# Applying Cognitive Load Theory to the Effectiveness of Professional English Learning

### **Mei-Hung Chen**

Department of Industrial Education, College of Technology and Engineering, National Taiwan Normal University, Taipei, Taiwan

#### Ing-Kui La

Department of Industrial Education, College of Technology and Engineering, National Taiwan Normal University, Taipei, Taiwan

#### **Chien-Yun Dai**

Department of Industrial Education, College of Technology and Engineering, National Taiwan Normal University, Taipei, Taiwan

#### **Abstract**

This study primarily utilizes ICT (Information and Communication Technology) and the Professional Vocabulary Quotient Credential (PVQC) in English for teaching empirical research. After completing professional English teaching activities and systematic evaluations, the researcher conducted a questionnaire survey with 160 university students. The aim is to understand the learning load of integrating PVQC professional English vocabulary into computer-related and thematic English listening teaching course content, examining the load level and its impact on learning performance. The results of hypothesis verification, regression path coefficients, and t-value tests indicate that among the causal factors of cognitive load, "performance level" and "frustration level" have the most significant impact on mental load within cognitive load, while "frustration level" also significantly affects physiological load within cognitive load. Additionally, mental load within cognitive load has a significant impact on learning performance.

## **Keywords**

English Learning, Cognitive Load, Professional English, Professional Vocabulary Quotient Credential.