

國立彰化師範大學科學教育研究所學術演講摘要

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主題：回首科學教育來時路(Journey of My Science Education)

中文摘要：

101 年，47 歲的我重新詮釋中年的意義，決定進修彰師大科教所博士班。起因於 95 年，當時中興大學教授鼓勵我成為奈米國家型計劃的國內外科學營講師，以及學校奈米計畫主持人。自 96 年起，我成為奈米計畫學校主持人，並擔任台大、國內、國外大學和學校的科學營講師。104 年，我在 EASE 2015 發表論文後，經彰師教授指引，獲選國科會研究生研討會的全額補助。回國後，我收到國際期刊的邀稿，但因為一些原因未投稿。107 年，另一位彰師教授激勵我申請教育部計畫，開啟科教研究計畫。之後，科學教育、奈米科技教育、動手做、跨領域學習、探究與實作、合作問題解決、評量，成為我研究的中心主題。然而，面臨長期壓力與衰老，我感到挫折。109 年，台師大教授鼓勵我：「你可以在兩年內完成學位」。110 年 7 月前，我完成資格考、論文計畫、投稿期刊、英檢、畢業論文，同時獲得斐陶斐榮譽會員證書。祝福學弟妹，尋找生命的活水，尋找內在的力量，並實現自我。

關鍵字：跨領域學習、探究與實作、合作問題解決、評量

英文摘要（歡迎演講者提供英文摘要和關鍵字）：

In 2012, at the age of 47, I redefined the meaning of middle age and made the decision to pursue a doctoral degree at the Graduate Institute of Science Education at NCUE. My journey began in 2006. The professors from NCHU encouraged me to take on the role of a domestic and international scientific camp lecturer for the National Nano Project, as well as become the nano project leader at my school. Subsequently, in 2007, I assumed the position of the nano project leader at my school, and also became a scientific camp lecturer for universities and schools both in Taiwan and overseas. In 2015, I presented a paper at EASE 2015. With the guidance of a professor at NCUE, I successfully applied for and received full funding from the National Science Council for a graduate student seminar. Upon returning to Taiwan, I was invited by an international journal to submit a paper. Due to certain circumstances, I was unable to do so. In 2018, another professor at NCUE encouraged me to apply for a project from the Ministry of Education, which opened the opportunity for my independent research in science education. As a result, my research areas have expanded to include science education, nanotechnology education, hands-on learning, interdisciplinary learning, inquiry and practice learning, collaborative problem-solving, and assessment. However, due to chronic stress and accelerated aging, I felt frustrated. In 2020, a professor at NTNU inspired me with the idea of "graduating in two years". By July 2021, I had passed my qualifying exams, defended my dissertation proposal, submitted my work to journals, passed the General English Proficiency Test, and defended my dissertation. Additionally, I was honored with membership in the Phi Tau Phi Scholastic Honor Society. Finally, I wish you all the best in your pursuits. Seek the fountain of living waters, discover your inner strength, and achieve self-actualization.

Keywords: interdisciplinary learning, inquiry and practice learning, collaborative

problem solving, assessment