行政院科技部補助專題研究計畫 ■ 成 果 報 告 □ 期中進度報告

台灣高等教育研究與教學競合關係之系列研究

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目錄

Hu, Y.-L., Hung, G.-C., & Ching, G. S. (2016, April 23-24). Looking into the research-teaching nexus in higher education. 2016 International Conference on Social Science and Economics, Tokyo, Japan.

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Hu, Y.-L., & Ching, G. S. (2017, January 28-29). Antecedents of counterproductive work behavior within the academic workplace. 2017 Global Educators Organization International Conference, Manila, Philippines.

Ching, G. S., & Hu, Y.-L. (2017, January 28-29). A quasi-ethnographic study on the study abroad students' experiences in Taiwan: Tales from 5 international students. 2017 Global Educators Organization International Conference, Manila, Philippines.

Hu, Y.-L., Hung, C.-H., & Ching, G. S. (2017, April 17-19). Predicaments within Taiwan higher education teaching career. Universal Academic Cluster International Spring Conference, Tokyo, Japan.

台灣高等教育研究與教學競合關係之系列研究

第二年期末報告總摘要

「台灣高等教育研究與教學競合關係之系列研究」計劃，摘要如下：

一、順利執行計畫，完成本年度預定計畫

在台灣高等教育研究與教學競合關係之系列研究，第一年主要目在建立台灣版的 CAP 問卷，並進行大量施測以評估現今高等教育的實況。台灣版 CAP 問卷大多數題目保持與國際版一致，此乃為了後續研究可進行國際比較之用，研究團隊現正積極與相關學者進行合作，期盼未來能讓台灣資料躍上國際舞台。第二年的主要目的在於透過資料分析，理解台灣高等教育之現況與困境，尤其是新進教師的處境。其次透過工作滿意度的分析，找出教學與研究之間的競爭-合作關係。研究結果指出不同教學-研究傾向的大學教師正亟待制度的改善，讓不同志向的教師們能各善其志。

二、出國參加國際學術研討會

本人及研究團隊成員，於本次計畫執行期間內，共發表五篇國際研討會論文，並分別前往日本東京、中國香港、菲律賓馬尼拉等地。參加此次會議的功能包括讓外界了解台灣高等教育的具體狀況，使國際學界了解台灣，並帶領研究生體驗實際的國際會議狀況。詳細報告內容如附錄 5。

附錄一

台灣高等教育研究與教學競合關係之系列研究：第二年期末報告

研究 1-教學與研究之競合：不同資歷、專業領域及公私立之比較

研究 2-變遷中的台灣高等教育：新進者的困境

研究 3-教師發展與辦學績效：從教學與研究的競合關係談起

教學與研究之競合：不同資歷、專業領域及公私立之比較

本研究根據第一年執行期間所編製之 CAP 問卷，對全台灣公私立大學院校之高等教育機構內的教師進行正式施測。所得結果顯示，傾向研究者在每週工時、期刊論文數目、會議論文數目顯著高於傾向教學者；傾向教學者則認為教學與研究是難以兼顧的。對於預測高等教育職場中的工作滿意度，強調應用導向的研究、軟硬體支持、學術自由、教研難以兼顧等變數具有顯著的預測效果。

一、 參與對象

參與對象主要來自於全台灣之高等教育機構，公私立大專院校共計 18 間，包含教學型大學、研究型大學、科技大學等等。扣除無博士學位的講師後，共計 458 位有效樣本。若為研究員，則其職等轉換為與大學教師相對應的呈現。本研究以進入高等教育職場 6 年內者為新進人員。本研究以便利和滾雪球取樣進行樣本收集。樣本分布狀況如下表。

表 1.樣本背景變數次數分配表

性別		
	次數	百分比
男性	311	67.9
女性	147	32.1
職等		
教授	76	18.3
副教授	150	36.1
助理教授	190	45.7
公私立		
公立	150	32.8
私立	308	67.2
資歷		
新進	96	23.1
資深	320	76.9
專業領域		
自然科學	160	35.6
人文社科	289	63.1
教學-研究傾向		
傾向教學	235	58.0
傾向研究	170	42.0

二、 研究工具與分析方法

研究工具選自 CAP 問卷中的部分題目，包含每週工作時數、三年內各類學術產出的數目、工作滿意度、學術自由、校方的軟硬體支持和對於現今強調研究的趨勢之看法。部分題目是以同意程度為測量尺度，分數介於 1-5 分，分數低者表示同意，分數高者表示不同意。

分析方法部分，本研究以獨立樣本 t 檢定進行傾向教學者和傾向研究者的比較，觀察二者在工時、學術產出及研究相關的看法。此外，本研究以多元迴歸分析探討影響高等教育機構中工作滿意度的預測因子及效果大小，並將樣本分為公/私立、新進/資深、自然/人文、研究/教學傾向進行迴歸係數的比較與說明。

三、分析結果

每週工時是由學期中與假期中的教學、研究、服務、學校行政、其他活動等項目加權而來。傾向教學者平均數為 41.3 小時，傾向研究者平均數為 52.33 小時，二者差異為 11 小時達到顯著差異（$p<.001$），顯示傾向研究者的每週工作時數高於傾向教學者。推測可能原因在於傾向研究者花費較多時間在領導研究團體、撰寫發表及處理研究事務上。

針對「經費應集中給最有產能的研究者」，傾向教學者與傾向研究者之間並未達到顯著差異（$p>.05$），且平均數皆達到 3 分以上，表示二者對此議題都抱持著接近於沒意見但稍偏反對的態度。

針對「對產量的期待會危害研究品質」，傾向教學者與傾向研究者之間並未達到顯著差異（$p>.05$），且平均數皆在 2 分左右，表示二者對此議題都抱持著認同的態度。

針對「對實用性的期待會危害研究品質」，傾向教學者與傾向研究者之間並未達到顯著差異（$p>.05$），且平均數皆在 2.6 分左右，表示二者對此議題都抱持偏向認同的態度。

針對「教學與研究室難以兼顧的」，傾向教學者平均數為 2.39 分，傾向研究者平均數為 2.72 分，二者之間達到顯著差異（$p<.01$），顯示傾向教學者較為認同教學與研究之間難以兼顧。

針對「學術專書數目」，傾向教學者與傾向研究者之間並未達到顯著差異（$p>.05$），近三年內的產出都約為一本。

針對「期刊論文數目」，傾向教學者平均數為 3.58 篇，傾向研究者平均數則是 6.97 篇，二者之間達到顯著差異（$p<.001$），傾向研究者的期刊論文產量顯著高於傾向教學者。

針對「會議論文數目」，傾向教學者平均數為 4.56 篇，傾向研究者平均數則是 7.77 篇，二者之間達到顯著差異（$p<.001$），傾向研究者的會議論文產量顯著高於傾向教學者。

詳細數據如下表。

表 2. 不同傾向者獨立樣本 t 檢定摘要表

	傾向教學			傾向研究				
	N	mean	se	N	mean	se	D	t
每週工作時數	138	41.3	26.39	116	52.33	19.97	-11	-3.7***
經費應集中給最有產能的研究者	193	3.04	1.19	163	3.26	1.22	-0.2	-1.7
對產量的期待會危害研究品質	194	2.09	0.84	162	2.19	1.03	-0.1	-1
對實用性的期待會危害研究品質	194	2.6	0.94	160	2.67	1.07	-0.1	-0.7
教學與研究是難以兼顧的	235	2.39	1.07	170	2.72	1.11	-0.3	-3**
您所撰寫的學術專書數目	90	1.04	1.7	91	0.82	1.41	0.2	1
您所撰寫的期刊論文數目	170	3.58	4.75	148	6.97	6.6	-3.4	-5.3***
您所撰寫的會議論文數目	179	4.56	3.71	146	7.77	9.41	-3.2	-4.2***

Note: * $p<.05$; ** $p<.01$; *** $p<.001$

針對工作滿意的迴歸分析，其目標乃驗證各個預測變數的效果量及顯著性。由於高等教育機構與教師本身都有許多種屬性上的差異，不可一體適用，故將樣本分為公/私立、新進/資深、自然/人文、研究/教學傾向進行迴歸係數的比較與說明。

對於私立學校的教師而言，校方所提供的軟硬體支持對於工作滿意有顯著影響（$\beta=.336$, $p<.001$）、教研難以兼顧則對工作滿意有顯著影響（$\beta=-.316$, $p<.001$）。根據測量的尺度方向，軟硬體支持高則滿意度高、越是認為教學研究二者難以兼顧的教師，其工作滿意度越低。此迴歸模式整體解釋力為 28.1%達到顯著（$p<.001$）。

對於公立學校的教師而言，校方強調應用導向的研究對於工作滿意有顯著影響（$\beta=.186$, $p<.05$）、軟硬體支持對於工作滿意有顯著影響（$\beta=.297$, $p<.001$）、學術自由對工作滿意有顯著影響（$\beta=.240$, $p<.01$）教研難以兼顧則對工作滿意有顯著影響（$\beta=-.217$, $p<.001$）。根據測量的尺度方向，校方越是強調應用導向的研究，則工作滿意越低；軟硬體支持越完善則滿意度越高；學術自由越高則滿意越高；越是認為教學研究二者難以兼顧，其工作滿意度越低。此迴歸模式整體解釋力為 29.7%達到顯著（$p<.001$）。

對於新近的教師來說，校方所提供的軟硬體支持對於工作滿意有顯著影響（$\beta=.236$, $p<.001$）、教研難以兼顧則對工作滿意有顯著影響（$\beta=-.238$, $p<.001$）。根據測量的尺度方向，軟硬體支持高則滿意度高、越是認為教學研究二者難以兼顧的教師，其工作滿意度越低。此迴歸模式整體解釋力為 29.7%達到顯著（$p<.01$）。

對於資深教師來說，校方強調應用導向的研究對於工作滿意有顯著影響（β=.107, p<.05）、軟硬體支持對於工作滿意有顯著影響（β=.303, p<.001）、學術自由對工作滿意有顯著影響（β=.157, p<.01）、教研難以兼顧對工作滿意有顯著影響（β=-.217 ,p<.001）。根據測量的尺度方向，校方越是強調應用導向的研究，則工作滿意越低；軟硬體支持越完善則滿意度越高；學術自由越高則滿意越高；越是認為教學研究二者難以兼顧，其工作滿意度越低。此迴歸模式整體解釋力為 14.6%達到顯著（p<.001）。

針對自然科學領域的教師，軟硬體支持對工作滿意有顯著影響（β=.368, p<.001），教研難以兼顧則對工作滿意有顯著影響（β=-.206 ,p<.01）。根據測量的尺度方向，軟硬體支持高則滿意度高、越是認為教學研究二者難以兼顧的教師，其工作滿意度越低。此迴歸模式整體解釋力為 19.7%達到顯著（p<.001）。

針對人文社科領域的教師，校方強調應用導向的研究對於工作滿意有顯著影響（β=.130, p<.05）、軟硬體支持對於工作滿意有顯著影響（β=.224, p<.001）、學術自由對工作滿意有顯著影響（β=.263, p<.001）、教研難以兼顧對工作滿意有顯著影響（β=-.343 ,p<.001）。根據測量的尺度方向，校方越是強調應用導向的研究，則工作滿意越低；軟硬體支持越完善則滿意度越高；學術自由越高則滿意越高；越是認為教學研究二者難以兼顧，其工作滿意度越低。此迴歸模式整體解釋力為 33.4%達到顯著（p<.001）。

針對傾向教學的教師而言，軟硬體支持對於工作滿意有顯著影響（β=.297, p<.001）、教研難以兼顧對工作滿意有顯著影響（β=-.329 ,p<.001）學術自由對工作滿意有顯著影響（β=.177, p<.001）。故軟硬體支持越完善則滿意度越高；學術自由越高則滿意越高；越是認為教學研究二者難以兼顧，其工作滿意度越低。。此迴歸模式整體解釋力為 31.0%達到顯著（p<.001）。

針對傾向研究的教師而言，校方強調應用導向的研究對於工作滿意有顯著影響（β=.159, p<.05）、軟硬體支持對於工作滿意有顯著影響（β=.317, p<.001）、教研難以兼顧對工作滿意有顯著影響（β=-.237 ,p<.001）。根據測量的尺度方向，校方越是強調應用導向的研究，則工作滿意越低；軟硬體支持越完善則滿意度越高；越是認為教學研究二者難以兼顧，其工作滿意度越低。此迴歸模式整體解釋力為 23.3%達到顯著（p<.001）。

詳細數據如下表。

表 3.工作滿意迴歸係數摘要表

	工作滿意							
	私立學校	公立學校	新進教師	資深教師	自然科學	人文社科	傾向教學	傾向研究
強調應用導向的研究	.097	.186*	.123	.107*	.071	.130*	.076	.159*
軟硬體支持	.336***	.297***	.236*	.303***	.368***	.224***	.297***	.317***
學術自由	.087	.240**	.110	.157**	.013	.263***	.177**	.113
教研難以兼顧	-.316***	-.217**	-.238*	-.310***	-.206**	-.343***	-.329***	-.237**
F(sig.)	22.636***	15.120***	4.809**	29.099***	9.118***	28.113***	22.448***	13.170***
Adj.R^2	.281	.297	.297	.146	.197	.334	.310	.233

Note: * $p<.05$; ** $p<.01$; *** $p<.001$

四、 結論

本研究目的在於釐清不同傾向的大學教師，在工作時數、學術產量、研究相關政策的看法，並檢驗影響大學教師工作滿意度的因子及其效果量。研究結果指出，傾向研究的大學教師，在工作時數、各項學術產出上都顯著高於傾向研究者。傾向教學的大學教師，較為認同教學和研究二者是難以兼顧的。而不論傾向教學或研究，所有大學教師都一致認同對於研究產量、研究實用性的期待會損害研究品質。

迴歸分析的結果則指出，校方強調應用導向的研究對於公立學校、資深教師、人文社科教師、傾向研究者來說會造成工作滿意的下降。軟硬體的支持則是對所有情況的教師都能提昇其工作滿意度。在學術自由方面，則是公立學校、資深教師、人文社科、傾向教學者較為在乎，且對工作滿意度也是正面影響。在教研難以兼顧此一變項上，所有情況的教師都認同其為造成工作滿意度下降的主要原因。

綜合上述分析，可看出大學教師可按照其教學或研究傾向做出明顯的行為及感受區別。在現今強調發表才有資源的高等教育職場環境中，有許多教學傾向的教師們承擔著壓力。校方應該重視傾向教學者的意願，考慮實施教學/研究分流，讓適合教學或研究的大學教師各司其志、各善其職，將資源與職責做正確的分配，此乃大學及學生、更是社會之福。

變遷中的台灣高等教育：新進者的困境

本研究根據第一年執行期間所編製之 CAP 問卷，對全台灣公私立大學院校之高等教育從業人員進行正式施測。所得結果顯示，新進人員由於起步較晚，對於現今的高等教育工作環境有較多的劣勢，例如收入較低、教學負擔大、工作壓力大/滿意度低、較專注於研究前置過程、學術發表較少等。

一、 參與對象

參與對象主要來自於全台灣之高等教育機構，包含大學院校及少部分研究單位，扣除無博士學位的講師後，共計 458 位有效樣本。若為研究員，則其職等轉換為與大學教師相對應的呈現。本研究以進入高等教育職場 6 年內者為新進人員。本研究以便利和滾雪球取樣進行樣本收集。樣本分布狀況如下表。

表 1.樣本背景變數次數分配表

性別		
	次數	百分比
男性	311	67.9
女性	147	32.1
職等		
教授	76	18.3
副教授	150	36.1
助理教授	190	45.7
公私立		
公立	150	32.8
私立	308	67.2
資歷		
新進人員	96	23.1
資深人員	320	76.9

二、 研究工具

研究工具選自 CAP 問卷中的部分題目，包含教學與研究之間的競合、工作年收入、對工作場所之評價、對工作條件之評價、工作時數、工作壓力、工作滿意度、教學現況、研究重點方向、學術生產力等項目。部分題目是以同意程度為測量尺度，分數介於 1-5 分，分數低者表示同意，分數高者表示不同意。

三、 分析結果

（一）教學與研究所使用的語言

本項目探討高等教育中，新進人員與資深人員在教學時及研究時所使用的語言，是以母語為主還是以外語為主。分析顯示，新進人員與資深人員在教學時都以母語為絕大多數，佔 95%以上；然而在從事研究時，相關的發表、著作有約 37%的比例以外語為主，而二者的差異不甚明顯，表示新進人員與資深人員對於教學與研究的語言使用有一致性的特徵。其原因可能來自於校方、教育部的要求對新進人員與資深人員都是相同的，並不因資歷而有所差異。詳細數據如下表。

表 2.教學與研究所使用的語言百分比對照表（%）

	新進人員	資深人員
教學語言-母語	95.8	97.8
教學語言-外語	4.2	2.2
研究語言-母語	62.5	63.6
研究語言-外語	37.5	36.4

（二）教學與研究興趣傾向

教學與研究乃高教工作者最重要的二項工作，但其偏好傾向因人而異。不論新進或資深，主要在教學的比例約為 13%、兼具但傾向教學者約 44%、兼具但傾向研究者約 40%，主要在研究者僅有 2%左右。估計原因來自於本研究皆以大學院校教師為止，倘若完全傾向研究，則應在研究機構從事研究員較符合自身興趣。分析結果顯示新進人員與資深人員之間沒有明顯差異，這表示教學與研究興趣傾向並不因資歷而有所變化，是相當穩定的特質。詳細數據如下表。

表 3.教學與研究興趣傾向百分比對照表（%）

	新進人員	資深人員
主要在教學	13.5	13.3
兼具但傾向教學	43.8	45.0
兼具但傾向研究	41.7	39.5
主要在研究	1.0	2.3

（三）年收入

年收入的分析方面，新進人員與資深人員的差異頗大。新進人員的平均數較低為 93.66 萬元，而資深人員的平均數高出近 30 萬元來到 124.10 萬元。從變異來看，新進人員的標準差較小僅有 16.38 萬元，而資深人員的標準差較大為 55.86 萬元，這表示新進人員剛入高等教育職場，還在適應職場階段，並沒有太多額外收入的機會。詳細數據如下表。

表 4.年收入描述統計對照表（萬元）

	新進人員		資深人員	
	平均數	標準差	平均數	標準差
年收入	93.66	16.38	124.10	55.86
範圍	40-150		65-800	

（四）教學取向

此部份分析新進人員與資深人員在教學時強調的取向為何。資深人員較強調練習取向、價值取向與誠實取向，新進人員較強調國際取向。推測可能原因是教學現場的歷練程度所致。新進人員所學較新、較為學術傾向，會在課程中希望學生能與最新的國際潮流接軌，而資深人員則較為現實傾向，在乎實際操作、倫理觀念等未來在職場上最需要的特質。詳細數據如下表。

表 5.教學取向百分比對照表（%）

（答案1&2佔百分比）	新進人員	資深人員
在您的教學中，強調實際的操作知識與技巧（練習取向）	67	71
您的課程強調國際視野（國際取向）	72	64
在您的課程中，您會融入價值觀和倫理的討論（價值取向）	65	72
您告知學生在課堂上作弊與抄襲的後果（誠實取向）	75	78

（五）對工作場所之評價

對工作場所之評價，包含了對於教室、教學科技、實驗室、研究設備、電腦軟硬體、圖書館設備服務、辦公室空間及秘書或行政助理的支持等，本項目為上述八項之平均，分數低者表示滿意程度高、分數高者表示滿意程度低。分析結果顯示，整體而言新進人員與資深人員都在五點量尺的一半以下，宏觀來看是都呈現滿意居多。細部來看，資深人員略比新進人員對於工作場所有較為正面之評價。推測可能原因是資深人員在學校內的資源取得較為容易且豐富所致，而資源的取得在學術界則取決於職等、過去發表的質量，這對資歷淺的新進人員是較大的劣勢所在。詳細數據如下表。

表 6.對工作場所之評價描述統計對照表

	新進人員		資深人員	
	平均數	標準差	平均數	標準差
工作場所評價	2.55	.64	2.40	.72

（六）對工作條件之評價

此項目的題目為「自從您開始從事職業生涯後，整體而言高等教育與研究機構的工作條件是否有提升，或下降的趨勢？」，分數高者表示大幅惡化，分數低者表示大幅提昇。新進人員與資深人員在此項目的得分都超過五點量尺的一半以上，表示二者都認為高等教育的工作條件有明顯惡化的趨勢。其中又以新進人員感受較深，很可能是新進人員恰好面對近年來少子化後產生的許多較嚴苛的工作要求，包含超鐘點教學、較高要求的學術發表、較多的行政責任、較難取得的研究經費等等。詳細數據如下表。

表 7. 對工作場所之評價描述統計對照表

	新進人員		資深人員	
	平均數	標準差	平均數	標準差
工作條件評價	3.73	.81	3.49	1.02

（七）每週工作時數

每週工作時數，是由學期中與假期中的教學、研究、服務、學校行政、其他活動等項目加權而來。整體來看，新進人員與資深人員每週工時差距近 7 小時，且以資深人員 47.89 小時較高。

表 8. 每週工作時數描述統計對照表

	新進人員		資深人員	
	平均數	標準差	平均數	標準差
每週工作時數	40.90	21.78	47.89	24.98

若仔細分析工作時數的組成，可發現新進人員僅在教學時數上較高，但差距僅一個小時多，其餘項目都是資深人員領先。這樣的結果顯示，資深人員的高工時主要是由較多的研究時數、服務時數、學校行政及其他學術活動所累積，其中差距最大者為服務時數與學校行政時數，這部份是由資深人員負擔較重。

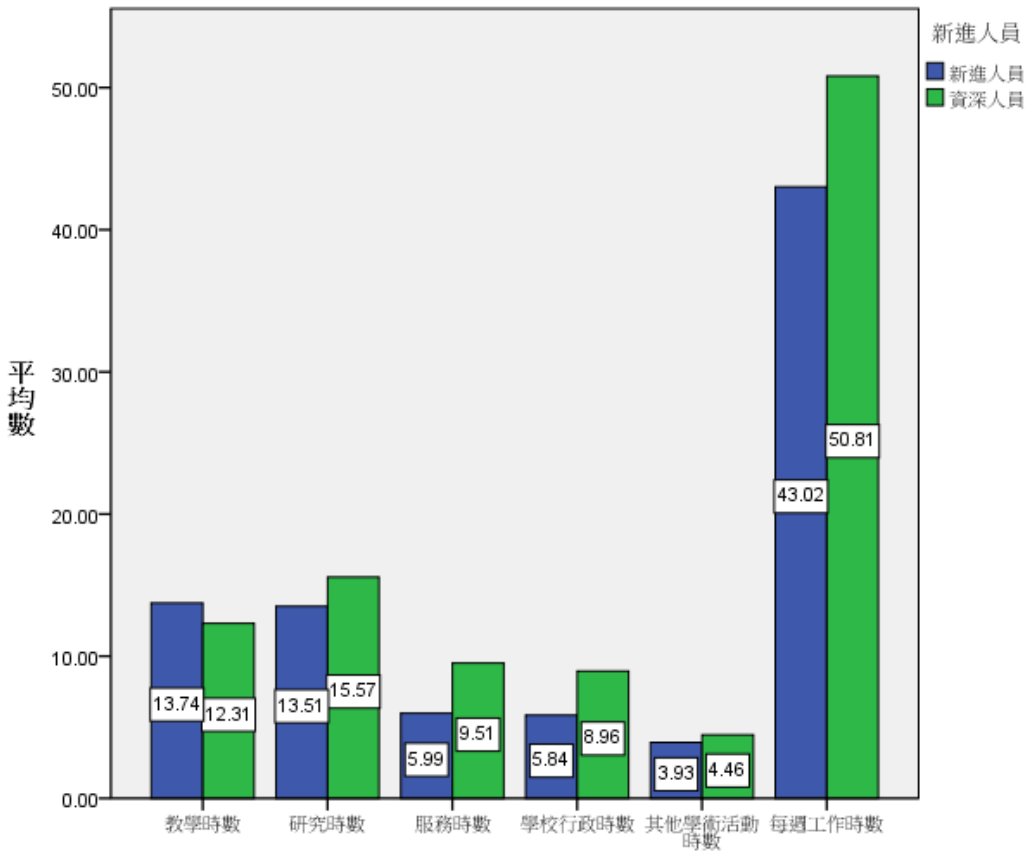


圖 1. 新進人員與資深人員工作時數比較圖

（八）工作壓力與工作滿意度

工作壓力與工作滿意度都是單一題目的整體性評估，分數低者較同意，分數高者較不同意。整體來看，新進人員與資深人員的工作壓力與工作滿意都在五點量尺的一半以下，表示新進人員與資深人員都認為高等教育的工作是高壓力、高滿意的。細部來看，新進人員的工作壓力程度較大，而資深人員的滿意程度較高。詳細數據如下表。

