

出國報告（出國類別：國際會議）

赴克羅埃西亞參加 2013 年管理、知識與學習國際科學研討會

服務機關：國立聯合大學

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派赴國家：克羅埃西亞

出國期間：102 年 6 月 18 日至 26 日

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國立聯合大學獎助教師出席境外學術會議報告

102 年 7 月 11 日

報告人姓名	馮祥勇	系所/中心	經濟與社會研究所
會議時間 會議地點	102 年 6 月 19 日至 21 日 克羅埃西亞的札達爾 Management, Knowledge and Learning International Conference 2013		
會議名稱	2013 年管理、知識與學習國際科學研討會 Management, Knowledge and Learning (MakeLearn) International Scientific Conference 2013		
發表論文題目	創意、創新與創業教育：臺灣一所大學的個案研究 A Case Study on Creativity, Innovation and Entrepreneurship Education of the University in Taiwan		
摘要：			
<p>由斯洛維尼亞的 International School for Social and Business Studies(簡稱 ISSBS)機構發起籌辦的 Management, Knowledge and Learning (MakeLearn) International Conference 為一國際學術研討會，為提供管理、知識與學習等學術研究交流之重要會議。2013 年的會議係於 2013 年 6 月 19 日至 21 日在克羅埃西亞的札達爾大學(University of Zadar)舉辦，共有來自全球 36 國家與地區超過 300 位的學者專家參與；有 160 篇論文發表，分為九大領域 35 場次進行。此外，並安排國際相關期刊展示和期刊主編之面對面座談，可充分瞭解該等期刊取材之重點與審核之要求。本會議對國際學術研究與合作有顯著之助益，值得推薦相關領域學者前往參加。</p>			

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一、目的

管理、知識與學習國際科學研討會 Management, Knowledge and Learning (MakeLearn) International Conference 為原南斯拉夫共和國學術機構發起之國際學術研討會，提供管理、知識與學習等學術研究交流之重要會議。近年並由斯洛維尼亞的 International School for Social and Business Studies(簡稱 ISSBS)機構發起籌辦，該機構為歐洲巴爾幹半島(原南斯拉夫共和國)最負盛名的國際高等學府，結合鄰近國家(如波蘭、摩洛哥)及東亞(如泰國、馬來西亞)提供國際學術交流及多元文化學習之場域。該研討會強調知識與學習之建立，已納入 European Year of Citizens 2013 並獲得歐盟之贊助；會議每年由該機構締結姐妹學校之大學輪流舉辦，透過該會議除可加強學術研究交流之外，亦可參訪主辦學校推動國際合作之現況，促成與會學者學校與台灣及本校實質交流之機會。摘述本次赴克羅埃西亞參加 Management, Knowledge and Learning (MakeLearn)國際科學研討會之目的如下：

- 1.參加國際學術研討會，發表論文進行學術交流；
- 2.參訪主辦學校推動國際合作之現況；
- 3.研擬後續與台灣及本校實質交流之機會與管道。

國立聯合大學在苗栗發展已有 40 多年的歷史，有深厚的地方淵源，日前獲教育部審查通過於 102 學年度成立「文化觀光產業學系」，該學系係在原客家研究學院經濟與社會研究所的教學、研究與服務，甚至是產學合作能量下，配合行政院推出六大新興產業（包括：生技起飛、觀光拔尖、綠色能源、醫療照護、精緻農業、文化創意）之政策目標，亦是符合地方發展觀光立縣的期待，建立從文化保存—紮根學習—觀光活化—產業振興—數位行銷—傳播推廣的整體跨領域之學科運作；課程主軸規劃成三大課群：文化與在地產業、三創與觀光管理、觀光與資訊傳播。此次藉由參加於克羅埃西亞舉辦 2013 年管理、知識與學習國際科學研討會之機會，除由參加老師發表論文之外，亦期待達成下列預期效益或事項：

- 1.參加國際學術研討會，與國際相關學者進行學術交流，並發表一篇學術論文。
- 2.參訪克羅埃西亞世界遺產(自然景觀)之管理情況，做為聯合大學文化觀光產業學系相關課程之教材案例。
- 3.瞭解歐洲高等學府(主辦學校)因應國際化、少子化趨勢，推動國際合作之現況；研擬後續與台灣或本校實質交流之機會與可行性。

二、參加會議過程(6 月 19 日~21 日)

國內高等教育近年來受到少子化及國際化之衝擊，政府鼓勵各大專校院積極與海外高等學府建立合作關係，一方面可吸收國際學生來台就讀，解決國內高等學府招生危機；另一方面促成國內教師與學生走向國際，增加全球視野與國際競爭力。本次研討會訊息即由泰國 Kasetsart University 提供，並獲知台裔學者 Dr. Binshan Lin (目前任教於美國 Louisiana State University)擔任會議主席。

鑒於國際學術交流之重要性，本人(馮祥勇老師)即以過去參與創意教育、推動創新與創業之計畫成果，並以「A case study on creativity, innovation and entrepreneurship

education of the university in Taiwan(創意、創新與創業教育：臺灣一所大學的個案研究)」撰寫論文(全文詳附件)，希冀與國際學者交換高等學府面臨之困境、推動創意創新創業之經驗。本篇論文經學術同儕審查通過後，於大會上發表。會議係於 2013 年 6 月 19 日至 21 日在克羅埃西亞的札達爾大學(University of Zadar)及鄰近之 Hotel Kolovare 舉辦。



