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以眼動儀測量瀏覽動畫模擬心臟血液循環系統時的注意力分布

Effect of animation in learning declarative and procedural knowledge:

Measured in the blood circulation system with an eye tracker

Dai-Yi Wang

Department of Computer Science and Communication Engineering,

Providence University

ophelia.wang@gmail.com

【摘要】心臟血液循環是一個重要且困難的學習單元，其內容含蓋陳述型知識與程序型知識，因此適合使用動畫來幫助學習者在心中模擬其動態系統。本研究藉由眼動儀紀錄學習者觀看影片素材學習此單元的學習歷程，了解學習者對該單元中各概念區塊的注意力分布及注視時間。進一步，我們並深入探究在不同知識類型區段中，動畫素材是否會有不同的眼動行為。經 55 位學習者的資料分析後發現，結構複雜的物件(心臟、微血管及有血漿血球流動的血管剖面)出現時，能引起學習者的注視，且進行較長時間的凝視；在程序性知識的呈現上，動畫效果可快速吸引學習者的注意力，但漫畫式影片較能有長時間的凝視，進行較久的認知處理；在陳述性知識區段，動畫及物件結構的複雜度就都較無顯著的吸引影響力，不過學習者會耗費較長時間注視動畫組物件。因此，動畫模擬在不同類型的知識的呈現下，與幻燈片漫畫形式的呈現，會有不一樣的眼動模式。

【關鍵詞】 眼動、動畫、知識類型

Abstract: *Cardiac blood circulation is an important and difficult learning unit that contains both declarative knowledge and procedural knowledge. It is appropriate to use animation to help learners simulate their dynamic systems in their minds. In this study, the eye tracker recorded the learner's viewing of the film material with animation or slide comics. Further, we delve into whether there are different eye movements in the animation effects of different knowledge types. After analysis of data from 55 learners, it was found that complex structures (eg. heart, microvessels, and blood vessel profiles with blood cell flow) can cause the learner's attention and gaze for a long time; In the presentation of procedural knowledge, the animation quickly attracted the attention of the learner, but the comic film had a long time of gaze which implies longer cognitive processing; in the declarative knowledge, there is no significant different on attraction, but the animation groups gazed objects for a long time. Therefore, the animation simulation would have different cognitive processing modes under the presentation of different types of knowledge.*

Keywords: eye movement, animation, knowledge type

研發自主學習數位醫學教育系統以促進皮表透光顯微鏡影像分析診斷之初探

A preliminary study of developing the Learner-centered E-learning System in Medical Education for Facilitating Dermoscopy Image Analysis and Diagnosis

林子馨 Tzu-shin LIN

國立清華大學學習科學與科技研究所
tslin@gapp.nthu.edu.tw

楊叔卿 Shelley, Shwu-ching YOUNG

國立清華大學學習科學與科技研究所
scy@mx.nthu.edu.tw

【摘要】如何應用新科技改善醫學教育一直是醫教努力的目標。若能善用皮表透光顯微鏡/又稱皮膚鏡此非侵入式影像技術，有機會提高早期皮膚癌診斷的正確率。本研究即基於皮膚鏡的影像技術特點，開發提供豐富影像資源、直觀且具互動性的數位學習系統，供學習者自主學習皮膚鏡下的皮膚病理學分析與診斷。其研發重點含內容與教學介面設計。影像內容中，可藉由基礎影像資料準確分辨影像特徵與雜訊來模擬大量的影像資料；我們提出四項核心元素設計教學介面。研發階段中十位使用者的形成性評鑑結果顯示，此系統的設計對醫教學習有正面效果。

【關鍵詞】 醫學教育、自我導向學習、數位學習系統、皮表透光顯微鏡影像

Abstract: *How to apply the advanced technologies to enhance learning has been a goal in medical education. Dermoscopy is a noninvasive imaging technology that supports more accurate diagnosis in early stage in melanoma. In this study, we aim to design and implement an e-learning system that provides well-designed images, interactive and intuitive learning environment for learners to actively learn dermatopathology diagnosis more effectively. The development of the system focuses on learning content design and instructional design. Numerous image contents can be synthesized based on pigment and noise recognition from deep learning; we have applied 4 core ideas for instructional design. In the process of system development, the formative evaluation was conducted to 10 potential users and eventually we receive positive results.*

Keywords: Medical education, Self-directed learning, E-learning system, Dermoscopy image

自動化學業情緒辨識在智慧數位教室應用之前導研究

The Preliminary Study for Automatically Detecting Academic Emotions In a Smart Digital Classroom

林珊如

國立交通大學教育研究所
sunnylin.nctu@gmail.com

陳 瑋

國立交通大學教育研究所
vic777616@gmail.com

【摘要】本研究為建構智慧數位教室中的「自動化臉部表情辨識與 IoT 生理偵測模組」之前導研究，以提升現有自動辨識情緒深度學習模式的精準度，以解決教學學習上低可視之問題(low visibility, Hattie, 2007)。本文旨在(1)提供有效誘發情緒的實驗建議，(2)討論機器辨識學業情緒之現況與展望。以提供未來智慧數位教室建立自動化學業情緒辨識回饋之參考。

【關鍵詞】 智慧數位教室、情緒表情、臉部動作編碼系統、學業情緒、深度學習模式

Abstract: *To solve a carry-over problem of digital learning and classroom face to face learning. The problem is called “low visible problem for digital learners and teachers” indicating that for teachers it is difficult to observe students’ cognitive process during conceptual understanding and problem solving and for students it is difficult to see teacher’s cognitive process and decision making during instruction. We offer a solution composition to tackle the problem. This study aims to (1) provide suggestions for the experimental design and (2) discuss the developments of automatically detecting technique for academic emotion at the current stage and in the future.*

Keywords: Smart digital classroom, facial expression of emotions, FACS, academic emotions, deep learning model

文本探勘與視覺化探索分析應用於古籍藥學學習系統之建置與應用

Applying Text Mining and Visual Analysis to Build a Traditional Chinese Medicine Learning System

洪暉鈞

國立中央大學 網路學習科技研究所

hch@cl.ncu.edu.tw

鍾奇穎、許閔榮、吳霽、劉千翎、林宥丞

臺北醫學大學 大數據科技及管理研究所

o902106027@tmu.edu.tw、o902106019@tmu.edu.tw、o902106026@tmu.edu.tw、

o902106020@tmu.edu.tw、o902106029@tmu.edu.tw

【摘要】 隨著醫療的不斷發展進步，近代的中醫學又逐漸地受到世界醫療體系的重視，於是整個中醫學勢必也需要更加科學化的轉型；而如何將傳統的中醫學智慧與現代科學方法做結合是一個隱含巨大價值的未來趨勢。本研究主要探討中藥材的古籍文本，建立中藥關聯資料庫讓無結構的古籍文本化為方便分析的結構化資料、以探討本草綱目藥材、病症、處方之間的關係、將研究成果和大眾對中藥的使用方式比較異同處等目標。為此本研究將針對《本草綱目》做資料清理，整理出的資訊建立資料庫，並設計出針對病症做分類的視覺化的探索儀表板，學習者可使用視覺化探索性分析藥材各項特徵，並進行中藥藥學的探索性分析與學習。

【關鍵詞】 文本探勘、資料視覺化、中醫、藥學、探索性分析

Abstract: *With the continuous development of medical care, contemporary Traditional Chinese medicine is gradually receiving attention from the global medical care systems again. Therefore, a more scientific transformation of the entire Traditional Chinese medicine study is unavoidable. Moreover, combining Traditional Chinese medicine wisdom with modern scientific methods is a future trend with significant value.*

This project mainly researches Traditional Chinese medicine from ancient Chinese text copies and aims to establish the relational databases for unstructured ancient Chinese text copies for facilitating future analyzing. Moreover, this study analyzes the similarities and differences of research results with public's use of Traditional Chinese medicines. For achieving the above goals, the project performs data cleaning on Compendium of Materia Medica. Performing feature extraction and utilizing organized structured text copies to create relational databases, as well as visualizing them on Tableau dashboard.

