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2024/2/24 成果發表合照 II

長期不同施肥管理模式在不同水旱田輪作下其土壤微生物族群結構

張義宏

中文摘要：

為了瞭解長期施用有機肥及化肥影響對土壤性質之影響，本實驗從 1988 年，分別使用兩種輪作方式(水旱田輪作(R1)及早田輪作(R2))及三種施肥方法，完全化肥 (CF)；折衷施肥 (IF)，有機肥及化肥各一半；完全有機肥(OF)等三種方式。本實驗分別分析土壤化學性質，土壤酵素，磷脂脂肪酸(PLFA)及高通量定序分析(16S 及 18S rRNA)。34 年結果顯示，長期施用有機肥(OF)，其有機碳及總氮明顯比折衷(IF)及化肥(CF)來的高且 R1 輪作系統比 R2 輪作系統高。同時，土壤酵素在兩種不同輪作下其施用有機肥明顯高於化學施用之處理，同樣土壤酵素 R1 輪作系統也比 R2 輪作系統高，PLFA 分析結果也顯示 R1 輪作系統其微生物族群豐富度明顯高於 R2 輪作系統。PLFA 及高通量分析顯示，微生物族群明顯受到不同施肥方式及不同輪作制度所影響，而細菌及真菌明顯扮演重要角色。結論是不同施肥方式及輪作制度會影響土壤微生物族群及功能變化。

關鍵字：土壤酵素，磷脂脂肪酸，長期試驗，有機肥料。

英文摘要：

In order to understand the long-term effects of continuous application of organic and chemical fertilizers on soil properties, this experiment has been conducted since 1988. Two crop rotation systems, namely paddy-upland rotation (R1) and upland rotation (R2), were employed along with three fertilization methods: complete chemical fertilizer (CF), compromise fertilization (IF) with a combination of organic and chemical fertilizers in equal proportions, and complete organic fertilizer (OF). The experiment involved the analysis of soil chemical properties, soil enzymes, phospholipid fatty acids (PLFA), and high-throughput sequencing (16S and 18S rRNA). The results after 34 years indicate that long-term application of organic fertilizer (OF) significantly increases organic carbon and total nitrogen compared to compromise fertilization (IF) and chemical fertilizer (CF). Additionally, the R1 rotation system showed higher levels than the R2 rotation system. Moreover, the application of organic fertilizer led to significantly higher soil enzyme activities compared to chemical fertilization in both rotation systems, with R1 rotation system exhibiting higher enzyme activities than R2 rotation system. PLFA analysis also revealed that the microbial community abundance in the R1 rotation system was significantly higher than in the R2 rotation system. Both PLFA and high-throughput sequencing analyses demonstrated that microbial communities were significantly influenced by different fertilization methods and rotation systems, with bacteria and fungi playing crucial roles. In conclusion, different fertilization methods and rotation systems have a substantial impact on soil microbial communities and their functional changes.

Key words: soil enzyme, PLFA, long-term field experiment, organic fertilizer

結核性肋膜積液中 HMGB1 與 MMP-9 相關性之探討

陳偉玲

中文摘要：

結核性肋膜積液合併纖維化可能導致不可逆的肺功能障礙以及高死亡率和發病率。高遷移率族蛋白 1 調節基質金屬蛋白酶合成，驅動纖維母細胞分化為肌纖維母細胞，促進細胞外基質沉積，並在多種發炎和纖維化疾病中扮演著重要的角色。然而，高遷移率族蛋白 1 和基質金屬蛋白酶-9 的臨床相關性以及它們在結核性肋膜積液中的角色之前尚未有報導。

利用酵素連結免疫分析法評估結核性 (n=36) 及心衰竭 (n=14) 患者肋膜積液中高遷移率族蛋白 1 與基質金屬蛋白酶-9 濃度。以放射影像學評分法評估治療 6 個月時殘留肋膜纖維化的程度。

與漏出性肋膜積液相比，高遷移率族蛋白 1 與基質金屬蛋白酶-9 在結核性肋膜積液中呈現顯著升高且呈正相關。除此之外，這兩種纖維化因素都與殘餘肋膜增厚有關，在 6 個月的抗結核藥物治療和胸腔 X 光檢查後，有殘餘肋膜增厚 $\geq 10\text{mm}$ 的結核性肋膜積液患者 (n = 12) 顯著高於沒有殘餘肋膜增厚的患者 (n = 24)。

綜上所述，高遷移率族蛋白 1 與基質金屬蛋白酶-9 及結核性肋膜纖維化有顯著的相關性，意味著高遷移率族蛋白 1 在促纖維化中扮演著重要的角色，或許能成為治療肋膜纖維化的目標。

關鍵字：結核性肋膜積液、高遷移率族蛋白 1、肋膜纖維化、基質金屬蛋白酶-9。

英文摘要：

Tuberculous pleural effusion (TBPE) in combination with fibrosis may result into irreversible thoracic dysfunction and high mortality and morbidity. HMGB1 modulates matrix metalloproteinase (MMP) synthesis, drives fibroblast differentiation into myofibroblasts, promotes extracellular matrix deposition, and plays an important role in a variety of inflammatory and fibrotic disorders. However, the clinical relevance of HMGB1 and MMP-9, as well as their possible involvement in TBPE, have not previously been reported.

The levels of HMGB1 and MMP-9 in the pleural fluid of patients with TBPE (n=36) or heart failure (n=14) were determined by immunoblotting and enzyme-linked immunosorbent assay (ELISA). Radiological scores for residual pleural fibrosis at 6-month follow-up were evaluated.

HMGB1 and MMP-9 levels were substantially higher and positively linked in tuberculous pleural effusion compared to transudative effusion. Furthermore, both are connected to residual pleural thickening (RPT), which is considerably higher in TBPE patients with RPT \geq 10mm (n = 12) than those without (n = 24) following 6-month anti-TB medication and chest radiography follow-up.

In conclusion, HMGB1 has a relationship with MMP-9 and correlates favorably with TB pleural fibrosis, indicating that HMGB1 plays an important profibrotic role and may be targeted therapeutically in TBPE.

Key words: tuberculous pleural effusions 、 high mobility group box-1 protein 、 pleural fibrosis 、 matrix metalloproteinases-9

中文摘要：

澳洲茶樹(*Melaleuca alternifolia* Cheel)屬於桃金娘科(Myrtaceae)白千層屬(*Melaleuca*)的常綠喬木，俗稱茶樹(Tea tree)，富含芳香精油成分。本研究利用自家農地有機種植的澳洲茶樹作為試驗材料，並將澳洲茶樹萃取精油與市售茶樹精油及其主要成份作比較，針對臨床及生活上常見致病菌，如 *Bacillus subtilis*(ATCC11774), *Escherichia coli* (ATCC25922), *Pseudomonas aeruginosa* (ATCC19429), *Staphylococcus aureus* (ATCC6538) 等菌株，利用抗生素紙錠擴散法(disc agar diffusion test)進行抑菌能力探討。研究結果顯示，自家萃取澳洲茶樹精油、澳洲有機茶樹精油(台灣進口)、Bonnie Tea Tree 精油(momo 商品)等茶樹精油對於 *B. subtilis*, *E. coli* 及 *S. aureus* 具有良好的抑菌能力，其最小抑菌濃度(Minimum Inhibitory Concentration, MIC)為 0.1 mg/L，但對 *P. aeruginosa* 之抑菌效果較不顯著，其最小抑菌濃度(MIC)為 0.4 mg/L。有關茶樹精油主要成份包括 *terpinen-4-ol* 及 α -Terpinene 對於 *B. subtilis*, *E. coli* 及 *S. aureus* 具有良好的抑菌能力，其最小抑菌濃度(MIC)為 0.1 mg/L；3-Carene 對於 *B. subtilis* 及 *E. coli* 具有良好的抑菌能力，其最小抑菌濃度(MIC)為 0.1 mg/L，Terpinolene 對於 *B. subtilis* 及 *S. aureus* 具有良好的抑菌能力，其最小抑菌濃度(MIC)為 0.2 mg/L，但 γ -Terpinene 之抑菌效果較不顯著，其最小抑菌濃度(MIC)為 0.4 mg/L。由上述結果推估無論是自家萃取澳洲茶樹精油及市售澳洲茶樹精油商品之抗菌能力與其所含之 *terpinen-4-ol* 及 α -Terpinene 成分有正相關。本研究成果證明澳洲茶樹精油可作為開發天然且無毒之抗菌劑和芳香劑，並可運用於個人衛生防護及保健醫學之依據。