美麗的札達爾大學(University of Zadar)

MakeLearn International Conference 2013 係由會議主席團共同主持召開，成員包括斯洛維尼亞 ISSBS 的 Dr. Srečko Natek、Dr. Nada Trunk Širca、美國 Louisiana State University 的 Dr. Binshan Lin、克羅埃西亞 University of Zadar 的 Dr. Leonardo Marušić、泰國 Kasetsart University 的 Dr. Bordin Rassameethes、波蘭 Maria Curie-Skłodowska University 的 Dr. Zbigniew Pastuszek、摩洛哥 Al Akhawayn University 的 Dr. Mohamed Dahbi 等七位學者。國際知名學者 Frederick Kohun 及 Branko Katalinić 分別擔任 Keynote speaker 發表「The Knowledge Management of Culture, Crisis and the Economy」、「Education for Knowledge based Society: Challenges, Chances and Risks」的演講，並進行討論。



全體與會學者專家合照

在專題演講之後，進行學術論文發表，共分為九大領域 35 場次進行，這些領域分別為：

- A. Knowledge based society and knowledge management(知識社會和知識管理)
- B. Strategic management, business and competitiveness(策略管理、企業與競爭力)
- C. Education, learning society and organizational learning(教育、學習型社會及組織學習)
- D. Human resources management(人力資源管理)

- E. Economics, finance and accounting(經濟，金融和會計)
- F. E-commerce management and marketing(電子商務管理及行銷)
- G. Innovations in public sector and business(公部門和企業的創新)
- H. Information systems management and decision support systems(資訊管理和決策支持系統)
- I. Knowledge management practices(知識管理實務)

報告人馮祥勇發表《A Case Study on Creativity, Innovation and Entrepreneurship Education of the University in Taiwan (創意、創新與創業教育：臺灣一所大學的個案研究)》論文一篇，參加 Knowledge based society and knowledge management(知識社會和知識管理)、Education, learning society and organizational learning(教育、學習型社會及組織學習)、Innovations in public sector and business(公部門和企業的創新)及 Knowledge management practices(知識管理實務)等領域場次之論文發表和討論。發表論文摘要如下(內容詳附錄)：

創意經濟是全球經濟結構調整的最新發展階段。許多國家和企業都強調「創意」和「創新」的競爭優勢。創新創意與創業教育，近來已成為一種流行的方法，以提升學生的創造力並提升職場競爭力。教育政策制定者強調，迫切需要制定特別是促進創造力，適應性和加強溝通的「人力資源」教育方針。多數學者的研究，強調創造力和教學環境之間的關係。

本研究著重於創造性的校園環境和創新創意與創業教育。本研究以個案案例研究和介紹臺灣一所大專院校執行“應用服務科技的校園創新和創造力”計畫情況。結果顯示，雖然數據未達到統計的顯著性，不過應用資訊和通信技術（ICT）在過去三年的創意作品的水準是增加的。加強資訊和通信技術的應用、融合地方特色，以運用在課堂之創意教育，並持續的創造力研究和強化知識理論基礎，是創新創意與創業教育非常重要的事項。



論文發表後與主持人合影留念

在知識社會和知識管理(Knowledge based society and knowledge management)領域，

共 17 篇論文分四場次進行。主要論文有經濟轉變下的中小型企業知識共享的障礙(Barriers to Knowledge Sharing in Medium-Sized Enterprises in Transition Economies)、以 PKA 知識管理方法應用於知識密集型業務流程(Knowledge Management of Knowledge Intensive Business Processes with PKA Method)、網路型態公司知識交換訓練(Knowledge Exchange Coaching in the Network Company)、積極的公民意識和知識管理：基於實踐的觀點(Active Citizenship and Knowledge Management: A Practice-Based Perspective)、透過學習管理階層的方案創造積極的公民意識(Creating Active Citizenship through a Project-Based Learning Management Class)等。21 世紀是資訊科技的社會，也是知識經濟(knowledge-based economy)的時代。在知識經濟時代中，能掌握新的知識、活用新的知識，就能掌握財富、掌握競爭的未來。知識管理來自資訊和人員，學者 Sveiby 曾將知識管理分為「資訊管理」(management of information)和「人員管理」(management of people)，前者涉及到資訊科學、電腦及資訊管理系統的建置；後者涉及到評估、改變和增進個人技能和行為，包括學習和管理等方面。本領域論文主要在探討知識社會下知識管理的趨勢與發展，尤其在企業組織面臨經濟的挑戰與競爭，更為重要；然而對於普羅大眾的議題，也漸受重視，如何透過學習創造積極的公民意識與社群參與，也有幾篇論文探討。