Keywords: text mining, data visualization, traditional Chinese medicine, medicine learning, exploratory data analysis

從中國人工智慧發展看臺灣教育之啟示

The Inspiration of AI Education in Taiwan from China AI Programs

陳佩君

交通大學教育所

Pearl@itri.org.tw

【摘要】新一波的人工智慧（AI，Artificial Intelligence）興起，改變知識傳遞進而影響教育形態的變化，世界各國紛紛投入推動 AI 在教育的運用。本研究以中國大陸在人工智慧教育上的推動策略、發展進度做為起點，整理出中國大陸在 AI 教育產業中重要的政策報告、活動事件與企業，並提供對台灣 AI 教育的啟示觀點，供未來臺灣 AI 教育的研究學者參考。

【關鍵詞】 人工智慧、人工智慧教育、自適應教育、科技教育

Abstract: *The rise of Artificial Intelligence (AI) changes the means of knowledge transfer and thus has tremendous impact on ways of education. Various countries in the world are surfing on the wave of AI and promoting universal AI education. This study, taking China as a research starting point, seeks to explore its current state of AI development and application by looking into the government policy reports, commercial activities and AI education industry. Suggestions and implications for Taiwan AI educators are provided for future research.*

Keywords: Artificial intelligence, AI education, Adaptive education, Technology education

The factors that influence undergraduates' online learning performance: cognitive capacity, sport, and distraction

粘美玟

國立交通大學教育研究所
anke801211.eed99@g2.nctu.edu.tw

吳俊育*

國立交通大學教育研究所
jiunyu.rms@gmail.com

【摘要】本研究欲探討影響大專生線上學習表現的因素，分為三個面向進行討論：認知能力、運動習慣以及任務分心頻率。研究蒐集 20 位台灣大專院校學生，受測者模擬平時線上學習的情形進行線上學習任務。任務中使用電腦螢幕錄影與人工觀察記錄受測者分心行為，並且於事後進行分心頻率的計算。研究使用多元迴歸分析探討線上學習分心頻率、認知能力與運動習慣對線上學習表現的影響。研究結果發現在三個面向中，以任務中分心頻率影響學習表現最嚴重，其次為認知能力中訊息更新能力的反應時間與每週運動頻率。

【關鍵詞】 線上學習表現、分心頻率、執行功能、運動習慣

Abstract: *We discussed three factors that affect students' online learning performance: cognitive capacity, exercise habit, and distraction frequency. Twenty college students from Taiwan were recruited. Participants were asked to simulate the situation that they learned online before, and searched for information with computers which had screen capture software to record their behavior. The distraction behaviors were also documented by the trained observers. After the coding process, we calculated the distracting frequency. Then multiple regression analysis was used to investigate the influence of online learning distraction frequency, executive function, and exercise habit on online learning performance. According to the results, distraction behavior influenced learning performance most, updating function and sports time per week were the next.*

Keywords: online learning performance, distraction frequency, executive function, exercise habit

以數位學習打造高度自主的 SAIL 方案：自主學習準備度與學習路徑的探究

A Case Study of Self-Active I-Learning (SAIL) Program: the Research of Self-regulated Learning Readiness and Learning Process of College Students in E-learning

黎少奇 吳歡鵲 陳鏗任

國立交通大學教育研究所

{loxazoo0330, songard.nctu}@gmail.com, kenzenchen@nctu.edu.tw

【摘要】 國立交通大學理學院自主愛學習計畫 (Self-Active I-Learning Program, SAIL) 作為高教深耕教學實驗方案之一，從 2017 年底開始籌備，2018 年 9 月開始第一屆招生選課，迄今進行完一學年。本研究跟隨 SAIL 計畫的規劃實施，瞭解學生如何逐步具備與應用自主學習知能及相關學習策略。在本初步探討中，研究者利用調查研究與訪談的方式，分析學生歷程資料、學生表現資料、以及學生回饋等資料，界定出學生之自主學習表現起點，也進一步探討學生於線上學習環境中所展現之學習策略與路徑。

【關鍵詞】 自主學習、大學教學實踐、跨領域學程

Abstract: *This research describes the implementation of the first year of Self-Active I-Learning Program (SAIL), which is part of the NCTU's MOE Higher Education SPROUT Project and developed by the College of Science. Based on the learning progress, learning performance, and learners' feedback, this research provided the students' starting point of self-regulation and the learning strategy and the learning process in online learning.*

Keywords: Self-regulated Learning, scholarship of teaching and learning (SoTL), cross-disciplinary undergraduate programs

Innovative and Blended Teaching Approaches and Learning Performance: Community of Inquiry Perspective

陳明惠*

中興大學科技管理研究所
mhchen@nchu.edu.tw

藍沛瑀*

中興大學科技管理研究所
peiyulan0528@gmail.com

Abstract: *Blended teaching approach is a raising teaching approach in recent decades. The key point of this approach is the thoughtful fusion of face-to-face and online learning experience. The purpose of this study is to investigate the effects of an innovative and blended teaching approach to learning performance at the university level with social, teaching, and learning presence as mediating factors. To explore using/or not using the internet in the class, the effects of students learning performance. The result demonstrated a positive impact of innovative and blended teaching approach as influenced by COI model. But teaching presence is not impacted on learning performance. This finding highlights the key roles that social and cognitive presence play in inspiring learning performance.*

Keywords: Innovative teaching approach, Blended teaching approach, Community of Inquiry, learning performance

創新科技趨勢下的課程設計轉型：以嵌入式系統專業核心實作課程為例

Curriculum Design Transformation under the Trend of Modern

Technologies: A Case Study of Hands-on Courses for Embedded Systems

黃姿霓 Ze-Ni Huang 黃育綸* Yu-Lun Huang 許育華 Yu-Hua Hsu
交通大學教學發展中心 Center for Teaching and Learning Development
電子郵件地址 zeninacs@gmail.com, {ylhuang, alvahu}@g2.nctu.edu.tw

【摘要】本研究個案學校不斷省思與教學相關的策略，最後定調以「跨界力」作為未來幾年推動校級專業課程的教學策略。為此，個案以校級單位統籌全校學習資源，提出具競爭力的創新科技新興課程，再造具備跨域專業的人才菁英。個案以新興科技領域重新橫向串結各系教師，推動跨域整合。本文說明個案如何跳脫傳統分院分系的限制，集結校內人力、物力，打造做中學教學所需與所需。本文亦說明個案學校、教師與學生由此教學策略所獲得的益處與優勢，並分享新策略的推動經驗與推動類似策略的建議。

【關鍵詞】 創新科技、實作課程設計、跨域資源整合、做中學、跨界力

Abstract: *The university mentioned in the paper regularly examines and refines the teaching strategies, and finally sets "inter-disciplinaries ability" as the primary strategy for next few years. The university sets up an office to coordinate learning resources, design novel courses for emerging technologies, and train young talents with cross-disciplinary expertise and hands-on capabilities. This paper explains how the university breaks the barriers between colleges and departments, re-engages professors, and re-integrates resources, to create a new teaching environment for aligning with the needs of emerging technologies. The paper shows how the university, the professors and students benefit from this new teaching strategy. The paper also shares the experiences and recommendations for promoting similar strategies.*

Keywords: emerging technology, hands-on course, resource integration, learning-by-doing, multi-disciplinaries

資訊互動技術融入社會性科學議題探討學生論證能力

An Integrated Socioscientific Issues designed with Information

Communication Technologies to Assess Students' Argument Performances

蘇金豆 King-Dow Su

宏國德霖科技大學餐旅系暨通識中心 Department of Hospitality Management and Center for
General Education, Hungkuo Delin University of Technology
Su-87168@mail.hdut.edu.tw