關鍵字：澳洲茶樹、茶樹精油、抗菌能力、枯草桿菌、大腸桿菌、綠膿桿菌、金黃色葡萄球菌。

英文摘要：

The Australian tea tree (*Melaleuca alternifolia* Cheel) belongs to the evergreen tree of the genus *Melaleuca* in the Myrtaceae family. It is commonly known as the tea tree and is rich in aromatic essential oils. This study uses Australian tea trees grown organically in our own farmland as test materials, and compares Australian tea tree essential oils with commercially available tea tree essential oils and their main components, targeting common clinical and daily pathogenic bacteria, such as *Bacillus subtilis* (ATCC11774), *Escherichia coli* (ATCC25922), *Pseudomonas aeruginosa* (ATCC19429), *Staphylococcus aureus* (ATCC6538) and other strains were studied for their antibacterial capabilities using the antibiotic disc agar diffusion test. Research results show that tea tree essential oils such as self-extracted Australian tea tree essential oil, Australian organic tea tree essential oil (imported from Taiwan), Bonnie tea tree essential oil (momo product) have good antibacterial ability against *B. subtilis*, *E. coli* and *S. aureus*. The minimum inhibitory concentration (MIC) is 0.1 mg/L, but the antibacterial effect on *P. aeruginosa* is less significant, and its MIC is 0.4 mg/L. The main components of tea tree essential oil include terpinen-4-ol and α -Terpinene, which have good antibacterial ability against *B. subtilis*, *E. coli* and *S. aureus*, with MIC of 0.1 mg/L; 3-Carene has good antibacterial ability against *B. subtilis* and *E. coli*, and its MIC is 0.1 mg/L. Terpinolene has good antibacterial ability against *B. subtilis* and *S. aureus*, and its MIC is 0.2 mg/L. The antibacterial effect of γ -Terpinene is less significant, and its MIC is 0.4 mg/L. From the above results, it is inferred that the antibacterial ability of both self-extracted Australian tea tree essential oil and commercially available Australian tea tree essential oil is positively related to the terpinen-4-ol and α -Terpinene components it contains. The results of this study prove that Australian tea tree essential oil can be used as a basis for the development of natural and non-toxic antibacterial agents and aromatics, and can be used in personal hygiene protection and health care medicine.

Key words: *Melaleuca alternifolia*, commercial tea tree essential oil, antibacterial activity, *Bacillus subtilis*, *Escherichia coli*, *Pseudomonas aeruginosa*, *Staphylococcus aureus*

創課情境影片互動教材介入對癌症化學治療學習的成效

簡芷茵

中文摘要：

癌症是國人最重要的健康問題，化學治療是癌症照護的主要治療之一，護理人員應皆具備癌症照護知能以促進病患於治療過程中的安全。本研究目的在發展創課情境互動癌症化療教材、利用創課系統的數位平台可近性，引導學生利用情境互動自我學習，評估其運用在學生學習癌症病人的護理成效。

本研究擬採類實驗研究，以北部某五專護理科學生，初次學習癌症病人護理單元課程之 2 個班級進行教學研究，實驗組約 50 人，對照組 50 人，實驗組採取 PPT 教學以及創課影片互動教材介入，對照組以傳統 PPT 進行教學，在學期課程教授前，教授完畢後收集資料，以分析情境互動癌症化療教材介入後對學生癌症化療知識，自我導向學習、學習投入、學習自我效能之成效。

研究結果如下：共有 90 名學生納入研究，實驗組 46 人，對照組 44 人。女生佔 91.1%，男生佔 8.9%。參與者的基本資料為同質性。實驗組與對照組在創課情境互動教材介入前後，學習測驗成績無統計差異。實驗組的課後滿意度有 80% 以上學生表示希望增加影片互動學習於課程中。比較對照組在介入措施後，學習投入、學習自我效能、學自我導向學習三個量表，無統計差異；實驗組則有差異 ($P < .05$)。比較實驗組和對照組在介入前後並無統計差異。

創課情境互動能夠幫助學生在學習過程中，提升學習投入、學習自我效能，並且提升自我導向學習。可以建議教師在相關課程中適時加入相關教材，提升學生之學習成效。

關鍵字：情境影片互動教材、化學治療、自我導向學習、學習投入、學習自我效能。

英文摘要：

Cancer is the most important health problem for Chinese people, and chemotherapy is one of the main treatments for cancer care. Nursing staff should all have cancer care skills to promote patient safety during the treatment process. The purpose of this study is to develop innovative contextual interactive cancer chemotherapy teaching materials, utilize the accessibility of the digital platform of the innovative curriculum system, guide students to use contextual interactive self-learning, and evaluate the effectiveness of its application in students' learning about the care of cancer patients.

This study was an experimental design, with nursing students from a fifth-level college in the north Taiwan. There were the first time learning of cancer patient care in two classes. There are about 46 people in the experimental group and 44 people in the control group. The experimental group uses PPT teaching and creative teaching. Intervention with video-based interactive teaching materials, while the control group was taught using traditional PPT. Data were collected before and after the semester course was taught to analyze the effects of situational interactive cancer chemotherapy teaching materials on students' cancer chemotherapy knowledge, self-directed learning, learning engagement, and self-learning after the intervention.

The results of the study were as follows: A total of 90 students were included in the study, 46 in the experimental group and 44 in the control group. female account for 91.1% and males account for 8.9%. The basic information of the participants is homogeneous. There was no statistical difference in the learning test scores between the experimental group and the control group before and after the intervention of interactive teaching materials in class creation situations. In the experimental group, more than 80% of the students in the experimental group expressed their desire to add interactive video learning to the course. Comparing the three scales of learning investment, learning self-efficacy, and learning self-directed learning in the control group after the intervention measures, there was no statistical difference; however, there were significant difference in the experimental group ($P < .05$). There was no statistical difference between the experimental group and the control group before and after intervention.

Situational interaction in class creation can help students improve their learning engagement, learning self-efficacy, and improve self-directed learning during the learning process. Teachers can be advised to include relevant teaching materials in relevant courses in a timely manner to improve students' learning effectiveness.

Key words: Situational video interactive teaching materials, chemotherapy, self-directed learning, learning engagement, learning self-efficacy

中文摘要：

超過半數慢性思覺失調症病人因病程慢性化，可達功能性復元比例僅約 1/4 - 1/5，能完全康復的病人非常少見，需持續於長期機構治療與照護。然而臨床精神科慢性病房醫護人力長期普遍不足，住院病人更在 Covid-19 肆虐下，長期行動受限，嚴重影響其社交功能及幸福感，突顯外在資源介入之重要。服務學習將服務與課程的學習結合，強調從做中學，藉由師生共同設計具有精神科服務意涵的目標，成為慢性思覺失調症實際支持與行動的力量。目前國內外缺乏在疫情時空背景下，探索服務學習對慢性思覺失調症病人影響之研究；故本研究目的在探討疫情衝擊下，帶領學生籌畫及執行精神科服務學習後，對慢性思覺失調症病人之影響。本研究師生先共同籌劃精神科服務學習計畫與實際服務後，再採描述性現象學研究法，以半結構性訪談收集收集 9 位參與者經驗。研究對象採立意取樣，為台灣北部某精神科專科醫院慢性失調症病人共計 96 人。採取 Colaizzi (1978) 分析法進行資料分析。結果發現四大主題：1.活動豐富有趣，感到開心與滿足 2. 後疫情活動溫暖內心 3.開心當老闆，有額外收穫 4.希望活動時間延長，期待未來再相聚。慢性思覺失調症病人透過服務學習與護生互動，有正向之影響。本結果有助於未來在臨床照護與服務學習活動設計之參考。