研討會盛況

在教育、學習型社會及組織學習(Education, learning society and organizational learning)領域，共 32 篇論文分七場次進行。主要論文有自我領導發展：身體之間的聯繫，心靈，與反思(Self-Leadership Development: The Link between Body, Mind, and Reflection)、教育是智能和包容增長的關鍵因素(Education as Key Factor of Smart and Inclusive Growth)、積極公民意識與高等教育國際化：歐洲視角(Internationalization of Higher Education for Active Citizenship: European Perspective)、學校創新發展的因素(Factors of the Innovation Development in School)、為期一天的學生創新的商業遊戲活動(A One Day Innovation Business Game for Pupils)、教師的專業履歷：能力和教學方法的分析與發展(The Professional Profile of Teachers: Analysis and Development of Competences and Teaching Methodology)、高等教育管理的新趨勢(New Trends in Higher Education Management)、型塑高等教育中的實務社群：理論觀點(Forming Communities of Practice in Higher Education: A Theoretical Perspective)、大學學生的創業實習綜覽：創業教育的功能角色(Explaining Entrepreneurial Intention of University Students: The Role of Entrepreneurial Education)等。近年來受國際化趨勢、社會少子化發展、資通訊科技的興起所引發的開

放而多元的教育改革之中。而提升國家人力素質、增加國家競爭力為導向的教育是一項重要的訴求；因此，學校行政組織的革新甚至是教師教學方法的變革，尤為教育發展的重心與方向。在知識經濟的時代裡，「知識管理」應該是增進學校效能的良方而不是另一項管理階層的口號。因為學校具有高素質的人力，而且又具有知識傳播和創新的本質，若能結合學校的「人力」和「物力」，有效推動知識管理，則學校將更能發揮無形知識的價值，讓學生得到更多有用的知識。本領域探討許多學校推動創新創意與創業的案例，如何透過學習型組織的建構或是實務的參訪，提升教師專業與教學方法以促進學生知識學習的效能。

在公部門和企業的創新(Innovations in public sector and business)領域，共 25 篇論文分五場次進行。主要論文有歐洲聯盟的創新和創新績效(Innovation and Innovative Performance in the European Union)、公共文化機構中如何監控管理創新的效益(How to Monitor the Effects of Managerial Innovation in Public Cultural Institutions)、開放創新體系的探析(Analysis of Open Innovation Systems)、公共管理的組織間合作就是創新的來源(Inter-Organizational Collaboration as a Source of Innovation in Public Management)、旅遊創新是社會現代化的關鍵(Tourist Innovation as the Key to Modernization of Society)、創新是旅館經營成功的關鍵(Innovation in Special Hotels as a Key to Success)等。人類社會經歷三次工業革命之後，已經從農業社會、製造業轉為服務業，並且從區域經濟轉型為國家經濟，再蛻變成為全球經濟。因此，過往家族企業的擁有者將商業智慧傳給子孫，工藝大師將技藝交給學徒的知識傳遞模式，隨著現代化社會的發展，已經不符時代所需。此領域的論文有助於了解歐盟(European Union)及其所屬各國在推動創新的機制，更可了解如何監控管理創新的績效，以避免淪為公眾事務的形式化而缺乏效益。其中數篇論文探討觀光服務業的創新，作者們也提出創新對於服務業的重要性，如何透過創新的運作提升企業的服務績效，改變經營管理的模式或方案。

此外，會議並安排國際相關期刊展示和期刊主編之面對面座談、卓越商務論壇，以及克羅埃西亞國家公園 Kornati islands 參訪。在國際期刊方面，包括 Industrial Management & Data Systems、Expert Systems with Applications 等十餘本，經與這些國際期刊編輯面對面座談，可充分瞭解該等期刊取材之重點與審核之要求，對教師發表國際期刊有十足之助益。本次參與座談之國際期刊主編，茲摘錄重要期刊說明如下：

1. Industrial Management & Data Systems (IMDS)，發行於 1980 年，由英國 Emerald Group Publishing Ltd 出版，每年出刊九期。該雜誌旨在促進新技術和相關概念及其影響的認識，提高高層管理技能。收錄於 ABI/INFORM Complete、Professional ProQuest Central 及 Science Citation Index Expanded。2012 年 Impact Factor 為 1.674。
2. Expert Systems with Applications，為一介紹專家系統及其應用研究的國際學術期刊，2012 年 Impact Factor 為 2.339。
3. International Journal of Management, Knowledge and Learning(IJMKL)，由國際出版 ToKnowPress 公司發行，為一新發刊之國際期刊，該期刊匯集先進的管理領域的知識，了解和學習的組織，包括教育、商業、社會科學、創業、創新，以提供教育和其他部門的研究人員及從業人員交流最新的學術研究。
4. International Journal of Business Development and Research(IJBDR)，該期刊在商業和工業領域的創新、應用技術與企業組織管理，以及研究相關資訊提供當前和新興的研究與實務。可協助專業人士、研究人員、教育工作者和政策制定者相關的建議與知識學習。
5. International Journal of Innovation and Learning(IJIL)，為一嚴格評審的期刊，在創新和學習領域，提供當前國際實務、內容、技術及服務上權威人士的研究。