表 9.工作壓力與工作滿意度描述統計對照表

	新進人員		資深人員	
	平均數	標準差	平均數	標準差
工作壓力	2.23	.94	2.51	1.16
工作滿意	2.55	.78	2.35	8.25

（九）研究的重點方向、研究活動

近年研究的重點方向，整體而言，在基礎理論、應用實務、技術轉移等項目上差異不大，都在5%內，且以應用實務性質為最大宗。有趣的是，新進人員的研究重點，其社會性高過資深人員 16 個百分點。由此可知，新進人員在研究上的公民、社會意識有明顯的成長，較資深人員更在乎自身研究對於大眾的貢獻、福利，推測可能源自於世代差異使然。詳細數據如下表。

表 10.近年研究重點方向百分比對照表（%）

（答案1&2佔百分比）	新進人員	資深人員
1.基礎性或理論性	54	59
2.應用性或實務性	84	81
3.商業/產業導向或技術轉移	36	37
4.社會性或社會福祉性	59	43

而在實際參與的研究活動上，新進人員較多地參與準備研究的前置過程/執行層面，而其他的活動，包含指導、發表、技術轉移、爭取經費、管控、採購都是以資深人員為多。這也充分反映了高等教育職場中「發表→資源」的循環過程，這此循環都需要長期的努力與資歷方可達成，對新進人員來說是相對的劣勢。詳細數據如下表。

表 11. 參與研究活動表分比對照表（%）

	新進人員	資深人員
1. 準備實驗、問卷、訪談 等	77	64
2. 進行實驗、問卷、訪談 等	60	60
3. 指導一個研究團隊、研究生或研究生助理	77	83
4. 撰寫含有研究結果和發現的學術文章	82	86
5. 參與技術轉移的過程	6	18
6. 回應研究計畫的徵求或撰寫研究爭取補助	50	61
7. 管理研究的合約和成本控制	24	34
8. 購買或選擇設備和研究用品	43	50

（十）近三年內的學術成果

近三年內的學術成果有許多項目，幾乎所有項目都是以資深人員較多。所有項目中最多件數的，新進人員與資深人員都是期刊專書、研究計畫與會議文章等三項，這也是目前採計的學術產能中最具指標性的項目，可見評鑑、升等的指標如何影響學術成果的產出類型。其中最明顯的差異在期刊專書，資深人員是新進人員的近二倍之多，推測原因來自資深人員的研究團隊較為龐大、資源較為充足，整個學術產出的生產線已經非常穩定且具備高水準的寫作能力。

表 12. 三年內學術成果對照表（件數）

	新進人員	資深人員
1. 您所撰寫或共同撰寫的學術專書數目	.8	1.0
2. 您所編輯或共同編輯的學術專書數目	.4	.6
3. 您被刊登在期刊或專書中的論文數目	3.2	5.9
4. 您為申請研究補助而撰寫的研究計畫或專刊數目	2.1	3.6
5. 您在學術會議所發表的文章數目	5.3	6.3
6. 您在報章雜誌所發表的專業文章數目	.9	1.3
7. 您所申請的專利數目	.0	.9
8. 您所撰寫供大眾使用的電腦程式數目	.0	.6
9. 您所演出或展示的藝術作品數目	.1	.9
10. 您所製作的影片或電影數目	.2	.1

四、 結論

綜合上述的分析結果，一幅高等教育職場中的新進人員圖像逐漸浮現：年收入較低、重視國際趨勢、工作條件惡化、教學時數較高、工作壓力大、工作滿意度低、重視研究的社會貢獻、專注在研究的執行層面、發表量較少等等。

新進人員是未來高等教育的核心，整個大學競爭力不只包含研究的發展，更涵蓋了教學的卓越。倘若高等教育是以發表決定資源，那目前的制度等於是變相鼓勵新進人員專注在自身研究，而忽略了教學。然而從研究-教學傾向的分析來看，大多數的大學教師們是傾向教學。在時間預算有限的前提下，如何分配時間給不同的工作，就決定了各個項目的工作品質。是故，應提昇對於新進人員在各方面的支持。倘若新進人員的重點是厚植其研究能力，則應該在尚未有豐富發表之前給予充足的資源，而非讓新進人員在匱乏中頂著風雨前進。另一方面，新進人員的所學較新、重視國際化、社會貢獻，這正是新世代學者的特質，讓研究成果、知識不只是在象牙塔內，而是進一步的深化、對人類產生福祉。而學生也應該直接受惠於此，故新進人員實則責任重大，扮演著承先啟後的角色，也是高等教育應該珍視的璞玉。故如何在降低教學時數的同時，也一併提高教學品質也是未來研究的重點目標。

教師發展與辦學績效-從教學與研究的競合關係談起

前言

目前國內高等教育正處於一個急遽擴張、教育經費激烈爭奪、世界大學排名的巨大壓力及對大學社會責任高度期許的環境下，大學教授長期處於壓力愈來愈大的環境中，也漸漸失去對教學與研究的熱情。教授是大學教育的核心工作者，對任何的教授而言，教學與研究乃是多數老師對學術工作生涯共同認可的重要項目。在有限的時間條件下，教學與研究的衡平攸關著兩者的品質。但是，這兩大工作之間的關係究竟是互相競爭，抑或是相輔相成的呢?在工作時間的限制下，如何取得這兩者的平衡，是一個值得關注的議題。

世界高等教育 Teaching-Research Nexus 的系列研究曾指出教學與研究存在著既是競爭又是合作的關係，因而發展出「變遷中的大學教授專業」(Changing Academic Profession, CAP)系列研究，由來自全球 19 個國家超過 100 位學者，經歷八年(2004-2012)，所做的跨國性的高等教育比較研究。然而，台灣卻沒有參與其中。

為了因應社會對學術工作品質的高度期許、高等教育與學術工作的全球化趨勢及對高等教育管理效能的掌握。本研究將參考「變遷中的大學教授專業」分析目前教授的教學與研究關係之現況，並與 CAP 的國際資料進行比對，以期提出合理的解決方案，以健全教授在學術生涯之功能，達到全面提升教學品質與研究能量的目的，進而促進教授學術生活的幸福感。

分析資料

參與對象主要來自於全台灣之高等教育機構，公私立大專院校共計 18 間，包含教學型大學、研究型大學、科技大學等等。扣除無博士學位的講師後，共計 458 位有效樣本。當中男性 68%、女性 32%；年資六年以下的新進人員 23%，年資六年以上的資深人員為 77%；公立學校 36%，私立學校 64%；自然科學 36%，人文社科 64%。

除台灣數據為本研究收集並分析外，其餘國際數據皆引自：Teichler U., Arimoto A., Cummings W.K. (2013) The Changing Academic Profession.

研究問題一：性別的天花板效應存在於台灣的高教嗎？

此議題之探討，可以從女性在新進教師及資深教授所佔的百分比得知。最理想的狀況下，不論是資深或新進人員，當中都應有 50%的比例為女性。分析結果顯示，台灣的資深教授當中，有 30%為女性，數據接近於英國、美國與加拿大等地。而在新進教授當中，有 40%為女性，數據接近於德國、加拿大與香港等地。換言之，相較於男性教師而言，女性教師的比例有稍低的現象。而在國際比較當中，日本與韓國則是大學教師女性比例最低的國家，無論在資深或新進人員當中都低於 20%。

若以領域來區分，則自然領域的資深女性比例為 23%、新進女性為 19%；人文領域的資深女性為 34%，新進女性為 44%。此數據說明，在自然領域當中有著較為嚴重的性別比例失衡的現象。

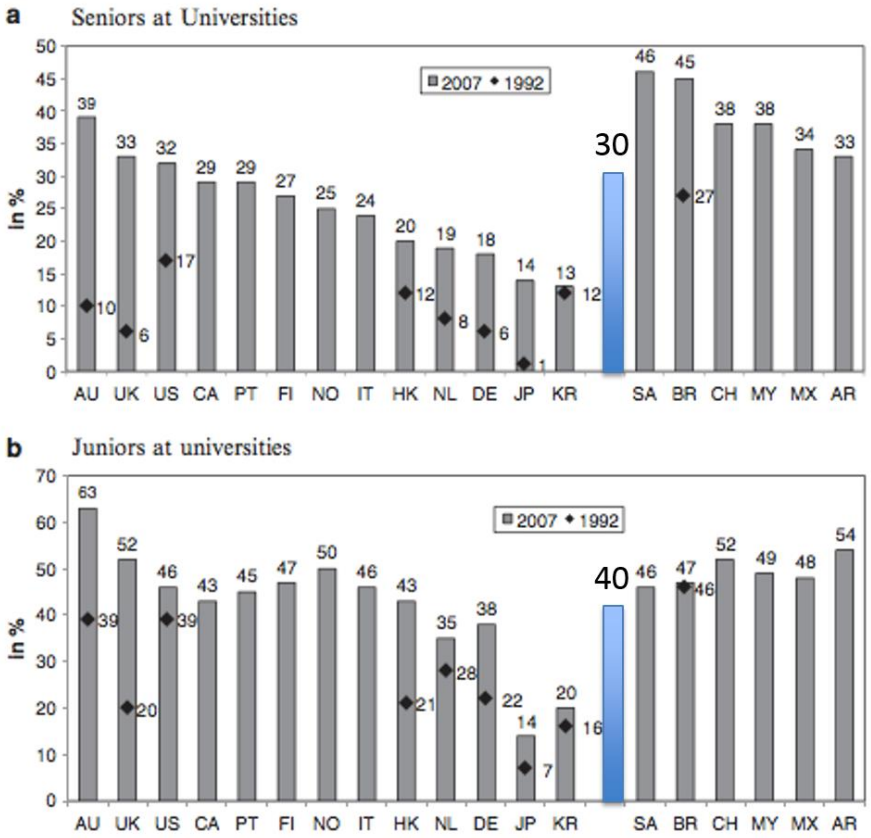
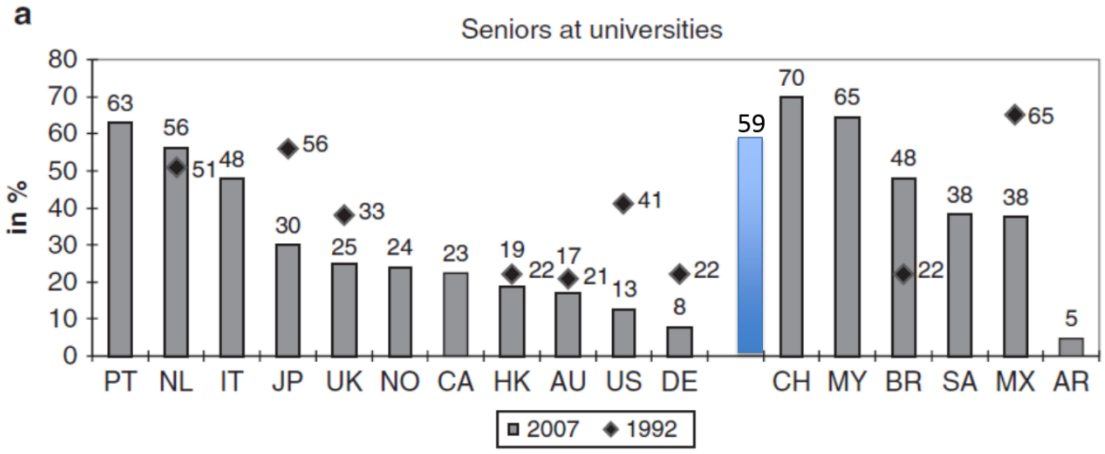


Fig. 4.1 Women academics in 1992 and 2007 (percentage). (**a**) Seniors at universities. (**b**) Juniors at universities (See the country codes on p. 76)

研究問題二：台灣的大學師資是否存在近親繁殖的現象？

近親繁殖（inbreeding）是指一位大學教師整個職業生涯中都受僱於一個機構內，或是就職於他有畢業的學校。在學理上，近親繁殖會造成學術經驗的窄化，以及危害「用人唯賢」的徵選人才原則。學理上，以專業及機構的流動性（professional and institutional mobility）來定義近親繁殖的數據，若此數據高則表示流動性差，數據低則表示流動性高。

分析結果顯示，台灣的資料中有 59%的教師符合近親繁殖的定義，接近於荷蘭的 56%，算是全球最高的前段班。而國際比較中，近親繁殖比例最低者為阿根廷、德國與美國，這些國家的數據皆介於 5%～13%。



研究問題三：有多少比例的學者具有國際移動的經驗？

國際移動（international mobility）是將國外新進的學術概念引進國內的重要管道之一，在定義上以在國外取得碩/博士學位的人數比例為依據。分析結果顯示，台灣有 63%的資深教授具有國際移動的經驗，也有 74%的新進人員具有國際移動的經驗，其比例高過 CAP 資料中的所有國家。在國際比較中，除了台灣，國際移動經驗的比例最高者為香港、澳洲，比例上為 62%、56%，最低者為瑞士的 12%。

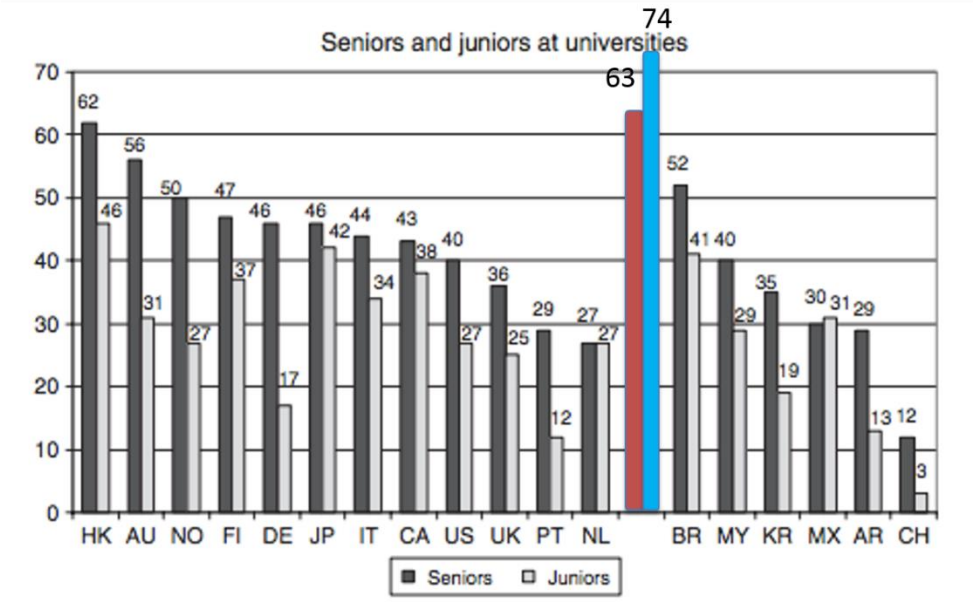


Fig. 4.3 Years spent in other countries—2007 (percentage). Question F13: Since the award of your first degree, how many years have you spent…in other countries (outside the country of your first degree and current employment)?

研究問題四：有多少比例的學者在教學與研究上使用外語？

在上一個研究問題中，結果顯示台灣的師資具有全球最高比例的國際移動經驗，接著要探討的是，在教學與研究中使用外語的比例有多少？

分析結果顯示，以外語進行教學者：資深教師為 2.1%、新進教師為 4.2%；以外語進行研究發表者：資深教師為 35.3%、新進者為 37.5%。在國際比較當中，台灣的外語教學可說是敬陪末座，比例僅些微勝過日本及葡萄牙，都在 4%以下。以外語進行教學，全球最高比例者為馬來西亞超過 70%，其次是香港也有近 60%的比例。以外語進行研究發表上，台灣的比例接近於加拿大，最低者為日本、英國、美國與澳洲。

而在不同領域中，自然領域以外語進行研究的比例為 48.4%，遠高過人文領域的 29.1%，顯示以外語進行研究發表一事有很明顯的領域差異。

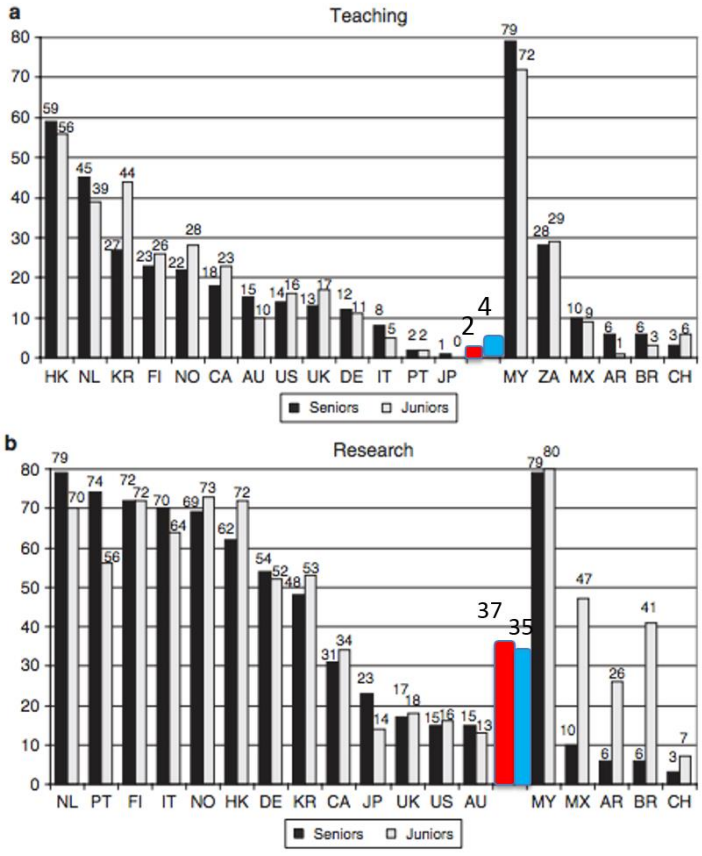


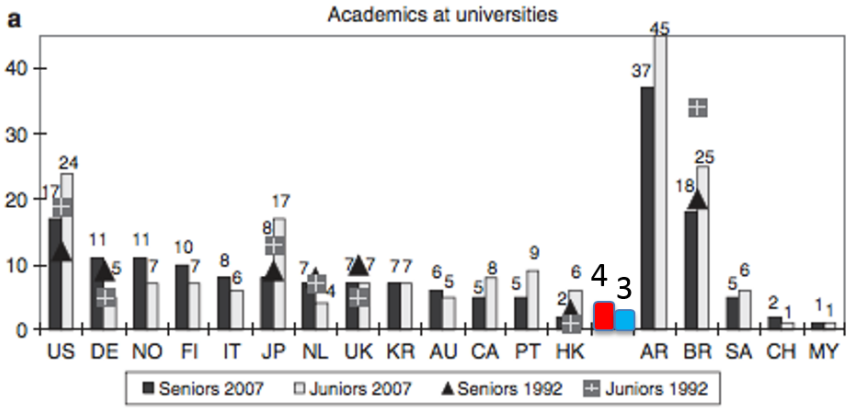
Fig. 4.4 Use of foreign language(s) (language not being the respondents' mother tongue/first language) in teaching and research (percentage of academics at universities whose citizenship is the same of the country of residence). (**a**) Teaching. (**b**) Research. Question F11: Which language do you primarily employ in teaching/research?

研究問題五：聽說在台灣當教授賺很大？

薪資是吸引人才、留住人才最主要的因素，CAP 問卷以整年收入（美金）做為估計薪資的方式。

學術生涯的吸引力在於高內在動機、有趣的工作內容、工作型態的自由度。教授相對於其他行業並非高所得的職業。分析結果顯示，台灣教授的年收入約為 3～4 萬美金，算是發展中國家的薪資水準。

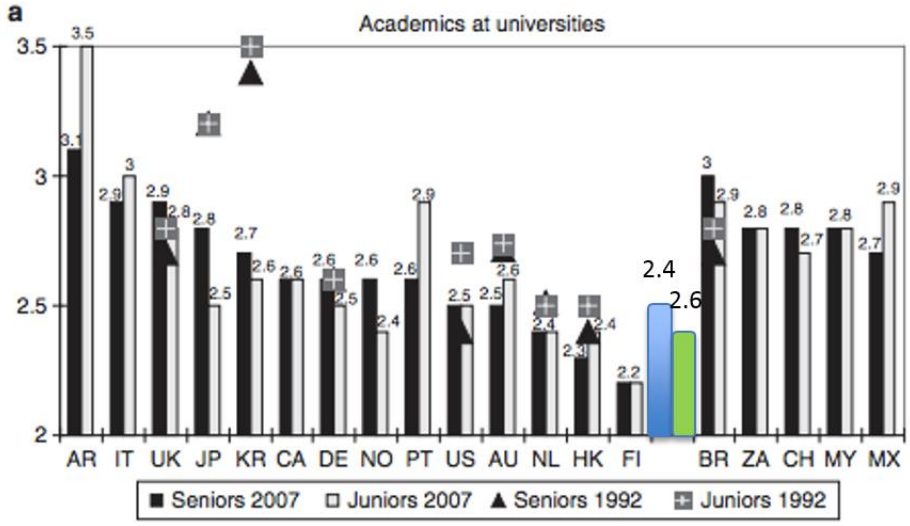
在 CAP 問卷中，教授在以下國家的總年收入：香港 159,000 美金、美國 114,000 美金、日本 98,000 美金；發展中國家則較低，帳面上巴西 32,000 美金、中國 8,000 美金。在大部分國家中，業外收入不宜超過總收入的 10%。先進國家是本業薪資高，外快少。發展中國家則是帳面數字較低，外快多。



研究問題六：大學教師是否滿意高教的工作環境？

在 CAP 問卷中，以五點量表來勾選大學教師對於工作單位的評價，1 分表示優、5 分表示劣，項目包含教室、教學科技、實驗室、研究設備、電腦軟硬體、圖書館、辦公室、行政支持、郵電設備、教學助理、研究助理、研究經費等。

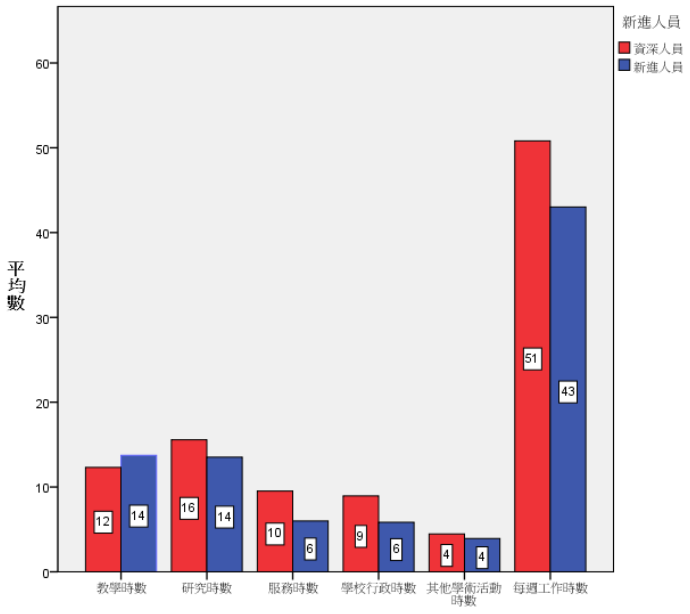
分析數據顯示，對工作場所之評價，資深人員較為滿意為 2.4 分、新進人員分數為 2.6 分也仍在滿意 3 分以下的範圍內。國際比較顯示，大多數國家都在 3 分以下算是傾向滿意，只有阿根廷超過三分較為不滿意。