關鍵字：慢性思覺失調症、服務學習、影響。

英文摘要：

More than half of the patients with chronic schizophrenia are chronic, and only about 1/4–1/5 of them can achieve functional recovery. It is very rare for patients to fully recover, and they need to continue to be treated and cared for in long-term institutions. However, the chronic wards of clinical psychiatry are generally lacking in medical staff for a long time. Under the ravages of Covid-19, inpatients have been restricted in their movements for a long time, which seriously affects their social functions and well-being, highlighting the importance of external resource intervention. Service learning combines service and curriculum learning, emphasizing learning by doing, through teachers and students jointly designing goals with psychiatric service implications, and then becoming a force for practical support and action for chronic schizophrenia. At present, there is a lack of research to explore the influence of service learning on patients with chronic schizophrenia under the temporal and spatial background of the epidemic. Therefore, the purpose of this study is to explore the influence of leading students to plan and implement psychiatric service learning on patients with chronic schizophrenia under the impact of the epidemic. In this study, teachers and students first jointly planned a psychiatric service-learning program and practical services, and then adopted a descriptive phenomenological research method to collect the experiences of 9 participants through semi-structured interviews. We took purpose sampling and a total of 96 patients in a psychiatric hospital in northern Taiwan participated. Colaizzi (1978) analysis method was adopted for data analysis. The results revealed that participants expressed four themes in service learning experience under the impact of the epidemic: 1. The activities are plentiful and interesting, making me feel happy and satisfied; 2. Post-epidemic activities warm my heart; 3. I am happy to be a boss and have extra gains; 4. I hope that the activity time will be extended, and I look forward to meeting again in the future. Chronic schizophrenia patients interact with nursing students through psychiatric service learning, which has a positive impact. The results will serve as a reference for future design of clinical care and service learning activities.

Key words: chronic schizophrenia, service learning, influence.

中文摘要：

中風是一個全球性的重大健康問題，在全球範圍內導致死亡和長期殘疾。有鑑於此，緊急醫療服務（EMS）人員應該具備有關中風的知識以協助患者。本研究的目的是探索台灣東部地區 EMS 人員的中風知識。方法為採立意取樣、橫斷式研究(cross-sectional study)於台灣東部地區的消防局招募了 86 名參與者。使用結構化問卷，包括緊急救護技術員的中風知識問卷（SKQ-EMSP）和人口統計問卷進行數據收集。使用描述性統計、T 檢定和單因素方差分析進行數據分析。研究結果顯示，大多數 EMS 人員的中風知識水平較低（62.6%）。兩個錯誤率最高的項目是「以下有關 ACT FAST 的哪一項陳述是正確的」以及「以下哪一項是缺血性中風的常見原因」；「任職類別」、「參與急性腦中風緊急救護工作」與中風知識有顯著差異（ $F = 12.2, p < 0.05$ ； $t = 2.02, p < 0.05$ ）；受試者「中風知識」與到院前救護行為意圖呈顯著正相關（ $r = 0.263, p < 0.05$ ）。

關鍵字：中風知識、緊急救護技術員、行為意圖。

英文摘要：

Stroke is a significant global health concern, resulting in fatalities and long-term disabilities on a worldwide scale. Given that all individuals experiencing a cerebral stroke necessitate prompt medical intervention, Emergency Medical Service (EMS) personnel should possess the knowledge of strokes to aid patients. The purposes of this study were to explore the stroke knowledge of EMS personnel in Eastern Taiwan. Methods: This study was conducted by utilizing purposive sampling, with 86 participants from a fire department of the eastern region of Taiwan in 2023. The research methods involved a cross-sectional study and descriptive research. Moreover, structured questionnaires including the Stroke Knowledge Questionnaire among Emergency Medical Services Personnel (SKQ-EMSP) and demographic questionnaire were employed for data collection. Descriptive statistics, T-test, and one-way ANOVA were used for data analysis. Results:

The results revealed that the majority of EMS personnel had a low level of stroke knowledge (62.6%). The 2 items with the highest incorrect response rate were “Which of the following statements about ACT FAST is correct” as well as “Which of the following is a common cause of ischemic stroke?”. There were significant differences in stroke knowledge related to job levels, and participate in acute stroke emergency rescue work ($F = 12.2, p < 0.05$; $t = 2.02, p < 0.05$).

Key words: Stroke Knowledge test, EMS, Behavioral intention

COVID-19 後疫情時代專校高年級護生生涯自我效能、護理職涯決策因素與意向、就業準備度及其相關因素探討

楊嘉玲

中文摘要：

研究背景:護理人力短缺已是全球性的現象,COVID-19 疫情發生後情況更加嚴峻,ICN 示警在疫情下全球有 90%護理人員工作負荷,離職率相較於 2020 年前上升 20%,推估 COVID-19 疫情影響全球護理人力短缺高達 1300 萬以上。ICN 指出護理人員的高流動率勢必導致相關成本的增加。衛福部 2023 年指出台灣護理人力短缺將達到 1.5 萬~2.4 萬人,中華民國護理師護士公會全國聯合會 2022 年統計顯示執業護理人員僅佔領照人數之 59.2%,台灣護理學會 2023 年指出五專畢業護生就業率僅 24%且一年後的就業率五專僅 34.05%,一年內離職或轉單位高達 35-61%,故本研究目的為探討在疫情衝擊下,專校高年級護生生涯自我效能、護理職涯決策因素、護理職涯意向及其相關因素,了解疫情下實習衝擊對其臨床就業準備度及護理職涯之影響,以作為護理職涯規畫輔導之參考。

研究設計:本研究採調查性、相關性研究設計。選樣:以北部某醫護專校二屆之五年級護生為研究對象,採便利取樣方式共蒐集有效樣本 258 位。研究工具:以自擬之基本屬性資料表、護理職涯決策因素量表、護理職涯決策自我效能量表、護理職涯行為意向量表及等進行資料蒐集。資料分析:以 SPSS25.0 版套裝軟體進行資料建檔及統計分析。研究結果:專校應屆畢業護生就業意願為 37.8%,其中有以臨床全職工作者居多 98.2%;尚未決定者其在各項就業信心程度上均顯著低於就業者;COVID-19 疫情對於從事護理影響度 46.72 ± 31.59 。護理職涯行為(是否選擇臨床工作)之迴歸分析結果顯示:公費生、臨床護理工作職涯信心程度、護理職涯決策因素--家庭及社會因素、護理職涯決策因素--經濟與職涯因素、「護理職涯決自我效能」等項為應屆畢業護生臨床護理職涯決策之主要相關因素。結論:本研究結果可供未來專校護生之護理職涯輔導規畫之參考。

關鍵字：護生、護理職涯決策因素、職涯自我效能、就業意向。

英文摘要：

Introduction

The shortage of nursing manpower is already a global phenomenon, and the situation has become more serious after the COVID-19 epidemic. ICN warns that 90% of nursing staff worldwide are overloaded during the pandemic, and the turnover rate has increased by 20% compared with 2020. It is estimated that the COVID-19 epidemic has affected a global nursing manpower shortage of more than 13 million. While nurses predominate in the healthcare institution workforce, Taiwan continues to face a chronic nursing shortage. Nursing program graduation candidates are a critical human resource and their selection of an institution appropriate to their career interests and needs is an important issue.

Methods

This cross-sectional design with convenience sampling used a valid and reliable self-designed questionnaire, to investigate the factors associated with career decision to become an RN among graduating nursing students.

Results

The major findings of this study were: 1) only 37.8% of junior college graduating nursing students intended to be employed in clinical settings, of which 98.2% are mostly full-time clinical workers; those who are undecided have significantly lower employment confidence than those who are employed; the impact of the COVID-19 epidemic on nursing 46.72 ± 31.59 . 2) the top three reasons for their choice of clinical nursing as a career were “the hospital provides better salary and welfare”, “the working atmosphere of the hospital is very cordial”, “the hospital provides better newly employed training program” 3) significant variables associated with career decision to become an RN were: publicly funded students, career decision self-efficacy, clinical nursing as a career—economic subscale scores and social-family subscale scores. 4) significant variables associated with the career decision to become an RN among junior college graduating nursing students were financed student, last-mile curriculum, career decision self-efficacy, and clinical nursing as a career—economic subscale score.

Conclusions and Recommendations

This study could help teachers to identify types of decision-making toward nursing careers on graduating nurse students and further provide suitable career guidance or measures.