【摘要】本文將發展資訊互動技術融入社會性科學議題概念圖(SSICM)教材，探討學生科學概念的論證學習成效，本研究採開放式問卷探討學生的論證能力，參與的學生 139 人，結果顯示：(1)設計出具主題式功能的教材；(2)開放式問卷前後測評分統計結果，發現學生的論證能力進步，雖大部分集中在給一些簡單理由的說明，但高階論證能力增加 16.4%；(3)教師教學反思 SWOT 分析，發現學生能有效活用優點掌握機會，將威脅轉化成機會發展活路，克服缺點，轉化成優點找到機會，提昇高階思維；(4)學生對 SSICM 教學的學習回饋，感覺議題新鮮，跳脫傳統課程學習框架，有助於學習動機的提升，增長科學知識與提升問題解決能力。總之，本研究所呈現之 SSICM 研究結果，將與文獻做主題範例比較、分析和批判，期待未來更多學生的參與，有助於培育科技社會與生活課程的科學學習能力。

【關鍵詞】 社會性科學議題、資訊互動技術、概念圖、學習態度與感知問卷

Abstract: *This document develops information communication technologies to integrate socioscientific issues of concept mapping (SSICM) into scientific curriculum assessing 139 university students' problem-solving performances. There are four perspectives in the following way: (1) to design the SSICM texts with thematic-based function, (2) to improve students' 16.4% higher-order argumentation even if their major responsive focus on simple reasons, (3) to make a teacher' feedback of SWOT analysis in finding students can active their strengths and opportunities, convert threats into vitality, and conquer weaknesses into strengths and opportunities to higher thinking performances, (4) to analyze students' SSICM text feedback in escaping traditional learning, promoting their learning motivation, scientific knowledge, and problem-solving abilities by semi-structure questionnaires. To sum up, this research presents the academic paradigm in thematic comparisons, analysis and criticism with documental sources. More future advantages wait for students' engagement of thematic confluence in cultivating scientific learning abilities with the courses of technological society and life.*

Keywords: information communication technologies, concept mapping, socioscientific issues

應用 micro:bit 於高中 STEAM 課程設計之研究

The Research for The Application of The Micro:bit in High School

STEAM Curriculum Design

陳儀庭¹ 劉庭瑜² 楊采蓁³

國立清華大學教育與學習科技學系碩士班研究生

irisyang.777@gmail.com³

【摘要】本研究以 micro:bit 應用於高中科技領域，結合校園安全環境議題，以設計思考的方式進行教學，為實現 STEAM 教育理念做課程活動設計。本研究採行動研究法，以高中二年級二十三位同學進行四節教學活動，除一位主授課教師外，另有三位協同教學教師。在教學活動歷程中，透過教師們觀察、成果作品及師生訪談等方式蒐集研究資料。研究結果發現教師對於學生學習動機提升有顯著的感受；學生對於校園安全環境議題作為課程設計有興趣；學生在學習歷程中皆能主動嘗試解決問題；學生對於作品有很大的成就感。本研究結果可作為校園安全議題結合 STEAM 教學活動之參考，另發現設計教案及教學的過程，有不同專業領域之教師投入使課程更加完整及順利。

【關鍵詞】 STEAM、micro:bit、設計思考、校園安全

Abstract: *The study was to apply in the field of high school Science and Technology with micro:bit, it combined with campus security environment issues, teaching in the way of design thinking, and designing curriculum activities for the realization of STEAM education concept. In this study, the action research method was adopted. Twenty-three students in the second year of the senior high school conducted four teaching activities. Besides one instructor, there were three other teachers of collaborative teaching. In the course of teaching activities, research materials are collected through teachers' observations, the results of works, and teacher-student interviews. The results show that teachers had a significant feeling for the improvement of students' learning motivation; students were interested in the campus safety environment as a curriculum design; students could actively try to solve problems in the learning process; students had a great sense of accomplishment for the works. It will be used as a reference for campus security issues in conjunction with STEAM teaching activities. It also discovered that teachers from different fields of expertise had made the course more complete and smooth during the process of designing lesson plans and teaching.*

Keywords: STEAM, micro:bit, design thinking, campus security

運用數位說故事於高中職涯課程之分析與設計

Analysis and Design of the Use of Digital Storytelling in the High School

Career Course

Yunting Chang*

國立臺北教育大學

g110644006@grad.ntue.edu.tw

Jenyi Chao*

國立臺北教育大學

jenyichao@gmail.com

【摘要】 本研究主要探討輔導教師對於現今職涯課程內容與授課情形之看法，以及對於數位說故事融入職涯課程之建議，透過文獻探討與訪談 3 位生涯規劃科教師蒐集資料後，根據訪談內容與數位說故事八大步驟來設計可運用於高中職涯課程的數位說故事教案。

【關鍵詞】 數位說故事、職涯課程、高中生

Abstract: *This study mainly discusses the school guidance counselor's views on the content and teaching situation of the career course, as well as the suggestions for digital storytelling into the career course. The research invited three career planning teachers to interview. After the literature discussion and interviews, researcher based on the interview content and digital Storytelling 8 steps to design digital storytelling lesson plan. The project that can be applied to high school career courses.*

Keywords: digital storytelling, career courses, high school

科學應用於視覺藝術教育-以彩繪創作夏令營為例
**Applying Scientific Methods to The Visual Arts Education
in the Case of Color-painting Camp**

陳彥達* Yen-Ta Chen
華梵大學 美術與文創學系
Department of Fine Arts & Culture Creative Design, Huafan University.
cwcalvin@ms56.hinet.net

陳彥云* Yen-Yun Chen
交通大學 資訊工程學系
Department of Information Engineering, National Chiao Tung University.
twilight123winni@gmail.com

【摘要】 本文將以參與指導彩繪創作夏令營之經驗，分析兒少時期於美術學習喜好集體創作的特徵，藉由該地區近來備受矚目的歷史遺跡-二戰日本海軍第六燃料廠新竹支廠(簡稱【六燃】)為題材，以實現真人版桌遊大富翁為例，重新規劃課程內容，使用簡單科學原理、應用日常生活科技工具，提出啟發邏輯的教法，讓學員學習透過歷史的背景與在地的生態，將生硬的古蹟/建物/景觀活化為共生的藝術資產，達到將科學應用於人文關懷與視覺藝術教育，養成5種培力的目的。

【關鍵詞】 視覺藝術、六燃、大富翁、彩繪夏令營、培力

Abstract: *This article will take part in the experience of guiding the summer camp of painting creation, and analyze the characteristics of the party group creation in art learning in a few years, with the recent high-profile historical relics in the area - the Japanese Navy Sixth Fuel Plant Hsinchu Branch of the Second World War (referred to as 6th Plant) realize the real-life version of the board game Monopoly, re-plan the course content, use simple scientific principles, apply daily life science and technology tools, and propose inspirational logic to let students learn through historical background and local The ecology, the historical site/buildings / landscapes are activated into symbiotic artistic assets, to achieve the purpose of applying science to humanistic care and visual arts education, and to develop five kinds of training.*

Keywords: Visual Arts, The Sixth Fuel Plant, Monopoly, Color-painting Camp, Empowerment

VR 教材品質確保準則之初探

Preliminary Study on the Quality Assurance Criteria of VR Instructional

Materials

Hsin-Yih Shyu*
Tamkang University
hyshyu@mail.tku.edu.tw

Ying Chih Kuo*
Hsin-Wu University
snow7104@gmail.com

【摘要】 虛擬實境 (VR) 技術在教育上應用的相關研究 2018 年 Scopus 資料庫共收錄了 363 篇，相較 10 年前 2008 年僅有 54 篇成長超過 7 倍。顯示該技術在教育上的應用已逐漸普及，然在應用數量倍數成長的現況下，其做為教材應用的品質缺乏一致性標準。本研究從過往數位教材的品質評估準則及近年使用 VR 技術所設計的教材研究中，梳理 VR 教材顧全品質所應保有的面向及 VR 技術在教材應用應具備的特點，彙整出具備穩定品質之 VR 教材應具備的準則面向其內容，歸納成 4 面向 31 指標，以作為欲使用 VR 技術於數位教材者之參考準則。

【關鍵詞】 VR，品質確保，VR 教材，VR 教材評估準則

Abstract: *Research on the application of virtual reality (VR) technology in education in the 2018 Scopus database contained a total of 363 articles, which is more than 7 times higher than that of 10 years ago in 2008. It shows that the application of VR technology in education has gradually become popular and growing faster. However, its quality as VR instructional materials seems to lack consistent standards. In this study, the authors reviewed the quality evaluation criteria of several instructional materials in the past and the related research designed by VR technology in recent years. Then, the guidelines for the quality VR instructional materials have been proposed and summarized into 4 aspects with 31 indicators, which are suggested as a reference criterion for those who want to use VR technology for implementing into education.*

