下。
	老師：地下係邊？
	玥玥：呢度係地下（在代表地球的圈邊，畫了線代表地下。即女孩站立的位置）
	老師：會唔會飛出去？
	玥玥：唔會。
	老師：點解唔會？
	玥玥：因為有地心吸力。

學生七 老師：人可唔可以生活係地球下面？ 鉞鉞：唔可以，因為會跌。 老師：如果有個女仔企係地球下面，佢會唔會跌落黎？ 鉞鉞：會，跌落地下。 老師：如果個女仔手持個球，佢一放手，球會點樣？ 鉞鉞：會跌落地下。（指着課室的地下，然後解釋球一方手，是會跌落地下）	老師：人可唔可以生活係地球下面？ 鉞鉞：唔會。 老師：如果有個女仔企係地球下面，佢會唔會跌落黎？ 鉞鉞：唔會，因為有地心吸力。 老師：咩係地心吸力？ 鉞鉞：就係有野吸住。 老師：地心吸力黎自邊度？ 鉞鉞：黎自入邊的地方。 老師：邊度地方？地球入邊？ 鉞鉞：唔（點頭）。 老師：咁除左人仲…… 鉞鉞：羊、牛…… 老師：所有動物？ 鉞鉞：樹、屋、小既動物、食物、車、枱 老師：咁紙呢？ 鉞鉞：都會吸住。 老師：所有野都可以？ 鉞鉞：唔（點頭） 老師：如果個女仔手持個球，佢一放手，球會點樣？ 鉞鉞：會跌落地下。 老師：點解可以跌落地下？ 鉞鉞：因為有地心吸力吸住。 老師：如果手上拿住蘋果，放手會點樣？ 鉞鉞：會跌落地下，因為地心吸力。 老師：如果手上拿着杯水，放手會點樣？ 鉞鉞：跌落地下。 老師：地心吸力連水都可以吸住？ 鉞鉞：唔。

學生八	老師：人可唔可以生活係地球下面？
老師：人可唔可以生活係地球下面？	泰泰：可以。
泰泰：唔得。	老師：如果有個女仔企係地球下面，佢會
老師：如果有個女仔企係地球下面，佢會唔會跌落黎？	唔會跌落黎？
泰泰：會跌落去太空。	泰泰：唔會，因為有地心吸力。
老師：如果個女仔手持個球，佢一放手，球會點樣？	老師：咩係地心吸力？
泰泰：波波會跌落太空度。	泰泰：即好似我地跳起，就會被地心吸力吸落黎。
老師：太空係邊？	老師：地心吸力仲會吸住咩？
泰泰：地球的周圍係太空。	泰泰：例如車，全部野會被吸住。
老師：人可唔可以住係太空？	老師：如果個女仔手持個球，佢一放手，球會點樣？
泰泰：唔得，太空無床無玩具，無電腦。	泰泰：會跌去太空。
老師：（老師在課室示範放手後球會跌落地下，沒有跌向太空。）	老師：咁如果係課室，一放手波會跌落邊？
泰泰：人一放手，一放手就會中。個窿跌去太空，人住係地球裏邊，有個窿就會跌去太空。	泰泰：地下。
老師：條線代表咩？	老師：咁地球既地下係邊？
泰泰：條線代表陸地，放手就會跌去陸地。（繪畫：圓圈代表地球，人在地球裏邊，在自己的腳下畫了一條線代表陸地。）	泰泰：（在地球的圈上畫了一條線代表地下。）
老師：地球裏邊有咩？	老師：今次波波會跌去邊？
泰泰：地球裏邊有 ANIMAL，同埋樹。	泰泰：地球既地下。

教育研究獎勵計劃

　　香港教師中心教育研究小組於 2001 年開始推行教育研究獎
勵計劃（獎勵計劃），目的在於鼓勵和支持前線教師進行教學行
動研究及教育研究，加強自我反思能力和創造力。獎勵計劃既鼓
勵中、小學教師積極研究外，更希望幼兒教育的教師主動參與，
推動幼兒教育。

　　為鼓勵更多教師進行行動研究，獎勵計劃鼓勵教師自定研究
主題，成功申請並在指定時間內完成的研究計劃，經教育研究小
組審批研究報告，可獲獎勵金以資鼓勵。此外，獲教育研究小組
選為優秀的作品，將輯錄於《教育研究報告匯編》，作為教育界
同工的交流與分享之用。

　　有關研究獎勵計劃的詳情，教師可參閱香港教師中心網頁
（http://www.edb.gov.hk/hktc），或致電 3698 3698 向本中心職
員查詢。

香港教師中心諮詢管理委員會
（2012-2014 年度）

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