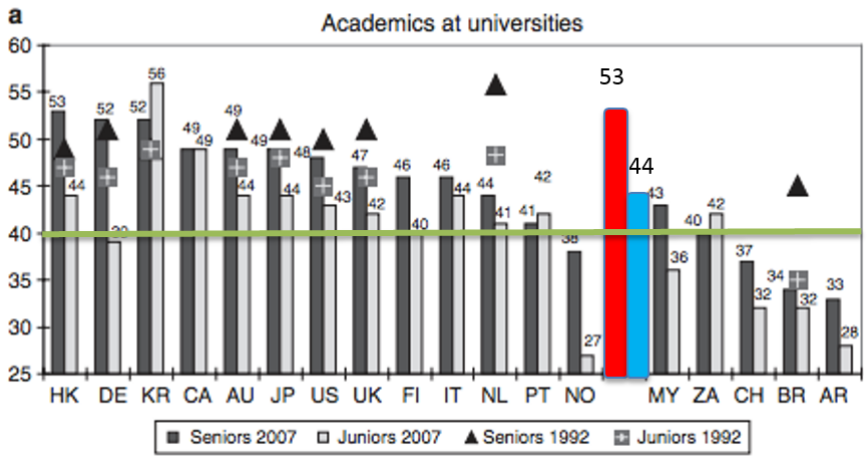
研究問題七：聽說教授都很閒？只需要上兩三門課

在大學教育專業中，時間預算（time budget）最常被討論的議題（Teichler, Arimoto, & Cummings, 2013）。時間預算指的是大學教授在學術工作中的時間分配。原因如下：一、大學教授總工作時間太長。二、各種角色時間分配上的互相排擠。三、時間預算的分配會直接、間接地影響教學品質與研究產能。

分析結果顯示，台灣的資深教授每週工時為 51 小時，比新進教師的 43 小時整整多了一個工作天的時數，詳細時間分布如圖所示。



在國際比較上，台灣的教師，尤其是資深教師的每週工時算是全球第二，僅次於韓國而與香港、德國看齊。若以每天 8 小時、一週 40 小時來看，絕大多數國家的大學教師，其工作時間都比一般上班族多。若結合上述的薪資來看，台灣的教師可說是低薪又過勞。

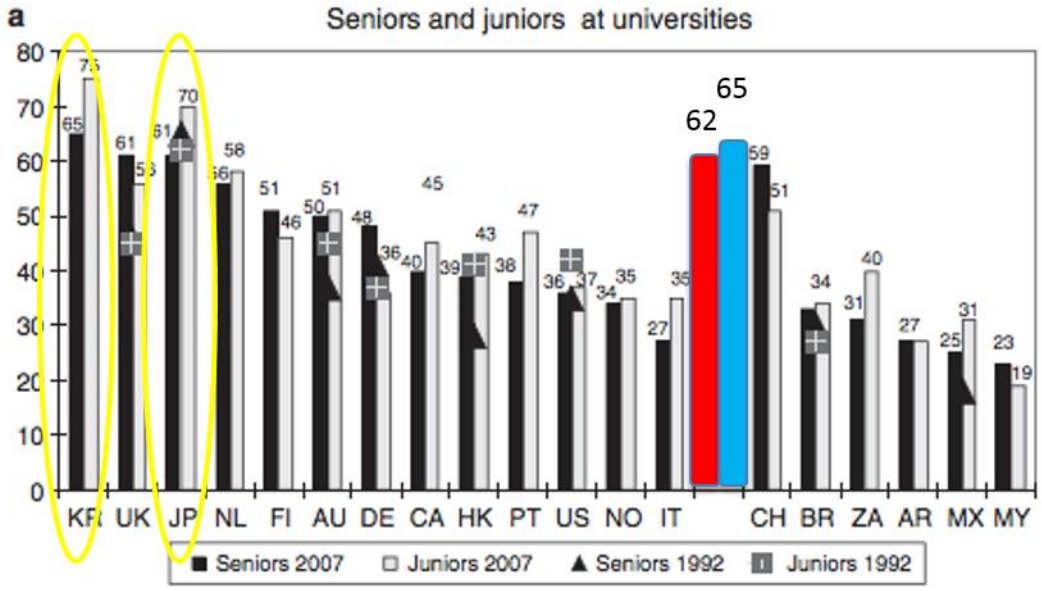


研究問題八：教授的工作壓力很大嗎？

在 CAP 問卷中，有一個關於工作壓力的題目「我的工作是相當大的個人壓力來源」，1 分表示非常認同，5 分表示非常不認同。以回答 1 和 2 者的比例做為評估壓力的方式。

分析結果顯示，台灣有 62%的資深教授認為有相當大的工作壓力，新進的比例更高達到 65%。

在國際比較方面，台灣的比例排名世界第三，僅輸日韓二國。

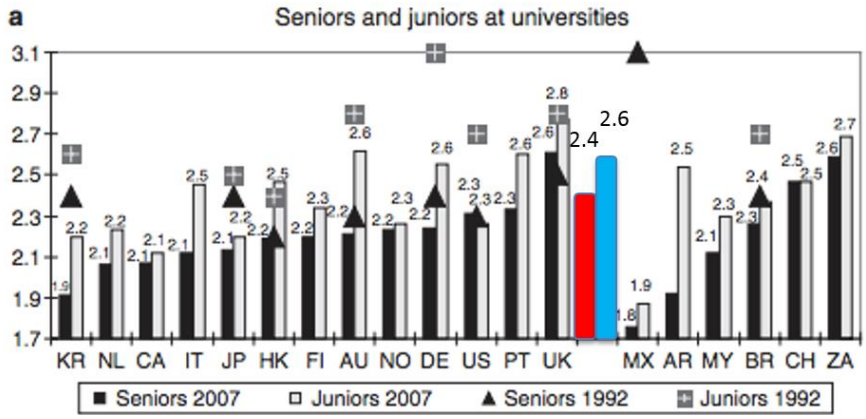


研究問題九：教授們滿意自己的工作嗎？

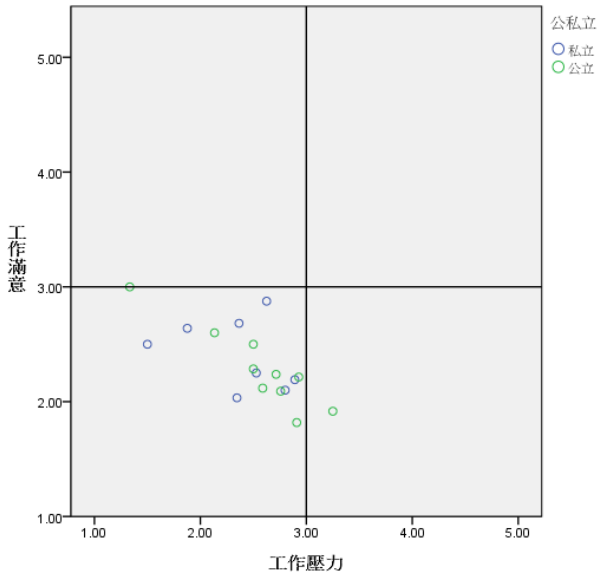
在 CAP 問卷中，有一個關於工滿意度的題目「整體而言，您滿意目前的工作嗎？」，1 分表示非常滿意，5 分表示非常不滿意。

分析結果顯示，台灣的資深教授較滿意自己的工作，得分為 2.4 分；新進人員分數稍高為 2.6 分，都還在 3 分以下的滿意範圍。

在國際比較方面，最滿意自己工作的是墨西哥，達到 2 分以下。周邊的韓國、日本及香港也都有比台灣更佳的工作滿意度。



此外，若結合工作壓力與工作滿意二個問題來看，並將資料以學校為單位來檢視，則可發現無論公立或私立學校，教授的工作評價都落在左下角的象限當中，本研究所收集的 18 間學校的教授可說是高壓力、高滿意的狀態。



研究問題十：教授們比較偏好教學，還是研究？

教學與研究乃是教授的工作中最重要也最被要求品質的二大項目，理解大學教師在教研之間的偏好至關重要。其重要在於：

一、大學教師如何給予教學與研究間不同的權重？

在教授的升等過程中，教學與研究的權重是差異很大的，因此教授們是如何看待這樣的差異就成為很重要的議題。倘若教授覺得其中一者較為重要，就會給予更大的權重，在各種資源的規劃及分配上就更偏向一邊，很可能造成另一邊的弱化。

二、大學教師如何在教學與研究間分配他們的時間？

權重是一種主觀上認定重要性的做法，實際上也需要探討教授們如何在較學與研究之間分配時間。對一位教授而言，所擁有的時間是固定的，花費較多的時間在一邊上，肯定會壓縮到另一邊的時間，也連帶影響其品質。是故，理解大學教師如何分配時間，是探索教授工作內容的重要面向。

三、大學教師如何知覺到教學與研究的競合關係？

教學與研究二者間在時間上乃是互相排擠的競爭關係，然而在內容上二者間是否有相互助益的合作關係呢？具體來說，教學經驗是否會影響研究的品質？而反過來，研究的經驗是否會影響教學經驗？抑或二者之間就只有競爭關係，彼此之間無法兩全？

四、高等教育機構如何不同地酬賞大學教師的教學與研究？

在大學當中，行政體系如何對大學教師的教師與研究給予酬賞等同在告訴教授們學校的喜好。現階段常見的獎賞方式，若是研究績優則可減少教學時數，但若是教學績優卻沒有減低研究的要求。換言之，這樣的制度本身就在鼓勵教授往研究的方向發展，並不鼓勵教授在教學上追求卓越。

探討此一主題，就必須回到大學教育中，各系所或學校在教學與研究發展的歷史。大學教育的政策究竟是欲平衡教學與研究，或是偏向其一？學校或整個學界對於教學與研究有做過什麼相關活動來幫助教學或研究的卓越？大學教師的人事政策，包含聘任、晉升、評鑑制度是否過度地關注在研究的質量上，教學成效該如何納入人事政策當中也是值得被關注的議題。

在 CAP 問卷中，有題目問到「根據您的喜好，您的興趣傾向教學或是研究？」答案有主要在教學、皆有但傾向教學、皆有但傾向研究、主要在研究等四個選項。

分析結果顯示，台灣的教授在教學與研究的偏好上，主要在教學者為 15%、傾向教學 44%、傾向研究 39%、主要在研究 2%，教學的二類加總是 6 成，研究的二類加總是 4 成。與國際相比，台灣的數據較為接近發展中國家的比例，也就是傾向教學者略多。先進國家則是大多以傾向研究的比例居多。

Table 5.1 Preference for teaching and research (per cent)

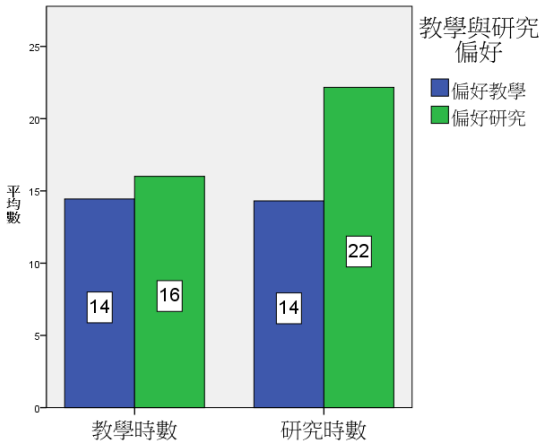
	CA	US	FI	DE	IT	NL	NO	PT	UK	AU	JP	KR	HK	Avg[a]	AR	BR	MX	ZA	CH	MY	Avg[b]	TW
Primarily in teaching	6	27	15	12	2	22	2	10	10	7	6	3	11	10	13	9	20	18	12	8	13	15
Both, leaning towards teaching	26	31	20	23	22	28	15	43	23	23	23	29	28	26	36	44	37	35	44	45	40	44
Both, leaning towards research	54	33	36	39	64	36	51	40	40	40	57	60	49	46	44	42	36	37	39	43	40	39
Primarily in research	15	10	29	26	12	14	31	7	27	31	14	8	12	18	7	6	7	9	5	4	6	2

Question B2: Regarding your own preferences, do your interests lie primarily in teaching or in research?
[a]Average among advanced countries
[b]Average among emerging countries

在台灣資料中，若以年資來區分，則新進人員與資深人員並沒有太大的差異。若以領域區分，則可發現自然領域較為偏向研究，而人員領域較偏向教學。進一步以公私立區分，則可發現私立學校較為偏向教學，而公立學校較為偏向研究。

	新進人員	資深人員	自然科學	人文社科	私立	公立
主要在教學	13.5	13.3	5.7	17.6	17.4	6.2
兼具但傾向教學	43.8	45.1	38.2	46.4	46.5	39.5
兼具但傾向研究	41.7	39.3	52.9	34.5	34.8	51.2
主要在研究	1.0	2.3	3.2	1.4	1.4	3.1

以每週工時來看，偏好教學者在教學與研究時數的分配上是一樣的，而偏好研究者則在研究時數上整整多了一個工作天八小時的時間。



在討論教學與研究的競合關係時，CAP 有題目問到「您的研究活動強化了您的教學」。在台灣資料中，認同「研究能強化教學」的比例僅有 63%。從國際比較看來乃是全球最低。

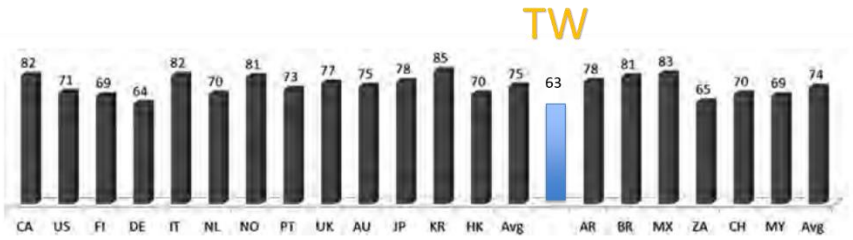


Fig. 5.3 Perceived reinforcement of teaching and research activities (per cent, responses 1 and 2 on a scale from 1 = strongly agree to 5 = strongly disagree). Question C4: Please indicate your views on the following: … Your research activities reinforce your teaching

此外，當問到「教學與研究是難以兼顧的」時，整體而言台灣教授都認同這個說法。而且新進人員的得分 2.24 分比起資深人員的 2.61 來的更低，表示新進人員較認同教研難以兼顧，二者間達到顯著差異。(1 分表示非常認同，5 分表示非常不認同)

進一步以國際間的設來看，若計算認同「教學與研究是難以兼顧的」之人數比例，則台灣有 55%的教授認為二者難以兼顧，比例是全球最高，甚至高過日本的 52%，而大多數國家都介於 20%～40%之間。

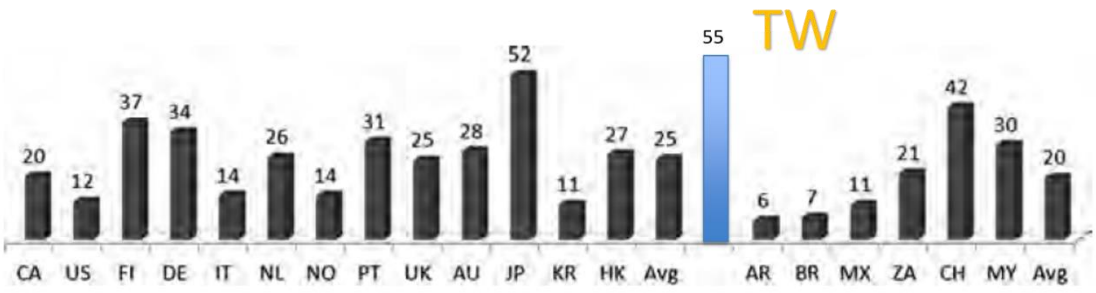


Fig. 5.4 Perception of teaching and research as hardly being compatible with each other (per cent, responses 1 and 2 on a scale from 1 = strongly agree to 5 = strongly disagree). Question B5: Please indicate your views on the following: … Teaching and research are hardly compatible with each other

分析結果顯示，整體而言台灣教授有超過一半認為教學與研究之間具有競爭關係，且難以兩全，彼此之間互相有排擠效應存在。

在研究重點的方向上，CAP 問卷有題目探討教授的研究重點。分析結果顯示，一般來說，台灣學者的研究重點是應用實務性佔 81%，最欠缺的是技轉產業導向佔 33%，有六成學者從事多元跨領域研究，有近半學者的研究有國際取向佔 48%。

D2 您會如何描述您本學年度(或上學年度)的研究重點之方向?

非常符合				非常不符合
1	2	3	4	5
☐	☐	☐	☐	☐ 1.基礎性或理論性
☐	☐	☐	☐	☐ 2.應用性或實務性
☐	☐	☐	☐	☐ 3.商業/產業導向或技術轉移
☐	☐	☐	☐	☐ 4.社會性或社會福祉性
☐	☐	☐	☐	☐ 5.國際取向
☐	☐	☐	☐	☐ 6.專注於單一學科領域
☐	☐	☐	☐	☐ 7.多元性或跨學科性

在對於學術的看法上，認為學術應有原創性者佔 65%、認為學術包含專業在日常的運用佔 82%、認為學術是對該領域的發現及趨勢了解佔 86%、認為學者有義務將專業知識應用於解決社會問題上佔 73%。整體而言，分析結果顯示台灣學者對於學術研究的看法有較高的實用主義傾向。

B5 請標明您對以下意見的看法 （答案1&2佔百分比）P139

	%
1. 學術最好被定義為從事原創性的研究	65
2. 學術包含專業知識在日常生活上的運用	82
3. 學術包含我對研究領域的主要發現及趨勢的了解	86
8. 在我學術領域的學者有義務把專業知識應用於解決社會問題上	73

在研究活動上，CAP 以複選題探討教授在一年內所參與的研究活動。分析結果顯示，研究活動中，學者最常從事的是撰寫學術文章 85%，最少從事的是參與技術轉移 15%。

D3 在本學年度(或上學年度)您是否有參與以下各項研究活動？(複選題)

☐ 1.準備實驗、問卷、訪談 等
☐ 2.進行實驗、問卷、訪談 等
☐ 3.指導一個研究團隊、研究生或研究生助理
☐ 4.撰寫含有研究結果和發現的學術文章
☐ 5.參與技術轉移的過程
☐ 6.回應研究計畫的徵求或撰寫研究爭取補助
☐ 7.管理研究的合約和成本控制
☐ 8.購買或選擇設備和研究用品

研究問題十一：台灣教授的學術產出為何？

在學術產出上，CAP 以下列類型計算學者的學術成果。分析結果顯示，整體而言學者們的學術成果大多集中在期刊論文、研究計畫及會議文章等三個項目上。

D4 近三年內您的學術研究成果為何？(請填件數) P148

	全體	新進人員	資深人員
1. 您所撰寫或共同撰寫的學術專書數目	1.3	0.8	1.4
2. 您所編輯或共同編輯的學術專書數目	0.7	0.4	0.8
3. 您所被刊登在期刊或專書中的論文數目	5.2	3.2	5.8
4. 您為申請研究補助而撰寫的研究計畫或專刊數目	3.3	2.1	3.7
5. 您在學術會議所發表的文章數目	6.1	5.3	6.3
6. 您在報章雜誌所發表的專業文章數目	1.5	0.9	1.7
7. 您所申請的專利數目	0.9	0.0	1.1
8. 您所撰寫供大眾使用的電腦程式數目	0.6	0.0	0.7
9. 您所演出或展示的藝術作品數目	0.8	0.1	0.9
10. 您所製作的影片或電影數目	0.1	0.2	0.1
11. 其他（請說明）	0.5	0.4	0.5

若以年資來看，則資深人員的各項產出數量都高於新進人員，尤其是期刊論文與申請計劃二者的差異達到顯著。

t test by 新進資深

組別	新進		資深		
項目	M	SD	M	SD	t
3. 您所被刊登在期刊或專書中的論文數目	3.15	4.11	5.88	6.27	-4.46***
4. 您為申請研究補助而撰寫的研究計畫或專刊數目	2.05	1.7	3.62	3.3	-5.45***
5. 您在學術會議所發表的文章數目	5.28	7.15	6.29	7.01	-1.11

若以領域區分，則自然領域的期刊專書文章、申請計畫和會議文章數量都較人文領域多，且都達到顯著差異。

t test by 自然人文

組別	自然科學		人文社科		
項目	M	SD	M	SD	t
3. 您所被刊登在期刊或專書中的論文數目	6.81	6.74	4.06	4.92	4.10***
4. 您為申請研究補助而撰寫的研究計畫或專刊數目	4.34	3.96	2.40	2.14	5.40***
5. 您在學術會議所發表的文章數目	7.01	8.73	5.36	5.48	2.21***

以公私立學校來看，則公立學校的申請計劃數量較多，達到顯著差異。

t test by 公私立

組別	公立		私立		
項目	M	SD	M	SD	t
3. 您所被刊登在期刊或專書中的論文數目	5.65	5.78	4.77	5.79	1.37
4. 您為申請研究補助而撰寫的研究計畫或專刊數目	3.91	3.53	2.76	2.55	3.43***
5. 您在學術會議所發表的文章數目	6.79	7.96	5.49	6.18	1.59

另一方面，在教學-研究的偏好如何影響研究產出的分析上，分析結果顯示偏好研究者的期刊專書文章、計畫和會議文章數量都較多，且達到顯著差異。

t test by TR 偏好

組別	教學		研究		
項目	M	SD	M	SD	t
3. 您所被刊登在期刊或專書中的論文數目	3.58	4.75	6.97	6.60	-5.32***
4. 您為申請研究補助而撰寫的研究計畫或專刊數目	2.68	2.57	3.87	3.43	-3.45***
5. 您在學術會議所發表的文章數目	4.56	3.71	7.81	9.43	-4.23***

從國際比較來看，台灣的期刊論文發表量甚至低於發展中國家的平均數6.0篇，而先進國家的平均數為7.8篇。同為亞洲區的日本、韓國及香港，其期刊論文數量是台灣的二倍。

Table 5.9 Number of research output (means for respondents with any respective research output)

TW

	CA	US	FI	DE	IT	NL	NO	PT	UK	AU	JP	KR	HK	Avg[a]	AR	BR	MX	ZA	CH	MY	Avg[b]
Books (co-)authored	1.4	1.3	1.5	1.4	2.0	1.4	1.7	2.1	1.4	1.4	3.1	2.1	1.6	1.7	1.5	1.8	1.8	1.7	2.4	2.4	1.9	1.3
Books (co-)edited	1.4	1.6	1.7	2.2	1.8	1.8	1.5	2.4	1.4	1.5	2.3	2.3	1.6	1.8	1.5	1.8	1.7	1.5	2.1	1.9	1.8	0.7
Articles published	7.1	5.9	6.2	7.6	9.6	7.5	5.7	5.8	6.1	7.9	10.3	11.5	9.6	7.8	5.1	5.7	5.1	4.1	9.0	7.1	6.0	5.2
Report for funded project	3.2	5.2	3.3	3.0	3.3	3.0	2.9	2.8	3.1	3.7	2.6	3.5	3.2	3.3	2.9	3.2	2.4	2.9	3.8	3.3	3.1	3.3
Conference paper	8.8	6.6	5.6	7.0	9.1	6.0	5.5	8.2	5.7	6.4	8.2	9.4	7.8	7.3	6.7	7.6	5.7	4.3	4.3	7.4	6.0	6.1
Professional article	3.4	5.3	3.4	4.6	6.6	3.7	3.9	3.3	2.7	4.4	3.5	4.4	6.7	4.3	3.1	4.6	4.3	2.6	5.1	5.7	4.2	1.5
Patent secured	1.7	1.7	1.7	2.1	1.9	2.0	1.6	2.0	1.8	1.7	2.5	3.7	2.6	2.1	1.2	1.6	1.4	2.2	2.7	3.7	2.1	0.9
Computer programme written	2.0	2.0	1.9	1.6	2.1	2.6	3.5	1.9	3.2	1.6	2.6	1.8	1.7	2.2	1.7	1.7	2.2	2.6	3.3	2.1	2.3	0.6
Artistic work exhibited	6.2	14.0	7.4	11.5	5.8	5.7	9.3	9.5	5.3	6.8	7.8	9.4	4.7	8.0	2.7	6.8	7.9	4.8	5.5	3.6	5.2	0.8
Film produced	1.9	4.0	1.6	3.9	4.5	1.3	3.3	2.5	2.3	1.8	1.7	2.4	2.1	2.6	1.3	3.4	3.5	2.4	4.7	2.9	3.0	0.1
Others	6.6	10.1	4.1	7.2	5.1	1.5	5.8	3.3	4.4	6.4	0	10.4	12.5	6.5	0	7.6	7.1	6.0	3.4	7.7	6.4	0.5