Keywords: Virtual Reality, Quality Assurance, VR Instructional materials, VR in education

科技融入中學數學教學之研究初探:以動態幾何繪圖軟體 Desmos 為例

A preliminary study of integrating digital technology into high school

Mathematics teaching: Taking dynamic geometry software Desmos as an example

Mu-Hung Ho

Institute of Learning Science and Technologies, National Tsing Hua University
scott302.tw@gmail.com

Shwu-Ching Young *

Institute of Learning Science and Technologies, National Tsing Hua University
scy@mx.nthu.edu.tw

【摘要】 本文擬探討動態幾何繪圖軟體 Desmos 融入高中數學線性規劃單元的教學成效，以 van Hiele 幾何思考的發展模式做為本研究之理論基礎來設計試題卷，以北部一所高商綜合中學兩班學生作為研究對象，每班各四十個學生，分為實驗組與對照組，探討學生透過傳統教學與動態幾何繪圖軟體教學時在思考推理過程與成效差異。配合 Desmos 融入教學的新課程材料與教學法正在規劃進行中。將於 108 學年第一學期，即 2019 秋天進行教學實驗與研究數據的蒐集與分析。若成效良好，希望未來有機會能夠將推廣 Desmos 的教學，有益於線性規劃之更有效的學習，達到提升數學扶弱教學的目的。

【關鍵詞】 動態幾何繪圖軟體、van Hiele 幾何思考、線性規劃

Abstract: *This study aims to explore the learning effects of Dynamic geometry software Desmos integrated into high school linear programming unit. The van Hiele geometric thinking level will be used as the theoretical basis of this research to design the questions to understand the differences in two groups of students. Two classes of high school students in the northern Taiwan will be involved in this study. Each of the classes contains forty students. They will be divided into the experimental group and the control one through traditional teaching and dynamic geometric software teaching. The new course integrated into Desmos is still under development. The experiment is planned to be conducted in the upcoming semester in the Fall 2019, and data collection and analysis will be executed afterwards. If the results are good, we hope that, there will be good opportunities to promote the teaching of Desmos to in more high schools for benefiting the disadvantage students in the future.*

Keywords: Dynamic geometry software, van Hiele geometric thinking level, linear programming

違規農產品廣告對知情民眾消費意願的影響

Influence of illegal agricultural advertising on the purchase intention of informed consumers

蔡易餘 Yi-Yu Tsai

國立臺灣大學生物產業傳播暨發展學系碩士生

r06630006@ntu.edu.tw

梁朝雲 Chaoyun Liang

國立臺灣大學生物產業傳播暨發展學系特聘教授

cliang@ntu.edu.tw

【摘要】 農產品違法廣告的發生，不僅影響消費者對特定農產品的信賴，更會造成農產品的市場價格崩盤，進而衍生臺灣整體食安危機。本研究即透過網路調查來了解消費者厭惡違法之廣告態度與廣告涉入度，並在提示違法廣告資訊後，分析消費者對違法廣告產品之消費意願。本研究結果顯示，厭惡違法之廣告態度會負向影響消費者對產品的購買意願，即消費者對違法廣告越感到反感、認同廣告合法重要性，將更沒有意願去消費此產品。廣告涉入度會正向影響消費者對農產品的購買意願，即高涉入程度的消費者面對違法廣告仍可能持續消費此產品。就不同消費型態的產品而言，消費頻率較低者，面對輕微之違規事件，仍會有較高的消費意願；而消費金額較低、替代品較多的產品，消費意願會較其他產品更低。

【關鍵詞】 消費意願、農產品廣告、廣告涉入度、廣告態度、違規廣告

Abstract: *When agricultural products become involved in illegal advertising, the event not only affects customer confidence in the specific agricultural products, but also causes a market price crash for the product, and thereby resulting in a food safety crisis throughout Taiwan. This study uses online surveys to understand consumers' detest attitude towards illegal advertising as well as advertising involvement. After information regarding the illegal advertising is published, consumer purchase intention towards the illegally advertised product is analyzed. Results found that the detest attitude towards illegal advertising has a negative impact on the consumer purchase intention towards the product. This means that consumers feel more and more dislike towards the illegal advertising and acknowledge the importance of legitimate advertising, and therefore has no intention to purchase the product. Advertising involvement has a positive impact on consumer purchase intention towards the product, meaning that high involvement consumers may still continue to purchase the product despite the illegal advertising. Products with low consumption frequency may still have a relatively high consumer intention in the event of minor violations, while products with lower prices and those with more alternative options will have lower consumer intentions as compared with other products.*

Keywords: purchase intention, agricultural advertisement, advertising involvement, advertising attitude, illegal advertising

臺灣遊戲型 YouTubers 之顧客關係管理

Customer Relationship Management of Gaming YouTubers in Taiwan

楊美雪、張佩雅

國立臺灣師範大學圖文傳播學系

{mhyang, 006723109}@ntnu.edu.tw

【摘要】 遊戲型 YouTubers 是能快速帶來顧客的王牌創作者，如何運用顧客關係管理增加其競爭力，實為一大課題。本研究採深度訪談法，訪問臺灣具代表性的遊戲型 YouTubers，結果如下：(1) 核心顧客為會玩遊戲的男學生或上班族；(2) 透過 YouTube 後台的數據、遊戲影片與留言能更了解主要顧客；(3) 以互動、提高點閱分享訂閱數與永續經營為主要目標；(4) 創口號呼籲訂閱、從擅長遊戲延伸找連結與直接進行接觸，可以用來跟潛在顧客建立關係；(5) 持續發布影片與定期活動，係跟既有顧客維持關係的方法；及 (6) 成效為增加回饋及訂閱數。

【關鍵詞】 社群網站、遊戲、臺灣、顧客關係管理、YouTubers

Abstract: *Gaming YouTubers are the best creators at bringing customers quickly. How to use customer relationship management to increase its competitiveness is a big issue. We apply in-depth interview in this study, visiting representative Gaming YouTubers in Taiwan. The results of the deconstruction are as the followings: (1) The core customers are male students or office workers who play games; (2) Gaming YouTubers can understand the main customers better through the data of back-end system, game videos and comments below; (3) Interaction, increase in click rate, share, and subscribers, and sustainable management are their main goals; (4) Slogans call for subscription and extension from the game to find connections and direct contact can both be used to establish relationships with potential customers; (5) Continuous release of videos and holding regular dinners are methods of maintaining relationships with existing customers; (6) The effectiveness makes an increase in feedback and the number of subscribers.*

Keywords: Social network sites, Game, Taiwan, Customer Relationship Management, YouTubers

擴增實境融入多媒體教材—視覺藝術互動電子書之個案研究

Integration of Augmented Reality into Multimedia Teaching Materials: A Case Study of the Interactive Ebook for Visual Arts Education

Yih-Shyuan Chen

Department of Digital Literature and Arts, St. John's University

katysju@mail.sju.edu.tw

【摘要】本研究旨在探究擴增實境互動電子書對國小學生視覺藝術學習之影響，以便利樣本選取 22 位國小三年級學生為研究對象，透過觀察、問卷與訪談蒐集資料。研究發現擴增實境互動電子書對學生在視覺藝術領域之學習態度與美感體驗有效益，低學業成就學生對擴增實境教材內容之學習好感度高於高學業成就學生；學生普遍接受本研究使用之擴增實境互動電子書，但部分學生無高意願在未來持續使用類似的多媒體教材，其原因可能在於學生的學習新鮮感無法全然深化為未來對多媒體教材的長期使用習慣。建議後續相關研究，可透過長期研究並擴大樣本量進行深究。