6. Contemporary Management Quarterly，為歐盟贊助於波蘭發行之當代管理期刊，主要在提供各領域管理知識之相關研究與資訊，每年依季出刊四期。



馮祥勇老師於大會合照後之留影 台裔學者 Dr. Binshan Lin

本次研討會主辦學校亦於會後(6 月 22 日)安排參訪克羅埃西亞國家公園科納提群島，23 日週日則為休息日、24 日參訪 University of Zadar 學校發展與國際交流情況、25 日則依教學研究專長與該校相關科系交流互動，26 日為返程。有關參觀與學術參訪活動內容，說明如考察參觀活動。

三、考察參觀活動

(一)、6 月 22 日參訪克羅埃西亞世界遺產(自然景觀)-國家公園科納提群島：

本次研討會主辦學校亦安排參訪克羅埃西亞世界遺產(自然景觀)-國家公園科納提群島(Kornati Islands National Park)，這彷彿人間仙境的島嶼，是由 147 個密集的島嶼組成，雖然大部分都是無人島，只有雜草和灌叢；但受到嚴格的保護，讓到此一遊的人們深刻感受亞得里亞海與自然的美。也難怪音樂家蕭伯納在回想這個美的令人屏息的群島時所寫下：「眾神在其傑作加諸榮耀，於是在最後一天，自眼淚繁星與海風中離開，祂們創造了科納齊」的文字。



國家公園科納提群島(Kornati Islands National Park)一景

休閒觀光的发展，有二個軸向：文化觀光與生態旅遊。生態旅遊，單純就字面意義可解釋為一種觀察動植物生態、自然環境的旅遊方式，也可詮釋為具有生態觀念、增進生態保育的遊憩行為。國際生態旅遊協會(The Ecotourism Society)及國際自然保育聯盟(IUCN)的大力推動下，明確的將生態旅遊定義為：「生態旅遊是一種負責任的旅遊，顧及環境保育，並維護地方住民的福利」，逐漸改變世人對旅遊型態的樣貌。然而，不論是人文抑或自然的景觀，其實都蘊藏人類在這塊地表生存的歷史痕跡。克羅埃西亞科納提島嶼國家公園的管理與做法，值得臺灣推動觀光事業的參酌。

(二)、6月24日參訪札達爾大學(University of Zadar)學校發展與國際交流情況：

札達爾大學(University of Zadar)參訪交流活動，該校原由神父 Dominicans 建於 1396 年，原名為 Iadertina 神學院，以拉丁語授課。1807 年由政府接管成為與當地結合之高等學術機構，是該國最古老的高等學府。1956 年與該國第二古老的大學-薩格勒布大學(University of Zagreb)合作重建藝術學院，該學院後來成為斯普利特大學(University of Split)的一部分。2002 年，克羅地亞國會通過一項法案，允許各大學重新作為一個完整的獨立的學術機構；於是 2003 年 1 月，新風貌的札達爾大學向學生敞開大門。自此，札達爾大學不斷成長壯大；2005-06 學年實施博洛尼亞(Bologna)方案，允許從事與其他歐陸或全球各地知名大學合作研究協議，以及學生交流計畫等，使學校及學生大大受益，也開啟國際學術交流之門，並提高學校的國際形象。目前該校設有建築、語文、經濟與社會相關科系共 20 個系所，多為語文科系如英語、法語、德語及拉丁語。目前該校有教員(教授、研究員)184 人、教學或研究助理 154 人及行政職員 130 人，學生(包含 6 個碩博士課程學生)合計 3400 餘人，其中外國學生約 120 名。

國際交流現況，札達爾大學已加入歐洲大學聯盟(EUA - European University Association)，目前與締結姐妹校的學校仍以鄰近國家為主，包括：University of Mostar (波士尼亞與黑山共和國)、University of Primorska in Kopar (斯洛文尼亞)、The University of Applied Sciences Technikum Wien (奧地利)、Pedagogical Academy in Eisenstadt (奧地利)、University of Rzeszów (波蘭)、University of Padova (義大利)、University of Teramo (義大利)、University of Udine (義大利)、University of Camerino (義大利)、University of Pecs (匈牙利)、University of Punta Arenas (智利)、University of Florida (美國)。處長 Leonardo Marušić 博士表示，因應國際化及全球使用英語的潮流，札達爾大學已開授國際英語學程，有：歐洲學習-課程發展與教育輔導學程(Learning for Europe - Curriculum Development and Counselling in Education)、大學教學品質保證學程(Quality Assurance in University Teaching)、創意經濟價值：教育的功能角色學程(Values for the Creative Economy: The Role of Education)、創意產業、創意城市語創意經濟學程(Creative industries, Creative Cities, Creative Economies)等共九個。Leonardo Marušić 博士表示，因應全球化趨勢，札達爾大學未來將加強與亞洲國家，如日本、韓國、印度、泰國、新加坡、馬來西亞、中國大陸，甚至也希望能與臺灣的高等學府進行學術交流、交換學生等活動。