研究問題十二：博士養成教育對於後續教學/研究的偏好影響為何？

在學理上，博士養成教育對於後續的學術工作表現至關重要，若高教機構希望能有好的學術人才，也應該更加關注博士班學生的訓練過程。從前述的分析結果可知，偏好研究者的學術產量顯著地高於偏好教學者。而在博士班期間是否有得過獎學金或研究獎助，經過卡方分析後發現，曾經獲得獎助者其未來傾向研究的比例會高於無獲得獎助者，其卡方達到顯著。

TR傾向 * 5.您曾獲得獎學金或研究獎助 交叉表

			5.您曾獲得獎學金或研究獎助		
			無	有	總和
TR傾向	傾向教學	個數	104	131	235
		整體的 %	25.7%	32.4%	58.2%
	傾向研究	個數	51	118	169
		整體的 %	12.6%	29.2%	41.8%
總和		個數	155	249	404
		整體的 %	38.4%	61.6%	100.0%

結論

本研究由 18 間公私立大學收集資料，探討教師發展與辦學績效之議題。分析結果茲說明如下：

一、在台灣的大學教授當中有性別失衡的現象存在，尤其以自然科學領域較為嚴重，新進女性僅 19%。

二、台灣的大學教師有嚴重的近親繁殖現象，也就是機構與專業的流動性低落，在國際排行中名列前茅，達到 59%的比例。然而此部份的數據主要是由於大多數教師僅長期就職於一間學校所致，自該校畢業即直接就任該校教師的情況較少。

三、在國際移動的經驗上，台灣的大學教師，尤其是新進人員具有國外碩/博士學位者達到 74%，比例乃是全球最高，勝過 CAP 資料中所有國家。

四、台灣學者使用外學教學者僅有 2%～4%，然而以外語進行研究/發表者則有 35%～37%，相較於鄰近的韓國 50%、香港 65%是較低的，但比起日本的 20%又較高。而在領域差異上，自然領域以外語進行研究的比例較高，達到 48%。

五、薪資結構部分，台灣教授的薪資是全球排名中倒數的，平均為 3～4 萬美金，較為接近發展中國家的水準。

六、台灣的大學教師對於高教的工作環境，滿意程度約為還算滿意～普通之間。

七、台灣的大學教師平均每週工時，資深教授約 51 小時，比起新進教師 43 小時多了一個工作天的量，其差異主要來自研究與行政的工作。跟國際相比也算是偏高的工作時數。

八、在工作壓力的評估上，62%～65%的大學教授認為有相當大的工作壓力，在國際比較上則排名第三，工作壓力僅次於日韓二國。

九、台灣的大學教授對於自己工作的滿意度約為普通～還算滿意之間，落後於大多數國家。若結合工作壓力與工作滿意二者來看，教授們對自己的工作可說是有壓力卻也滿意的組合。

十、在教學與研究的偏好上，整體而言是偏好教學者略多一些。而在自然領域中偏好研究者較多、人文領域偏好教學者較多；私立學校偏好教學者較多、公立學校偏好研究者較多。在時間分配上，偏好研究者在研究時數上每週比偏好教學者多了一個工作天的量。然而，台灣僅有 63%的教授認同研究可強化教學，比例全球最低。另一方面，認為教學與研究難以兼顧的比例則是全球最高，達到 55%。

十一、　在研究產出方面，大多數學者以撰寫期刊論文為主，近三年內平均約為 5.2 篇。在期刊論文、申請計劃書和會議文章的產量上，資深人員高於新進人員、自然領域高於人文領域、公立大於私立。然而與國際相比，台灣的平均產量還略遜於發展中國家的平均，更遠落後於鄰近的日本、韓國與香港，三者的產量是台灣二倍之多。

十二、　博士養成教育中，若曾經獲得獎學金或研究獎助，則日後偏好研究者將會是未獲得者的二倍以上。

附錄二

變遷中的台灣高等教育問卷

各位教授道鑑：

目前國內高等教育正處於一個急遽擴張、教育經費激烈爭奪、世界大學排名的巨大壓力及對大學社會責任高度期許的環境下，大學教授長期處於壓力愈來愈大的環境中，也漸漸失去對教學與研究的熱情。教授是大學教育的核心工作者，對任何的教授而言，教學與研究乃是多數老師對學術工作生涯共同認可的重要項目。在有限的時間條件下，教學與研究的衡平攸關著兩者的品質。但是，這兩大工作之間的關係究竟是互相競爭，抑或是相輔相成的呢?在工作時間的限制下，如何取得這兩者的平衡，是一個值得關注的議題。

世界高等教育Teaching-Research Nexus的系列研究曾指出教學與研究存在著既是競爭又是合作的關係，因而發展出「變遷中的大學教授專業」(Changing Academic Profession簡稱CAP)系列研究，由來自世界上19個國家超過100位學者，經歷八年(從2004到2012)，所做的跨國性的高等教育比較研究。這19個國家(18個國家，加上香港地區)，台灣卻沒有參與其中。因此為了因應社會對學術工作品質的高度期許、高等教育與學術工作的全球化趨勢及對高等教育管理效能的掌握。本研究將參考「變遷中的大學教授專業」之系列研究，擬定問卷方向，分析目前教授的教學與研究關係之現況，並期提出合理的解決方案，以健全教授在學術生涯之功能，達到全面提升教學品質與研究能量的目的，進而促進教授學術生活的幸福感。

順頌

時綏

後學 政大教育系所教授 胡悅倫 敬上

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A. 就業情形與專業背景

A1 請標明您是在哪一年哪一個國家取得您的學位

學位	西元	是否在您現在就業的國家獲得此學位?（若否，請列名該國家）	
大學學位	□□□□	是 □	否 □ _____
碩士學位	□□□□	是 □	否 □ _____
博士學位	□□□□	是 □	否 □ _____
博士後學位	□□□□	是 □	否 □ _____

A2 請依照下一頁之學門專長分類表填寫您的學術科目或領域代碼（每一欄寫一個代碼）

最高學歷 _____
目前學術單位 _____
目前教學領域 _____

學門專長分類表

自然司		工程司		生科司		生科司		人文司		科教國合司	
代碼	學門名稱	代碼	學門名稱	代碼	學門名稱	代碼	學門名稱	代碼	學門名稱	代碼	學門名稱
M01	統計	E01	機械固力	B101001	解剖	B1020D8	復健科	H01	文學一(中國文學、台灣文學、原住民文學)	SSS01	數學教育
M02	數學	E02	化學工程	B101002	生理	B1020D9	牙醫學			SSS02	科學教育
M03	物理	E03	造船工程	B101003	藥理及毒理	B1020DA	護理			SSS03	資訊教育
M04	化學	E06	材料工程	B101004	醫學之生化及分子生物	B1030A0	藥學	H04	語言學	SSS04	應用科學教育
M05	地球科學	E07	食品工程			B1030B0	中醫藥	H05	文學二(外國文學、性別研究、文化研究)	SSS05	醫學教育
M06	大氣科學	E08	資訊	B101006	微生物及免疫學	B2010A0	植物學			SSS06	多元族群的科學教育
M07	海洋科學	E09	土木、水利、工程	B101008	保健營養	B2010B0	動物學			SSS07	科普教育與傳播
M20	永續發展研究	E10	能源科技	B101009	公共衛生及環境醫學	B2010C0	生物學之生化及分子生物	H06	歷史學		
		E11	環境工程	B101010	醫學工程	B2020G0	生物多樣性及長期生態	H08	哲學		
		E12	電信工程	B101011	寄生蟲學、醫事技術及實驗診斷	B3010A0	農藝及園藝	H09	人類學		
		E14	微電子工程	B101018	幹細胞/再生生物醫學	B3010C1	生工及生機	H11	教育學		
		E15	光電工程	B1020A1	心胸內科	B3010D3	土壤及環保	H12	心理學		
		E17	醫學工程	B1020A3	腸胃內科	B3010E0	食品及農化	H13	法律學		
		E18	電力工程	B1020A6	腎臟科新陳代謝及內分泌	B3010F0	植物保護	H14	政治學		
		E20	高分子與纖維	B1020A8	血液科腫瘤科風濕免疫及感染	B3010G0	森林、水保及生態	H15	經濟學		
		E50	工業工程與管理	B1020A9	神經內科	B3010H0	漁業	H17	社會學		
		E60	生產自動化技術	B1020B1	小兒科	B3010I1	畜牧	H19	傳播學		
		E61	控制工程	B1020B2	精神科	B3010I2	獸醫	H22	區域研究及地理		
		E71	航太科技	B1020B4	皮膚科	B3010I3	實驗動物	H23	藝術學		
		E72	熱傳學、流體力學	B1020B5	家庭醫學科			H40	財金及會計		
		E80	海洋工程	B1020C1	心胸外科			H41	管理一（人資、組織行為、策略管理、國企、醫管、科管）		
				B1020C3	一般外科			H42	管理二（行銷、生管、資管、交管、作業研究/數量方法）		
				B1020C6	泌尿科			HA2	體育學		
				B1020C7	整形外科			HA3	圖書資訊學		
				B1020C8	神經外科						
				B1020D1	骨科						
				B1020D2	麻醉科						
				B1020D3	婦產科						
				B1020D4	耳鼻喉科						
				B1020D5	眼科						
				B1020D6	放射線及核子醫學						
				B1020D7	病理及法醫						

A3您會如何描述您的博士學位的訓練過程？請勾選全部符合項目（複選題）（若您無持有博士學位，請直接前往A4題回答之）

□1.您曾被要求參加規定的一套課程
□2.您曾被要求寫一篇論文
□3.您曾接受教授密集性的論文指導
□4.您曾選擇自己的研究主題
□5.您曾獲得獎學金或研究獎助
□6.您曾在求學階段獲得合約性聘用（因教學或研究需要）
□7.您曾接受有關教學技巧的相關訓練
□8.您曾參與教師或資深研究人員的研究計畫
□9.您曾在一個學術機構或系所單位擔任委員
□10.其他：_____

A4自從您獲得大學學位開始，曾在以下單位就職任期為多久？（若無任職經驗，請標零）

全職	兼職	
□□年	□□年	高等教育機構（如：大專院校機構）
□□年	□□年	研究機構
□□年	□□年	（其他）政府或公共機構
□□年	□□年	（其他）企業或私人機構
□□年	□□年	自顧

□□年　如果您曾在非學術單位服務，過了多久您才轉換跑道到學術界?

A5 在您獲得第一個學位與最高學位時，曾在多少個單位任職？

第一學位	最高學位	
□□個	□□個	高等教育機構或研究機構
□□個	□□個	其他機構(含自雇)

A6 請標明以下年度

西元□□□□ 您在高等教育/研究部門的第一份全職聘用之起始年度（研究與教學助理除外）
西元□□□□ 您在目前單位的第一份全職聘用之起始年度（研究與教學助理除外）
西元□□□□ 您獲得目前職級之起始年份

共□□年 因家庭原因、個人休假或全職學習，而中斷您在目前機構服務時間有多久？
（若無此經驗，請註明零）

A7 此學年度在高等教育機構/研究機構的就職狀態為何？（單選）

□ 全職僱用
□ 兼職僱用（按月計酬）
□ 兼職（按件計酬）
□ 其他（請詳述）：

A8 在此學年度，您目前是否同時受僱於其他的單位或從事具報酬性的工作？

□ 否
□ 除了目前的職業，我也同時在其他的研究機構或高等教育機構任職
□ 除了目前的職業，我也同時在非學術領域的商業組織任職
□ 除了目前的職業，我同時在非學術性非營利機構或政府機構任職
□ 除了目前的職業，我也是一名自僱者
□ 其他：……

A9 您如何形容目前任職的機構？（單選）

□ 高等教育機構
□ 研究機構
□ 兼具高等教育機構與研究機構

A10 您目前任職的高等教育機構或研究機構的聘用合約任期為何？（單選）

□ 1.永久聘任
□ 2.持續性聘任（週期換約，但沒有永久的保證）
□ 3.持續性聘任（無預訂期限，但是沒有永久的保證）
□ 4.合約型固定期限聘任，有轉為終身/持續性聘任的機會（終身制）
□ 5.合約型固定期限聘任，沒有轉為終身/持續性聘任的機會（終身制）
□ 6.其他：_____

A11您從以下資源所獲得的整體年度總收入（包含業外收入）為多少？

新台幣_____(萬元) 由目前的高等教育機構或研究機構
新台幣_____(萬元) 由其他收入
新台幣_____(萬元) 由其他收入（如自僱）

A12在此學年度，您曾完成下列何者事項？（勾選符合項目，複選）

□ 1.擔任國家或國際科學委員會或管理層或機構會員
□ 2.擔任同儕評審，如：期刊雜誌、計畫案評鑑、機構評鑑
□ 3.擔任雜誌或系列書籍編輯
□ 4.擔任專業或學術協會或組織的監委或召集人
□ 5.擔任工會的選舉委員或領導
□ 6.曾實質參與地區、國家級或國際性政治活動
□ 7.曾擔任社會人權組織成員或參與社區性計畫
□ 8.在地區、國家級或國際性社會福利機構工作
□ 9.智庫委員
□ 其他：（請列名）_____

A13 在近五年間，是否考慮過在事業上做出巨大改變？ 是否又採取具體行動？【若有，請針對每個項目勾選適切的項目。 若無，請跳至B1作答】

曾考慮	作出具體行動	
□	□	在您的高等教育或研究機構達到管理職位級別
□	□	國家級職位
□	□	在其他國家取得教職
□	□	在高等教育或研究機構外工作
□	□	無，我不曾考慮對我的事業做出巨大改變

B. 一般的工作情況和活動

B1根據您是用多少時間從事以下各項活動？【若您當年度無從事教學工作，請在非學期中欄位即可】

小時數/每週（學期中）	小時數/每週（非學期中）	
□□	□□	1.教學（準備教學材料與課程計畫、課堂教學、給予學生建議、閱讀與審核學生作業等等
□□	□□	2.研究（閱讀文獻、寫作、實驗相關、田野調查等等）
□□	□□	3.服務（客戶/個案服務、無報酬性諮詢、公共或自願性服務等）
□□	□□	4.學校行政（委員會、部門會議、文書工作等等）
□□	□□	5.其他學術活動（未清楚歸類為以上欄位之專業活動）
		例如：請說明_____

B2 根據您的喜好，您的興趣傾向於教學或是研究？（單選）

□ 主要在教學
□ 教學與研究皆有，但較傾向於教學
□ 教學與研究皆有，但較傾向於研究
□ 主要在研究

B3 您如何評價您的工作單位（如：大學或是研究單位），對您在工作上所需設備、資源或人力上所提供的支持？

優				劣	
1	2	3	4	5	
□	□	□	□	□	1.教室
□	□	□	□	□	2.教學科技或數位科技
□	□	□	□	□	3.實驗室
□	□	□	□	□	4.研究設備及工具
□	□	□	□	□	5.電腦設備與電腦軟體
□	□	□	□	□	6.圖書館設備與服務
□	□	□	□	□	7.您的辦公室空間
□	□	□	□	□	8.秘書或行政助理的支持
□	□	□	□	□	9.郵電溝通設備（如：網路與電話等）
□	□	□	□	□	10.支援教學的人員
□	□	□	□	□	11.支援研究的人員
□	□	□	□	□	12.研究經費人員

B4 請標明各個隸屬單位或團體對您的重要程度

非常重要				非常不重要	
1	2	3	4	5	
□	□	□	□	□	我的學術領域
□	□	□	□	□	我所在的系所
□	□	□	□	□	我所在的學校或研究機構

B5 請標明您對以下意見的看法

非常認同				非常不認同	
1	2	3	4	5	
□	□	□	□	□	1.學術最好被定義為從事原創性的研究
□	□	□	□	□	2.學術包含專業知識在日常生活上的運用
□	□	□	□	□	3.學術包含我對研究領域的主要發現及趨勢的了解
□	□	□	□	□	4.就我的領域而言，現在不是一個年輕人開展學術事業的好時機
□	□	□	□	□	5.如果有重來的機會，我不會踏入學術界
□	□	□	□	□	6.我的工作是相當大的個人壓力來源
□	□	□	□	□	7.教學與研究是難以兼顧的
□	□	□	□	□	8.在我學術領域的學者有義務把專業知識應用於解決社會問題上

B6 整體而言，您滿意目前的工作嗎？

非常高				非常低
1	2	3	4	5
□	□	□	□	□

B7 自從您開始從事職業生涯後，整體而言高等教育與研究機構的工作條件是否有提升，或下降的趨勢？

大幅度提升				大幅度惡化	
1	2	3	4	5	
□	□	□	□	□	高等教育的工作條件
□	□	□	□	□	研究機構的工作條件

C.教學（請以本學年度之教學情境之依據，若本學年度未教學，請以上學年度之教學情況為依據，若兩者皆無，請前往單元D作答）。

C1請標明您在此學年度中於各層級學位的教學比例及大致學生數量。

佔所有教學時間之百分比	平均每門課的學生數
□□%	□□□ 學士學位課程
□□%	□□□ 碩士學位課程 (含碩博合開)
□□%	□□□ 博士學位課程
□□%	□□□ 專業繼續教育課程
□□%	□□□ 其他

C2 在此學年度或上學年度，您有否曾經進行下列的教學活動？(複選題)

□ 1.課堂教學/授課
□ 2.個別指導
□ 3.報告/小組報告學習
□ 4.教學演練/實驗活動
□ 5.資訊與通訊基礎學習/電腦輔助學習
□ 6.遠距教學
□ 7.教材的發展
□ 8.課程或計畫的發展
□ 9.在課堂外與學生進行面對面交流
□ 10.與學生進行電子郵件的交流

C3 您所在的機構是否對下列的項目具有特定的規範或要求？(複選題)

□ 1.上課的鐘點數
□ 2.班級學生的人數
□ 3.指導研究生的人數
□ 4.學生通過考試的百分比
□ 5.輔導學生的時間

C4 請標明您對以下意見的看法

非常認同				非常不認同	
1	2	3	4	5	
□	□	□	□	□	1.因學生程度不佳，您必須花更多時間教授基本技巧
□	□	□	□	□	2.學校鼓勵您精進教學技巧以回應教學評量的要求
□	□	□	□	□	3.您的學校有提升教學品質的完善訓練課程
□	□	□	□	□	4.在您的教學中，強調實際的操作知識與技巧
□	□	□	□	□	5.您的課程強調國際視野
□	□	□	□	□	6.在您的課程中，您會融入價值觀和倫理的討論
□	□	□	□	□	7.您告知學生在課堂上作弊與抄襲的後果
□	□	□	□	□	8.您的課程成績具有鑑別度
□	□	□	□	□	9.自您開始教書以來，國際學生的人數有增加的趨勢
□	□	□	□	□	10.您目前大部分的研究生是國際學生
□	□	□	□	□	11.您的研究活動強化了您的教學
□	□	□	□	□	12.您的服務促進了您的教學

C5 在此學年度（或前學年度），您是否有下列的授課情形？(複選題)

□ 至國外授課
□ 使用非您任職機構慣用的授課語言授課（例：外語）

D研究（請參考本學年度或上學年度的研究工作情形為主。若您在去年或今年都沒有著重研究，請直接到E項作答）

是	否	
□	□	您的研究計畫是否有任何的合作的對象？
□	□	您是否有與外國學者合作？

D2 您會如何描述您本學年度(或上學年度)的研究重點之方向?

非常符合				非常不符合	
1	2	3	4	5	
□	□	□	□	□	1.基礎性或理論性
□	□	□	□	□	2.應用性或實務性
□	□	□	□	□	3.商業/產業導向或技術轉移
□	□	□	□	□	4.社會性或社會福祉性
□	□	□	□	□	5.國際取向
□	□	□	□	□	6.專注於單一學科領域
□	□	□	□	□	7.多元性或跨學科性

D3 在本學年度(或上學年度)您是否有參與以下各項研究活動？(複選題)

□1.準備實驗、問卷、訪談 等
□2.進行實驗、問卷、訪談 等
□3.指導一個研究團隊、研究生或研究生助理
□4.撰寫含有研究結果和發現的學術文章
□5.參與技術轉移的過程
□6.回應研究計畫的徵求或撰寫研究爭取補助
□7.管理研究的合約和成本控制
□8.購買或選擇設備和研究用品

D4 近三年內您的學術研究成果為何？(請填件數)

件數

□□ 1.您所撰寫或共同撰寫的學術專書數目
□□ 2.您所編輯或共同編輯的學術專書數目
□□ 3.您所被刊登在期刊或專書中的論文數目
□□ 4.您為申請研究補助而撰寫的研究計畫或專刊數目
□□ 5.您在學術會議所發表的文章數目
□□ 6.您在報章雜誌所發表的專業文章數目
□□ 7.您所申請的專利數目
□□ 8.您所撰寫供大眾使用的電腦程式數目
□□ 9.您所演出或展示的藝術作品數目
□□ 10.您所製作的影片或電影數目
□□ 11.其他（請說明）_____.