【關鍵詞】 視覺藝術、擴增實境、互動電子書、數位悅趣式學習、多媒體學習認知理論

Abstract: *This research is to explore the impact of the specific AR interactive ebook on primary school students' learning in the course of visual arts. The research selected 22 year-3 primary school students as the research participants. Observations, questionnaires, and interviews were used for collecting data for the present research. Findings showed that the AR interactive ebook was beneficial for students in learning attitudes towards visual arts education and aesthetic experiences. Students generally enjoyed using the AR interactive ebook for learning purposes in visual arts classes. Further studies may use the long-term research approach and include large-scale research participants to gain a full picture of the effect of the AR ebooks in visual arts education.*

Keywords: Visual arts, augmented reality (AR), interaction ebooks, digital game-based learning, cognitive theory of multimedia learning

台灣大學生自我導向學習準備度與智慧型手機成癮之相關性研究

Interrelationship between Taiwanese College Students' Self-Directed Learning Readiness and Smartphone Addiction

陳揚學*

國立政治大學

siderali@gmail.com

陳秀禎

國立成功大學

tihsiu719@gmail.com

【摘要】本研究探討台灣大學生自我導向學習準備度（自我導向特質）與智慧型手機成癮兩者間之關聯性。研究者針對台灣地區北、中、南、東公私立大學日間部學生發放自我導向學習準備度問卷與智慧型手機成癮量表，共計 800 份樣本。結果顯示台灣大學生之自我導向學習準備度與智慧型手機成癮量表總分呈現顯著負相關，研究者基於各構面之研究結果進行探究，盼能激發更多大學生自我導向特質與智慧型手機沉迷/成癮之相關研究，並發展及驗證相關之教學與輔導策略。

【關鍵詞】 大學生、自我導向學習準備度、自我導向特質、智慧型手機成癮

Abstract: *This study explores the interrelationships between Taiwanese college students' self-directed learning readiness (trait self-regulation) and smartphone addiction. A total of 800 public and private university students across Taiwan participated in this study, wherein the participants completed a survey comprising the Self-directed Learning Readiness Scale (SDLRS) and the Smartphone Addiction Inventory (SPAI). The correlation analysis indicated that SDLRS negatively correlates with SPAI. Suggestions were put forward based on findings of this study, and we hope this study to stimulate more research on college students' self-regulation and smartphone addiction, in turn develop and validate effective strategies for teaching and guidance*

Keywords: college student, smartphone addiction, self-directed learning readiness, trait self-regulation

網路霸凌和網路攻擊在嚴重度和頻率的差異

Differences in Severity and Frequency between Cyberbullying and Cyber-aggression

王承諺

國立交通大學教育研究所
if266.ie08g@nctu.edu.tw

劉奕蘭*

國立交通大學教育研究所
ylliu@g2.nctu.edu.tw

【摘要】本研究旨在探討網路霸凌和網路攻擊在嚴重度和頻率的差異，再根據特徵分成「蓄意傷害+重複+權力不對等」、「蓄意傷害+重複」、「蓄意傷害+權力不對等」、「蓄意傷害」四組，比較四組在嚴重度和頻率的差異。本研究對象 6393 為社群網站使用者。研究結果表示，網路霸凌在次數和嚴重度皆顯著高於網路攻擊，「蓄意傷害+重複+權力不對等」組具有高嚴重度和高頻率，「蓄意傷害」組具有低嚴重度和低頻率。

【關鍵詞】 網路霸凌、網路攻擊、嚴重度、頻率

Abstract: *The purpose of this study is to examine the differences between cyberbullying and cyber-aggression in severity and frequency. According to the characteristics, cyber bullying and cyber-aggression can classify into 4 groups: (1) Intentionality, Repetition and Power imbalance, (2) Intentionality and Repetition, (3) Intentionality and Power Imbalance, and (4) Intentionality. This study uses an online questionnaire to survey 6,393 social media users. The results of the study show that cyberbullying is significantly higher in frequency and severity than cyber-aggression. The Intentionality, Repetition and Power imbalance group has high severity and high frequency, and the group of Intentionality has low severity and low frequency.*

Keywords: cyberbullying, cyber-aggression, severity, frequency

家庭中母子溝通形式、母子臉書互動與青少年網路風險之關聯

劉奕蘭*

國立交通大學教育研究所

ylliu@g2.nctu.edu.tw

呂妤庭

國立交通大學教育研究所

lyt12052@gmail.com

【摘要】本研究探討家庭中母親與青少年子女的溝通形式是否透過母子臉書互動而與青少年網路風險有所關聯。研究對象為 814 位來自北、中、南的國高中學生，研究結果顯示，在 814 位樣本中，有 633 位有臉書帳號，其中有 547 位有加母親為好友。在有加母親為好友的樣本中，結構方程模式分析結果顯示，家庭中母子對話的溝通模式正向預測母子臉書互動中的尊重信任、情感交流與友誼互動，而服從導向的溝通模式則負向預測母子臉書互動中的尊重信任，但正向預測母子臉書中的友誼互動；而母子臉書中的尊重信任負向預測青少年的網路風險。

【關鍵詞】 母子溝通形式、母子臉書互動、青少年網路風險

Abstract: *The current study investigated the relationships among mother-child communication patterns, mother-child interaction on Facebook, and adolescents' online risk. The participants were 814 senior and junior high school students in Taiwan. Among the samples, 633 students had FB accounts, and 547 of them reported to friend their mothers. The results indicated that mother-child conversation communication positively predicted adolescents' perceptions of respect and trust, affect exchange, and friend-like interaction on FB with mothers; mother-child conformation communication negatively predicted adolescents' perceptions of respect and trust on FB interaction with mothers, but positively predicted friend-like interaction on FB with mothers. Perceived respect and trust on FB interaction with mothers negatively predicted adolescents' online risk.*

Keywords: mother-child communication patterns, mother-child FB interaction, online risks

Learning Community, Social Media and Team Learning Performance

陳明惠*

中興大學科技管理研究所

mhchen@nchu.edu.tw

梁瑋羚*

中興大學科技管理研究所

dream2081512@gmail.com

Abstract: *Although researchers have emphasized that Transactive memory system (TMS) will accelerate the impact of team learning performance, the impact of learning communities through social media is not fully understood. In this study, we develop and validate a model of how to influence TMS through social media by the three dimensions – specialization, credibility and coordination within teams. The results suggest that social media can facilitate the formation of TMS and the three dimensions of TMS are all. The findings in our study bridge the literature gap about social media and TMS. These results have an impact on organizations that want to leverage the diversity of team members to make the team more creative and efficiency.*

Keywords: Learning community, Social media, Transactive memory system (TMS), Team learning performance

問題導向學習融入學術研究倫理課程之初探

Exploring Problem-based Learning integrated into a Graduate Course on Academic Research Ethics

鄭海蓮，吳鈺筑*

國立臺灣科技大學數位學習與教育研究所

*M10711001@gapps.ntust.edu.tw

【摘要】 數位時代下的學術研究倫理議題越發值得關注，亦是初涉研究殿堂者的重要入門課程，本研究為問題導向學習融入學術研究倫理課程之初探研究，探討兩者結合之適切性，並以各式評量評估課程之學習效益。研究結果表明，課程教學評量分數達 4.63 分，顯示學習者對此課程的規劃、設計給予正向回饋；對於學習者作品回饋的問卷評量分數皆在 4.30 分以上，代表作品皆具備一定水準。本研究的信效度證據仍有待檢驗，未來可持續發展其他課程設計與標準化評量。

【關鍵詞】 學術研究倫理、問題導向學習、課程設計

Abstract: *The issue of academic research ethical in the digital age is more and more worthy of attention. It is an important introductory first course for those who are involved in research study. This study integrates problem-based learning (PBL) into a graduate course on academic research ethics to explore their combination and evaluate their outcome effects. The results of the evaluation mainly are twofold: (1) The course evaluation is 4.63 out of a 5-point scale, which shows that the students give positive feedback to the course planning and design; and (2) The questionnaire feedback scores to the case videos are above 4.30 out of 5, which shows that the content and quality of the videos fulfill the intended education objectives and that the video makers have the ability to propagate the core concept of the cases violating academic research ethics. Continuing work can focus on collecting evidences for the reliability and validity of the study, and developing more forms of activities and standardized assessment for the course.*