(三)、6月25日與該校經濟學系、觀光與傳播管理學系交流互動及具體成效：

札達爾大學經濟學系設立於 2005 年，並於 2008 年開設研究所課程，系所成員包括：3 名全職教授，4 名副教授，4 名助理教授以及資深講師 6 名，此外尚有 6 位職員或助理，目前系主任為 Aleksandra Krajnović 教授。長期聘用的大學教學人員除了參與政府及企業委辦的研究案之外，也經常受聘於的克羅地亞和其他國外大學進行顧問或應邀演講。除了大學部課程之外，研究所課程以計畫管理為主軸，接受完成大學或專業四年制本科學習經濟學、商業經營學、管理學，或是觀光管理的學生申請入學；其他專業的學生則需完成大學部相關課程：個體經濟學、總體經濟學、會計、管理、經營管理、商業組織和

金融數學等。源於扎達爾城市及克羅埃西亞國家的觀光發展，經濟系亦與相關學系師資成立觀光管理碩士學位學程，一個為期兩年的研究所課程，主要學習的二個方向：旅遊文化和主題性觀光；並配合當地觀光發展，設立觀光與傳播管理學士學位學程(該學程於 2012 年夏季正式成立為一學系)，培養負責旅遊組織宣傳和遊客旅遊服務的專業人才，以有組織的方式的教育方案，解決經濟和旅遊業發展的關鍵問題。該學程是跨學科的教育方法，使學生掌握廣泛的知識，應用於公共和私營部門的市場需求。在文化和生態旅遊方面，提供生態學領域的淵博的知識，特別注意生態文化和可持續旅遊業的作用，由於環保意識不斷增長的需求，透過一般和特定的知識來開發對人類與自然和諧相處的活動，是本學程重要之發展方向。

克羅埃西亞位於亞德里海邊，擁有美麗島嶼超過千座，自古即為歐洲宮廷及普羅大眾度假勝地。然而，札達爾大學仍維持百年來之傳統以語文、史地及社經為主要設系經緯，近年來才在地方觀光發展的需求上，設立觀光或管理相關科系，屬於跨領域的學習。結合經濟系(Department of Economics)、社會學系(Department of Sociology)、地理學系(Department of Geography)、藝術史學系(Department of History of Art)部分課程或師資進行與休閒觀光相關課程開授，以因應休閒社會及地區觀光導覽之需。札達爾得天獨厚，擁有美麗島嶼與湖光山色的自然生態，亦在歷史的交融薰陶下，建築藝術有可觀之成就，故適合從事生態旅遊與文化觀光。學生畢業後，除從事專業領域之工作外，自共產體制解體以來，觀光服務事業更蓬勃發展，越來越多的學生從事與休閒觀光相關的職務。

四、攜回資料名稱及內容

1. MakeLearn International Conference 2013 研討會論文集(含論文光碟)一份。
2. International Journal of Management, Knowledge and Learning(IJMKL), 2013 年第二卷第一期期刊一本。
3. Management - Journal of Contemporary Management Issues, 2012 年第 17 卷第 2 期期刊一本。
4. International Journal of Synergy and Research, 2012 年第 1 卷第 2 期期刊一本。

五、結論與建議

21 世紀是劇變的時代，資訊科技迅速發展與流通，社會多元化的腳步也越來越快，人類正面臨「第三次產業革命」——一個以「腦力」決勝負的「知識經濟時代」。此時，不論是創新思考、批判思考或解決問題之能力，皆是未來世界公民的重要基礎能力。全球化與數位化時代已然成型，國家競爭力的強弱取決於品質、創意與速度，是一個以「知識力」取勝的知識經濟時代到來。經濟合作暨發展組織(OECD)將「知識經濟」定義為：建立在知識與資訊之激發、分配及應用上的經濟。為了迎接這樣一個知識經濟時代的來臨，政府近年來將提升全民的創造力列為主要的國家發展策略，藉由創造力的養成以產生源源不斷的創意，經由創新的實踐以促成生生不息的創業，將是整個國家、社會活力的來源與象徵。過去臺灣的經濟發展仰賴製造業與工業部門的發展，面對已開發國家服務業產值與就業所占比重的提升，配合政府政策及產業趨勢，以新興服務業應用科技為基礎，透過創意創新與創業活動與環境規劃，鼓勵國內青年學子發揮創意，並讓學校與產業更緊密連結，培育校園創新創意創業人才，是當前教育的重要方向。

管理、知識與學習國際科學研討會(MakeLearn) 2013 年共有 160 篇論文發表，有來自全球 36 國家與地區超過 300 位的高等學府教授、研究人員或博碩士研究生參與。研

討會強調知識與學習之建立，更被 European Year of Citizens 2013 基金會納入並獲得歐盟贊助，可謂是一重要且豐盛的學術交流會議。對於促進臺灣高等學府及本校之國際學術交流，有顯著之助益。本會議 2014 年將於克羅埃西亞的 Portorož 城市舉辦，時間為 2014 年 6 月 25 至 27 日，大會主題為《Human Capital without Borders: Knowledge and Learning for Quality of Life》(人力資本無國界：生活品質的知識與學習)，值得推薦本校相關領域教師繼續前往。