D5 請說明近三年內，下列各項佔您學術出版物的大約比例。

□□% 1.有別於您目前任職的機構所使用的語言之出版比例
□□% 2.與您目前任職國家之學者合作撰寫的出版比例
□□% 3.與其他（國外）的學者合作撰寫的出版比例
□□% 4.在國外出版的學術著作比例
□□% 5.在線上發表之學術著作比例
□□% 6.同儕評審的學術著作比例

D6 請針對以下問題表明您的想法。

非常同意				非常不同意	
1	2	3	4	5	
□	□	□	□	□	1.從我開始工作後，對於公部門經費資助的研究成果發表之 限制就逐漸增加了
□	□	□	□	□	2.從我開始工作後，對於私人資助的研究成果發表之限制就逐漸增加了
□	□	□	□	□	3.贊助商或顧客並不會干涉我的研究活動
□	□	□	□	□	4.從我開始工作後，申請校外研究補助的壓力就逐漸增加了
□	□	□	□	□	5.我在的學校或機構強調跨領域的研究
□	□	□	□	□	6.我在的學校強調產業導向或應用導向的研究
□	□	□	□	□	7.我的研究完全符合研究倫理
□	□	□	□	□	8.研究經費應該集中給最有產能的研究者
□	□	□	□	□	9.對研究產量的高度期待是對研究品質的威脅
□	□	□	□	□	10.對研究成果實用性的高度期待是對研究品質的威脅

D7在本學年度（或上學年度），請您描述下列各單位所提供的經費佔您總研究經費的百分比？

□□% 1.您所任職的學校或機構
□□% 2.科技部
□□% 3.公開招標的科研機構
□□% 4.政府機構
□□% 5.工商業界
□□% 6.私立非營利基金會或機構
□□% 7.其他（請列出）_____

D8在本學年度（或上學年度），請您描述您的外部研究經費在下列兩種機構各佔的百分比？

□□% 國家組織/機構
□□% 國際組織/機構

E 管理

E1在做下列各項決定時，在您學校中哪一個角色最具影響力？（每一道題只能勾選一個選項）

社會大眾	學校行政人員	董事會	學校單位主管	教師委員會	個別教授	學生	
□	□	□	□	□	□	□	1.選擇主要的管理者
□	□	□	□	□	□	□	2.選擇新教師或職員
□	□	□	□	□	□	□	3.教師或職員的晉升和任期的決定
□	□	□	□	□	□	□	4.決定預算的優先順序
□	□	□	□	□	□	□	5.決定教師的整體教學工作量
□	□	□	□	□	□	□	6.設立大學生的入學標準
□	□	□	□	□	□	□	7.審核新學期的學術計畫
□	□	□	□	□	□	□	8.教學評量
□	□	□	□	□	□	□	9.設立校內研究的重點
□	□	□	□	□	□	□	10.研究評鑑
□	□	□	□	□	□	□	11.建立國際聯絡

E2就形塑重要學術政策而言，您個人在不同層級的影響力為何？

非常有影響	部分影響	沒有影響	
□	□	□	在系所或類似單位層級
□	□	□	在院級或類似單位層級
□	□	□	在校的層級

E3有關於您的教學、研究或服務，是由下列何者定期評量？（勾選所有符合的選項）

您的教學	您的研究	
□	□	1.您任職系所或單位的同儕
□	□	2.您任職的系所或單位的主管
□	□	3.學校或機構裡的其他系所同儕
□	□	4.學校或機構裡的資深主管
□	□	5.您的學生
□	□	6.校外的審查者
□	□	7.您個人（自我評估）
□	□	8.無人作評量

E4 請對以下的狀況表示您的意見。

非常同意				非常不同意	
1	2	3	4	5	
□	□	□	□	□	1.在我的學校裡，非常強調完成學校的使命
□	□	□	□	□	2.在我的學校裡，管理者和學者之間有良好的溝通
□	□	□	□	□	3.在我的學校裡，是一個由上而下的管理方式
□	□	□	□	□	4.在我的學校裡，是由討論協商方式達成決議
□	□	□	□	□	5.在我的學校裡，非常強調績效導向
□	□	□	□	□	6.在我的學校裡，行政流程是繁瑣的
□	□	□	□	□	7.在我的學校裡，行政人員對教學活動抱支持態度
□	□	□	□	□	8.在我的學校裡，行政人員對研究活動抱支持態度
□	□	□	□	□	9.在我的學校裡，個別教師會朝向管理或行政任務發展

E5 請表示您的對於下列選項的看法

非常同意				非常不同意	
1	2	3	4	5	
□	□	□	□	□	1.在我的學校裡，高階行政主管領導有方
□	□	□	□	□	2.在我的學校裡，我隨時被知會有關學校的事務
□	□	□	□	□	3.在我的學校裡，教師不願意投入是個嚴重的問題
□	□	□	□	□	4.在我的學校裡，學生應該對會影響他們的政策有更多表達的機會
□	□	□	□	□	5.在我的學校裡，行政系統是支持學術自由的

E6 您的學校對下列各措施的強調程度。

非常符合				非常不符合	
1	2	3	4	5	
□	□	□	□	□	1.以系所的表現來分配資源
□	□	□	□	□	2.以系所的評鑑結果來分配資源
□	□	□	□	□	3.系所的經費取決於學生的數量
□	□	□	□	□	4.系所的經費取決於畢業生的數量
□	□	□	□	□	5.制定人事政策時，會考慮研究的品質
□	□	□	□	□	6.制定人事政策時，會考慮教學的品質
□	□	□	□	□	7.願意招聘具有學術以外的工作經驗之教授
□	□	□	□	□	8.鼓勵教授從事學校以外的服務及創業活動
□	□	□	□	□	9.鼓勵個人、商界、基金會等，對於高等教育做更多的投資

F 個人背景和專業

F1 您的性別

1□ 男
2□ 女

F2出生年

西元□□□□年

F3 您的婚姻狀況

1□ 結婚或伴侶
2□ 單身
3□ 其他

F4 如果已經結婚/伴侶，他/她是否工作？

1□ 是的，全職
2□ 是的，兼職
3□ 否

F5 您的配偶/伴侶也是學者嗎？

1□ 是
2□ 否

F6 您是否有孩子同您一起住？

1□ 是，一個孩子
2□ 是，兩個孩子
3□ 是，三個孩子(或以上)
4□ 否

F7 您是否有為了照顧孩子或長輩而中斷工作？

1□ 是
2□ 否
□□ 如果有，多少年?__

F8 您家人的最高學歷？

父親	母親	
□	□	進入或完成高等教育
□	□	進入或完成中等教育
□	□	進入或完成小學教育
□	□	沒有接受正規教育
□	□	不適用

F9 您的國籍和您的國家或居住地

	國籍	居住的國家
出生	_____	_____
您獲得第一個學位時	_____	_____
目前	_____	_____

F10 您的第一語言/母語

請列出

F11 您主要在教學時使用的語言是哪一種？

1□ 第一語言或母語
2□ 其他_____

F12 您主要進行研究時使用的語言是哪一種？

1□ 第一語言或母語
2□ 其他 _____

F13 從您獲得第一個學位開始，在以下地方待了多少年?

□□年　您獲得第一個學位的國家
□□年　您目前任職的國家，若該國有別於您獲得第一個學位的國家
□□年　在其他國家(非您任職或取得第一個學位的國家)

F14 請勾選您個人的職業職級

教授	專業技術	研究員	
□	□	□	1.教授
□	□	□	2.副教授
□	□	□	3.助理教授
□	□	□	4.講師

附錄三

科技部補助專題研究計畫成果報告自評表

請就研究內容與原計畫相符程度、達成預期目標情況、研究成果之學術或應用價值（簡要敘述成果所代表之意義、價值、影響或進一步發展之可能性）、是否適合在學術期刊發表或申請專利、主要發現（簡要敘述成果是否有嚴重損及公共利益之發現）或其他有關價值等，作一綜合評估。

1. 請就研究內容與原計畫相符程度、達成預期目標情況作一綜合評估

■達成目標

□ 未達成目標（請說明，以 100 字為限）

□ 實驗失敗

□ 因故實驗中斷

□ 其他原因

說明：

2. 研究成果在學術期刊發表或申請專利等情形：

論文：□已發表 □未發表之文稿 ■撰寫中 □無

專利：□已獲得 □申請中 ■無

技轉：□已技轉 □洽談中 ■無

其他：（以 100 字為限）

3. 請依學術成就、技術創新、社會影響等方面，評估研究成果之學術或應用價值（簡要敘述成果所代表之意義、價值、影響或進一步發展之可能性），如已有嚴重損及公共利益之發現，請簡述可能損及之相關程度（以 500 字為限）

本計劃為二年期之計畫，故研究團隊在資料收集、成果分析上，皆非常積極努力。除了順利完成本研究計畫之外，研究團隊也很努力地將研究結果進行發表，其中包含國際型的會議，引起熱烈迴響。此外也針對研究結果進行撰寫，預計投稿至 SSCI 及 TSSCI 等著名期刊上。在研究團隊的努力不懈之下，能善用科技部經費補助，增加學術之能見度及影響力。

總結而言，在教學方面,影響因素如下:1.學校對教學評量的要求,2.老師被要求完成提升教學品質之訓練課程,3.因學生程度不佳需耗費過多時間在教授其基本技巧,4.國際學生的人數增加,5.研究活動影響教學的品質,6.行政服務工作對於教學品質的傷害。在研究方面,影響因素如下:1.申請校外研究補助的壓力逐漸增加,2.學校強調跨領域的研究,3.學校強調產業或是應用導向的研究,4.研究必須符合研究倫理標準,5.研究經費集中在最有產能的研究者身上,6.學校對研究產量的高度期待,7.學校對研究成果實用性的高度期待。是故,若欲健全學術工作環境,須了解各國在教學與研究的分配情況,並慎重思考上述影響教學與研究時間分配投入的適切性與合理性。本研究結果將對台灣的高等教育、教育社會學及大學校長、大學中的管理者，或是高等教育政策的制定者有重要之貢獻。。

附錄四

國際研討會論文發表內容

Hu, Y.-L., Hung, G.-C., & Ching, G. S. (2016, April 23-24). Looking into the research-teaching nexus in higher education. 2016 International Conference on Social Science and Economics, Tokyo, Japan.

Hu, Y.-L., & Ching, G. S. (2016, October 29-30). An analysis of the counterproductive work behaviors of elementary and high school teachers in Taiwan. 2016 Lumina International Research Congress, Hong Kong, China.

Hu, Y.-L., & Ching, G. S. (2017, January 28-29). Antecedents of counterproductive work behavior within the academic workplace. 2017 Global Educators Organization International Conference, Manila, Philippines.

Ching, G. S., & Hu, Y.-L. (2017, January 28-29). A quasi-ethnographic study on the study abroad students' experiences in Taiwan: Tales from 5 international students. 2017 Global Educators Organization International Conference, Manila, Philippines.

Hu, Y.-L., Hung, C.-H., & Ching, G. S. (2017, April 17-19). Predicaments within Taiwan higher education teaching career. Universal Academic Cluster International Spring Conference, Tokyo, Japan.

LOOKING INTO THE RESEARCH-TEACHING NEXUS IN HIGHER EDUCATION

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Abstract- There is no doubt that higher education institutions (HEIs) all over the world are currently at a highly dynamic state. Clear signs of massification and increased emphasis on research productivity have all together influenced policy makers towards reforms in funding and promotion systems across the globe. In Taiwan, similar events are also happening. To make things worsts, Taiwan is currently facing a huge decline of incoming freshmen students. In reality, this dilemma can be thought of as an opportunity to revisit the core functions of the university and make effective use of the oversupply of academic resources. If done correctly, this should be able to uplift the quality of both faculty research and teaching. Most important of all, provide the opportunity to promote the well-being of the academic profession. In sum, as for the goal of Taiwan HEIs is to surpass the current dilemma and become a competitive provider of quality education. Academic productivity should therefore include a balanced between research and teaching; hence, a research-teaching nexus (R-T-N) is inevitable.

Index Terms- higher education, teaching profession, education policy,

I. INTRODUCTION

Higher education institutions (HEIs) governance all over the world are currently at a highly dynamic state [1-3]. This change is said to be highly attributed to the massification of HEIs; an inevitable phenomenon noted by Trow [4] as early as forty years ago. This process of expansion from elite to mass, and eventually to universal higher education is said to be one of the major driving force for increased competitions among HEIs [5]. More important, the competition amongst HEIs was worsen with the release of the HEI rankings in 2003 [6]. Higher education competition is now not only a national issue, but instead a global one. In effect, HEIs all over are scrambling to become world-class education provider and at the same time highlighting the need for research productivity. Such increased emphasis on research productivity has all together influenced policy makers towards reforms in funding and promotion systems across the globe [1, 7-9], which in fact has also greatly affected Taiwan's higher education [10-13].

In Taiwan, higher education governance mostly mirrors global trends [14-16]. To make things worsts, Taiwan is currently facing a huge decline of incoming freshmen students. The Ministry of Education (MOE) statistics shows that there will be a significant drop of around 30,000 university students during the 2016/17 school year [17].

In effect, some of the low performing HEIs are predicted either to close down or merge together, causing imminent problems for many school administrators and faculty [16, 18]. In reality, this dilemma can be thought of as an opportunity to revisit the core functions of the university and make effective use of the oversupply of academic resources. If done correctly, this should be able to uplift the quality of both faculty research and teaching. Most important of all, provide the opportunity to promote the well-being of the academic profession. In sum, as for the goal of Taiwan HEIs is to surpass the current dilemma and become a competitive provider of quality education. Academic productivity should therefore include a well-balanced research and teaching activities; hence, a research-teaching nexus (R-T-N) is inevitable.

II. DISCUSSIONS

A. Contemporary perspectives on teaching and research

The current challenges in higher education are actively caused by various interacting forces such as technological advancement, globalization, massification and expansion [3], just to name a few. Such challenges have continuously opened up numerous policy changes that affect the different layers of higher education. One very important issue is the transformation of teaching and research within higher education [19]. To better understand such transformation, a look into the inner workings of the contemporary modern universities is quite important.

Early HEI models that emphasizes on research were vastly driven by the need to solve practical problems and challenges during their time, such as crops and agriculture, motor vehicles, and many others [20]. This increasing relevance of academic research would later lead to what Ben-David [21] argues as the English and German institutional models. Wherein the English model is assumed to be teaching oriented, as compared to the research oriented German model. More important, these two models each have their own strengths and weaknesses. An obvious one is that with the German model fostering basic research, while the United States (US) model focusing more on applied research [20]. These differences actually form more or less the backbone on the composition of current academic departments and faculty [22].

As with the growing international recognition on the importance of knowledge in terms of scholarly

products; such as the prestige in winning the Nobel Prize and publications in prestigious academic journals, a natural tendency for HEIs is to dominate in certain areas or discipline [23]. Some have described this phenomenon as the stratification of higher education [24, 25]. This global stratification of higher education systems can be best described in terms of research productivity [20]. Arimoto and Ehara [26] proposed a more evolved three-tier classification of research and teaching orientations, such as: 1) a German type with strong inclination for research; 2) an Anglo Saxon type with a typical balanced outlook on research and teaching; and 3) a Latin American type wherein a strong teaching emphasis is found. To some this can also be classified as the core, semi-periphery, and periphery educational systems [19, 27].

As Ben-David [21] suggests that core systems are countries such as France, Germany, United Kingdom, and the US. While, later advancements has also included countries such as, Japan, Russia, and Spain [28]. These core systems are the countries wherein the semi-periphery and periphery countries pattern from or their goal of catching up to in terms of research productivity. While the semi-periphery or semi-core systems are the countries wherein they have almost caught up with the core systems. These countries includes Australia, Canada, Finland, Hong Kong, Italy, Korea, the Netherlands, Norway, and Portugal [27]. Lastly, the periphery systems are developing higher education systems which are largely influenced by the core and semi-periphery countries [20]. These countries includes Argentina, Brazil, China, Malaysia, Mexico, and South Africa [27].

Interestingly, results of the recent Changing Academic Profession (CAP) [27] study shows that although core systems are leading research oriented countries their average research hours per week are lower than the semi-periphery countries. In addition, even though core systems have the highest ratio of PhD degree holders, their research output in terms of academic publications and international conference presentations are lower than the semi-periphery countries [20]. These results actually denotes one key fact that core system countries have a more balanced R-T-N as compared to the semi-periphery countries, which stresses research productivity in order to catch up with the core countries. Lastly, periphery countries are those who are still focused on teaching and low on research productivity. In sum, the question now is to determine which level Taiwan is categorized. Would Taiwan still be in the developing periphery stage or an even more research oriented semi-periphery level.

Besides the global stratification of higher education, the expansion of higher education has also led to the diversification of institutional missions. These diversification can be readily seen within the Carnegie classification of institutions of higher education [29] and later reflected within the United Nations' classification of education [30]. These classifications of HEIs are based on institutional missions; whether teaching or research orientation, are accomplished in order to provide better educational services for students with different study goals. Similarly in Taiwan, a rise in number of HEIs was also observed for the past few decades [31]. Studies have found that HEI classifications in Taiwan are varied from both perspectives of the MOE, university presidents, and faculty [32]. This actually adds to the need for a better understanding of the current changing academic profession in Taiwan.

B. The research-teaching nexus (R-T-N)

Early literatures has confirm that the research-teaching nexus (R-T-N) is the result of the dynamic changes that is happening within higher education [33, 34]. Continuing the discussions from the above-mentioned literature, the necessity of the R-T-N was also more or less caused by the ambiguous lines between the university and society. Within the modern university, major functions are incorporated within the discovery, dissemination, service, and administration based on knowledge before society, however, this has shifted from an information- based society to a knowledge society [35]. In some ways, the university then can be noted as a knowledge society 1, while the latter as the knowledge society 2 [26, 35].

To make it simple to understand, Gibbons et al. [36] explains that knowledge in society 1 is of pure knowledge, which during their time was only useful to the university. However, further transformation of the society 1 to society 2, which is more into the applied and developmental knowledge that are useful to both society and the university. In sum, within the age of the knowledge society, it is inevitable for both the university and society to concentrate on research, teaching, and learning activities, since education itself has proven to be of quite a social impact and significance [35].

With this having said, it is obvious that society in general is quite concern on how education is evolving; in a sense how university are functioning. Following what Clark [23] mentioned that knowledge is the basis for academic work; wherein knowledge is composed of several dimensions, such as: understanding, discovery, dissemination, application, and control. These different dimensions in turn can be translated into the learning, research, teaching, and service functions within an academic organization. More important is that the major function of academic work is best described in terms of discovery of knowledge (or research) and its dissemination (or teaching) [27].

As mentioned before in the previous section regarding the contemporary perspectives on teaching and research; the link between research and teaching in not guaranteed. Adding to the various disparities that exist within the academic profession, there is actually a need for a so-called balance or harmony between research and teaching, which is in reality, an immense challenge. More important is that within the Humboldtian ideal of universities; wherein there is a

unity of teaching and research through the inclusion of students in the process of knowledge generation [37-40], noting that students are important part of the entire process.

Within the contemporary academic work, in addition to teaching and research, faculty are expected to provide service (including unpaid consultations and the like), administrative duties (being part of committees, departmental meetings, and the like), and other academic activities (such as coaching in competitions, and many others). In the CAP survey, results have shown that these additional tasks takes an average of 11 hours per week for Hong Kong, 10 hours per week for Australia, the UK, and Malaysia, 9 hours per week for Canada, 7 hours per week in Germany, 6 hours per week for Korea and the US, and 5 hours or less for Argentina, Brazil, China, and Italy. In sum, faculty estimates that besides their teaching and research activities, a substantial proportion of their working time is used in doing additional tasks [27].

Within the varied responsibilities of the contemporary faculty, the need for a R-T-N seems clear. Even though that R-T-N is fundamental to academic work [41], many universities are seemingly unaware of their practice [42]. In a review of 195 articles published in 61 journals regarding research method development in social sciences courses, it is noted that many studies claimed that faculty lack sufficient skills (or knowledge) in research methodologies [43]. Furthermore, their analysis revealed that many R-T-N studies in various countries suggest the use of research-oriented teaching and the need for developing a pedagogical culture for research methods.

Researches have also showed the benefits of having a balanced R-T-N. Krause et al. (2007, as cited in Boyd et al.) suggests that with a properly design R-T-N, benefits such as enhancement of teaching and learning in higher education; engages and motivates students; develops important graduate attributes; prepares students for future employment; and offers professional benefits for academic staff are observed. This also holds true for universities in UK practicing R-T-N, wherein the students' awareness of the nature of research and the development of research skills are also perceived as a plus factor for future employment [44]. While, in a study in US universities shows the need to better link teaching and research activities into an integrated learning process; a sort of research-based teaching [45].

Universities in Australia are also quite active in improving their R-T-N, wherein one important thought has emerged which is that faculty are not expected to become a top researcher and teacher at the same time; instead, a balance of teaching and research contributions [46]. In essence, for Taiwan HEIs to be able to compete in this era of dynamic change, strong academic productivity is a must. This would implied the need for productivity in both research and teaching, since research and teaching are not two separate activities, but in reality are two indispensable partners in academic work.

III. RESULTS

It is highly proposed that a link between teaching and research should be made possible as mentioned by the previous literatures. Four types of viable R-T-N that can be incorporated within the curriculum as highly practiced within the University of Melbourne and Central Queensland University in Australia that are worthy of taking note of, namely:

Research-led teaching - This is defined as the teaching that is informed by the specialist research interests of staff (research-led teaching). The emphasis is on understanding the detailed subject content of current research, following the model by which information is transmitted from research-active staff to students. This often occurs within more specialized final year courses or, in the earlier years, through the examples used to illustrate specific points. A related aspect is current research from the literature being used within teaching activities, to maximize the currency and relevance of the material.

Research-oriented teaching - This is defined as the teaching that focuses on research and inquiry skills. The emphasis is on how research and inquiry can be used to create new knowledge. Students develop an appreciation of the underlying philosophy of the research process, for example through the teaching of research and inquiry skills within specific courses. Alternatively, staff might use case examples to illustrate the means by which researchers have created new knowledge, so that students understand the underlying process of research.

Research-based teaching - This is defined as the teaching that is designed around inquiry. In this alternative to the traditional content delivery model, staff and students work together to address particular questions, maximizing the two-way interactions between teaching and research. This includes problem-based learning, project-based learning, and designing research activities (for example, scientific experiments). Typically, staff and students are partners in the inquiry process, or students design their own research projects under the supervision and mentorship of postgraduate students or academic staff.

Research-informed teaching - This is defined by teaching that is informed through the scholarship of learning and teaching. Within the curriculum design (learning activities and assessment tasks) is informed by current knowledge and understanding of learning and teaching processes. Such as researching innovations in teaching practice, publishing the results from this research and making changes in response to these results, and applying the published finding of others to teaching activities [47].

Ultimately, for a R-T-N to work, the cooperation of the university administration through the use of institutional policy is a must [48-50].

CONCLUSION

The issue of changing academic profession is not new; however, it is still currently evolving. Already, there are 19 advanced, developed, and developing countries in terms of their higher education system that are quite involved in understanding their own situation and at the same time comparing what other countries are doing. Besides understanding and comparing their changing academic professions, these countries' ultimate goal is to achieve a balanced research and teaching nexus. Therefore, analyzing and understanding the current situation in Taiwan's HEIs should be able to bring about policy enhancement that would encourage a well-balanced academic profession. More important, as the challenge of decreasing enrolment in Taiwan is inevitable, this dilemma can be thought of as an opportunity to revisit the core functions of the university and make effective use of the oversupply of academic resources. If done correctly, this should be able to uplift the quality of both faculty research and teaching. Most important of all, provide the opportunity to promote the well-being of the academe. As with a balanced R-T-N, does not only benefit the faculty, more important, is that student learns on the basis of research; hence promote a culture of research-led, research-oriented, research-based, and research-informed teaching. In essence, students are expected to study and prove their creative thinking ability rather than receiving knowledge from their teachers.

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An analysis of the counterproductive work behaviors of elementary and high school teachers in Taiwan

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Abstract Teachers are also humans and are also prone to negative behaviors. Literature suggests that within an organization, there always exists some form of counterproductive work behavior (CWB). Such behaviors are noted to affect either towards personal or organizational and its effect either subtle or serious. With its multi-dimensionality, proposing an integrative approach to measure CWB is quite difficult. Moreover, most research topics would tend to focus on the positive work behaviors, so as more to the issues on teacher's behaviors. In light of these issues, the current study shall provide an insiders perspective on the various dimensions of CWB that exists within the elementary and high school teachers in Taiwan. A total of 718 teachers participated in an online survey using the CWB in Taiwan (CWB-T) scale. Confirmatory Factor Analysis (CFA) using Structured Equation Modelling (SEM) was used to confirm the various factors, such as: time theft (TT), inappropriate use of resources (IUR), inappropriate student-teacher relationship (ISR), inappropriate parent-teacher relationship (IPR), lack of professionalism (LOP), apathy (AP), political tactics (PT), and reluctant to accept administrative duties (RAD). Findings suggest that the perceived prevalence of CWB in elementary and high school teachers in Taiwan is moderately to low. However, there are some instances where CWBs are quite moderate. Additional implications are also provided.

Keywords: work attitude • deviant behavior • teacher • social desirability

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1. Introduction

Within the typical workplace, besides the positive organizational citizenship behavior (OCB) that researchers are eager to discuss, there exists a negative concept of counterproductive work behavior (CWB) that until recently is an unfamiliar and unpopular topic of research. In simple terminology, CWB are deliberate activities that can cause harm to the institution and/or to the people working within that institution (Dalal, 2005; Gruys & Sackett, 2003; Martinko, Gundlach, & Douglas, 2002; Robinson & Bennett, 1995; Sackett, 2002). A common notion would be that CWBs are not common; one might think that *who will be in the right mind to deliberately cause harm to his or her own source of income or livelihood*. To the contrary, in the practical world, CWB is an issue that exists in all areas of the workplace (Spector, Fox, Penney et al., 2006). More important is that these CWBs are leaving harmful aftershocks within the organization (Semmer, Tschan, Meier, Facchin, & Jacobshagen, 2009; Spector, Fox, & Domagalski, 2006).

With regards to academic institutions, one might also think that *within these school walls, people working inside (teachers and administrators), should be spared of the negative CWBs*. However, in reality, this is also not quite true. CWBs do exists even in academic institutions (Fox & Stallworth, 2010; Salami, 2010). Similarly in Taiwan, CWBs are also found within schools (Hu, Hung, & Ching, 2015). In Taiwan, securing a teaching position within public academic institutions is equal to tenureship for life. Besides for being proven guilty of serious crimes, rarely will a teacher be terminated due to CWBs. However, one might think again that *within schools, maybe there are some instances of minor CWBs, but not the serious ones*. On the contrary, a recent pilot study has noted that harmful (damaging) CWBs are occurring more frequently than the minor ones (Hu et al., 2015). With these having said, it is therefore high time that CWBs in Taiwan academic institutions be thoroughly investigated.

To accomplish the above mentioned task, the current study utilizes the CWB Taiwan (CWB-T) scale developed by Hu and her colleagues (2015). In their study, a total of eight (8) factors are mentioned, namely:

- Inappropriate use of resources (IUR) – deliberate use, waste, theft, or destruction of schools' properties,
- Inappropriate student-teacher relationship (ISR) – any inappropriate, unethical, or unprofessional interactions between teachers and students,
- Inappropriate parent-teacher relationship (IPR) – any inappropriate, unethical, or unprofessional interactions between teachers and parents,
- Lack of professionalism (LOP) – lack of pedagogical and professional content knowledge resulting in poor teaching performance,
- Apathy (AP) – lack of enthusiasm and/or unwilling to improve oneself,

- Political tactics (PT) – forming alliances to gain control and personal attacks, and
- Reluctant to accept administrative duties (RAD) – unwilling to accept any duties besides teaching (Hu et al., 2015, p. 71).