Key words: nursing student、nursing career decision-making、career self-efficacy、intention to joint in clinical nursing

中文摘要：

隨著 COVID19 疫情變化及科技日新月異，線上教學成為重要因應策略，但同時放大實體學習的問題，挑戰自我學習意識與能力。再者，因應國際化，專業口說英語能力需求益發迫切，本校運用數位平台配合專業需求，逐年建構相關課程，期望能提升學生學習成效。因此，本研究擬探討運用數位平台對護生自我導向學習及專業口說英語學習成效之影響。以本校護理科三年級學生為母群體，採量性研究設計，運用「自我導向學習量表」，採方便性取樣，回收問卷 70 份，結果發現護生在醫護術語自我導向學習均屬於中高程度，層面得分以「態度」優於「策略」。護生在自主導向學習與醫護術語講義、Quizlet、MyET 幫助程度呈顯著正相關，以紙本講義、線上平台及口說練習系統協助瞭解醫護術語課程內容，顯示運用多元學習模式對提升學生自我學習導向程度。自我導向學習與喜歡護理程度呈顯著正相關，畢業後會選擇「護理」的護生英語口說 SPT 期末分數優於選擇「不確定」的護生，專業的認同程度越高對護生的自我導向學習也較高。另外，英語口說學習成效與自我導向學習的未達顯著性正相關，可能數位學習平台運用與自我導向學習的態度與策略檢測方向不相一致，因此，未來可依數位學習平台屬性，建構研究工具，延長追蹤成效時間，以深入探討自我導向學習準備與口說英語之間的關聯性，以幫助學生在口說能力方面得以成長，提升個人外語能力。

關鍵字：自我導向學習、學習成效、護生。

英文摘要：

Explore the impact of applying digital platform on nursing students' self-direct learning and professional English language learning performance in the five year nursing programs.

With the change of COVID19 epidemic and development of technology, on line learning become an important coping strategy. At the same time, it amplifies the problems of traditional face-to-face classroom education and challenges self-learning awareness and ability. In addition, in response to internationalization, the need for professional oral English ability is becoming more and more urgent. Our college has built digital platforms to meet professional needs, and relevant courses year by year, hoping to improve nursing students' learning effectiveness. Therefore, the purpose of this research is to explore the impact of applying digital platform on nursing students' self-direct learning on professional English Language Learning performance in the five-year nursing programs. For purpose of the study, a sample included 70 nursing students from a college of North Taiwan. The results show that Nursing students are all at a medium to high level in self-directed learning of medical terminology, and the level score in the attitude of self-directed learning is better than the strategy of self-directed learning. There is a significant positive correlation between nursing students' self-directed learning and the degree of help provided by Medical Terminology Handouts, Quizlet, and MyET. It shows that the use of multiple learning models can improve students' self-directed learning. In addition, there is a significant positive correlation between self-directed learning and liking for nursing. Nursing students who will choose "Nursing" after graduation have better English speaking SPT final scores than nursing students who choose "Uncertain". That means that the higher the degree of professional recognition, the higher the self-directed learning of nursing students. Therefore, there is no significant positive correlation between the effectiveness of English-speaking learning and self-directed learning. It may be that the questionnaire of attitude and strategy of the self-directed learning is inconsistent with the use of digital learning platforms. Therefore, in the future, research tools can be constructed based on the properties of digital learning platforms as well as extending the tracking effect time to deeply explore the correlation between self-directed learning preparation and speaking English, so as to help students grow in speaking ability and improve their personal foreign language abilities.

Key words: self-direct learning, learning performance, nursing students

大專學生對憂鬱症的認識經驗

曹天怡

中文摘要：

憂鬱症是常見的疾病，估計全球約有 2.8 億人罹患憂鬱症，佔全世界人口的 3.8%，其中兒童與青少年人群中約又有 1.1~2.8%。董氏基金會在 2019 年的調查顯示，大台北國高中職生中有 24.5% 的青少年有情緒不穩的反應，其中有 12.4% 的人有明顯憂鬱情緒而需專業協助，但平均每 10 位學生中僅一位求助輔導老師，大多數青少年不願或很難跟父母說，有許多需要被幫忙的兒童或青少年沒有得到適當的診斷與治療。可見青少年認識憂鬱情緒與憂鬱症之重要性，才能早期提供協助或引導個人尋求協助，以避免問題之嚴重度，甚至發生自殺或其他偏差行為，影響健康與發展。本研究採質性研究法，邀請護理科三年級共 8 名學生進行一小時的焦點團體訪談，目的為探討大專學生對憂鬱症的認識經驗。經分析結果共歸納七個概念，包含包括「分不清是情緒還是疾病」、「缺少生理因素與憂鬱症的相關性」、「能部分正確察覺憂鬱症可能會有的表現」、「認為憂鬱症除吃藥外，有人支持陪伴以及靠自己是很重要的」、「認為多數人對憂鬱症抱持負面的觀點」、「憂鬱症是個背負汗名的疾病」、「認為陪伴就是對憂鬱症病人最好的協助」。結果不僅可以了解初級護理學生對憂鬱症的認知情況，也可以為教育工作者未來設計相關課程提供參考。

關鍵字：憂鬱症、大專學生、焦點團體。

英文摘要：

Depression is a common disease. It is estimated that about 280 million people worldwide suffer from depression, accounting for 3.8% of the world's population, of which about 1.1~2.8% among children and adolescents. A 2019 survey by the Tung Foundation showed that 24.5% of teenagers among vocational high school students in Greater Taipei suffered from emotional instability, and 12.4% of them had obvious depression and needed professional help. However, on average, every 10 There is only one guidance counselor among students, and most teenagers are reluctant or find it difficult to tell their parents. Many children or teenagers in need of help have not received appropriate diagnosis and treatment. It can be seen that if teenagers understand the importance of depression and depression, they can provide early assistance or guide individuals to seek help to avoid the seriousness of the problem and even suicide or other deviant behaviors that affect their health and development. This study adopted a qualitative research method and invited a total of 8 third-year nursing students to conduct a one-hour focus group interview. The purpose was to explore the understanding and experience of depression among college students. The analysis results summarized seven concepts, including "cannot distinguish between emotion and illness", "lack of correlation between physiological factors and depression", "can partially correctly detect possible manifestations of depression", "perception of depression" In addition to taking medicine, it is very important to have someone to support you and to rely on yourself." "I think most people have a negative view of depression." "Depression is a stigmatized disease." "I think companionship is a sign of support for depression." The best assistance to patients." The results can not only understand primary nursing students' cognition of depression, but also provide a reference for educators to design relevant courses in the future.

Key words: depression, college student, focus group

中文摘要：

本研究旨在探究運用繪本融入 STEAM 設計零至二歲嬰兒之托育活動，分析適合嬰兒學習之繪本，應用 STEAM 概念設計托育活動，以促進嬰兒全人發展，增能托育人員專業知能。本研究以 150 名台北市在職托育人員為研究對象，透過問卷調查，蒐集對本研究所設計托育活動教案之意見，研究發現(一)繪本結合 STEAM 設計托育活動計畫能顯現出 STEAM 元素，也能符合托育活動領域指標；(二)不同年資及任職型態下的托育人員對繪本融入 STEAM 托育活動計畫看法，顯示 STEAM 認知、專業評估、自我效能均具有顯著差異。

關鍵字：繪本、托育活動設計、托育人員、STEAM。

英文摘要：

The purpose of this study was to explore the design of incorporating the STEAM concepts of infants into the teaching of pictures book. Through the use of the appropriated curriculum pictures book and design of STEAM activities as promote the holistic development of infants and empower the experts of the caregivers. The study adopt the questionnaire to collect and analyze the opinions from the 150 caregivers of Taipei city as the main research object. The results are as follows:1. combining picture books with STEAM to design childcare activity plans can show STEAM elements and also meet the indicators in the field of childcare activities; 2.there were significant differences in seniority and position type of Caregivers which are STEAM cognition, professional assessment and self-efficacy.

