

Contents

Contributions in: Conceptual Understanding, Engineering Design, Emotions, Student Perception, Student Veteran, Educational Technology, Capstone Design, Personality Traits, Aquaponics, Persistence, Classroom Engagement, Emotional Intelligence, Female Students, Building Information Modelling, Enrollment Patterns, Retention, Motivation, Engineer Identity, Gender Differences, Quality Function, Capstone Courses, Team Estimation Game, Cost Analysis, Verbal Feedback, Gateway Courses, Tutoring Systems, Teaching Quality, Collaborative Projects, Self-Study Platforms

Ahmad Ibrahim	1	Editorial
Nicole P. Pitterson, Natasha Perova-Mello and Ruth A. Streveler	2–14	Engineering Students' Use of Analogies and Metaphors: Implications for Educators
Suzanne H. Jones, Brett D. Campbell and Idalis Villanueva	15–24	An Investigation of Self-Efficacy and Topic Emotions in Entry-Level Engineering Design Learning Activities
Aman Yadav, Vivian Alexander and Swati Mehta	25–34	Case-based Instruction in Undergraduate Engineering: Does Student Confidence Predict Learning?
Catherine Mobley, Joyce B. Main, Catherine E. Brawner, Susan M. Lord and Michelle M. Camacho	35–49	Pride and Promise: The Enactment and Salience of Identity Among First-Generation Student Veterans in Engineering
Victor H. Benitez, Jesus Pacheco, María E. Anaya and L. C. Félix-Herrán	50–58	Solar Tracking System: An Educational Tool to Introduce Mechatronics Engineering to Renewable Energy Studies
Issam Damaj and Jibran Yousafzai	59–75	Effective Assessment of Student Outcomes in Computer Engineering Programs using a Minimalistic Framework
Naser Hourieh, Yi Ding, Qian Wang, John Craven and Eric Chen	76–87	General Personality Traits of Engineering Students and Their Relationship with Academic Achievement
Aleksandar Vujovic, Petar Todorovic, Miladin Stefanovic, Arso Vukicevic, Mina Vaskovic Jovanovic, Ivan Macuzic and Nikola Stefanovic	88–98	The Development and Implementation of an Aquaponics Embedded Device for Teaching and Learning Varied Engineering Concepts
Matthew Meyer and Ning Fang	99–108	A Qualitative Case Study of Persistence of Engineering Undergraduates
Ryan Falkenstein-Smith, Jeongmin Ahn and Ryan J. Milcarek	109–118	Reinvigorating Classroom Engagement and Performance in an Advanced Energy Systems Course
Ali Rizwan, Hemaïd Alsulami, Nabilah Elnahas, Maha Bashir, Fatema Bawareth, Rawan Kamrani and Razan Noorelahi	119–125	Impact of Emotional Intelligence on the Academic Performance and Employability of Female Engineering Students in Saudi Arabia
Joosung Lee, Byeol Kim and Yonghan Ahn	126–141	Building Information Modeling (BIM) Technology Education for the Needs of Industry in Developing Countries
David Reeping, David B. Knight, Jacob R. Grohs and Scott W. Case	142–155	Visualization and Analysis of Student Enrollment Patterns in Foundational Engineering Courses
Lorenzo Salas-Morera, M.^a Antonia Cejas-Molina, José L. Olivares-Olmedilla, Laura García-Hernández and Juan M. Palomo-Romero	156–167	Factors Affecting Engineering Students Dropout: A Case Study
Joni M. Lakin, Virginia A. Davis and Edward W. Davis	168–181	Predicting Intent to Persist from Career Values and Alignment for Women and Underrepresented Minority Students
Adnan Aktepe	182–194	Application of Fuzzy Quality Function Deployment Model, Group Decision Making and Choquet Integral to Improve Service Quality in Engineering Education
Marko Požnel and Tomaž Hovelja	195–208	A Comparison of the Planning Poker and Team Estimation Game: A Case Study in Software Development Capstone Project Course
John R. Haughery and D. Raj Raman	209–220	Incremental Cost Analysis of First-Year Course Innovations
Ada Hurst and Oscar G. Nespoli	221–231	Comparing Instructor and Student Verbal Feedback in Design Reviews of a Capstone Design Course: Differences in Topic and Function
So Yoon Yoon, P. K. Imbrie, Teri Reed and Kristi J. Shryock	232–251	Identification of the Engineering Gateway Subjects in the Second-Year Engineering Common Curriculum
Qinbo Li and Sheng-Jen Hsieh	252–261	An Intelligent Tutoring System for Computer Numerical Control Programming

Abdelhakim Abdelhadi and Mohammad Nurunnabi	262–272	Engineering Student Evaluation of Teaching Quality in Saudi Arabia
José Miguel Blanco, César Domínguez, Ana Sánchez, Arturo Jaime and Jónathan Heras	273–285	Managing Telecollaboration among Engineering Students and Faculty: A Case Study from Two Spanish Universities
David Baneres and Robert Clarisó	286–303	Evaluation of a New Self-Study Platform for Introductory Digital Systems
	304	Guide for Authors