Their study also noted the various minor and serious deviant behaviors with Cronbach (1951) Alpha reliabilities of the eight factors ranging from .73 to .90, depicting a reliable instrument (L. Cohen, Manion, & Morrison, 2007).

2. Method

This study is designed as quantitative, wherein cross-sectional data are obtained. Cross-sectional wherein collection of data is accomplished at one point in time (Mann, 2003). An online survey (web-based survey) was considered, since participants are spread all throughout Northern and Central Taiwan (Wyatt, 2000). Besides the CWB-T items, the survey also included various background demographical information such as: gender, position, educational attainment, position, years of service, and school location.

Survey was administered to strategically selected elementary and high schools on 2015, after three weeks, a total of 718 valid responses were collected and tabulated. Statistical analysis was accomplished using the Statistical Package for the Social Sciences (SPSS) version 20 software, while confirmatory factor analysis (CFA) was accomplished using the statistical method of structure equation modelling (SEM) with the aid of the software Amos version 20 software.

Table 1 shows the background demography of the respondents with male and female respondents having almost equal numbers with 372 or 52% and 343 or 48% respectively. For the participants' position, 461 or 64% are faculty with teaching responsibilities and/or class adviser functions. They are mainly focused on in-class academic activities and classroom management duties. The remaining 251 or 35% are the faculty with teaching responsibilities and administrative positions. This might include the school principals and other supervising staff. As for the respondents' educational attainment, around 328 or 46% have a bachelor degree, while 343 or 54% are graduate degree holders.

As for the location of the school, while the survey is administered all throughout Taiwan, majority of the respondents came from two regions, namely: Northern Taiwan with 310 or 43% and Central Taiwan with 343 or 48%. Lastly, the average respondents' years of service is around 12 years, while the value ranges from less than 1 year to 38 years of employment. It is worth noting that on average participants of the current study have been working for almost a decade and their

responds can be considered as an accurate description of the CWB situation within Taiwan academic institutions.

Table 1. Participants' descriptive statistics (*N*=718)**.**

Items	*n*	%
Gender		
Male	372	52
Female	343	48
Position		
Teaching	461	64
Teaching with administrative duties	251	35
Educational attainment		
Bachelor degree	328	46
Graduate school	343	54
School location		
North	310	43
Central	343	48

Source: This study.

2.1 Validity of the study

Within self-reported survey, there is always a concern for the issues of social desirability (Fisher & Katz, 2000; Kreuter, Presser, & Tourangeau, 2008; van de Mortel, 2008). To remedy this issue, the current study followed the recoding scheme of Hu et al. (2015), wherein the initial Likert (1932) type scale ranging from 0 to 3; denoting the perceived occurrence of CWBs from never to always, was recoded into either 0 for none occurrence and 1 for possible occurrence of CWBs. Hence, after recoding the CWB items, Cronbach (1951) alpha reliabilities increased slightly with final values ranging from .72 to .90, exemplifying a reliable instrument (L. Cohen et al., 2007).

In addition, to the recoding scheme, a social desirability scale was also administered together with the CWB-T. The 10 item short-form of Marlowe-Crowne Social Desirability Scale (SDS) was used (Fisher & Katz, 2000). Table 2 shows the various social desirability items of the SDS included in the survey. To analyze the effect of social desirability, the correlations of the overall mean score of the SDS and the CWB-T factors is computed. Results show that only two CWB-T factors are significantly correlated to SDS, namely: ISR with $r = .087$, $p = .020$, $n = 718$ and LOP with $r = .076$, $p = .042$, $n = 718$. Majority of the CWB-T factors are still unaffected by social desirability, hence, we can safely conclude

that the results should able reflect on the true situations of CWBs within the school.

Table 2. Social desirability items (*N*=718)**.**

Code	Items	*M*	*SD*
SD01*	There have been times when I was quite jealous of the good fortune of others	2.10	0.71
SD02*	I sometimes feel resentful when I don't get my own way	2.18	0.71
SD03*	On a few occasions, I have given up doing something because I thought too little of my ability	2.23	0.85
SD04*	There have been occasions when I took advantage of someone	1.93	0.78
SD05*	I can remember "playing sick" to get out of something	1.94	0.84
SD06	I have never been irked when people expressed ideas very different from my own	2.61	0.74
SD07	I am always courteous, even to people who are disagreeable	2.84	0.70
SD08	No matter who I'm talking to, I'm always a good listener	2.96	0.71
SD09	I'm always willing to admit it when I make a mistake	3.05	0.63
SD10	When I don't know something I don't mind at all admitting it	3.07	0.63

Note: *Reverse coded items. Data is collected using 4-point Likert (1932) scale.

2.2 Confirmatory factor analysis

To evaluate the CWB-T scale, CFA is accomplished on the collected results. SEM results show that the model is of good fit with $\chi^2 = 2870.97^{***}$, $df = 961$, GFI = .93, CFI = .91, TLI = .92, NFI= .93, RMSEA = .053, and SRMR = .046, all values are well within the accepted range (Hooper, Coughlan, & Mullen, 2008). In addition, factor loading values are all above .5 with Average Variance Extracted (AVE) ranging from 46% to 63%, while the Composite Reliability (CR) are all well above the .7 value, denoting reliable CFA (Fornell & Larcker, 1981). Lastly, correlations among the CWB-T factors are also computed, denoting significant positive correlations among all the factors (see Table 3 for more information).

3. Results and discussions

With a reliable instrument, appropriate analysis can now be accomplished. Computing for the mean scores of the CWB-T factors, results show that several factors such as: LOP (*M*=0.54, *SD*=0.37), AP (*M*=0.59, *SD*=0.34), RAD (*M*=0.61, *SD*=0.37), and TT (*M*=0.65, *SD*=0.30) seems to be perceived as moderately occurring within the academic workplace, while ISR (*M*=.49, *SD*=0.35) and PT (*M*=0.46, *SD*=0.38); with mean scores of almost 0.50, also seems to be occurring

within the elementary and high schools. While, the remaining CWB-T factors IPR (*M*=0.28, *SD*=0.34) and IUR (*M*=0.29, *SD*=0.30) indicates that these deviant behaviors seems unlikely to occur (see Table 4 for more information).

Table 3. Correlations among the CWB-T factors (*N*=718).

Factors	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) TT	1							
(2) IUR	.84	1						
(3) ISR	.83	.82	1					
(4) IPR	.70	.73	.85	1				
(5) LOP	.70	.74	.71	.73	1			
(6) AP	.77	.77	.74	.69	.61	1		
(7) PT	.63	.72	.74	.81	.80	.60	1	
(8) RAD	.71	.67	.69	.67	.60	.84	.60	1

Source: This study.

Table 4. CWB-T factors and items (*N*=718).

Code	Factors/Items	*M*	*SD*
	Time Theft (TT)	0.65	0.30
TT01	Lying about being sick	0.45	0.50
TT02	Leaving without asking for leave	0.71	0.45
TT03	Coming to school late and/or going home early	0.69	0.46
TT04	Asking for leave regardless of the work situation	0.39	0.49
TT05	Doing personal stuff while on duty	0.86	0.35
TT06	Being online (personal internet surfing; FB) while on duty	0.75	0.43
TT07	Chatting while on duty	0.73	0.45
	Inappropriate Use of Resources (IUR)	0.29	0.30
IUR01	Waste of school's resources	0.52	0.50
IUR02	Occupying school's resources as if one's own property	0.43	0.50
IUR03	Stealing school resources	0.10	0.30
IUR04	Destruction of school's resources	0.10	0.29
	Inappropriate Student-teacher Relationship (ISR)	0.49	0.35
ISR01	Favoritism or discriminating specific students	0.72	0.45
ISR02	Improper student punishment	0.62	0.49
ISR03	Mocking students	0.50	0.50
ISR04	Discrimination against students	0.22	0.41
ISR05	Deliberate singling out of specific students	0.32	0.47
ISR06	Focusing only on students with good grades and ignoring others	0.50	0.50
ISR07	Separated and cold towards students' problems	0.56	0.50

Table 4. continued …

	Inappropriate Parent-teacher Relationship (IPR)	0.28	0.34
IPR01	Deliberate concealment or providing misleading information	0.36	0.48
IPR02	Improper behavior in front of parents	0.36	0.48
IPR03	Encouraging parents to go against the school	0.23	0.42
IPR04	Conniving with parents	0.14	0.35
IPR05	Ignoring or unwilling to communicate with parents	0.32	0.47
	Lack of Professionalism (LOP)	0.54	0.37
LOP01	Inadequate teacher preparation	0.56	0.50
LOP02	Not following proper curriculum	0.55	0.50
LOP03	Saying improper things during class	0.49	0.50
LOP04	Too few or too much assignments/class activities	0.69	0.46
LOP05	Casual checking of students' assignments	0.42	0.49
LOP06	Improper use of teaching pedagogy (such as too much movie time)	0.53	0.50
	Apathy (AP)	0.59	0.34
AP01	Unwilling to undergo tutoring	0.40	0.49
AP02	Lacks teaching enthusiasm	0.73	0.45
AP03	Wrong use of educational resources	0.75	0.43
AP04	Lacks professional content knowledge	0.47	0.50
AP05	Unwilling to participate in professional development workshops	0.60	0.49
AP06	Lacks the motivation to join professional development programs	0.61	0.49
	Political Tactics (PT)	0.46	0.38
PT01	Gossiping	0.72	0.45
PT02	Spreading wrong/bad information	0.42	0.49
PT03	Improver verbal conduct	0.34	0.48
PT04	Deliberate neglect or ignoring others	0.51	0.50
PT05	Deliberate singling out others	0.42	0.49
PT06	Forming small groups/alliances to go against others	0.45	0.50
PT07	Convincing others to go against the school	0.35	0.48
	Reluctant to accept Administrative Duties (RAD)	0.61	0.37
RAD01	Unwilling to cooperate with school administration	0.51	0.50
RAD02	Going against all educational reforms	0.49	0.50
RAD03	Unwilling to undertake administrative responsibilities	0.75	0.43
RAD04	Miscommunication between teachers and administrators	0.69	0.46

Source: This study.

For the gender differences among the perceived CWB-T factors, t-test results show that only ISR with t (713) = 1.960, p = .050, η^2 = .01 and RAD with t (713) = 2.991, p = .003, η^2 = .01 suggesting that female teachers perceived higher occurrence of ISR and RAD than their male counterparts. In addition, no significant differences were found on the participants' level of educational

attainment. In other words, perception of CWBs is not limited to the educational level of the respondent teachers.

For the perceived difference among respondents position, t-test results show that there are significant negative differences between teachers and school administrators across all the CWB-T factors. Table 5 shows the various mean scores together with the corresponding effect sizes (Lakens, 2013), depicting small to medium effect (J. Cohen, 1988). These results suggest that teachers who have administrative functions tend to perceived higher number CWBs than the teachers who are focused only on teaching. In Taiwan, it is customary that administrators are also teacher. Even school principals have teaching loads; hence, school administrators spend longer time in school as compared to the subject teachers. Therefore, longer work hours can be translated to greater opportunity to observe what is really happening within academic institutions.

Table 5. T-test results between teachers' position and CWB-T factors (*N*=718).

Factors	Position	*n*	*M*	*SD*	*t*	η^2
TT	Teaching	461	0.61	0.30	-5.659***	.04
	Administrator	251	0.74	0.29		
IUR	Teaching	461	0.24	0.29	-5.962***	.05
	Administrator	251	0.38	0.30		
ISR	Teaching	461	0.44	0.34	-5.568***	.04
	Administrator	251	0.59	0.34		
IPR	Teaching	461	0.22	0.30	-7.549***	.07
	Administrator	251	0.41	0.36		
LOP	Teaching	461	0.47	0.35	-7.532***	.07
	Administrator	251	0.68	0.36		
AP	Teaching	461	0.54	0.33	-5.930***	.05
	Administrator	251	0.69	0.34		
PT	Teaching	461	0.38	0.36	-7.280***	.07
	Administrator	251	0.59	0.37		
RAD	Teaching	461	0.53	0.36	-7.737***	.08
	Administrator	251	0.75	0.34		

Note: *** $p < .001$.

For the perceived difference among teachers working in different localities, Table 6 shows the various t-test results with their corresponding mean scores, SD, and effect sizes. It is noted that there are significant positive differences among teachers working in Northern Taiwan as compared to their Central Taiwan counterparts with effect sizes ranging from small to medium (J. Cohen, 1988). It would seem that respondents working in Northern Taiwan; wherein the central government is seated, are more sensitive to CWB issues.

Table 6. T-test results between schools' location and CWB-T factors (*N*=718).

Factors	Region	*n*	*M*	*SD*	*t*	η^2
TT	Northern Taiwan	310	0.70	0.30	3.966***	.02
	Central Taiwan	343	0.61	0.31		
IUR	Northern Taiwan	310	0.33	0.31	3.945***	.02
	Central Taiwan	343	0.24	0.28		
ISR	Northern Taiwan	310	0.56	0.34	4.933***	.04
	Central Taiwan	343	0.43	0.34		
IPR	Northern Taiwan	310	0.36	0.36	5.720***	.05
	Central Taiwan	343	0.21	0.30		
LOP	Northern Taiwan	310	0.62	0.36	5.407***	.04
	Central Taiwan	343	0.47	0.36		
AP	Northern Taiwan	310	0.69	0.33	6.649***	.06
	Central Taiwan	343	0.51	0.34		
PT	Northern Taiwan	310	0.55	0.38	5.856***	.05
	Central Taiwan	343	0.38	0.37		
RAD	Northern Taiwan	310	0.71	0.35	6.787***	.07
	Central Taiwan	343	0.52	0.36		

Note: *** $p < .001$.

Lastly, for the correlation of years of service to the perceived occurrence of CWBs, Table 7 shows the various correlation results between the CWB-T factors. Note the significant positive correlations among all the CWB-T factors, denoting that teachers who have longer years of service perceived higher occurrence of CWBs.

Table 7. Correlations between years of service (*N*=718).

Factors	*r*
TT	.154**
IUR	.185**
ISR	.182**
IPR	.173**
LOP	.179**
AP	.165**
PT	.131**
RAD	.155**

Note: ** $p < .01$ (2-tailed).

4. Conclusions

The primary objective of this study is to establish the reliability of the CWB-T and at the same time analyzed the perceived prevalent of the various CWB factors within Taiwan elementary and high school teachers. Statistical analysis shows that the validation of the CWB-T using the SEM resulting with a fit model, depicting a reliable instrument that can be used to measure the occurrence of CWBs inside the school. Furthermore, in order to better encapsulate these deviant behaviors some statistical measures were accomplished, including the usage of a social desirability scale. Findings suggest that the perceived CWB occurrences within the elementary and high schools in Taiwan are somewhat moderate for some factors such as PT, ISR, LOP, AP, RAD, and TT. In addition, IPR and IUR seem to be perceived as the least occurring deviant behaviors.

Noting that teachers are also humans, together with the work related pressures, CWBs seems to be inevitable. Furthermore, it is hypothesized that most teachers have no clear knowledge of the thin line that separate what are considered as harmful deviant and what are thought to be acceptable behaviors. For instance, the highest perceived CWB-T factor is ***TT***; which is *time theft*, noting the items such as: *doing personal stuff while on duty*, *being online*, and *chatting while on duty* are just some minor issues that could be seen as very common and not harmful, however, in reality are still considered as CWBs. This is followed by the ***RAD***; which is *reluctant to accept administrative duties* and/or responsibilities, this factor actually signifies that even with the additional salary given when teachers are assigned with administrative functions, many are still hesitant in accepting the assignment. In reality, most teachers would assumed that the additional responsibilities and time spent in school is not equivalent to how much they are being compensated and they would rather spend time at home away from the pressure of work.

As for looking into the various background demographics of the participants, it would seem that teachers' with administrative duties and teachers with higher years of service, all of which have the opportunity to stay in school and observe more of the daily activities are able to perceived higher CWBs occurrence. While no significant differences were found on teachers' educational attainment. Lastly, findings also noted that teachers who worked in schools within the *Northern Taiwan* would perceive CWBs as much more common than their respective counterparts in other geographical locations.

In sum, these findings suggest that there exists a need to further explain the various CWBs that occurs within the elementary and high schools in Taiwan. Further explanation is needed in terms of teachers' workshop and in-service training, so as to generate awareness and knowledge within faculty. At the same time, it is also quite important to determine the various triggers or antecedents of

CWBs. As with what is observed in school, might be learned and followed by the students in the future, therefore, it is quite essential that CWBs be kept to a minimum (if not diminish) within an academic setting.

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Antecedents of counterproductive work behavior within the academic workplace

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Content:

Introduction of concepts

- Define *Counterproductive Work Behaviors*, monitoring and sanctioning, loafing, and revenge motive

Methodology

- Design
- Validity (1) recoding scheme, (2) issues of social desirability
- Cronbach's Alpha reliability test
- Confirmatory factor analysis (CFA) using SEM

Findings

- Mean scores and Pearson's correlation
- Model verification (SEM)
- Hypothesis testing

Conclusion

- Implications

Introduction (1/5):

◆ Organizational Citizenship Behavior (OCB)

- ***OCB*** are the **positive** actions towards others and beneficial to the organization

◆ Counterproductive Work Behavior (CWB)

- ***CWB*** are **deliberate activities** that can cause harm to the **institution** and/or to the **people** working within that institution (Dalal, 2005; Gruys & Sackett, 2003; Martinko, Gundlach, & Douglas, 2002; Robinson & Bennett, 1995; Sackett, 2002).
- ***CWB*** is an issue that **exists** in all areas of the workplace (Spector, Fox, Penney et al., 2006).
- ***CWB*** also exists even within **academic institutions** (Fox & Stallworth, 2010; Salami, 2010; Hu, Hung, & Ching, 2015).

Introduction (2/5):

CWB Taiwan (CWB-T) scale developed by Hu and her colleagues (2015). In their study, a total of eight (8) factors are mentioned, namely:

- **Inappropriate use of resources (IUR)** – deliberate use, waste, theft, or destruction of schools' properties,
- **Inappropriate student-teacher relationship (ISR)** – any inappropriate, unethical, or unprofessional interactions between teachers and students,
- **Inappropriate parent-teacher relationship (IPR)** – any inappropriate, unethical, or unprofessional interactions between teachers and parents,
- **Lack of professionalism (LOP)** – lack of pedagogical and professional content knowledge resulting in poor teaching performance,
- **Apathy (AP)** – lack of enthusiasm and/or unwilling to improve oneself,
- **Political tactics (PT)** – forming alliances to gain control and personal attacks, and
- **Reluctant to accept administrative duties (RAD)** – unwilling to accept any duties besides teaching (Hu et al., 2015, p. 71).

Cronbach (1951) Alpha reliabilities of the eight factors ranging from .73 to .90, depicting a reliable instrument (L. Cohen, Manion, & Morrison, 2007).

Introduction (3/5):

◆ Loafing (PL)

- Sometimes referred to as ***social loafing***;
- Moede (1927) noted that within a ***rope pulling task***, **adding** people to the task is not actually equivalent to sum of all the individual efforts of each of the group member;
- There seems to be a ***blurring*** of the thin line between working and loafing.

◆ Monitoring and Sanctioning (MAS)

- ***MAS*** observed between peers in order to ***prevent*** and/or ***preempt*** misconduct (Lazega, 2000).
- Mostly perceived ***negatively***, as similar with the notion of Big Brother;
- Seems to work better when used ***appropriately*** with just the right amount sanctioning (Zoghbi-Manrique-de-Lara, 2011).

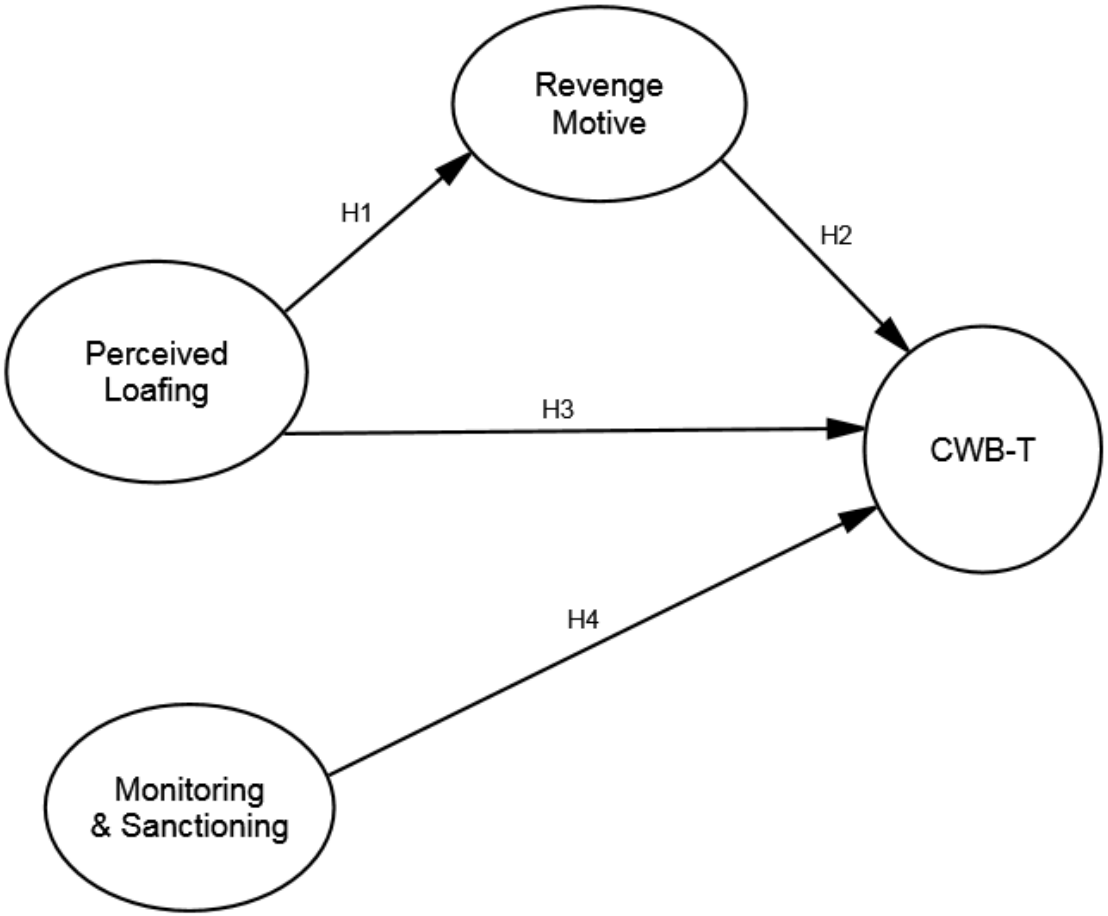
Introduction (4/5):

◆ Revenge Motive (RM)

- ***Inequality*** or sometimes also referred to as ***injustice*** is believed to be quite related to the occurrence of CWB (D. A. Jones, 2009).
- More important is that the resulting reaction from the presence of injustice and/or inequality within the workplace can be manifested in terms of a type of ***revenge*** (Skarlicki & Folger, 1997).
- A unique perspective is that this urge for revenge is often considered as a mediator for ***retaliatory behavior*** (**getting even**); attitudes that can be considered as CWBs (Hung et al., 2009).