Key words: Picture books, Childcare Service Activity Design, Caregivers, STEAM

中文摘要：

近年來，綠色與永續議題在世界各地日漸重視，綠色與永續的消費觀念已在全球受到關注，而如何將其應用於餐飲服務業上，減少其所造成的環境衝擊影響，亦成為國內未來餐飲服務業之重要發展趨勢。咖啡館近幾年在國內迅速地充斥各個都市街道的大街小巷，對於消費者到咖啡館不只是品嚐咖啡而已，享受當下的環境氛圍也成為其重要之目的。然而目前國內沒有符合咖啡館綠色環境氛圍之標準，故本研究將採用德爾菲專家問卷法，運用五感氛圍理論，進行探索與建構一套適用於咖啡館綠氛圍與永續發展之指標。本研究設計指標方式採用德爾菲專家問卷法，擬針對餐飲與環境管理之學者、咖啡館業者等具專業知識的專家學者進行分析，最後利用穩定度分析及第四回合問卷之各面向平均數作為篩選標準，最終萃取出 36 項適用於咖啡館綠永續之設計指標。

關鍵字：德菲法，五感氛圍，綠色永續。

英文摘要：

In recent years, green and sustainable issues have been paid more and more attention all over the world, and the concept of green and sustainable consumption has attracted worldwide attention. How to apply it to the catering service industry and reduce the environmental impact caused by it has also become a topic in Taiwan. An important development trend of the catering service industry in the future. In recent years, cafes have rapidly filled the streets and alleys of various urban streets in Taiwan. For consumers to go to cafes not only to taste coffee, but also to enjoy the current environment and atmosphere has become an important purpose. However, at present, Taiwan does not meet the standard of green atmosphere in cafes, so this research will use the Delphi expert questionnaire method and the five sense atmosphere theory to explore and construct a set of indicators suitable for green atmosphere and sustainable development of cafes. The index method of this research adopts the Delphi expert questionnaire method. It is planned to distribute three rounds of questionnaires to experts and scholars with professional knowledge such as scholars of catering and environmental management, coffee shop operators and government units. It is expected that 15 experts and scholars will be distributed. The characteristics of repeated feedback and feedback made the results converged. Finally, the stability analysis and the average of each aspect of the fourth round of the questionnaire were used as the screening criteria to finally extract the design indicators suitable for the green sustainability of the cafe.

Key words: Delphi method, Five senses atmosphere, Green sustainable.

探討烏醋與巴薩米克在中式羹湯料理對感官品評與消費者偏好的關係

柯榮貴

中文摘要：

醋被人類使用在料理食品的時間已經超過 3000 多年的歷史，對於添加烏醋與巴薩米克醋於中式料理的情形是否具有不同感受認知的情形？尚待釐清研究結果。本研究主要是在了解運用感官品評來探討中式料理素食羹湯與葷食羹湯(八寶羹)在分別添加烏醋或巴薩米克醋之後感官品評的視覺、嗅覺、味覺與整體評價及偏好的差異情形。本研究對象為馬偕醫護管理專科學校教職員工 74 位、學生 115 位，合計共 200 位受試者。研究問卷共發放 200 份，扣除 11 份無效問卷，共回收 189 份有效問卷，回收有效率問卷為 94.5%。統計分析軟體運用 SPSS 24 進行感官品評與偏好相關數據的分析，包含敘述性統計與單因子變異數分析。研究發現受試者在分別食用添加烏醋或巴薩米克醋的中式料理素食羹湯與葷食羹湯(八寶羹)之後感官品評的視覺、嗅覺、味覺與整體評價及偏好態度效果均達顯著差異($p < .05$)。本研究的結果有助於素食或葷食中式料理均可以利用烏醋作為變化風味的調味品，以提升使用者對烏醋的喜好程度。

關鍵字：烏醋、巴薩米克、葡萄酒醋、感官品評、消費者偏好。

英文摘要：

Vinegar has been used by humans to cook food for more than 3,000 years. Is there a different perception of the situation of adding black vinegar and balsamic vinegar to Chinese cuisine? The answer to this question is yet to be clarified. The purpose of this study is to understand the use of sensory evaluation to explore the visual, olfactory, taste and overall evaluation and preference of sensory evaluation of Chinese cuisine vegetarian soup and meat soup (Eight treasure soup) after adding black vinegar or balsamic vinegar respectively. difference situation. The subjects of this study were 74 faculty members and 115 students from Mackay Junior College of Medicine, Nursing and Management., with a total of 200 subjects. A total of 200 questionnaires were distributed, 11 invalid questionnaires were deducted, and a total of 189 valid questionnaires were recovered, with a recovery rate of 94.5%. Statistical analysis software uses SPSS 24 to analyze sensory evaluation and preference-related data, including descriptive statistics and one-way ANOVA. The study found that the visual, olfactory, taste and overall evaluation and preference attitude effects of the sensory evaluation of the subjects after eating the Chinese-style vegetarian soup and meat soup (Eight treasure soup) added with black vinegar or balsamic vinegar were all the same. Significant difference ($p < .05$). The results of this study are helpful for vegetarian or meat-eating Chinese cuisine to use black vinegar as a flavor-changing condiment to enhance users' preference for black vinegar.

Key words: black vinegar, balsamic, wine vinegar, sensory evaluation, consumer preference

中文摘要：

咖啡是目前世界上最受歡迎的一項飲料。運用特殊的風味、天然成分和蛋白質強化是增加飲料價值和獨特性的方式。牛奶泡沫是拿鐵咖啡的重要組成，也是風味來源的重要部分，拿鐵藝術是將牛奶泡沫倒入濃縮咖啡飲料表面所形成或設計的特殊圖案。本研究之目的是探討消費者對拿鐵咖啡之的感官知覺和體驗價值，以了解消費之偏好。植物奶發泡性與持久性相對比保久乳好，但奶泡細緻度都比保久乳差。保久乳奶泡表面光滑，奶泡細緻。豆奶奶泡表面光滑，相較杏仁奶與燕麥奶，孔洞較少。杏仁奶奶泡表面光滑，奶泡有許多孔洞。燕麥奶奶泡表面光滑，奶泡也有許多孔洞。依體驗價值的四大構面來設計問卷。以方便取樣法選擇精品咖啡店的顧客為感官品評和問卷調查的受訪對象。共回收 500 份有效問卷，所得數據以 SPSS 統計軟體進行問卷之分析。結果發現部分人口統計變數，對拿鐵咖啡的感官知覺和體驗價值有顯著差異。雖然受訪者對手沖咖啡注入牛奶之牛奶香氣、牛奶泡沫質地、咖啡香氣、口味、咖啡的醇厚度和整體喜好度均顯著低於義式咖啡機製作的拿鐵咖啡。但是仍有 42%受訪者可以接受牛奶直接注入咖啡的方式。受訪者對奶泡的持久性、咖啡容量和拿鐵藝術並不是很在意。期望本研究的結果對咖啡飲料店擬定體驗行銷策略提供建議，有助於提升營業額。

關鍵字：咖啡、奶泡、知覺、體驗價值、購買意願。

英文摘要：

Coffee is one of the world's most popular beverages. Using special flavors, natural ingredients and protein fortification is a way to add value and uniqueness to coffee beverages. Milk form is an important part of a latte, and latte art refers to the pattern or design that forms on the surface of the beverage when milk froth is poured into an espresso. The purpose of this study is to explore consumers' perception and experiential value of latte coffee for understanding consumer preferences. Plant-based milk has better foaming properties and durability than long-lasting milk, but the fineness of the milk foam is worse than long-lasting milk. Long-lasting milk foam has a smooth surface and fine milk foam. The surface of soy milk foam is smooth and has fewer holes than almond milk and oat milk. The surface of almond milk foam is smooth and the milk foam has many holes. The oat milk foam has a smooth surface and many holes in the milk foam. The questionnaire is designed according to the four dimensions of experience value. Customers of specialty coffee shops were selected by convenience sampling method as the respondents for sensory evaluation and questionnaire survey. A total of 200 valid questionnaires were obtained. With SPSS statistics analysis software, factor analysis, and regression analysis were applied to analyze the data. The results found that some demographic variables had significant differences in sensory perception and experiential value of latte coffee. Although the milk aroma, milk foam texture, coffee aroma, taste, coffee body and overall preference of respondents for brew coffee with milk are significantly lower than those of latte coffee made by espresso machines. However, 42% of the respondents still accept the method of pouring milk directly into coffee. Respondents are not very concerned about the durability of milk foam, coffee volume and latte art. Expected results of this research will be relevant to those marketers interested in understanding how the consumers' perception of any other beverage product can potentially be modified.

