

摘 要

大學，一向被視為知識的殿堂；大學裡的實驗室，更是激盪新概念、產生新知識的重要場域。因此，大學實驗室可說是知識殿堂裡的智慧泉源；新的知識，不論是對於基礎科學的貢獻，或是應用技術的開發，都可以不斷地在那裡被製造出來。

為了明瞭大學實驗室裡持續創新的樣貌，特別是經過多代傳承、創新成果仍如湧泉般不斷出現的實驗室，本研究針對已在科學界屹立不搖一百三十三年之卡文迪什實驗室與八十三年之台大藥理學教室，進行分析後發現：維持優良的傳統與學風、仔細選擇研究領域並用心地開拓與經營、選擇優秀人才並加以培育，是他們得以歷經艱困草創期、成長期與轉型期，經過多代的傳承，仍在不同研究時期或領域都能獨領風騷的三項重要因素。

「傳統與學風」所保存的是實驗室的核心價值觀；這些核心價值是用以支持創新的土壤。「研究領域的開拓與經營」則須掌握大環境的變化，選擇適合發展的領域，並依據手中的資源擬定經營策略；這樣做即可保持身段的柔軟、不斷刺激進步。「人才的選擇與培育」則提供了足量的優質人力，可以執行創造的工作。

關鍵詞：大學實驗室、持續創新、多代傳承、傳統與學風、研究領域、人才、核心價值觀

ABSTRACT

Universities are considered as the knowledge palace while the laboratories therein are the most important places where surging the new concepts and producing knowledge. Therefore, the university laboratories become the wellspring of knowledge. Both basic and applied researches produced therein will contribute to the domain knowledge.

In order to realize why some university laboratories can conduct persistent creation and innovation, two cases which have long history during several generations were analyzed; one is the Cavendish Laboratory of Cambridge University, U.K. and another one is the Pharmacology Laboratory of National Taiwan University, College of Medicine. Both laboratories are considered as the outstanding ones with very good performance in frontier researches. Moreover, many great scientists including Nobel Prize Laureates and Academicians were educated and trained in these laboratories. Most important of all, each generation of these laboratories kept producing creative and innovative accomplishments as well as the long-lived companies do in the business world.

The main findings of this research are: 1. retaining the excellent traditions and academic atmosphere; 2. choosing research area carefully and managing it attentively; 3. selecting outstanding talents and educating them, are the key success factors to foster the university laboratories toward incessant innovation. First of all, the traditions and academic atmosphere they preserved are considered to be the core values which cultivate the emerging of creation as well as innovation. Moreover, these long-lived laboratories devoted themselves to the research areas which had been chosen very carefully based on the macro-environment and resources they had in hands. By doing so, they can keep on going forwards. Nevertheless, a lot of talents are necessary for implementing researches in these laboratories. After all, great creation or innovation could not come true without the elite.

Keywords: university laboratory 、 persistent creation and innovation 、 traditions and academic atmosphere 、 research area 、 talents.