Introduction (5/5):

- Conceptual diagram of the study



Methodology (1/5):

- Cross-sectional in design
- Survey – online and paper (quantitative study)
- Sampling – strategically selected schools

Table 1

Participants' demographic background (N=935)

Demographics	*n*	%	Demographics	*n*	%
Gender			School location		
Male	467	50%	Northern Taiwan	411	44%
Female	468	50%	Central Taiwan	437	47%
Position			School size		
Subject teacher	276	30%	Small (12 class and below)	94	10%
Teacher w/ class adviser duties	324	35%	Medium (13 to 48 class)	413	44%
Teacher w/ administrative duties	251	27%	Large (49 class and above)	428	46%
Administrative staff	53	6%	District		
School Principal	31	3%	Urban (city)	652	70%
Educational attainment			Rural	234	25%
Bachelor degree	424	45%	Remote (outer islands and/or mountain region)	49	5%
Graduate program	511	55%			

Methodology (2/5):

- Validity

- Recoding scheme

Original	Transformed
0 – None occurrence	0 – None occurrence
1 – Rare occurrence	1 – Possible occurrence
2 – Some occurrence	1 – Possible occurrence
3 – Many occurrence	1 – Possible occurrence

Reliability of CWB-T factors

Factors	Cronbach Alpha	
	Original	Transformed
TT	.81	.81
IUR	.71	.72
ISR	.84	.86
IPR	.82	.82
LOP	.81	.84
AP	.83	.82
PT	.92	.90
RAD	.78	.79

Methodology (3/5):

- Validity

- ***Social desirability scale*** the 10 item short-form of **Marlowe-Crowne Social Desirability Scale** (SDS) was used (Fisher & Katz, 2000).

Table 2

Mean scores of social desirability scale (N=935)

Code	Factor/Items/Cronbach Alpha reliability	*M*	*SD*
SDS	Social Desirability Scale (α=.76)	2.48	0.40
SD01*	There have been times when I was quite jealous of the good fortune of others	2.08	0.70
SD02*	I sometimes feel resentful when I don't get my own way	2.16	0.70
SD03*	On a few occasions, I have given up doing something because I thought too little of my ability	2.21	0.85
SD04*	There have been occasions when I took advantage of someone	1.91	0.75
SD05*	I can remember "playing sick" to get out of something	1.91	0.80
SD06	I have never been irked when people expressed ideas very different from my own	2.61	0.72
SD07	I am always courteous, even to people who are disagreeable	2.85	0.68
SD08	No matter who I'm talking to, I'm always a good listener	2.97	0.68
SD09	I'm always willing to admit it when I make a mistake	3.04	0.59
SD10	When I don't know something I don't mind at all admitting it	3.07	0.59

Note. Data collected using 4-point Likert scale. *Reverse coded items.

Methodology (4/5):

- Validity

- Correlation of CWB-T factors with the ***Social desirability scale***

Correlation of CWB-T factors with SDS

Factors	SDS
TT	.030
IUR	.070
ISR	.087*
IPR	.030
LOP	.076*
AP	.060
PT	.050
RAD	-.020

Note. * $p < .05$ (2-tailed).

Methodology (5/5):

◆ Model verification using CFA

- **SEM** results show that the model is of good fit with χ^2 = **2870.97*****, *df* = **961**, GFI = **.93**, CFI = **.91**, TLI = **.92**, NFI= **.93**, RMSEA = **.053**, and SRMR = **.046**, all values are well within the accepted range (Hooper, Coughlan, & Mullen, 2008).
- In addition, factor loading values are all above **.5** with Average Variance Extracted (AVE) ranging from **46**% to **63**%, while the Composite Reliability (CR) are all well above the **.7** value, denoting reliable CFA (Fornell & Larcker, 1981).

Results (1/6):

Mean scores of CWB-T items (N=935)

Code	Factors/Items/Cronbach Alpha reliability	*M*	*SD*
TT	Time Theft (α=.81)	0.66	0.31
TT01	Lying about being sick	0.45	0.50
TT02	Leaving without asking for leave	0.71	0.45
TT03	Coming to school late and/or going home early	0.70	0.46
TT04	Asking for leave regardless of the work situation	0.39	0.49
TT05	Doing personal stuff while on duty	0.86	0.35
TT06	Being online (personal internet surfing; FB) while on duty	0.75	0.43
TT07	Chatting while on duty	0.73	0.44
IUR	Inappropriate Use of Resources (α=.70)	0.29	0.30
IUR01	Waste of school's resources	0.52	0.50
IUR02	Occupying school's resources as if one's own property	0.44	0.50
IUR03	Stealing school resources	0.11	0.31
IUR04	Destruction of school's resources	0.09	0.29
ISR	Inappropriate Student-teacher Relationship (α=.85)	0.50	0.34
ISR01	Favoritism or discriminating specific students	0.72	0.45
ISR02	Improper student punishment	0.63	0.48
ISR03	Mocking students	0.51	0.50
ISR04	Discrimination against students	0.22	0.41
ISR05	Deliberate singling out of specific students	0.33	0.47
ISR06	Focusing only on students with good grades and ignoring others	0.49	0.50
ISR07	Separated and cold towards students' problems	0.57	0.50
IPR	Inappropriate Parent-teacher Relationship (α=.81)	0.28	0.34
IPR01	Deliberate concealment or providing misleading information	0.36	0.48
IPR02	Improper behavior in front of parents	0.37	0.48
IPR03	Encouraging parents to go against the school	0.24	0.43
IPR04	Conniving with parents	0.14	0.34
IPR05	Ignoring or unwilling to communicate with parents	0.32	0.46

Results (2/6):

LOP	Lack of Professionalism (α=.85)	0.55	0.37
LOP01	Inadequate teacher preparation	0.57	0.50
LOP02	Not following proper curriculum	0.55	0.50
LOP03	Saying improper things during class	0.50	0.50
LOP04	Too few or too much assignments/class activities	0.70	0.46
LOP05	Casual checking of students' assignments	0.43	0.49
LOP06	Improper use of teaching pedagogy (such as too much movie time)	0.54	0.50
AP	Apathy (α=.82)	0.59	0.35
AP01	Unwilling to undergo tutoring	0.40	0.49
AP02	Lacks teaching enthusiasm	0.73	0.44
AP03	Wrong use of educational resources	0.75	0.44
AP04	Lacks professional content knowledge	0.48	0.50
AP05	Unwilling to participate in professional development workshops	0.60	0.49
AP06	Lacks the motivation to join professional development programs	0.61	0.49
PT	Political Tactics (α=.89)	0.46	0.38
PT01	Gossiping	0.72	0.45
PT02	Spreading wrong/bad information	0.43	0.49
PT03	Improver verbal conduct	0.36	0.48
PT04	Deliberate neglect or ignoring others	0.52	0.50
PT05	Deliberate singling out others	0.42	0.49
PT06	Forming small groups/alliances to go against others	0.45	0.50
PT07	Convincing others to go against the school	0.35	0.48
RAD	Reluctant to accept Administrative Duties (α=.79)	0.61	0.37
RAD01	Unwilling to cooperate with school administration	0.51	0.50
RAD02	Going against all educational reforms	0.49	0.50
RAD03	Unwilling to undertake administrative responsibilities	0.75	0.43
RAD04	Miscommunication between teachers and administrators	0.69	0.46

Note. Mean scores recoded into either 0 - no occurrence, 1 - possible occurrence.

Results (3/6):

Mean scores of perceived loafing, revenge motive, and monitoring and sanctioning (n=575)

Code	Factors/Items/Cronbach Alpha reliability	*M*	*SD*
PL	Perceived loafing (α=.71)	1.98	0.42
PL01*	Teachers in my school are trying as hard as they can do	1.93	0.48
PL02	Teachers in my school are "free-loaders"	1.77	0.57
PL03	Teachers in my school are contributing less than I anticipated	2.09	0.61
PL04*	Given their abilities, teachers in my school are doing the best they can	2.12	0.64
RMTO	Revenge motive towards organization (α=.69)	2.23	0.51
RMTO1	If I were mistreated by the school, the satisfaction of "getting even" would outweigh the risks of getting caught	2.13	0.54
RMTO2	If I were mistreated by the school, it would feel good to "get back" in some way	2.33	0.63
RMTC	Revenge motive towards co-worker (α=.77)	2.25	0.54
RMTC1	If I were mistreated by my coworkers, the satisfaction of "getting even" would outweigh the risks of getting caught	2.14	0.57
RMTC2	If I were mistreated by my coworkers, it would feel good to "get back" in some way	2.35	0.63
MAS	Monitoring and sanctioning (α=.68)	2.22	0.50
MAS1	This workplace tends to deal strictly with employees who deviate from policies and instructions	2.02	0.64
MAS2	This place of work actively monitors and inspects its employees	2.42	0.63

Note. Only two sample items from each of the different type of factors are presented above. Data collected using 4-point Likert scale.
*Reverse coded items.

Results (4/6):

Table 5

Correlational analysis of the various factors (N=935)

Factors	TT	IUR	ISR	IPR	LOP	AP	PT	RAD	PL	RMTO	RMTC	MAS
TT	1											
IUR	.627**	1										
ISR	.592**	.647**	1									
IPR	.516**	.635**	.688**	1								
LOP	.578**	.615**	.722**	.674**	1							
AP	.545**	.563**	.663**	.625**	.750**	1						
PT	.520**	.534**	.638**	.660**	.642**	.659**	1					
RAD	.504**	.495**	.561**	.579**	.630**	.690**	.698**	1				
PL	.193**	.234**	.200**	.266**	.197**	.240**	.259**	.258**	1			
RMTO	.285**	.243**	.274**	.309**	.231**	.278**	.321**	.246**	.315**	1		
RMTC	.295**	.246**	.287**	.355**	.279**	.328**	.348**	.305**	.372**	.780**	1	
MAS	-.069	-.084*	-.054	-.014	-.011	-.034	.014	.022	.210**	.235**	.276**	1

Note. ** $p < .01$ (2-tailed). * $p < .05$ (2-tailed). Shaded values = no significant correlation.

Results (5/6):

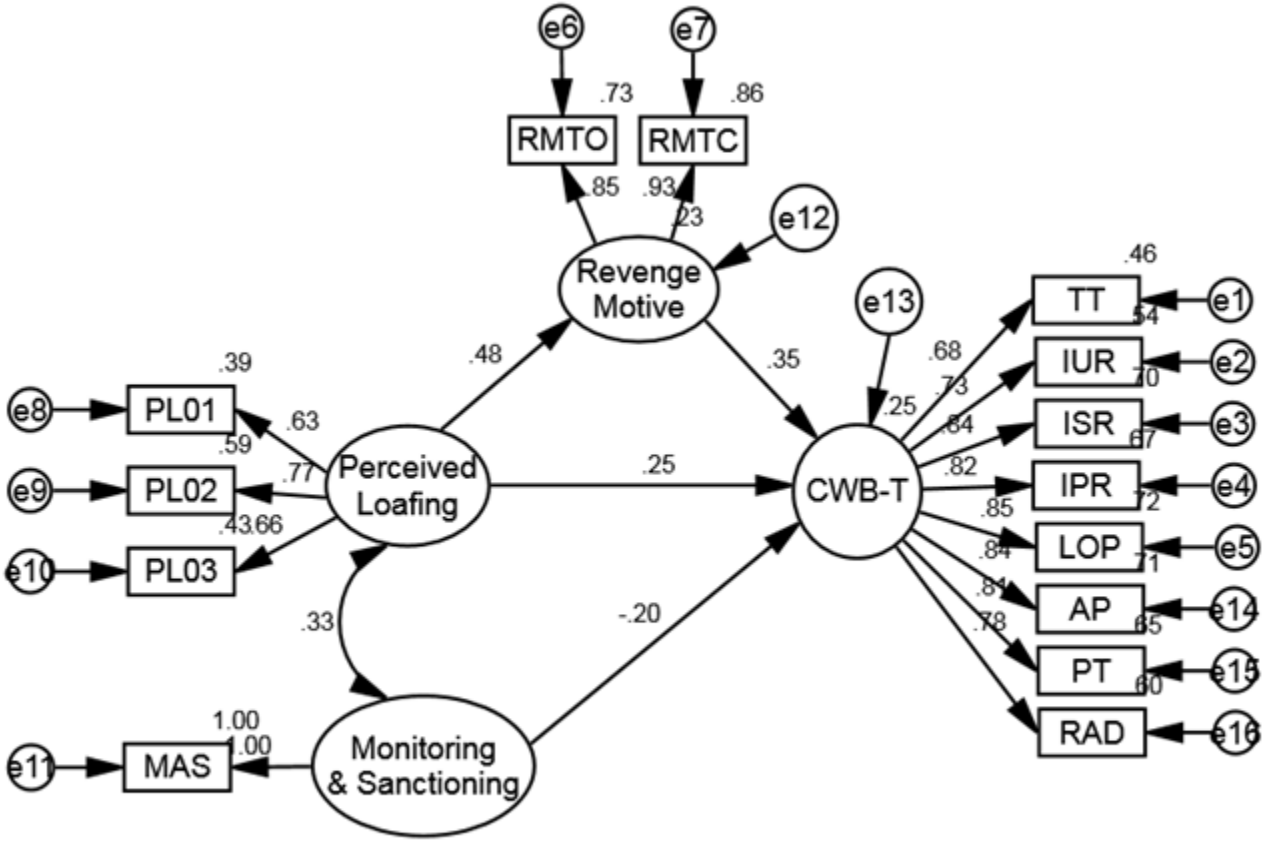


Figure 2. Structure equation model with maximum likelihood estimates (standardized)

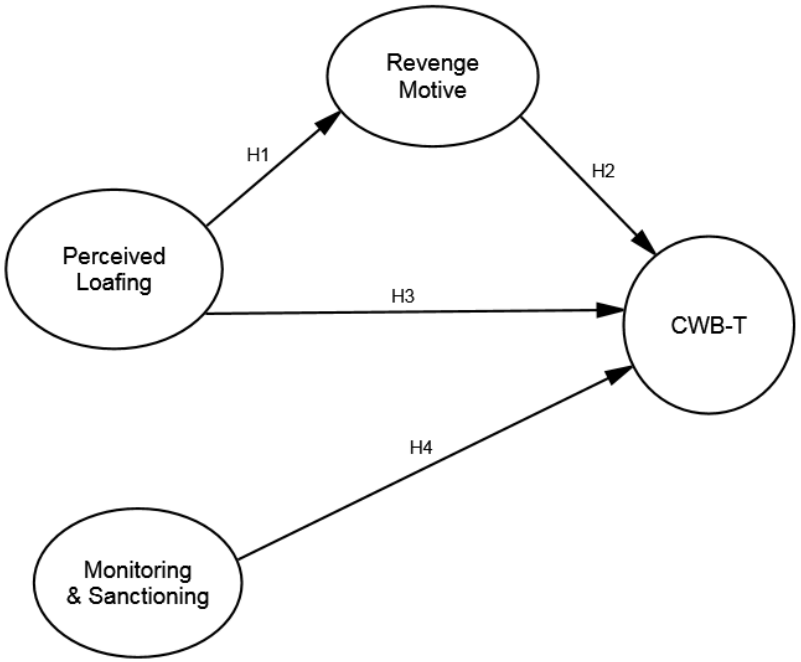
Results (6/6):

Table 9

Bootstrap analysis of Structural Model (67% of sample, n = 626)

	Path	Standardized Coefficient	95% CI
H1	Perceived loafing→Revenge motive	.48***	
H2	Revenge motive →CWB-T	.35***	
H3	Perceived loafing→Revenge motive →CWB-T	.17	.11~.24
H4	Monitoring and sanctioning →CWB-T	-.20***	
	Total effect on CWB-T by Perceived loafing	.42	.29~.52
	Total effect on CWB-T by Monitoring and sanctioning	-.20	-.30~-.10

Note. *** $p < .001$.



Conclusions (1/2):

- Noting that ***teachers are also humans***, together with the ***work related pressures***, CWBs seems to be inevitable.

- Furthermore, it is hypothesized that most teachers have ***no clear knowledge*** of the thin line that separate what are considered as harmful deviant and what are thought to be acceptable behaviors.

- For instance, the highest perceived CWB-T factor is ***TT***; which is *time theft*, noting the items such as: *doing personal stuff while on duty*, *being online*, and *chatting while on duty* are just some minor issues that ***could be seen as very common and not harmful***, however, in reality are still considered as CWBs.

Conclusions (2/2):

- This is followed by the ***RAD***; which is *reluctant to accept administrative duties* and/or responsibilities, this factor actually signifies that even with the ***additional salary*** given when teachers are assigned with administrative functions, many are still hesitant in accepting the assignment.

- Most teachers would assumed that the additional responsibilities and time spent in school is ***not equivalent*** to how much they are being compensated and they would rather spend time at home away from the pressure of work.

- The test of mediation also confirmed the mediator role of **RM** between **PL** and **CWB-T**. In sum, one path from **PL** and **RM** will tend to increase the **CWB-T**, while the other path from **MAS** can decrease **CWB-T**.

Full paper: Download link

Hu, Y.-L., Hung, C.-H., & **Ching, G. S.** (2016). The impact of monitoring and sanctioning and perceived loafing towards revenge motive and tendency to commit counterproductive work behaviors within the academic workplace. *International Journal of Research Studies in Management*, 5(2), 79-95.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A quasi-ethnographic study on the study abroad students' experiences in Taiwan: Tales from 5 international students

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Taiwan MOST project 103-2410-H-004-143

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- Study abroad situation in Taiwan

Methodology

- Design
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- Procedure

Findings

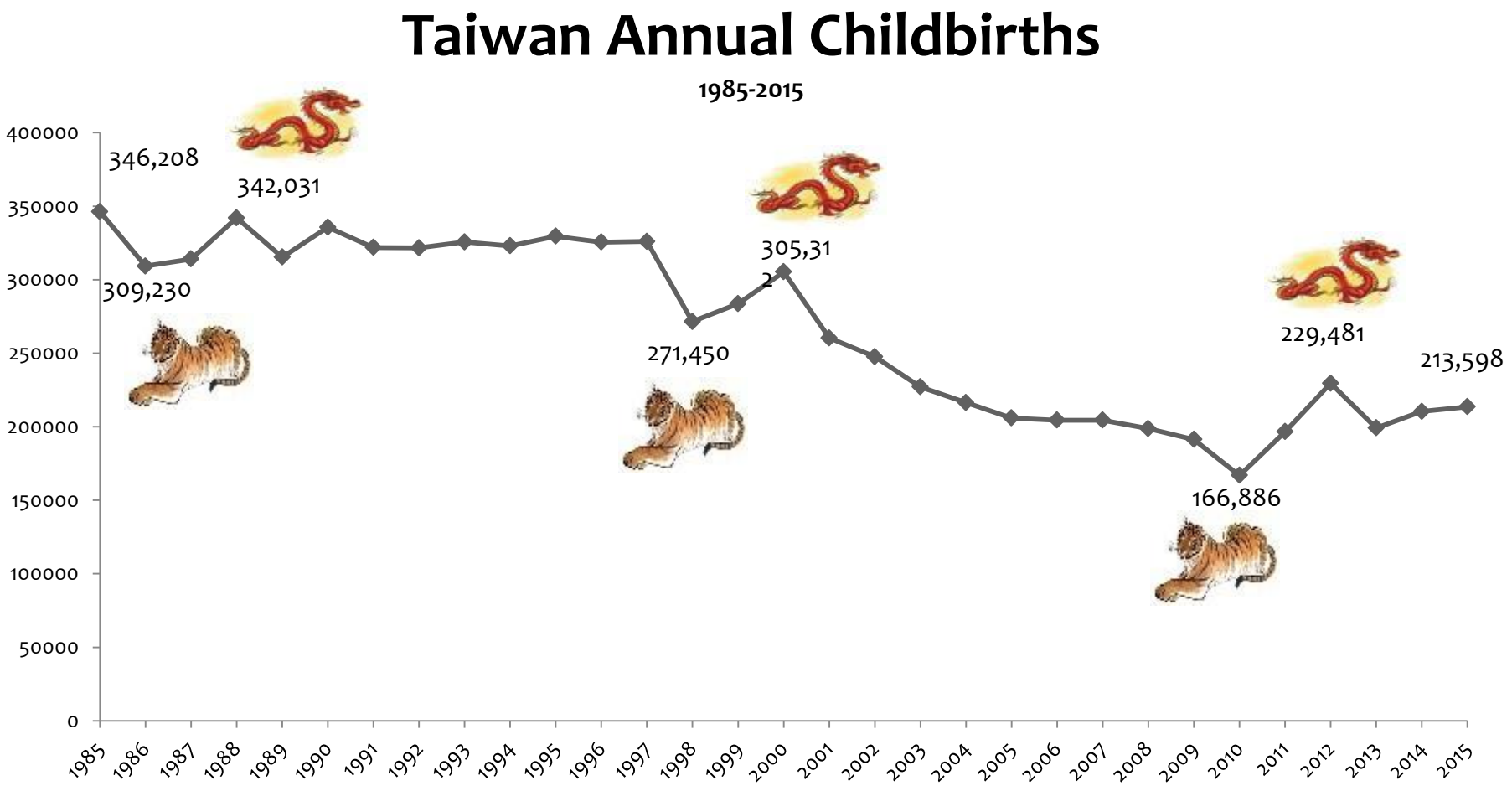
- Scholarship and study abroad, value for money, first contact, occasions and holidays, and academic studies

Conclusion

- Implications

Introduction: The need to recruit students

- A serious problem of declining birthrate



➢Declining birthrate = Fewer students

Table 1

Past, current, and projected number of incoming university first-year students

School year	Incoming freshmen	Number of HEIs*	School year	Incoming freshmen
2001	276,000	154	2020	214,000
2006	267,000	163	2021	204,000
2011	276,000	163	2022	192,000
2012	278,000	162	2023	187,000
2013	271,000	161	2024	181,000
2014	272,000	159	2025	178,000
2015	273,000	158	2026	178,000
2016	254,000		2027	173,000
2017	239,000		2028	159,000**
2018	252,000		2029	165,000
2019	243,000		2030	193,000

Note. *Including all public, private, universities, technical vocational universities, and colleges. **Projected lowest number of students.

Source: https://stats.moe.gov.tw

➢Fewer students = Closure of HEIs

Introduction (3/4) :

- *Are study abroad students really learning? … are they studying? … or are they just having fun?* These are just some of the perennial questions educators asked regarding the ***benefits*** brought about by study abroad programs (Chow & Bhandari, 2010).

- Such display of trophies and expression of fun without focusing on the *educational aspects of study abroad*, actually ***lessens its educational value*** (Orahood, Kruze, & Pearson, 2004).

- This traditional concept of study abroad ***push*** and ***pull*** has been describe by Mazzarol (1998), wherein the *push factors* are defined as the *conditions in home nations that creates a generalized interest in university education beyond their national border*. While, *pull factors* are *characteristics of a host nation that attracts study abroad students*.

Introduction (4/4):

- The current widespread ***commodification*** of study abroad programs have started to caused various problems (Vande Berg et al., 2012a).
- Such as the ***low academic or foreign language competencies of foreign students*** that have already become one of the major barriers to successful study abroad experience.
- Research have shown that ***locally held foreign language immersion programs*** are seem to be more effective than studying abroad (Freed et al., 2004).
- In order to promote Taiwan as a quality venue for study abroad ***it is quite important to know what study abroad students are currently doing and/or how they are preparing for/handling their academic studies***.

Methodology (1/4):

➢Quasi-ethnography

- As of 2012, there are around ***1200*** published qualitative research articles that describe the *acculturation processes* of individuals (Kennedy & MacNeela, 2014); among them only ***11*** papers are of ethnographic in nature.

- This also holds true within the study abroad studies in Taiwan, wherein most of the researches made used of quantitative surveys in collecting data.

- An ethnography is best described as a *description and interpretation of a cultural or social group or system* (Mcmillan & Schumacher, 2010, p. 23).

- In usual ethnographic studies, the process involves prolong fieldwork, typically employing observations and casual interviews (Fetterman, 1998).

Methodology (2/4):

➢Participants

- ***Student G*** – a student from Germany; currently a first year student taking up full English Masters Program in the College of Management. He studied Mandarin Chinese language for 2 years in China and is able to communicate well. He is currently the recipient of the Taiwan Ministry of Education (MOE) scholarship.

- ***Student I*** – a student from Indonesia; currently she is a second year, graduating student of the full English Masters Program in the College of Management. She has been learning Mandarin Chinese language for the past year. She is a recipient of the scholarship provided by the university.

- ***Student P*** – a student from the Philippines; currently a first year student taking up full English Masters Program in the College of Management. He just started to learn Mandarin Chinese language this year. He is a recipient of the scholarship provided by the university.

- ***Student S*** - a student from Portugal; currently a first year student taking up full English Masters Program in the College of Management. She had previous Mandarin Chinese language learning experience for 6 months in Taiwan. She is currently the recipient of the MOE scholarship.

- ***Student V*** - a student from Vietnam; currently she is a graduating student of the regular Masters Program in the College of Management. She has been learning Mandarin Chinese language for many years and is quite fluent in both speaking and writing. She is a recipient of the scholarship provided by the university.