Keywords: Academic research ethics, Problem-based learning (PBL), Curriculum design

The Relationship between Mobile Phone Use and Distraction, Sleep Quality, and Online Attitude

Siao-cing Guo*

National Taipei University of Business
scguo@ntub.edu.tw

Hsiao-chu Lin, Chia-wen Wei, and Chi-ai Lin
National Taipei University of Business

Abstract: *Mobile phones have become very common among young adults. Although the wide range of availability and services have made life more convenient, the heavy reliance on the mobile phones may distract university students from academic learning and deprive them of needed sleep. This study aimed to probe the relationship between mobile phone use and class distraction as well as sleep quality among university students. The results of this survey study revealed that Taiwanese university students were inclining toward mobile phone addiction. Their mobile phone use was highly correlated with class distraction. The overuse of mobile phones also affected the quality of their sleep.*

Keywords: mobile phone use, mobile phone addiction, class distraction, sleep

課前與課中翻轉教室對自律學習之影響——以國中七年級數學為例

The Effect of Flipped Classrooms on Self-regulated Learning Pre-class and In-class into Junior High School First Grade Mathematics Course

單淮康

國立清華大學人力資源與數位學習科技研究所

Hkshan820919@gmail.com

【摘要】本研究探討於課前或課中實施翻轉教室對學生在自律學習數學的過程與成效上的差異，採取七週的準實驗研究法，以新竹市某國中七年級三個班級為研究對象且以「一元一次方程式」為研究主題。兩班為實驗班，分別於家中及課堂中以Edpuzzle平台進行課前預習與練習；控制組維持傳統教學法。實驗結束後，以前、後測及問卷方式探討不同模式之間的差異，同時對實驗班的數學教師與學生進行訪談。結論可知，實驗與控制組在學習成效上無顯著差別，而實驗組學生皆認為學習平台可以幫助學習。課中組在自我學習安排、完成影片及學習態度上優於課前組；課前組在觀看影片次數上多於課中組。

【關鍵詞】 課前、翻轉教室、自律學習、科技輔助學習、Edpuzzle

Abstract: *The purpose of the study is to assess seventh graders on learning process and effect by using Flipped Classroom Pre-class and In-class which adopts Quasi-experiment. There're three classes of students, studying in junior high school in Hsinchu, involved two classes are chosen and divided into two groups as Pre-class (watching the online lectures at home) & In-class (engaging the online course in the classroom). The other class maintains traditional learning environment as control group. After seven-week experiment and interviewing the students and teachers, there's no significant differences on the effects of flipped classroom between Pre-class and In-class. But there're significant differences between Pre-class and In-class on improving learning attitude, a higher proportion of completion and the effects of self-regulated learning.*

Keywords: Pre-class, Flipped Classroom, Self-regulated learning, Technology enhanced learning, Edpuzzle

Exploring the effect of interdisciplinary courses on mathematics learning

徐于晴

國立交通大學教育研究所
vm60205.ie05g@g2.nctu.edu.tw

粘美玟

國立交通大學教育研究所
anke801211.eed99@g2.nctu.edu.tw

李元萱

國立清華大學教育與學習科技學系
jasvi.rms@gmail.com

吳俊育*

國立交通大學教育研究所
jiunyu.rms@gmail.com

【摘要】 各校因應國內 108 課綱發展跨領域彈性課程，以培養學生之素養能力。本研究設計一數學科跨領域理財投資課程，並探討 46 位台灣國中生在參與此課程前後，其數學動機與數學焦慮變化，以及對數學成績的影響。研究結果顯示動機與焦慮的變化有所不同：學生的數學動機在課程學習前後並未改變，然而數學焦慮卻顯著下降。將學生分成高動機與低動機兩組進行更深入的探討後發現，數學動機對於數學焦慮預測數學成績具有調節效果。在高動機組中，學生的數學焦慮會負向預測數學成績；在低動機組中，學生的數學焦慮則無法預測數學成績。顯示數學跨領域課程的實施，能幫助學生降低數學焦慮，且數學焦慮與成績的關係會受動機的調節效果影響而有所不同。

【關鍵詞】 數學動機、數學焦慮、數學學習成就、理財投資課程

Abstract: *The study investigated the changes of math motivation and math anxiety, and how they predicted math achievement after the 53 junior-high students received the interdisciplinary investment curriculum. Results showed that students' math motivation didn't change after the curriculum, but math anxiety decreased significantly. Furthermore, we used motivation as a grouping variable, students were separated into two groups, high and low math motivation. The results of multiple regression showed that the relationship between math anxiety and achievement was moderated by math motivation. In high math motivation group, math anxiety can significantly and negatively predicted the achievement. But in low math motivation group, math anxiety couldn't predict achievement. We concluded that the interdisciplinary investment curriculum can help learners to decrease their math motivation. And we also found that the relationship between math anxiety and achievement will moderate by math motivation.*

Keywords: math motivation, math anxiety, math achievement, interdisciplinary investment curriculum

啟發天賦學習的數位融入課堂實踐：一位翻轉教室教師之個案研究

Classroom Practices that Promote Learning Talents: A Case Study of an Elementary Flipped Classroom Teacher

蔡怡俊

新北市三峽區龍埔國小
d0930618021@gmail.com

【摘要】教師專業能力是近年成為一位教師的必備要件，除了新課綱及官方計畫的強調外，民間的力量也不容小覷，由於翻轉教室帶來的潮流，使得教育現場許多教師開始自己的教學改變，研究者相信這股改變的風潮是會帶領學生的學習前往一個新的境界。本研究以一位新北市國小教師的課堂實踐，探究他的翻轉教室實施歷程，並與研究者自身班級對照，以探究課堂實踐之異同。本研究以個案研究為方法，透過不斷修正的文獻理論依據，藉以達成研究目的，蒐集多元質性資料進行交叉分析，並透過訪談及觀察方式，探討教師的課堂實踐心路歷程、學生學習及課堂風貌的改變。本研究研究除了提升研究者的教學能力反省精進外，亦提供欲嘗試翻轉教室之教師參考。

【關鍵詞】 翻轉教室、課堂實踐、資訊融入教學、自主學習

Abstract: *Teaching competence is an essential requirement for all quality teachers. Regardless of many official regulatory reform documents that underline teaching professions, more and more Taiwanese schoolteachers have organized grass-root professional development initiatives and led changes of classroom practices. Seeing the promising trend of flipped classroom in recent years, the researcher believe such grass-root initiatives in teachers' professional development will shift future learning landscapes. The present case study will investigate Mr. Shi, an elementary school expert teacher in New Taipei City, who have implemented his flipped classroom as well as conducting professional development community for flipped classroom for years. To gain a deeper understanding of his teaching practice, a case study method will be used. The researcher will examine theoretical basis of the flipped learning literature, collect data from a variety of sources, and analyze the teachers' classroom practice, student learning and classroom progression through interviews and observations. The researcher will also reflect his own flipped classroom practices with Mr. Shi's for meaning-making. The dialogue between Mr. Shi's and the researcher's practices will provide a local reference about flipped classroom and will empower future practitioners who may want to adopt flipped learning in their classrooms*

Keywords: Flipped classroom, Teaching practice, ICT integration in education, Self-directed learning

3D 虛擬遊戲教材融入防火教育對國小中年級學生學習成效影響之初探

The Preliminary on the Learning Result of Immersing 3D Virtual Reality

Game into Fire Prevention Education for the Mid-Grade Elementary

School Students

程月娥

淡江大學教育科技學系

duck3939@yahoo.com.tw

張瓊穗

淡江大學教育科技學系

tkuetchang@gms.tku.edu.tw

【摘要】本研究初步探討 3D 虛擬遊戲教材融入防火教育課程，對國小中年級學生在學習成效之影響，以作為國小實施防火教育之參考，本研究以內政部消防署「火線任務」虛擬遊戲作為課程教材，採實驗設計進行研究，研究對象為某國小四年級共 70 位學童，實驗組進行 3D 虛擬遊戲教學，控制組進行 PPT 教學。研究結果顯示：一、在預防火災學習表現方面，實驗組於教學前後有差異，控制組沒有顯著差異；二、在火場避難逃生方面，實驗組學習表現優於控制組有顯著差異。三、於學習動機方面實驗組優於控制組有顯著差異。