Key words: Coffee, Milk Form, Perception, Experiential Value, Purchase Intention

Incorporating multiple perspectives into an investigation of Taiwanese nurses' English needs analysis

黃琬婷

中文摘要：

本研究旨在探討台灣護理人員在醫院職場上的英文應用的需求分析。借鑒 Brown (2016) 的三種不同的語言需求分析觀點—a diagnostic view of needs, a discrepancy view of needs, and a democratic view of needs 來探討以下主題:台灣護理人員的英文四種能力(聽,說,讀,寫)的需求分析,護理師人員英文應用能力的落差,以及各相關人士對於護理人員職場英文能力的期待等。此為質性研究,利用半結構化訪談(semi-structured interviews)諮詢及訪談六組深諳護理師在醫院職場上英文的相關人士(stakeholders)來了解台灣護理師在醫院職場上使用英文作為溝通的情況及挑戰,這些相關人士包括:護士長(head nurses)、醫生(doctors)、外籍病患(foreign patients)和初入醫院職場的護理師(newly-graduated nurses)。

關鍵字：專業英文, 護理英文, 台灣護理師, 英文需求分析, 多重檢核(triangulation), 半結構式訪談。

Incorporating multiple perspectives into an investigation of Taiwanese nurses' English needs
analysis
黃琬婷

英文摘要：

This paper is a language needs analysis study which examines language needs and particular conventional language use situated in nursing professional practices in Taiwan. Drawing from Brown's (2016) three different views of needs—a diagnostic view of needs, a discrepancy view of needs, and a democratic view of needs, the needs analysis is tackled utilizing the triangulation of stakeholders via qualitative analysis. I will consult six cohorts of stakeholders as sources of information using semi-structured interviews, including nursing educators, language educators, head nurses, doctors, foreign patients, and newly graduated nurses. The investigation gathering data from different stakeholders aims for triangulation of sources. The purpose of the present study is to produce a needs analysis that uncovers three core themes: needs, discrepancies, and expectations of Taiwanese nurses' English skills for working in clinical contexts from multiple perspectives.

Key words: Taiwanese nurses, English for Specific Purposes (ESP), needs analysis, triangulation of sources, multiple perspectives

中文摘要：

DB02 是蘭科植物鐵皮石斛(*Dendrobium catenatum*)的重要活性成分之一，本研究主要了解 DB02 抑制 α -黑色素細胞刺激素(α -MSH)誘導黑色素生成之能力及其可能的作用機轉。黑色素是皮膚防止紫外線傷害的保護機制，但過度光照所致皮膚過度黯黑或光老化都是現在女性或美容醫學上急欲解決的課題，也是巨大的商機。石斛藥材在傳統醫學上主要用於“滋陰”，但近代實驗藥理學還發現具有減輕小鼠妊娠期糖尿病、防止發炎性骨質破壞及保護眼睛等新療效。然而，DB02 抗黑素生成活性的分子機制尚未見報導。本研究的目的是闡明 DB02 對小鼠黑色素瘤細胞 (B16F10) 的黑色素生成抑製作用及其分子機制。本研究中 DB02 降低 α -MSH 誘導的細胞內酪胺酸酶活性和黑色素含量。DB02 也抑制 α -MSH 刺激的 B16F10 細胞中關鍵的黑色素生成蛋白，如酪胺酸酶等。此外，DB02 透過抑制 cAMP 結合蛋白 (CREB)降低 MITF 表現量。研究結果顯示 DB02 可抑制黑色素瘤細胞中黑色素的合成。結果表明 DB02 對抑制黑色素具有開發潛力，將來可用作製備外用皮膚美白劑的探索。

關鍵字：鐵皮石斛、 α -黑色素細胞刺激素、小眼相關轉錄因子、黑色素。

英文摘要：

The aim of this study is to evaluate the effect and its possible mechanism of DB02, one of the active ingredients of *Dendrobium catenatum* (Orchidaceae), to inhibit α -melanocyte-stimulating hormone (α -MSH)-induced skin melanogenesis. Melanin is a protective mechanism for the skin to prevent UV damage. However, either hyperpigmentation or photoaging caused by excessive light is an urgent issue for women or cosmetic medicine, and also a great business opportunity for the aesthetic medicine industry. *Dendrobium* herbs were mainly used to "nourishing yin" in TCM, but modern pharmacological studies have also found some new curative effects such as alleviating gestational diabetes in mice, preventing inflammatory bone destruction and protecting eyesight. The current study aimed to clarify the melanogenesis inhibitory effects of DB02 and its molecular mechanisms in murine melanoma cells (B16F10). In the present study, DB02 decreased α -MSH-induced intracellular tyrosinase activity and melanin content. DB02 also inhibited key melanogenic proteins such as tyrosinase in α -MSH-stimulated B16F10 cells. In addition, DB02 decreased MITF expression levels by inhibiting cAMP response element-binding protein (CREB). These results demonstrate that DB02 can effectively suppress melanin synthesis in melanoma cells. Our results show that DB02 could serve as a potential melanogenesis inhibitor, and hence could be explored as a possible skin-whitening agent.

Key words: *Dendrobium catenatum*, α -MSH, microphthalmia transcription factor, melanin.

中文摘要：

隨著化妝品產業技術的進步，傳輸載體的開發也日益更新，如何讓有效性成分製成奈米顆粒，以大幅增加肌膚穿透力並於配方中具有安定性、標靶性及控釋性，是近年來化妝品產業界共同努力的開發技術之一。而常見的載體系統有許多方式，而常見的載體系統有奈米乳液、微乳液、微脂粒、固態奈米脂質(Solid-Lipid Nanoparticles, SLNs)以及奈米結構脂質載體 (Nanostructure Lipid Carriers, NLCs)等，哪種載體系統適合哪種有效成分皆不相同也具有開發研究價值。這也是本計畫系列研究所擬規劃研究方法。其中微脂體包覆技術本實驗室已有技術轉移商品化之成果。然而研究最佳化包覆製備條件便是本計畫擬提出之方向。近年來隨著疫情的影響下，化妝品產品發展也隨著改變趨向於抗菌訴求產品開發為主。

本研究以微脂體作為傳送載體包覆百里酚(Thymol)，但本實驗則是以帶負電荷型態之微脂體為主要研究方式，利用不同原料配比之最適製備條件研究。本計畫主要探討利用磷脂醯絲胺酸(Phosphatidyl serine, PS)、磷脂醯甘油(Phosphatidyl glycerol, PG)，利用不同製備方法(1)溶劑分散法中 Proliposome-liposome 方法及機械法中的均質乳化法進行微脂粒之製備，研究不同微脂體之形成與製備方法，最終找出其安定性與最佳包覆效果之最適條件。並評估不同百里酚(Thymol)負電荷之微脂體的配方應用於抗菌效果。

關鍵字：微脂體、包覆率、百里酚、粒徑分析、抗菌性。

英文摘要：

With the advancement of technology in the cosmetics industry and the development of transmission carriers, how to make effective ingredients into nanoparticles to greatly increase skin penetration and have stability, targeting and controlled release in formulas is one of the development technologies that the cosmetics industry has worked together in recent years. There are many common carrier systems, and the common carrier systems are nanoemulsions, microemulsions, liposomes, solid-lipid nanoparticles (SLNs) and nanostructure lipid carriers (NLCs), etc., which incorporated system is suitable for which active ingredients are different and have development and research value.

This is also the proposed planning research method of this series of research institutes. Among them, the liposomes technology has been commercialized in the laboratory.

However, studying the conditions for optimizing package replication is the direction proposed in this plan. In recent years, under the influence of the epidemic, the development of cosmetic products has also tended to be based on antibacterial product development.

In this study, liposomes were used as the delivery incorporated with thymol, but in this experiment, the liposomes with negative charge were mainly used as the main research method, and the optimal preparation conditions of different raw materials were used. This project mainly discusses the preparation of liposomes has using phosphatidyl serine (PS), phosphatidyl glycerol (PG), using different preparation methods (1) Proliposome-liposome method in solvent dispersion method and homogeneous emulsification method in mechanical method, studying the formation and preparation methods of different liposomes, and finally finding out the most suitable conditions for their stability and best encapsulation efficiency. The formulation of liposomes with negative charges of different thymol (Thymol) was evaluated for antibacterial effect.