國立聯合大學在苗栗發展已有 40 多年的歷史，有深厚的地方淵源，客家研究學院在地方與中央共同努力下，於 2006 年成立，就學校的中長程發展規畫，客家研究學院的教學組織重整、增長資源並擴大生源的發展，有助於學校實現科技發展與人文關懷的交融整合綜效。並於 102 學年度獲教育部審查通過成立「文化觀光產業學系」，此係配合行政院推出六大新興產業（包括：生技起飛、觀光拔尖、綠色能源、醫療照護、精緻農業、文化創意）之政策目標外，亦是符合地方發展觀光立縣的期待，建立從文化保存—紮根學習—觀光活化—產業振興—數位行銷—傳播推廣的整體系統運作，有助於聯合大學與在地產業，有主題性的交流平台與多元化的展示場域。

此次會議主辦學校-斯洛維尼亞的 International School for Social and Business Studies 除了提供原南斯拉夫國家學生對高等學識之追求外，並對於學術國際交流合作有積極的做法，例如每年夏季均舉辦 summer school 課程，吸引來自全球大專校院學生參與，在二周 10 天密集的課程下，提供具有主題特色的課程與師資。2013 年夏季學校的課程主題為：Innovation in Business – Environmental Challenges(企業創新-面對環境的挑戰)；而 2014 年的課程主題則為：Innovation in Business – Sustainable Development of Rural Tourism(企業創新-鄉村觀光的永續發展)，時間為 2014 年 6 月 23 日至 7 月 4 日間。該校辦理夏季學校課程，不僅內容具有特色亦授予學分，值得本校推動暑期課程之參考。當然，本校逐漸朝向綜合性大學邁進，設立之管理學院、人文與社會學院、客家學院課程內容多為人文與管理知識，如何整合並開設具備苗栗地方文化特色、甚至是休閒觀光與文化創意管理知識與學習國際觀之課程，值得進一步思考。

A Case Study on Creativity, Innovation and Entrepreneurship Education of the University in Taiwan

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Abstract

A creative economy is the latest developmental stage in global economic restructuring. Numerous countries and enterprises have emphasized competitive advantage by "creativity" and "innovation." Innovation competition in education has recently become a popular method to elevate student creativity. Education policy-makers have emphasized the urgent need to develop "human resources," particularly to promote creativity, adaptability, and enhanced communication. Most scholars investigating creativity and education have focused on the relationship between teaching and creativity or individual student creativity. The creativity domain is a promotional, inhibition-supportive creative environment system.

This study focuses on a creative campus environment and entrepreneurship education. We use case study and introduce the program "Application Program of Academic Innovation and Creativity" of National Pingtung Institute of Commerce (NPIC), a public business college in Taiwan. The results show a non-significant statistical increase in the application level of Information and Communication Technology (ICT) creative works in the previous 3 years. A stronger foundation for ongoing creativity research and consolidating the theoretical knowledge base is important for strengthening ICT application, local features, and educational practice of collegiate creative education.

Keywords: Creative Education, Entrepreneurship Education, Case Study, Expert Assessment

1. INTRODUCTION

In the global economy, a country or an enterprise must face structural disintegration of the new economic system to ensure competitive advantage by "creativity" and "innovation." The new economy as a creative economy is the latest development stage in global economic restructuring. The developed world has transitioned from an agricultural economy to an industrial economy and from a post-industrial/mass production economy to a knowledge economy. Upheavals in technological innovations and the global-competitive need for the creative class to develop new product and process innovations have marked the latest stage.

In the creative economy era, "brain" and "creative" intensive industries have gradually replaced "land" and "labor" intensive industries. Numerous countries have made creative talent a measure of national competitiveness. The importance of creativity in education and training is also increasing. The development of creative capabilities in education crosses all disciplines, such as flexibility and communication skills, imagination, and cross-cultural understanding (Yang & Hsu, 2007).

Innovation competition has recently become a popular international technical application method in creative and entrepreneurship education that uses competition to facilitate science and technology comprehension. Numerous schools have also established creation, innovation, and enterprise as foundational to the related curriculum to cultivate students according to future societal challenges. However, service industry promotion is driven by technical change to enhance working efficiency and service quality.

This study focuses on a creative campus environment and entrepreneurship education. We will introduce a program of National Pingtung Institute of Commerce (NPIC), a public business college in Taiwan. This program "Application Program of Academic Innovation and Creativity" was in line with the Taiwan's government policy and industry trends, emerging service industries by applied information and communication technology through innovation and entrepreneurial activity.

2. LITERATURE REVIEW

2.1. Creative Education

Education worldwide faces unprecedented economic, technological, social, and personal challenges. Policy-makers have emphasized the urgent need to develop "human resources," particularly to promote creativity, adaptability, and enhanced communication (NACCCE, 1999). The creative economy has two dimensions: information technology and creativity. In an information society, people must be able to use modern technology and equipment. Thus, education must cultivate high-quality people who quickly and effectively adapt to changing talent.

In Asia, education in Singapore emphasizes creativity and innovation, and promotes several important policies such as "Thinking Schools," "Learning Nation," and "The Masterplan for Information Technology in Education."

These policies that enhance national economic competitiveness are a successful example under the global economy (Tan & Gopinathan, 2000).

