技術及職業教育學報

第八卷・第二期

中華民國一百零七年六月

中華民國八十七年六月創刊

發行人兼主編:宋修德

出 版 者:國立臺灣師範大學 工業教育學系(所)

編輯委員:(107年4月至109年3月,依姓氏筆劃順序排列)

朱耀明 國立高雄師範大學工業科技教育學系主任

吳雅玲 國立屏東科技大學技術及職業教育研究所教授

李大偉 健行科技大學校長

李隆盛 中臺科技大學校長

李懿芳 國立臺灣師範大學工業教育學系教授

周春美 國立雲林科技大學技術及職業教育研究所長

周麗端 國立臺灣師範大學人類發展與家庭學系主任

洪榮昭 國立臺灣師範大學工業教育學系研究講座教授

胡茹萍 國立臺灣師範大學工業教育學系副教授

徐昊杲 龍華科技大學企業管理系特聘教授

郭金國 國立臺灣師範大學工業教育學系教授

曾淑惠 國立臺北科技大學人文與社會科學學院長

温玲玉 國立彰化師範大學財務金融技術學系教授

程金保 國立臺灣師範大學科技與工程學院長

黃能堂 國立臺灣師範大學科技應用與人力資源發展學系教授

楊心怡 國立臺北科技大學技術及職業教育研究所副教授

楊朝祥 佛光大學校長

廖年淼 國立雲林科技大學技職教育研究所特聘教授

蕭錫錡 正修科技大學經營管理研究所講座教授

饒達欽 佛光大學資訊應用學系講座教授

執行編輯:胡茹萍、李懿芳

助理編輯:唐巍芬、林意珊

發 行 所:臺北市和平東路一段 162 號

電 話:(02)7734-3362 傳 真:(02)2392-9449

網 址:http://www.ie.ntnu.edu.tw/new/publication/main.htm

Journal of Technological and Vocational Education

Volume 8, Number 2

September, 2018 Since June, 1998

Publisher and chief editor: Sung, Hsiu-Te

Published by: Department of Industrial Education, National Taiwan Normal University

Board of Editors: (April, 2018~March, 2019) (Listed by the Last Name)

Cheng, Chin-Pao Dean of College of Technology and Engineering, National Taiwan Normal

University

Chou, Chun-Mei Professor of Graduate Institute of Technological and Vocational Education,

National Taipei University of Technology

Chou, Li-Tuan Associate Professor& Head of Department of Human Development, National

Taiwan Normal University and family studies

Chu, Yao-Ming Professor & Head of Industry Technology Education, National Kaohsiung

Normal University

Chuang, Kuei-Chih Professor of Department of Electrical Engineering, National Yunlin University of

Science and Technology

Hong, Jon-Chao Research Chair Professor of Department of Industrial Education, National

Taiwan Normal University

Hsiao, Hsi-Chi Chair Professor of Department of Business Administration, Chengshiu University

Hsu, How-Gao Distinguished Chair Professor of Lung Hwa University of Science and

Technology

Hu, Ru-Ping Associate Professor of Department of Industrial Education, National Taiwan

Normal University

Huang, Neng-Tang Professor of Department of Technology Application and Human Resource,

National Taiwan Normal University

Kuo, Chin-Guo Professor of Department of Industrial Education, National Taiwan Normal

University

Lee, Da-Wei President of Chien Hsin University of Science and Technology
Lee, Lung-Sheng President of Central Taiwan University of Science and Technology

Lee, Yi-Fang Professor of Department of Industrial Education, National Taiwan Normal

University

Lyau, Nyan-Myau Distinguished Chair Professor of Graduate School of Technological and

Vocational Education, National Yunlin University of Science and Technology

Rau, Dar-Chin Chair Professor of Department of Applied Informatics, Fo Guang University
Tseng, Shu-Hui Professor & Dean of College of Humanities and Social Sciences, National Taipei

University of Technology

Wu, Ya-Ling Professor of Graduate Institute of Technological and Vocational Education,

National Pingtung University of Science and Technology

Yung, Chaur-Shin President of Fo Guang University

Yung, Sin-Yi Associate Professor of Graduate Institute of Technological and Vocational

Education, National Taipei University of Technology

Executive Editor: Hu, Ru-Ping; Lee, Yi-Fang **Editorial Assistants:** Tang, Wei-Fen; Lin, Yi-Shan

Publication Office: 162, Ho-Ping East Road, Sec. 1, Taipei, Taiwan, R.O.C.

TEL: 886-2-7734-3362 **FAX:** 886-2-2392-9449

Website: http://www.ie.ntnu.edu.tw/new/publication/main.htm