【關鍵詞】 3D 虛擬遊戲、防火教育、學習成效、國小

Abstract: *The research explores the preliminary on the result of immersing virtual reality into fire education for fourth graders for promoting fire prevention education in elementary schools. The research employs the “Fire Line Mission” virtual reality game of the Fire Agency as teaching material and deploys experiments on 70 fourth graders. The experimental group went through the virtual reality game while the control group the PowerPoint presentation teaching. The results indicate: 1. For fire-prevention, there is a difference in the experimental group between the before and-after-teaching, whereas no significant difference in the control group. 2. For fire-escape capability, the experimental group outperformed the control group. 3. For learning motivation, the experimental group is better than the control group significantly.*

Keywords: 3D virtual reality game, Fire-prevention education, Learning result, Elementary School

Effects of headline strategies on user clicks: Case study of a food safety event on WeChat

Sun, Yuting

Doctoral student, Department of Bio-Industry Communication and Development,
National Taiwan University, Taipei, Taiwan
D06325002@ntu.edu.tw

Liang, Chaoyun

Distinguished Professor, Department of Bio-Industry Communication and Development,
National Taiwan University, Taipei, Taiwan
cliang@ntu.edu.tw

Abstract: *The present study used over 2,000 WeChat article headlines on a specific food safety event and used content analysis to enquire the relationship of headline strategy with user clicks at different phases of the issue–attention cycle. Two major conclusions were highlighted. First, diverse types of headline styles influence user clicks during different phases. Second, the ‘treatment recommendation’ headline frame, which clearly summarises the core of texts, generally lacked executability and had a poor effect on audience mobilisation.*

Keywords: food safety, headline strategy, user clicks, WeChat public platform

媒體設計之創業意圖：一個質性研究

Entrepreneurial intention of media design: A qualitative research

梁朝棟 Liang, Chao-Tung

龍華科技大學文化創意與數位媒體設計系助理教授

Assistant Professor, Department of Cultural Creativity and Digital Media Design,

Lunghwa University of Science and Technology

liangdondon@gmail.com

【摘要】本研究以焦點團體座談方式，理解影響媒體設計系所畢業生創業意圖的因素及其影響。本研究結果顯示，創業態度、社會壓力（主觀規範）、社會資源與支持（外部行為控制），與創業自信（內部行為控制），都會影響媒體設計師的創業意圖，而創業警覺性、所學專業，和工作經驗則是先前文獻探討中未被淬煉出的影響因素。本研究結果亦顯示，創業態度是觸發設計創業意圖最強的因素，其次是工作經驗和所學專業，再其次為創業自信和社會資源，接下來是創業警覺性，而社會壓力則是影響創業意圖最弱的因素。

【關鍵詞】 文化創意產業、設計創業、創業意圖、焦點團體座談、媒體設計

Abstract: *The present study aims to investigate the entrepreneurial intention of design graduates, and to analyze the influential factors of the identified entrepreneurial intention. The research team invited the graduates from three design schools in northern Taiwan to join focus group discussions to fulfill the research goal. The results revealed that entrepreneurial attitude, social pressure (subjective norms), social capitals and support (external behavioral control), and self-efficacy (internal behavioral control) all influence the entrepreneurial intention of media designers, and entrepreneurial alertness, academic background, and work experience are also critical influential factors that have not been reviewed in prior research. The results also indicated that entrepreneurial attitude is the strongest factor in triggering the designers' entrepreneurial intentions, followed by work experience, academic background, self-efficacy, social capitals and support, entrepreneurial alertness, and social pressure.*

Keywords: cultural and creativity industry, design entrepreneurship, entrepreneurial intention, focus group discussion, media design

無教科書的課堂模式探討與研究 – 以第二外語學習為例

Discussion and Research on No-Textbook Classroom Model -Taking

Second Foreign Language Learning as an Example

徐琿輝

清華大學兼任副教授及淡江大學專任副教授

hsuamy20@hotmail.com

【摘要】 第二外語的教科書，國外出版社幾乎每年都推陳出新，有針對不同年齡層或針對本科系或非本科系的，內容有深淺多寡，但主題幾乎都類似。有鑑於網路資訊豐富，隨時更新，因此，我們嘗試著不採用教科書，但以文章為主軸，試著運用蘇格拉底的提問方式，來刺激學習者的思考能力，化被動為主動，產生有感的學習，課後還可上網隨時自我補充學識。本文著重課堂的提問方式為起頭，延伸至知識的深度為過程，搭配課堂的分組討論及任務導向的成果發表，透過學習者的心得分析，探索出無教科書的可行性。

【關鍵詞】 蘇格拉底式提問法、知識深度、Dogme 英語教學法、任務導向式學習

Abstract: *The textbooks for the second foreign language, the publisher almost every year to promote new, for undergraduate or non-undergraduate departments, the content is profound or not, but the main theme is almost similar. In view of the rich information on the Internet is always updating. Therefore, we try not to use textbooks, but with the article as the main axis, we try to use Socratic's questioning method to stimulate the learner's thinking ability, let them from passive to active and generate a sense of learning. After class, they can also go online to supplement their knowledge at any time. This method focuses on the questioning style of the classroom, extending to the depth of knowledge as a process, with the group discussion and task-oriented results of presentation, to explore the feasibility of no textbook.*

Keywords: Socratic question, Depth of Knowledge, Dogme ELT, task-based learning

國小一年級國語圖解識字教學多媒體課程教材設計與開發

Design and Development of the Multimedia Course Materials for the First-grade Learning Vocabulary by Visualization

陳怡均 Yi-jyun, Chen、趙貞怡 Jen-Yi, Chao

國立臺北教育大學課程與教學傳播科技研究所

Department of Education, Graduate School of Curriculum and Instructional Communications
Technology

National Taipei University, Taiwan, R.O.C.

ann12111211@gmail.com、jychao@tea.ntue.edu.tw

【摘要】本研究主要探討國小一年級學童在國語識字學習時之需求，透過文獻探討及分析學習者之特質後，以 Gagné 的九個教學事件作為設計的理論基礎並根據 ASSURE 教學設計模式來設計「一年級國語圖解識字教學」的多媒體課程教材。此課程係利用象形文字進行部首文字的演變動畫展示，透過生動的圖像加深學生對於文字的感受力，讓學生了解文字本身擁有的意涵，最後透過數位評量遊戲探討其學習效果與提升學習興趣。

【關鍵詞】 國語圖解識字教學、ASSURE 模式、多媒體教材

Abstract: *This study mainly discusses the needs of first-year students of the National Primary School in the study of Mandarin literacy. After exploring the literature and analyzing the characteristics of learners, Take Gagné's nine teaching events as the theoretical basis of design and design multimedia course materials "First-year Learning Vocabulary by Visualization" according to ASSURE teaching design model. This course uses hieroglyphics to perform animated animations of radical texts. Through vivid images, students can feel the sensibility of words, let students understand the meaning of the text, and finally explore the learning outcomes through digital assessment games and improve learning interest.*

Keywords: Learning Vocabulary by Visualization, ASSURE model, multimedia material

「學華語向前走」及「快樂學華語」第二語言

兒童華語文教材情景語境分析之初探

An Analysis on Context of Situation in Instructional Materials for Young Chinese Learners

陳信助 Hsin-Tzu (Tommy) Chen

Dept. of Education, Chinese Culture University 中國文化大學教育系
cxz4@faculty.pccu.edu.tw

王麗淑 Li-Shu Wang

Master's Program in TCSL, PCCU 中國文化大學華語文教學碩士學位學程
leeshu2627@gmail.com

【摘要】本研究主要探討僑務委員會海外僑校指定使用的第二語言華語文教材「快樂學華語」及「學華語向前走」，以兒童華語文能力測驗 Children's Chinese Competency Certification (CCCC)分級制度中的成長級-茁壯級教材範圍為研究對象，研究者以情景語境理論為基礎和兒童華語文能力測驗為標準，將情景語境分為兩部分，「交際領域」和「交際主題」，透過內容分析法，對此兩版本第二語言兒童華語文教材的課文內容，進行情景語境的解析，以及進一步了解情景語境的構成。