The Taiwanese Ministry of Education announced the “White Paper on Creative Education” in 2002. The vision was to establish a “Republic of Creativity (R.O.C.) for Taiwan.” The six initial programs to promote education creativity included nurturing trips for creative learners, professional development for creative teachers, comprehensive management for creative schools, creative life in action, online learning through a creative intelligence bank, and ongoing consolidation of creativity cultivation.

2.2. Entrepreneurship Education

Entrepreneurship is about people, their choices and actions in starting, taking over or running a business, or their involvement in a firm’s strategic decision-making. Entrepreneurs are a heterogeneous group and come from all walks of life (Commission of the European Communities, 2003).

In all economic sectors, the entrepreneurial process is a fundamental source of innovation through which individuals, teams and organizations create wealth by bringing together unique packages of resources to exploit marketplace opportunities (Lyon et al., 2000; Ireland et al., 2001; Brush et al., 2001) and lead to the birth of new enterprises as well as growth or renewal of established organizations (Roberts and Eesley, 2009).

Therefore, the purpose of entrepreneurship education in the education needed to adapt to the social, economic and cultural development, in addition to educated formation of good mental qualities and personality traits, but also need to develop the actual ability to work and hands-on skills, students of social adaptation and a wide range of adaptability, to become the next social industry talent. Entrepreneurial abilities, including professional and technical capabilities, business management and social communication skills, and ability to solve practical problems, the information acceptance and processing capabilities, and the ability to grasp opportunities and create opportunities for integration.

2.3. Application Program of Academic Innovation and Creativity in NPIC

Taiwan's economic development over the past relies on the development of the manufacturing and industrial sectors, but services industry and employment having enhanced the proportion of economics. The program “Application Program of Academic Innovation and Creativity” was provided by the Ministry of Economic Affairs in Taiwan, ROC. It was in line with the Taiwan’s government policy and industry trends, emerging service industries by applied information and communication technology through innovation and entrepreneurial activity.

This program encouraged the young students to be creative, and more closely linked industry and campus’ creativity, innovation and entrepreneurship activities. The program of work items in National Pingtung Institute of Commerce (NPIC) include:

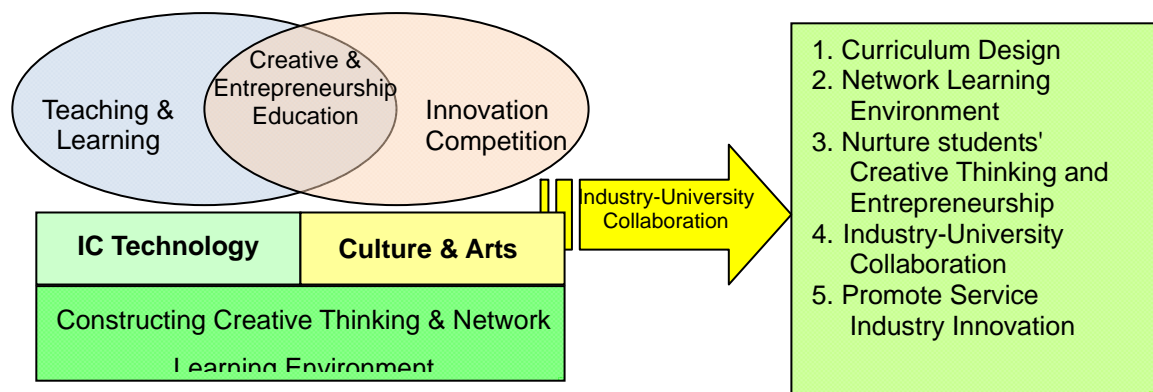
- *Integrating creativity and entrepreneurship courses program*
- *Innovation and entrepreneurship management workshop*

- *Creative environmental planning and implementation*
- *Holding innovation competition*
- *Establishing an exchange platform of innovation and entrepreneurship*

We used case-study research to examine whether innovation competition fosters student technology-application ability. National Pingtung Institute of Commerce (NPIC) is one of three public business technological schools in Taiwan and the only one located in Southern Taiwan. Technological and vocational education in Taiwan emphasizes pragmatic learning while creating a unique schooling system to meet the needs of contemporary society.

We selected a business-technological school instead of industrial and technical schools to apply science and technology in a selected school. We attempted to improve student cognition in science and technology applications through an observed creative contest. The Taiwanese government is making great efforts to promote cultural and creative industries. The expectations of culture and technology in all levels of life do not need the concerted efforts of the non-tech sector to contribute to the development of cultural and creative industries.

Picture 1: The framework of program by NPIC



3. METHODOLOGY

The case-study method has a long and respected history in the social sciences. There have also been seminal examples of case research within the management literature. The philosophy and implications of the case-study method have received considerable attention in the methodological literature and there are a number of standard texts on the approach (Perren and Ram, 2004). Also, case studies are especially useful for researching phenomena, where little empirical evidence is available and to answer the how and why questions regarding these phenomena (Yin, 2003).

In this research, case-study analyses were derived from collecting competition projects, selecting experts, the appraisal index, independent scoring, grading statistics, and analysis. It focused on relation analysis and effective discussion between creative curriculum planning through creative competitions held on campus. The research process used content analysis by expert assessment.

