

英國與台灣高中數學教育的比較研究

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研究顯示每個教育系統對於數學教育有不同的取向 (Stigler and Hiebert, 1999)。研究數學的比較教育對於數學教學的策略有所貢獻，主要原因是跨文化的研究可以提供各國教育環境及內容深入了解 (Conway and Sloane, 2005)。

數學比較教育目前包含大規模的量化研究，如第三國際數學及科學研究 (Third International Maths and Science Study, TIMSS) 和國際學生測驗計畫 (Program for International Student Assessment, PISA) 以及小規模質化研究。這些研究顯示各國數學教育及文化背景之間的異同處。尤其是比較中西文化傳統對於其教育系統可發現其設計有顯著差異 (Leung, 1995; Kaiser *et al.*, 2005; Tweed and Lehman, 2002)。台灣最常被西方教育家讚賞表揚其學生的教育成就 (Broadfoot, *et al.*, 2000, p. 13) 及在數學比較教育 (TIMSS and PISA) 中擁有極佳數學表現 (Mullis, 2003; OECD, 2004; 2007)。台灣傳承孔子教育文化並以集體主義 (Collectivism) 及教師中心的教學取向為主，而英國教育政策則以學生為中心的個人主義 (Individualism) 為導向與台灣教育成鮮明對比 (Osborn *et al.*, 2000; Hofstede, 1986)。

Jacques (1996) 比較台灣及英國教育系統並指出台灣的教育系統，不同於英國，對所有孩子的成功有所承諾且致力於幫助每個學生學習數學。台灣提供良好教育環境並擁有絕佳學生數學成就，但填鴨式教學以及考試取向文化對於學生的批判思考及創造力的發展顯示對學生競爭力有所限制 (Broadfoot *et al.*, 2000)。

使用科技以提供資訊於數學教學以成為國際數學教育主流 (Ruthven *et al.*, 2008; Sutherland *et al.*, 2004; Becker, 2001; Cuban *et al.*, 2001)。然而，對於使用資訊於數學教學，與英國相比台灣相對地顯示缺乏研究，課程整合及教師使用科技的專業發展。

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