Key words: liposome 、 encapsulation efficiency 、 Thymol 、 Particle size analysis 、 antibacterial

中文摘要：

薑黃素為萃取自薑黃根的活性成分，具有抗炎、抗氧化、防腐、鎮痛、傷口癒合、解痙、抗凝血和抗菌特性。由於其水溶性低、容易在鹼性介質中快速水解、光不穩定性和疏水等性質導致藥代動力學上的缺點，因而影響其在臨床治療上的應用。微流體技術 (microfluidic technology) 可以使用相當少量的試劑，且在更短的時間內執行典型的實驗室操作，因此被認為具有非常大的潛力甚至可改變生物學研究的技術。近年來 3D 列印技術顯著地改變了微流體領域，並創造了新的微流體設備，使用 3D 列印機可以將反應管路的設計、構造和操作置於電腦的控制之下，因此製作程序更為簡單精確，另一方面也為多種材料和多相列印提供了進一步的可能性。本研究之目的是開發一個使用 3D 列印的方式製造微流體裝置用以生產舌下滴丸。結果顯示本研究利用 3D 列印技術製作液滴微通道矽膠晶片，而製備液滴的十字形微流體通道寬 1.5 mm、高 1mm。以 PEG6000 (粉體) 和 PEG400 (液體) 以 1:1 (w/w) 比例在 60°C 混合注入晶片，在通道中形成滴丸的接近真圓，粒徑均一，直徑大約為 1.0 mm。本研究開發之微膠囊製備平台可包覆具生物活性的分子，並具有連續式量產、粒徑分佈穩定、粒徑可調整等優勢，未來可運用在食品與製藥工業上。

關鍵字：薑黃素、微流體、滴丸。

英文摘要：

Curcumin, an active ingredient extracted from the root of *Curcuma longa*, has long been used as its antiinflammatory, antioxidant, antiseptic, analgesic, wound healing, antispasmodic, anticoagulant, and antimicrobial properties. However, its clinical applications are limited because of its low aqueous solubility, rapid hydrolysis in alkaline media, light instability, and hydrophobic characteristics, which result in pharmacokinetic (PK) drawbacks. Microfluidic technology, which can use small amounts of reagents and perform traditional laboratory works in a shorter period of time, is considered as a technology with great potential. Recently 3D printing has changed the field of microfluidics significantly and also created innovative microfluidic devices. A 3D printer can put the design, construction and operation of the reaction line under computer control, so the production process is simpler and more accurate, and it also provides further possibilities for multi-material and multi-phase printing. The purpose of this study is to develop a 3D printed microfluidic device for the production of sublingual dripping pills. The results show that this study uses 3D printing technology to produce droplet microchannel silicone chip, and the cross-shaped microfluidic channel used to prepare droplets is 1.5 mm wide and 1mm high. Mix PEG6000 (powder) and PEG400 (liquid) at a ratio of 1:1 (w/w) and inject them into the wafer at 60°C. A nearly true round droplet will be formed in the channel with a uniform particle size of approximately 1.0 mm in diameter. The microfluidic chip developed in this research has the advantages of continuous mass production, stable particle size distribution, and adjustable particle size. It can be applied in the food and pharmaceutical industries in the future.

Key words: Curcumin, microfluidics, dripping pills

中文摘要：

國發會推估我國將於 2025 年邁入超高齡社會，復由內政部統計資料可知老年期(60 歲以上)之離婚率亦持續提高。老年期離婚者，如為家務操持者，將面臨老年期經濟安全及生活維持挑戰，更將造成老年貧窮危機。因之，由民法第 1030 條之 1 第 1 項前段法定財產制關係消滅時，夫或妻現存之婚後財產，扣除婚姻關係存續所負債務後，如有剩餘，其雙方剩餘財產之差額，應平均分配。夫妻現存之婚後財產，其價值計算以法定財產制關係消滅時為準。但夫妻因判決而離婚者，以起訴時為準，民法第 1030 條之 4 第 1 項亦有明文。此係離婚時剩餘財產分配制彰顯家務勞動價值並轉換為具體財產權的功能，而離婚時剩餘財產制度的運作亦為重要的家庭資源分配秩序規範、保護經濟弱勢配偶。我國面臨人口老化、老年經濟安全等問題，則老年安全制度下的各種退休金、社會保險金、甚至是國民年金等，既是為了保障老年生活所仰賴的經濟基礎，則夫妻於離婚分配剩餘財產時，是否應納入分配之標的、將其納入是否符合剩餘財產制之意旨、家務勞動的價值為何？實值探究。

關鍵字：高齡社會、離婚、剩餘財產、退休金。

英文摘要：

The National Development Council estimates that our country will enter an aging society by 2025. Additionally, statistics from the Ministry of the Interior indicate a continuous increase in the divorce rate among the elderly (aged 60 and above). Elderly individuals who divorce, especially those who were primarily responsible for household management, will face economic challenges and challenges in maintaining their quality of life during old age. This trend is expected to contribute to a crisis of elderly poverty. In light of this, when the community property regime is terminated according to the Article of the Civil Code 1030-1, Paragraph 1, the remaining assets of both spouses, after deducting the debts incurred during the marriage, should be distributed equally. The value of the post-marital property is determined based on the termination of the community property regime. However, in cases of divorce due to a court judgment, the reference point is the time of filing the lawsuit, as explicitly stated in the Article 1030-4, Paragraph 1, of the Civil Code. This distribution of remaining assets during divorce highlights the value of household labor, transforming it into tangible property rights. The operation of this system is crucial as it establishes norms for the orderly distribution of family resources and protects economically vulnerable spouses.

In the face of challenges such as population aging and economic security for the elderly, various retirement funds, social insurance benefits, and even the national pension are elements of the elderly security system. These elements are designed to provide the economic foundation upon which the elderly can rely for their livelihood. Therefore, when distributing the remaining assets during divorce, the question arises as to whether these assets should be included in the distribution, if their inclusion aligns with the purpose of the remaining property regime, and what the value of household labor represents. These questions merit further investigation.

Key words: Aging Society, Divorce, Remaining Property, Retirement Pension

中文摘要：

網球運動是全球最受注目的個人球類運動，在個人賽的競賽中，以澳洲公開賽、法國公開賽、溫布頓公開賽、美國公開賽等四大公開賽最受世人重視。以國家為單位的團體競賽則台維斯杯網球賽，是網球團隊競賽最高殿堂。戰後初期臺灣因受限於網球器材費用高昂，各種裝備費用非受薪階級能負擔，因此，網球是少數菁英階層才能從事的運動，選手表現乏善可陳。

本研究主要探討臺灣網球運動，在戰後初期參與台維斯杯網球國家對抗賽的表現。從前述可知，戰後初期臺灣網球運動參與人口很少，比賽表現也不佳。因此，在台維斯杯網球賽這個比賽，臺灣的表現情形，是本研究探討重點。

本研究以歷史研究法以及訪談法，去分析戰後臺灣參與台維斯杯網球賽的過程以及選手表現，就某種意義而言，通過本篇論文的學術研究探討，除了可瞭解戰後到 1979 年這 30 餘年間，臺灣網球運動參與台維斯杯的過程，也可透過這個過程，反應出此一時期臺灣在國際社會的處境與歷史影像，這是本研究的主要動機與目的。

研究結果得知：戰後臺灣從 1956 年起提出要參加台維斯杯網球賽，一直要到 1970 年加入國際網球協會，才獲准可以於 1972 年參加台維斯杯的亞洲區預賽。臺灣從 1972 年第一場台維斯杯網球賽輸給越南遭到淘汰，連續 7 年未曾贏過一次比賽，一直到 1979 年在關島舉行的台灣與泰國的台維斯杯亞洲區預賽，以 3:2 擊敗泰國才首次獲勝。反映出戰後 30 年間台灣的網球水準落後亞洲各國，而在台灣網球界人士的努力下，經過 7 年的努力終於將台灣的網球實力逐漸提昇。

關鍵字：許晃榮、體育史、台維斯杯。

英文摘要：

Tennis is the most popular individual sport in the world. Among the individual tournaments, the Australian Open, the French Open, the Wimbledon Open, and the U.S. Open are the four most important tournaments in the world. The Davis Cup, a national team tournament, is the highest level of tennis team competition. In the early post-war period in Taiwan, due to the high cost of tennis equipment, tennis was not affordable to the salaried class, therefore, tennis was a sport only for the elite class, and the performance in competitions is not extraordinary as well.