Content analysis is a research method that uses a set of procedures to make valid text inferences (Weber, 1990). These inferences involve the sender(s) of the message, the message itself, or the audience of the message. The rules of this inferential process vary with the theoretical and substantive interests of the investigator. Three experts were selected to examine the ICT application on these works.

4. ANALYSIS AND RESULTS

4.1. Reliability and Validity of Expert Assessment

Validity is the extent to which a test measures what it claims to measure. It is vital for a test to be valid in order for the results to be accurately applied and interpreted. When a test has content validity, the items on the test represent the entire range of possible items the test should cover. Individual test questions may be drawn from a large pool of items that cover a broad range of topics.

Research validity refers to measurement correctness and the extent to which a test measures what it claims to measure. A test must be valid to accurately apply and interpret the results. In some instances where a test measures a trait that is difficult to define, an expert judge may rate each item's relevance. To obtain measurement-validity correctness, 2 of the 3 selected experts in our study have a computer-degree background and have been engaged in ICT-related work, and the other is a senior lecturer in information sciences. However, reliability refers to measurement trustworthiness and to testing consistency and stability. The study is validated through different analyses to test the reliability.

However, research reliability has to do with the quality of measurement. It refers to the "consistency" or "repeatability" of a measure. The experts evaluated ICT application on campus innovation-competition from 1 to 5 points. Team obtaining only 1 point means no ICT technology was applied on creative works, whereas 5-point teamwork means a high ICT application on creative works. We compared the changing trend of teamwork points per year for the three years.

Three experts scored each teamwork, followed by independent tests to understand scoring differences. The outputs are shown in Table 1. The value of χ^2 at 2.0654, denoted no significant difference in the scoring appraisals among experts. The content analysis of teams by difference experts had consistent appraisals and impartial judgement. Thus, the research reliability is acceptable.

Table 1: ICT technology application scores (unit: points)

Year	1st Year (10 cases)	2nd Year (11 cases)	3rd Year (9 cases)	Subtotal
Expert A	22	29	28	79
Expert B	33	29	28	90
Expert C	26	22	27	75
Total Points	81	80	83	244
Average Scales	2.70	2.42	3.07	2.71

4.2. ICT Technology Application Scoring

These score results of the three years are summarized in Table 2. The technology level mean value of creative teamwork is 2.7 the first year and 2.42 the second year. In the final year, ICT application level on creative teamwork reached 3.07 average points. Consequently, each creative team with ICT technology application increased over time.

We further tested the three-year average score by one-way ANOVA, showing that the average-score differences of the three years were statistically non-significant ($F = 1.125$, $F_{0.01} = 6.11$). This means that the average ICT score of the three years had non-significant differences. However, the average technology level (ICT application level) of these competitive works was incremental. The technology level mean value of creative-teamwork was 2.7 in the first year and 2.42 in the second year. In the final year, ICT application level on creative-teamwork reached 3.07 average points, showing that each creative team with ICT technology application increased over time.

Table 2: ICT technology application scores (unit: points)

Year	1st Year (10 cases)	2nd Year (11 cases)	3rd Year (9 cases)
No. 1	1.33	1.67	2.33
No. 2	1.67	1.67	2.67
No. 3	1.67	2.00	2.67
No. 4	2.00	2.33	3.00
No. 5	2.33	2.33	3.00
No. 6	2.33	2.33	3.33
No. 7	3.00	2.67	3.33
No. 8	3.00	2.67	3.33
No. 9	4.33	3.00	4.00
No. 10	4.67	3.00	
No. 11		3.00	
Average Scales(X)	2.70	2.42	3.07
Variance (S^2)	1.127	0.496	0.494

The cognition change of college students and the number of creative proposals produced on campus through objective evaluation created new engineer education directions and suggestions. The results suggest that those who win competition awards have higher motivation and potential to create business models for new-technology service and new directions for college teachers or staffs to plan environment design and projects for future college education.

5. CONCLUSION

Creative education has positive benefits to not only improve student creativity, but to also enhance student problem-solving ability and discipline capacity. Creative education must continue to develop, to construct schools and communities in a creative cultural environment. Wu (2002) indicated that creativity does not belong to genius, but can be learned. Runco (2004) asserted that everyone has creativity potential through education and other means. More scholars believe that training and other methods enhance creativity.

This study only collected innovation competition records for 3 years. The results show no statistical difference in creative contests for ICT applications. Extending the research period (at least 5 or 10 years), could provide more evidence to identify the obvious importance of innovation competition as a critical factor in influencing students in business schools to apply ICT technology in human life or working environment services/ products design. School creative contests establish a creative environment, which contributes to social learning among students.

This study constructs a foundation for ongoing research in creativity and consolidates the theoretical knowledge base by strengthening ICT application, local features, and educational practice of a creative college education in Taiwan. In the current rapidly-evolving global economy, the concept of creativity and innovation is getting a makeover. Many industrial firms recently build a suitable environment and supply a better incentive measure to encourage staff innovation. Future industry-university cooperation will spread student creative works to industry, commercialization, or industrialization. Innovation competition ultimately excavates good creative works.

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