Methodology (3/4):

Research tools

- Observations
- Focus group interviews
- Periodic individual interviews

Data analysis

- ***Miles and Huberman*** (1994) method for *generating meaning from transcribed and interview data* was used for the qualitative data analysis.
- ***Glaser's*** (1978) notion of *constant comparison* was also used when reviewing previous study abroad studies, subsuming particulars into generals, and forming similar categories into indicators.

Methodology (4/4):

◆ Research process

1. Approval of study protocol by the IRB (institutional review board).
2. Recruitment of participants
3. Explanation of the process (focus group interview)
4. Periodic (repeated) individual interview: bi-monthly
5. Initial questions: "*What do you think about Taiwan?*" "*What is your first impression of the school?*" "*How did you prepare for study abroad?*"

Seasonal topics:
pre/post arrival physical, emotional, and psychological preparation/adjustments, academic and school life, teachers and classmates, interactions with host nationals, co-nationals, and multi-nationals, mid-term examinations, Christmas holiday and new year, final examinations, Chinese new year break, birthday celebration, academic performance, start of a new semester, summer break, preparations for going home/staying in Taiwan during the vacation, and thesis/dissertation topic and adviser selection.

Findings (1/5):

◆ Scholarship and study abroad

- As previous studies have focused greatly on the critical factors that interplay in how foreign students come to select Taiwan as a study abroad venue (Chou, Roberts, & Ching, 2012; Roberts et al., 2010); the current qualitative inquiry furthers clarify the previous findings. Anchoring on the traditional concept of study abroad *push* and *pull* as describe by Mazzarol (1998), the availability of ***scholarship*** seems to be most important factor. Note the fact that all of the five students interviewed are currently either on national (MOE) or local (institutional) scholarship.

- With the importance of scholarship availability and ***course program selections***, provision of ***clear information*** whether from official channels and/or maintaining ***positive word of mouth*** advertisement are still quite important prior to study abroad decisions.

Findings (2/5):

◆ Value for money

- Students noted the importance of learning ***Mandarin Chinese language*** in Taiwan (Chou et al., 2012; Lewis, Ching, & Su, 2013; Roberts et al., 2010).

- In addition, as with the recent 2015 and 2016 QS reports on ***affordable cities*** for students to study, which included Taiwan's Taipei and Hsinchu cities (QS, 2015a, 2015b). Besides previous studies noted that ***cost of living*** in Taiwan is quite acceptable for study abroad students (Chou & Ching, 2015; Chou et al., 2012). Furthermore, one student even noted that the ***tuition fees*** (private universities) are comparable to that of their home country.

- Competitive advantages by means of learning the ***Mandarin Chinese language***. Tandem with the acceptable cost of living and ***convenient*** livelihood (internet and transportation).

Findings (3/5):

◆ First contact

- As with the notion that cultural adjustment is inevitable when facing unfamiliar or new environments (Furnham & Bochner, 1986; Vande Berg et al., 2012b; Ward, Bochner, & Furnham, 2001; Zhou, Jindal-Snape, Topping, & Todman, 2008), it would be quite important to understand how ***first contact*** is established and how students cope with these changes.

- In addition, noting that ***making new friends*** as one of the primary goals of study abroad (Dewey, Ring, Gardner, & Belnap, 2013; Huang, Chen, & Ching, 2014), students also mentioned the ***buddy system*** assistance program; which is to assign a local Taiwan student to assist the foreign student upon arrival, as a good way to ***ease their transition***. Furthermore, language seems to be an important bridge to successful integration into the society, while the ***presence of co-nationals*** further served as moderator for quick familiarization of the local culture.

Findings (4/5):

◆ Occasions and holidays

- As with previous studies noted that occasions and holidays seems to be related to a certain degree of ***homesickness*** (Hannigan, 2005; Hendrickson, Rosen, & Aune, 2011; Vingerhoets, 2005), while changes of an individual's mood are also highly affected (Nawijn, 2009). For the current study, a major event asked is how the students are affected by ***Christmas*** and ***New Year holidays***, and the ***Chinese New Year*** during the fall semester break. Results show that first and second year students differs slightly in how they are affected by the holiday.

- Differences were found in country of origin and year level of study. European students tend to ***go around Asia*** and visit other country, while second year students would focus more on their studies.

Findings (5/5):

◆ Academic studies

- Three emerging topics were formed namely: ***quality of faculty***, ***teaching methods***, and ***academic related stress***.

- Local students are more ***relax***, while faculty focus more on ***thinking outside the box*** and encourage students to cooperative and learn with each other through group work and reporting.

- Ultimately, students commend the ***quality of the faculty*** and are quite ***serious*** with their studies. In would be a point to ponder, that since the students involved in the current study are degree seeking graduate students, hence are more serious and would want to make the most of their time studying.

Conclusions:

- Relying on study abroad students themselves to become an active learner seems not to be the case, but it should be the ***shared responsibility*** of both the institution and the student themselves to instill a sense of ***deep learning and academic engagement*****.**
- Current study proposes ***a mandatory arrival workshop on getting to understand and know Taiwan's culture*** should be helpful in the study abroad students' intercultural adjustment and preparedness.
- More engagement not only focused on ***student – teacher***, but also with ***student – student*** interaction are encouraged.

Full paper: Download link

Ching, G. S., Wang, W.-L., & Wen, T. S. (2016, October). Study abroad tales: Experiences of international students in Taiwan. *International Journal of Research Studies in Psychology*, 5(4), 63-79.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Predicaments within Taiwan higher education teaching career

Abstract

Within the global higher education systems, one factor affecting the professoriate is the rise in emphasis of academic rankings. These world university rankings or league tables have strongly influenced the need to publish or perish. Similarly in Taiwan, the need to publish has created an imbalance between the universities. With the diverse nature of institutions, such as being research based or academic intensive, it also follows with the contrasting faculty makeup. However, with the need to compete within the globalization of higher education, drastic changes have been observed within the academe. To better understand the current changes within the academic profession, the current study shall present the findings of a two-year study regarding the evolving higher education academic profession in Taiwan. A survey was conducted echoing the ***Carnegie International Survey of the Academic Profession***. Statistical analyses were accomplished with various disparities are found, namely: *gender disparity, disparity in qualifications, disparity in professional and institutional mobility, disparity in employment conditions and income, disparity among the degree of faculty affiliations with their institution and discipline, and the disparity in time budget.* Additional implications of these disparities are also given.

Keywords: higher education; tenure; job satisfaction; teaching; research; educational policy

1. Introduction

Higher education institutions (HEIs) governance all over the world are currently at a highly dynamic state (Altbach, Reisberg, & Rumbley, 2009; Larsen, Maassen, & Stensaker, 2009; Rumbley, Helms, Peterson, & Altbach, 2014). This change is said to be highly attributed to the massification of HEIs; an inevitable phenomenon noted by Trow (1974) as early as forty years ago. This process of expansion from elite to mass, and eventually to *universal higher education* is said to be one of the major driving force for increased competitions among HEIs (Guri-Rosenblit, Sebkova, & Teichler, 2007). More important, the competition amongst HEIs was worsen with the release of the HEI rankings in 2003 (Hazelkorn, 2011). Higher education competition is now not only a national issue, but instead a global one. In effect, HEIs all over are scrambling to become world-class education provider and at the same time highlighting the need for research productivity. Such increased emphasis on ***research productivity has all together influenced policy makers towards reforms in funding and promotion systems*** across the globe (Altbach et al., 2009; Kehm, 2014; Teichler, 2003; Vidovich & Currie, 2014), which in fact has also greatly affected Taiwan's higher education (Chang, Wu, Ching, & Tang, 2009; Chang, Wu, Ching, Tang, & Hsiao, 2010; Chou, 2014; Mok, 2013).

This expansion and change of HEI's mission or more commonly referred to as ***mission creep***; is the phenomenon wherein institutions readily adapts to the environment and expand towards the

direction with the most possible gains (Longanecker, 2008). However, ***such expansion of an institution's mission or creeping comes at a significant cost***. Many HEIs have started to emphasized more on research productivity than teaching (Gumport, 2000; Subramaniam, Perrucci, & Whitlock, 2014). In effect, this creeping has led to the highly debatable issues of the ***research and teaching within academic productivity*** (Arimoto, 2014). This concern was initially proposed by Boyer (1990), wherein he felt that the effects of ***higher education's expansion and increased emphasis on research productivity would eventually affect academic work***. This in fact laid the ground work for the ***Carnegie International Survey of the Academic Profession*** (Altbach, 1996; Boyer, Altbach, & Whitelaw, 1994) and the recent ***Changing Academic Profession*** (CAP) (Teichler, Arimoto, & Cummings, 2013). The CAP project was actually accomplished from 2004 to 2012 with the assistance of more than 100 scholars from 19 countries. With this said, CAP is seen as one of the key influential players in recent global higher education policy changes within the academic profession.

2. Method

The current presentation provides the summary of the findings of the Taiwan version of the CAP. *Surveys* are used to gather information at a particular point in time with the intention of describing the nature of existing conditions, or identifying standards against which existing conditions can be compared, or determining the relationships that exist between specific events (Cohen, Manion, & Morrison, 2007). Most survey will combine nominal data on participants' backgrounds and relevant personal details with other scales (Weisberg, Kronsnick, & Bowen, 1996). Surveys are often administered to a large number of respondents, hence, survey research are often coined to as quantitative research, which has a high level of structure and low level of researcher involvement with the study population (Axinn & Pearce, 2006).

In addition, most survey scale will utilize a Likert scale (named after its deviser, Rensis Likert in 1932) or a semantic differential scale. Likert (1932) scales provides a range of responses to a given question or statement. Categories in the responses need to be discrete, which can exhaust the range of possible responses the respondents may give (Likert, 1932). The subtlety of the response which is built into the rating scales renders this type of research instrument very attractive and highly used in researches (Cohen et al., 2007).

3. The disparity within the contemporary academic profession

Gender disparity

As with the traditional notion of more males than females in higher education, currently there is a noted reversal of such situation (Grebennikov & Skaines, 2009; Vincent-Lancrin, 2008). However, within the composition of higher education faculty, different education systems have shown various disparities among their faculty makeup (Teichler et al., 2013). The CAP survey shows that the highest share of female professors at core and semi-periphery system countries is around 40% (Australia with 39%, UK with 33%, and the US with 32%), while slightly lower (around one-fifth)

of the female professors are found in Hong Kong with 20%, the Netherlands with 19%, Germany with 18%, Japan and Korea with both 13%. Interestingly, periphery *developing countries have a higher composition of female faculty* such as in South Africa with 46% and Brazil with 45% with the rest having slightly less than 40% female faculty.

The gender disparity is not only found in different countries, but is also present in the different faculty levels. In most of the CAP surveyed countries, the share of female junior faculty (assistant professors and lower) comprises more than half of the workforce in Australia with 63%, Argentina with 54%, UK and China with 52%, and in Norway with 50%, while, Germany with 38%, the Netherlands with 35%, Korea with 20%, and Japan with 14% seemingly following their trend of fewer female faculty. Similar disparities are also found in the different types of HEIs (such as gender disparities within technical and vocational universities). Noting the cause of such ***gender disparity might be correlated with the nature of academic discipline***, wherein most male oriented field in engineering comprises much of the technical and vocational universities (Clark, 2013; Teichler et al., 2013).

For the current study, a total of 430 respondents were tabulated with results somewhat reflecting the real situation within the academe. Table 1 results show that almost 70% of the faculty are male, while the remaining 30% are female. This phenomenon holds true that within the primary and secondary education levels wherein female teachers are majority, while male teachers are not that many. However, this demographic makeup changes entirely when the education level increases to the tertiary levels. Taiwan mostly follows the general global trend as shown in the previous section.

Table 1

Demographics (N=430)

Gender	*n*	%	Employment	*n*	%
Male	290	67%			
Professor	58	13%	Private	189	44%
Associate Professor	111	26%	Public	101	23%
Assistant Professor	112	26%			
Lecturer	9	2%			
Female	140	33%			
Professor	18	4%	Private	84	20%
Associate Professor	39	9%	Public	56	13%
Assistant Professor	78	18%			
Lecturer	5	1%			

Disparity in qualifications

For a long time now, a PhD degree seems to be the normal entry qualification for a career in higher education (Teichler et al., 2013). A comparison of the results of the *Carnegie International Survey of the Academic Profession* and CAP survey showed many disparities. No change was seen in Germany and Japan, which stays at a constant of 95% and 85% respectively, for new faculty

having a PhD degree from the 1992 survey to the 2007 survey. It is noted that in Germany, before a faculty could be promoted to professorship, he/she should have passed the habilitation; a kind of second-level doctoral degree, as a requirement for eligibility as a professor (Hairston, 2013; Schiewer, Jehle, & Maes, 2014). While, a decrease was seen in the US from 94 to 91% and the Netherlands from 90 to 83%; interestingly, a small increased was seen in the UK from 74 to 78%, while a large increased was observed in Korea from 79 to 99%, Hong Kong from 80 to 94%, and Australia from 85 to 92% respectively.

As with the disparity in the requirement of a PhD degree would be partially caused by the difference with the amount of time (years before graduation) it take to finish doctoral education (Garibaldi, Giavazzi, Ichino, & Rettore, 2012; Jazvac-Martek, Chen, & McAlpine, 2011; Stock, Siegfried, & Finegan, 2011). The CAP survey shows that the average PhD graduation age is 30 years old in Germany, 31 years old in UK, and 32 years old in Italy. While some are typically high, such as 35 years old in China, 36 years old in Malaysia and Finland, 37 years old in Norway and South Africa, 38 years old in Brazil, and 40 years old in Argentina and Mexico. Such disparities in entry qualifications, in a sense determines the number of years wherein a faculty can be productive as contrast to the years needed in securing a doctoral degree. As noted by many that the early ***academic profession is composed of long periods of concurrent learning and productive work and often accompanied by relatively limited financial gains*** (Teichler et al., 2013, p. 75).

Table 2 shows the results of the survey, wherein majority of the respondents have a doctoral degree (PhD) with 96%. Furthermore, as the educational level ***increases***, Taiwan faculty tends to study in another country with percentage from 2% during the undergraduate to around 34% during the doctoral levels. As for the average age wherein a doctoral degree is earn, results show that in Taiwan a relatively young age of **33 years old** to finish their PhD. Results are also quite similar to major global trends. In addition, results also show that on average faculty are in their current position for almost **8 years**, denoting that academic promotion seems to be a challenging aspect of the profession.

Table 2

Educational attainment of faculty (N=430)

Highest level	*n*	%		
Bachelor (undergraduate)	1	0%		
Master	15	3%		
PhD	414	96%		
Total	430	100%		
Level/Study in Taiwan	Yes	%	No	%
Bachelor (undergraduate)	265	62%	8	2%
Master	215	50%	55	13%
PhD	256	60%	146	34%

Disparity in professional and institutional mobility

Recent debates in the issues regarding the need for faculty to have previous experience in the

industry (Tartari, Salter, & Este, 2012) and the need for having courses that need the collaboration of the industry (Goldberg, Cariapa, Corliss, & Kaiser, 2014) are increasing. Actually, most faculties would spend their entire career within higher education. Scholars think that *being employed their entire career within one single institution would often be viewed as an honor or having a sense of pride*, however, this concept might also be thought of as a negative form of ***inbreeding*** (Teichler et al., 2013, p. 82).

Inbreeding is defined as *the situation wherein PhDs are employed in the very same institution that trained them during their doctoral studies* (Inanc & Tuncer, 2011, p. 885). The definition of inbreeding also encompasses the situation, wherein an individual since graduation, has been employed entirely by a single HEI (Teichler et al., 2013, p. 82). Studies have shown that older universities tend to practice inbreeding (Tavares, Cardoso, Carvalho, Sousa, & Santiago, 2014), some even noted that inbreeding as a sort of tradition in assuring organizational stability and institutional identity (Horta, Sato, & Yonezawa, 2010) (typically found in Japanese universities). Although some studies have shown that there are no significant negative impact of inbreeding in the productivity of a department (Smyth & Mishra, 2014), however, excessive practice of inbreeding is said to have adversely affects the overall productivity (Inanc & Tuncer, 2011). Within some studies, there are actually contrary suggestions for the need of mobility in academic careers (Horta, 2013).

For this section, it would seem that in Taiwan, respondents would prefer to have a career within the higher education. Results also noted that on average respondents would change employment within **6 years**. Table 3 shows that there are many respondents who are doing additional part-time work, while Table 4 shows that on average of around 1 and half years in looking for employment in Taiwan. However, further analysis of the maximum years it would have to take to secure an employment, results show values of ranging from 6 to 10 years, denoting quite difficult for a few respondents in securing tenured employment.

Table 3

Work experiences in years (N=430)

Sector	Fulltime					Part-time				
	n	min	max	*M*	*SD*	*n*	min	max	*M*	*SD*
Higher education institution	327	1	40	11.41	8.68	183	1	15	3.55	2.81
Research institution	35	1	19	3.77	3.57	15	1	6	2.40	1.99
Government institution	68	1	27	3.66	4.28	24	1	14	2.33	3.16
Private industry	82	1	33	4.30	5.10	40	1	30	2.63	4.75
Self-employed	38	1	18	1.95	3.11	35	1	10	1.29	1.53

Table 4

Employment opportunity in years (N=430)

Items	*n*	min	max	*M*	*SD*
First university employment	203	1	7	1.58	1.04
First university employment after PhD degree	297	1	10	1.60	1.04

First employment in other institutions	147	1	6	1.60	0.90
First employment in other institutions after PhD degree	85	1	10	1.52	1.55

Disparity in employment conditions and time budget

Currently, there is a substantial number of junior faculty that are employed as part-time basis (Teichler et al., 2013, p. 88), while almost all senior professors are employed full-time. This phenomenon is said to be caused by the market-driven forces under the influence of the managerial university (Finkelstein, 2010). Results in the CAP survey showed varied employment conditions. Typically low part-time faculty is found in Korea with no part-time faculty at all, Malaysia with 1%, China, Canada, and Italy with 2%, South Africa with 3%, and Finland and Mexico with 6%. A comparison of the results of the *Carnegie International Survey of the Academic Profession* and CAP survey shows a substantial increase was found in Japan from 2 to 7% and contrastingly a decrease in Hong Kong from 26 to 10% respectively. However, disparities within employment conditions is quite common with the diverse employment practices of different systems (Teichler et al., 2013, p. 91). Even more controversial is the disparity of income, in reality, the academic profession is considered as **not being as highly paid** as compared to other professions, such as doctor and lawyers.

For the disparity in working conditions, data shows that most of the lower ranked faculty are doing more teaching work and less research activity as compared to their higher ranked faculty peers. While results for self-reported interest seem to validate the norm that around 68% are mostly focused on teaching, while 62% on research. As for the opinion regarding the issues on research funding and quality, Table 6 shows that faculty mostly agrees with individual having the most publications to be having the most of the research funding, while also agreeing that quantity and usability of the research outcome are a threat to the quality of researches.

Table 5

Time budget (N=430)

Rank		Actual teaching				Actual research			
	n	min	max	*M*	*SD*	min	max	*M*	*SD*
Professor	52	13%	74%	40%	14%	26%	88%	60%	14%
Associate Professor	78	8%	83%	45%	17%	17%	92%	55%	17%
Assistant Professor	110	20%	89%	56%	16%	11%	80%	44%	16%
Self-reported interest	*n*	min	max	*M*	*SD*	min	max	*M*	*SD*
Teaching	26	38%	100%	68%	18%	0%	63%	32%	18%
Mostly teaching	105	8%	83%	52%	16%	17%	92%	48%	16%
Mostly research	106	10%	81%	42%	14%	19%	90%	58%	14%
Research	7	18%	55%	38%	15%	45%	82%	62%	15%

Table 6

Opinion regarding higher education research issues (N=430)

Issues	Interest		*n*	min	max	*M*	*SD*
Research funding should be concentrated to those individuals who have many publications	Teaching		33	1	5	2.79	0.99
	Mostly teaching		168	1	5	3.09	1.22
	Mostly research		157	1	5	3.29	1.19
	Research		7	1	5	2.43	1.62
		Total	365	1	4	2.17	1.17
High expectations on the quantity of research publications is a threat to research quality	Teaching		33	1	4	2.45	0.83
	Mostly teaching		170	1	5	2.04	0.86
	Mostly research		156	1	5	2.21	1.04
	Research		7	1	2	1.57	0.53
		Total	366	1	3	2.20	0.84
High expectations on the usability of research outcomes is a threat to research quality	Teaching		33	1	4	2.45	0.79
	Mostly teaching		170	1	5	2.61	0.96
	Mostly research		154	1	5	2.68	1.08
	Research		7	1	3	2.29	0.76
		Total	364	2	2	2.00	0.00

Furthermore, actual employment conditions also varies a lot with average teaching hours per week of almost 15 hours (14.89) and research of almost 18 hours (17.79) per week. Still many have to engage with services such as, review and referee work, and advising duties with almost 7 hours (6.94) per week and administrative responsibilities of more than 8 hours (8.39) per week. Table 8 also shows the various breakdowns of hours work per week by the different faculty ranks, while showing significant differences with teaching, research, and administrative work.

Table 7

Actual employment conditions in hours per week (N=430)

Duties	*n*	min	max	*M*	*SD*
Teaching	263	2	68	14.89	9.05
Research	252	0	78	17.79	12.45
Service	217	0	74	6.94	7.83
Administrative work	240	0	66	8.39	9.22
others	109	0	15	3.40	3.56

Table 8

Actual employment conditions in hours per week by different levels (N=430)

Duties	Ranks	*n*	*M*	*SD*	*F*
Teaching	Professor	52	12.54	8.48	3.41*
	Associate Professor	88	14.32	8.92	
	Assistant Professor	115	16.30	9.13	
Research	Professor	53	18.98	10.17	3.55*

	Associate Professor	80	20.19	13.15	
	Assistant Professor	111	15.62	12.41	
Service	Professor	46	7.25	6.72	0.18
	Associate Professor	73	6.50	5.20	
	Assistant Professor	92	7.14	9.97	
Administrative work	Professor	48	12.02	11.43	4.79**
	Associate Professor	87	7.28	6.58	
	Assistant Professor	99	7.66	9.72	
others	Professor	26	3.61	3.98	0.24
	Associate Professor	32	3.62	3.69	
	Assistant Professor	48	3.14	3.21	

Disparity among the degree of faculty affiliations with their institution and discipline

As mentioned before, during the modern university, faculty tends to bond together within their specific disciplines, such as mathematics, history, physics, and many others. This is accomplished in order to pursue research, teaching, service, and further development the field of study (Parry, 2007). Hence, faculty easily formed an identity based on their relationship to the academic discipline. This would actually start when an individual select their graduate course discipline. To prove this point, during the CAP survey, results show that around 60% of the surveyed faculty noted their affiliation to their *discipline* as **very important**, 34% to their *department*, and almost similar 33% with their *institution*. Result seems to denote that upon given the opportunity and appropriate motivation, faculty would tend to shift institutions as long as the nature of the academic work is still within the same discipline. Alliances to the discipline are stronger than the alliances to the department and institutions.

Results for this disparity shows that only new comers would tend to have some degree of significant differences with their affiliation towards their academic fields, department, and institutions. While, the remaining other ranks seems to have no effect.

Table 9

Difference in degree of affiliation with academic fields, department, and institution (N=430)

Ranks		SS	*df*	*MS*	*F*	*p*
Professor	Affiliation	0.32	2	0.16	1.03	.360
	Error	23.02	150	0.15		
Associate Professor	Affiliation	1.03	2	0.52	2.02	.134
	Error	74.97	294	0.26		
Assistant Professor	Affiliation	5.33	2	2.67	9.75	.000
	Error	103.34	378	0.27		

4. Conclusion

In reality, ***this dilemma can be thought of as an opportunity to revisit the core functions of the university and make effective use of the oversupply of academic resources***. If done correctly, this

should be able to uplift the quality of both faculty research and teaching. Most important of all, provide the opportunity to promote the ***well-being of the academic profession***. In sum, as for the goal of Taiwan HEIs is to surpass the current dilemma and become a competitive provider of quality education. Academic productivity should therefore include a well-balanced research and teaching activities; hence, a ***research-teaching nexus*** (R-T-N) is inevitable.

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