【關鍵詞】 學華語向前走、快樂學華語、語言交際、情景語境、兒童華語文教材

Abstract: *This study is designed to explore and analyze two instructional dialogue materials from Overseas Chinese Affairs Commission, "Fun with Chinese" and "Let's Learn Chinese", which are selected at level 2 to level 3 in Children's Chinese Competency Certification (CCCC). Researchers commence a close study of the compositions of the context through the method of contextual analysis to explore the context of situation in the texts under level 3 of the above-mentioned two Chinese textbooks for children and divide the context of situation into two parts: communication field and communication theme, by using language communication theory as basis and CCCC as the standard.*

Keywords: Let's Learn Chinese, Fun with Chinese, Language Communication Theory, Context of Situation, Instructional Materials for Young Chinese

英語漫畫書閱讀引導對學生英語閱讀之影響

The Effect of English Comic Book Leading on Student English Reading

何永育 李芸

國立中央大學網路學習科技研究所
{rtfg840429, ashelly4530}@gmail.com

劉晨鐘

國立中央大學資訊工程學系
ccliu@cl.ncu.edu.tw

【摘要】 在全球化的時代，英語已成必備能力，過去研究大多僅探究學生學習成效等外在影響，較少探討學生在閱讀中的感受，因此本研究探討學生透過英語漫畫書閱讀引導活動，觀察學生對閱讀英文的感受之影響以及活動中投入程度的變化。參與者來自台灣某國小 46 位五年級以英語為外語的學生，並透過班導師詢問得知學生補習狀況，作為本次研究主要比較方法。本研究主要收集學生的心流、英語閱讀態度並加以分析。研究結果顯示，經過英語漫畫書閱讀引導活動，能降低有補習學生在閱讀英文上的焦慮感，且能降低無補習學生在閱讀英文上的不適感等負面情緒。

【關鍵詞】 閱讀態度、心流、英語漫畫書

Abstract: *English has become an indispensable language. In the past, most of the researches only focused on the level of students' reading comprehension in foreign language, but not explored students' perceptions during the process of reading. Therefore, this study focuses on the impact on students' feelings during L2 reading, and the changes of students' flow experience during the activities. There were 46 students in 5th grade who use English as a foreign language participated in this study. The results showed that English comic books reading guiding activity can effectively reduce students' discomfort and anxiety during English reading.*

Keywords: reading attitude, flow, comic book

從先備知識探討整合英語聽力進入數位遊戲對學習英語字彙的影響

The Influences of Incorporating English Listening into Vocabulary

Learning via a Digital Game: A Prior Knowledge Perspective

鄧啓宏、陳攸華

國立中央大學 網路學習科技研究所

sherry@cl.ncu.edu.tw

【摘要】本研究開發了遊戲式英語字彙學習系統，此系統以英語聽力的方式輔助學習者學習英語同義字和反義字，並也進行實證研究來探討先備知識對於學習者學習同義字與反義字的影響。實證研究的結果顯示，高先備學習者有較高的動機進行學習任務，而低先備學習者則是有較低的動機進行學習任務。此外，低先備學習者以避免扣分為策略，而高先備學習者則是以增強答對題目的機率為策略。另外在任務分數和剩餘提示分數，高先備學習者的分數皆高於低先備學習者。上述結果可用於幫助建立個人化的英語詞彙學習系統，以兼顧不同先備知識者的需求。

【關鍵詞】 遊戲式學習、先備知識、英語學習

Abstract: *This study developed a Game-Based English vocabulary learning system to help learners acquire the knowledge of synonyms and antonyms via English listening and we also investigated how prior knowledge affected learners' reactions to this learning context. The result showed that high prior knowledge learners had high motivation for learning tasks while low prior knowledge learners had low motivation for learning tasks. Furthermore, the former emphasized on enhancing the chances of answering question while the latter focused on avoiding deductions. Additionally, the former performed better than the latter, in terms of the tasks scores and the remaining hint score. These results can be used to build personalized English vocabulary learning system that can accommodate the needs of different prior knowledge learners.*

Keywords: game-based learning, prior knowledge, synonyms/antonym

混成學習模式對偏遠地區國中英語科補救教學學生英語學習成效之研究

An Effectiveness of Blended Learning on English Remedial Students'

Achievement at Junior High School in Rural Area

李小玲

新北市立尖山國民中學

leehsiaoling3@gmail.com

胡悅倫

國立政治大學

joyhu@nccu.edu.tw

【摘要】本研究旨在探討混成學習模式對偏遠地區國中英語科補救教學英語學習成效之影響。採準實驗設計，輔以質性訪談。研究對象為新北市某偏遠地區國中八年級英語科補救教學學生，實驗組（n=15）採「Cool English 英語線上平臺」混成學習，控制組（n=12）採「傳統講述法」。研究結果如下：一、學習成效部份，形成性評量未見顯著成效，但在總結性評量呈現顯著效果；二、在英語學習態度改變上，未見顯著效果；三、實驗組學生對於使用「Cool English 英語線上平臺」持正向回饋。由質性訪談歸納出，現今偏遠地區補救教學所面臨的困境為：學生長期缺乏動機、文化刺激不足、學習持續力低、家庭照顧失功能及家庭經濟不佳，使至學習成效難以提升。

【關鍵詞】 混成學習、補救教學、英語學習成效、英語學習態度、偏遠地區

Abstract: *This study aimed to investigate how blended learning model as a remedial program affects English remedial learners' English learning achievement and attitudes in rural area. A quasi-experimental design was implemented and the focus group interviews were also carried out. The subjects were 27 eighth-grade English remedial students including the experimental group for blended learning and the control group for traditional face-to-face. The research findings are: (1) the blended learning model helps to improve the learning outcomes in the summative evaluation, even though not significant in formative evaluation; (2) no significant difference in learning attitude between the experimental group and the control group; (3) most experimental students have positive opinions for Cool English Learning Website; (4) the challenge of the remedial program is that learners lack of motivation, cultural stimulation, persistence and family support.*

Keywords: Blended learning, Remedial program, English achievement, Learning attitude, Rural area

TAECT 榮譽理事長張霄亭先生成長背景與求學歷程（1931-1958）概述

The growth background and schooling experiences of Honorary President

Prof. Sheau-ting Chang of TAECT

張意翎

國立臺灣師範大學教育學系碩士班

elaine82621@gmail.com

方永泉

國立臺灣師範大學教育學系

t04007@ntnu.edu.tw

單文經

中國文化大學師資培育中心

wjshan@ntnu.edu.tw

【摘要】本文改寫自第一作者甫於今年 6 月完成的「張霄亭先生與我國視聽教育發展」碩士學位論文。該論文係以口述訪談、相關文獻、期刊、地方誌、照片等資料為據而撰成。全文共分五章：除緒論與結論外，另三章說明霄亭先生生平，視聽教育方面的思想，以及教學、行政與學術服務三方面推動視聽教育實務工作之概況。茲因其生平的部分，特別是其成長背景與求學歷程的詳細情形鮮為人知，乃於霄亭先生同意下，在今年年會公諸於世。本文分為「家庭背景與幼年生活（1931-1948）」及「從國立河南大學到臺灣省立師範學院（1948-1958）」二個部分概述之。

【關鍵詞】 TAECT、榮譽理事長、張霄亭先生、生平

Abstract: *The paper is aimed to describing the growth background and schooling experiences. It was adapted from the first author's newly graduated master thesis "Prof. Sheau-ting Chang's life course and audio-visual education of this country." It was written by utilized based on oral interviews, relevant literature, journals, local chronicles, photographs and other materials. "Prof. Sheau-ting Chang's family background and early life" and "Way from National He-nan University to Provincial Taiwan Normal University" are two main sections of this paper.*

Keywords: TAECT, Honorary President, Prof. Chang, Sheau-ting, life course



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