This study focuses on the performance of Taiwan tennis in the early post-war period when it participated in the Tournament of the Davis Cup. From the foregoing, it can be seen that in the early post-war period, Taiwan's tennis population was small and its performance was poor. Therefore, the performance of Taiwan in this tournament is the focus of this study.

This research will apply the interview approach and discuss historical research to analyze the process of Taiwan's participation in the Davis Cup during the early post-war period. Through the academic research of this paper, we can not only understand the process of Taiwan's participation in the Davis Cup during the 30 years from the post-war period to 1979 but also reflect the situation and historical image of Taiwan in the international community during this period, which is the main motive and purpose of this study.

According to the results of the study, after the war, Taiwan proposed to participate in the Taivis Cup tennis tournament in 1956, and it was not until 1970 that it joined the International Tennis Association before it was allowed to participate in the Asian preliminary round of the Taivis Cup in 1972. Taiwan has not won a match for seven consecutive years since losing to Vietnam in the first Taivis Cup tennis match in 1972, and did not win for the first time until the 1979 Taivis Cup Asian preliminary match between Taiwan and Thailand was held in Guam, defeating Thailand 3-2. It reflects that Taiwan's tennis level lagged behind Asian countries in the 30 years after the war, and with the efforts of Taiwan's tennis circles, Taiwan's tennis strength has finally improved after 7 years of efforts.

Key words: HUANG-JUNG HSU, History of sport, DAVIS CUP

長青照服共學數位桌遊介入之成效評值

黃素妃

中文摘要：

全球人口正快速的老化，台灣地區 2025 年也將邁入超高齡社會，隨著老年人口比率快速上升伴隨的認知功能下降，亟需培育專業照顧人才。本研究設計「青銀共學數位桌遊」，應用 AQSR 理論進行介入課程，期能提升護生照顧失智老人知能。研究招募北部某專科學校學生。階段一學生 85 人，於校內場域進行單組前後測，結果顯示：學生在知識得分有進步，其中在「溝通及行為」有統計顯著的差異；在同理心部分雖有提升但未達顯著差異。此外，學生之學習經驗非常正向，學習投入程度高，對護生而言，參與此數位桌遊課程是一項相當重要且具有實質價值的經驗。研究結果顯示藉由智慧科技之應用，有助於提升失智照顧知能與學習動機。

關鍵字：AQSR 理論、數位桌遊、失智症、護理學生、同理心。

英文摘要：

The global population is rapidly aging, and by the year 2025, Taiwan is also expected to enter the era of an ultra-aged society. With the rapid increase in the elderly population and the accompanying decline in cognitive function, there is an urgent need to cultivate professional caregivers. This study designed the "Silver Youth Co-learning Digital Board Game" and applied the AQSR theory to implement an intervention program, aiming to enhance the cognitive abilities of nursing students in caring for individuals with dementia. The research recruited 85 students from a specialized school in the northern region for the first phase. A pre-test and post-test were conducted within the school setting, and the results showed improvement in students' knowledge scores. Specifically, there was a statistically significant difference in the "communication and behavior" domain. While there was an improvement in empathy, it did not reach a significant difference. Additionally, students had highly positive learning experiences, demonstrating a high level of engagement. For nursing students, participation in this digital board game course was deemed a crucial and valuable experience. The research results indicate that the application of smart technology contributes to improving dementia care knowledge and learning motivation.

Key words: AQSR theory, digital board game, dementia, nursing students, empathy

中年婦女積極富能 (Flourishing) 與自我維護身心健康行為之初探

侯本昕

中文摘要：

本研究為橫斷式研究，探討中年職業婦女們「積極富能」及「身心自我健康維護」的實踐現況與其相關性，以結構式問卷進行調查，總共收案 384 人。研究結果顯示，可以發現中年婦女積極富能各層面中「與他人關係」最為滿意，「正向轉念」為常用的自我維護身心健康行為方法，「高教育程度」、「經濟狀況良好」及「沒有疾病自覺健康」者，最能感受到整體幸福，「自覺健康」及「有宗教信仰」的婦女，較能實踐自我維護身心健康的行為，此外，各面向心理健康程度與自我健康維護行動息息相關，「積極富能程度愈高，自我維護身心健康行為表現也會越好」，擁有「生活意義」，可以預測 31.4% 的整體自我維護健康行動。

透過此研究，可印證心理健康與日常健康行動的正向循環，當婦女擁有有正向情緒、全心投入(心流)、正向人際、生命意義以及成就感時，則更能提升及實踐健康生活與行為，而找到生命意義是實踐健康行為很重要的關鍵。

關鍵字：積極富能、自我健康維護、中年婦女。

英文摘要：

Abstract: Objective: This cross-sectional study aims to investigate the current status and correlation between "flourishing" and "self-health maintenance" practices among middle-aged professional women.

Methods: Utilizing a structured questionnaire, a total of 384 participants were surveyed to examine their practices related to flourishing and self-health maintenance. The study focused on various dimensions, including interpersonal relationships, positive reframing, educational attainment, economic status, perceived health, religious beliefs, and psychological well-being.

Results: The findings reveal that middle-aged women express the highest satisfaction with "interpersonal relationships" within the spectrum of flourishing. "Positive reframing" emerges as a commonly utilized strategy for self-maintaining physical and mental health. Factors such as "higher educational attainment," "favorable economic conditions," and "perceived good health without illnesses" are associated with overall happiness. Additionally, women who "perceive themselves as healthy" and those with "religious beliefs" are more likely to engage in self-health maintenance behaviors. The study highlights the interconnection between various dimensions of psychological well-being and self-health maintenance actions. Higher levels of flourishing are linked to better self-health maintenance behaviors.

Conclusions: The research emphasizes the significance of life meaning, predicting 31.4% of overall self-health maintenance actions. This study supports a positive feedback loop between mental health and daily health actions, indicating that women with positive emotions, engagement, positive social relationships, life meaning, and a sense of accomplishment are more likely to enhance and practice healthy living behaviors.

Key words: Flourishing, Self-Health Maintenance, Middle-Aged Women

中文摘要：

教育型態因科技的發達而有更多可能的樣貌，混成學習(Blended learning - BL)即成為高度討論之學習方式。因此，探討使用混成教學與學習者學習態度與學習成效是否改變。本研究旨在探討實體課程再結合資訊科技進行網路媒體應用與教學策略下，學生的學習態度與學習成效的情形。運用問卷調查法以研究者本身所就讀學校之學校師培生作為研究對象，共發放 93 份問卷，回收 93 份有效問卷，有效問卷回收率 100%。問卷資料透過敘述統計分析、相關分析等統計方法驗證假設。

依據資料分析結果，本研究獲得結論如下：四、五年級的學生在混成學習學習態度與學習成效無顯著差異性，學生在進行混成學習時的吸收程度在 76-100%的組別在的學習態度($F=29.52$, $p=.000$)及學習成效($F=28.70$, $p=.000$)均優於吸收程度 75%以下的組別。透過相關分析混成學習的學習態度與學習成效存在顯著正向相關 ($r=.962$, $p=.000$)。

關鍵字：Z 世代學生、混成學習、學習成效、學習態度。

英文摘要：

Due to the development of science and technology, education styles have become more possible, and blended learning (BL) has become a highly discussed learning method. Therefore, we explore whether the use of blended teaching changes learners' learning attitudes and learning outcomes. The purpose of this study is to explore students' learning attitudes and learning outcomes when physical courses are combined with information technology for online media applications and teaching strategies. Using the questionnaire survey method, the teacher trainees of the researcher's own school were used as the research objects. A total of 93 questionnaires were distributed, and 93 valid questionnaires were recovered, with a valid questionnaire recovery rate of 100%. The questionnaire data is used to verify the hypotheses through narrative statistical analysis, correlation analysis and other statistical methods.

Based on the data analysis results, this study reached the following conclusions: There is no significant difference in the learning attitude and learning effectiveness of fourth- and fifth-grade students in blended learning. The absorption level of students in blended learning is between 76-100% in the group. Attitude ($F=29.52$, $p=.000$) and learning effectiveness ($F=28.70$, $p=.000$) are both better than those of the group with an absorption level below 75%. Through correlation analysis, there is a significant positive correlation between learning attitude and learning effectiveness of blended learning ($r=.962$, $p=.000$).

Key words: Generation Z students, blended learning, learning effectiveness, learning attitude