



World Transactions
on
Engineering and Technology
Education

Editor-in-Chief
Zenon J. Pudlowski
World Institute for Engineering and Technology Education (WIETE)
Melbourne, Australia

World Transactions on Engineering and Technology Education



Association of Taiwan Engineering
Education and Management
(ATEEM)
Taipei, Taiwan



College of Engineering &
Engineering Technology
Northern Illinois University
DeKalb, Illinois, USA



Commonwealth Science and
Technology Academy for
Research (C-STAR)
Chennai, India



Faculty of Architecture
Slovak University of Technology
in Bratislava
Bratislava, Slovakia



Polytechnic Institute
of New York University
New York, USA



Piraeus University of
Applied Sciences
Piraeus-Athens, Greece



UNIVERSITY OF BOTSWANA
University of Botswana
Gaborone, Botswana

Published by:

World Institute for Engineering and Technology Education (WIETE)
141 The Boulevard, Ivanhoe East, Melbourne, VIC 3079, Australia

E-mail: info@wiete.com.au

Internet: <http://www.wiete.com.au>

© 2016 WIETE

ISSN 1446-2257

Articles published in the World Transactions on Engineering and Technology Education (WTE&TE) have undergone a formal and rigorous process of peer review by international referees.

This Journal is copyright. Apart from any fair dealing for the purpose of private study, research, criticism or review as permitted under the Copyright Act, no part of this Journal may be reproduced by any process without the written permission of the publisher.

Responsibility for the contents of these articles rests upon the authors and not the publisher. Data presented and conclusions developed by the authors are for information only and are not intended for use without independent substantiating investigations on the part of the potential user.

World Transactions on Engineering and Technology Education

EDITOR-IN-CHIEF

Prof. Zenon J. Pudlowski
World Institute for Engineering and Technology Education (WIETE)
141 The Boulevard, Ivanhoe East, Melbourne, VIC 3079, Australia
Tel/Fax: +61 3 94994339, E-mail: zenon.pudlowski@wiete.com.au
Internet: <http://www.wiete.com.au>

MANAGER & ASSOCIATE EDITOR

Dr Dianne Q. Nguyen
World Institute for Engineering and Technology Education (WIETE),
Melbourne, Australia

ASSOCIATE EDITORS

Dr Ian R. Dobson
University of Helsinki, Helsinki, Finland & University of Ballarat, Ballarat,
Australia
Mrs Dorota I. Pudlowski
World Institute for Engineering and Technology Education (WIETE),
Melbourne, Australia
Ms Krystyna Wareing
Independent Communications Consultant, Crawley, West Sussex, England, UK

ADVISORY BOARD MEMBERS

Prof. Hosni I. Abu-Mulaweh
Dr Stanislav Avsec
A/Prof. Kristijan Breznik
Indiana University-Purdue University Fort Wayne, Fort Wayne, Indiana, USA
University of Ljubljana, Ljubljana, Slovenia
International School for Social and Business Studies; College of Industrial
Engineering, Celje, Slovenia
Prof. Samuel C-C. Chang
Prof. Colin U. Chisholm
A/Prof. Chih-Hsien Huang
Prof. Ahmad Ibrahim
Prof. Krzysztof Kluszczyński
Prof. Romanas V. Krivickas
Dr Wojciech Kuczborski
Prof. Viljan Mahnič
Prof. George Metaxas
Prof. Andrew Nafalski
Dr Zorica Nedic
Prof. Derek O. Northwood
Prof. Robert Špaček
Prof. David W.S. Tai
Prof. Steven Thatcher
Prof. Jacek Uziak
Prof. Algirdas V. Valiulis
Prof. Promod Vohra
National Taiwan Normal University, Taipei, Taiwan
Glasgow Caledonian University, Glasgow, Scotland, UK
Ming Chi University of Technology, New Taipei City, Taiwan
Yorkville University, Toronto, Ontario, Canada
Silesian University of Technology, Gliwice, Poland
Kaunas University of Technology, Kaunas, Lithuania
Private Consultant & WIETE, Perth, Australia
University of Ljubljana, Ljubljana, Slovenia
Piraeus University of Applied Sciences Piraeus-Athens, Greece
University of South Australia, Mawson Lakes, Adelaide, Australia
University of South Australia, Mawson Lakes, Adelaide, Australia
University of Windsor, Windsor, Canada
Slovak University of Technology in Bratislava, Bratislava, Slovakia
Hungkuang University, Taichung, Taiwan
University of Central Queensland, Cairns, Australia
University of Botswana, Gaborone, Botswana
Vilnius *Gediminas* Technical University, Vilnius, Lithuania
Northern Illinois University, DeKalb, USA

Contents

Z.J. Pudlowski	Editorial	444
J. Baraniak, K. Pachowicz, A. Nafalski, H. Considine & Z. Nedic	Determination of parameters of an equivalent circuit of a single-phase transformer using a remote laboratory	445
J-C. Jao	Implementation and reflection of a MOOC	451
P. Markiewicz	<i>Smart project, building and city</i> - multi-criteria optimisation of the design process in the education of architecture students	457
R. Wang, P. Peng, L-g. Liu & L. Xu	Professional competences training path for an e-commerce major, based on the ISM method	463
W. Celadyn	Feedback in a method of architectural education	468
Y. Sun, W. Cheng, G. Jiang, G. Li, Y. Guo & H. Xiong	Building a creative classroom system for mechanical engineering students	473
R. Špaček & L. Šíp	Quality assessment - one task versus multitask model in studio teaching	477
Q. Lei, Z. Wu, L. Guo & S. Geng	Reform of the <i>Electromagnetic Fields and Waves</i> course in the new era	483
V. Šinigoj & S. Avsec	Attitudes and perception of future teachers toward design and technology	489
M. Celadyn	Inner space elements in environmentally responsible interior design education	495
J. Li, Y. Ding & Z. Li	A software service outsourcing talent cultivation mechanism, based on big data processing technology	500
A. Rhodes, M.M. Danaher, A. Ater Kranov & L. Isaacson	Measuring attainment of foundation skills in general education at a public university in the United Arab Emirates	506
W. Li, J. Yu & R. Desrosiers	A study on a China's pilot training regime	513
G. Xiao	An empirical study on the effects of co-operative learning on Chinese college engineering students' English writing self-efficacy	518
M. Tan, P. Yu & F. Gong	The development path of MOOCs for China's higher education and its applications in engineering and technology education	525
A. Kalanidhi	Fast changing technology - a need for dynamic accreditation	531
Y. Xie, M. Wang, G. Jiang, L. Ning, C. Liu, C. Lu, G. Li & Z. Liu	Reform of teaching and the introduction of an autonomous learning centre in a mechanical drawing course	534
S. Avsec & V. Šinigoj	Proactive technical creativity: mediating and moderating effects of motivation	540
G. Lin	Reform of a motion control system course for developing engineering ability	546
V. Jakchaikul & T. Kansirat	Teaching management to resolve student problems in <i>Computer Programming 1</i>	552
M.M. Danaher	Constructs for quality in on-line learning	557

H. Toba, E.A. Wijaya, M.C. Wijanto & O. Karnalim	Developing alumni job prediction models based on term occurrences and word class analysis of search engine page results	563
Index of Authors		568