

# 高中教師氣候變遷教學經驗及合理性覺知對教學興趣之影響：兼論自我效能之中介效果

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## 摘要

聯合國於 2015 年將氣候行動列為永續發展目標之一，臺灣則在十二年國民基本教育裡將氣候變遷訂為自然領域和環境教育議題的學習主題，足見氣候變遷已成為重要且急迫的教育議題。然過去研究較少關注高中教師在學校進行氣候變遷教學的概況，因此本研究結合 Bandura 的自我效能理論與認知心理學的合理性概念，探討臺灣高中教師在氣候變遷議題上的教學經驗、相關知識的合理性覺知、自我效能及教學興趣之現況與關聯性。本研究透過配額抽樣調查 649 位生物、地球科學、地理、生活科技、公民與社會等學科之高中教師，並採用國外近年發展的氣候變遷教育教師效能信念量表和氣候變遷合理性覺知量表收集資料，再進行迴歸取向的路徑分析。結果顯示本文所提的九項假設皆成立。其中，教學策略多元性是預測教師自我效能的最佳因子，而教師對氣候變遷知識的合理性覺知則最能預測教學興趣。此外，自我效能亦可有效中介教學策略多元性、研習培訓多樣性、合理性覺知等因素對教學興趣的影響。本文亦依據分析結果提出未來研究和教育實務上的建議。

**關鍵字：** 合理性覺知、高中教師、氣候變遷教育、教師自我效能

提供觀摩其他資深教師成功的教學範例(有意義的替代經驗)或影片，或讓教師有機會練習使用已開發的各種氣候變遷教案和教材(提供精熟的機會)。(4)更重要的是，要能協助教師正向評估自己的教學成效(強化成就與成功表現)來提升氣候變遷的教學信心。

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## **Influence of Teaching Experiences and Perception of Plausibility on Senior-High-School Teachers' Teaching Interest in Climate Change and the Confirmation of Mediation Effect of Self-Efficacy**

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### **Abstract**

The United Nations proposed climate action as one of the sustainable development goals in 2015. In the recent enforcement of new curriculum guidelines of twelve-year basic education in Taiwan, climate change was designated as important learning topics in science education and environmental education as well. Although the international trends and domestic educational reform have made climate change an important and urgent educational issue, previous studies seldom surveyed the real teaching situations at middle school system. Therefore, the purpose of this research was to combine Bandura's theory on Self-efficacy and the concept of Plausibility from cognitive psychology and to explore the relationships among Taiwanese senior-high-school teachers' teaching experiences, perception of plausibility, self-efficacy and interest in teaching climate change at school. Through quota sampling, we surveyed 649 teachers who taught subjects in biology, earth science, geography, living technology, civic and social education. We also adapted two scales- Climate Change Education Teacher Efficacy Belief Instrument and Plausibility Perceptions Measure for climate change to collect data. The result of regression-approach path analysis showed that the nine hypotheses were all supported. For teacher self-efficacy, the best predictor was the diversity of successful pedagogy teachers used in the previous teaching. Meanwhile, the best predictor to teaching interest was teachers' perception of plausibility to climate change knowledge. In addition, teacher's self-efficacy was confirmed to completely or partially mediate teachers' pedagogy diversity,

diversity of professional development, and perception of plausibility to teaching interest. Based on what we have found, we provided suggestions for future research and educational practices for climate change education.

**Keywords:** perception of plausibility, senior-high-school teachers, climate change education, teacher self-efficacy