ISSN: 1305-8215 e-ISSN: 1305-8223 August 2020 Volume 16 Issue 8

EURASIA JOURNAL OF MATHEMATICS, SCIENCE AND TECHNOLOGY EDUCATION

Indexed by SCOPUS® & ERIC



EURASIA JOURNAL OF MATHEMATICS, SCIENCE AND TECHNOLOGY EDUCATION

Editors-in-Chiefs

Chun-Yen CHANG, National Taiwan Normal University (NTNU), TAIWAN Lianghuo FAN, University of Southampton, UNITED KINGDOM

Editors

Engineering Education

Xiangyun DU, Qatar University, QATAR & UNESCO PBL Center for Engineering and Science Education, Aalborg University,

Teen-Hang MEEN, National Formosa University, TAIWAN Mathematics Education

Mathematics Education
Kwok Cheung CHEUNG, University of Macau, MACAU
Mei-Shiu CHIU, National Chengchi University, TAIWAN
Oh Nam KWON, Seoul National University, SOUTH KOREA
Joohi LEE, University of Texas at Arlington, USA
Sandra NITE, Texas A&M University, USA
Chunxia QI, Beijing Normal University, CHINA
Alison Castro SUPERFINE, University of Illinois at Chicago, USA
Der-Ching YANG, National Chiayi University, TAIWAN
Science Education

Onofrio Rosario BATTAGLIA, University of Palermo, ITALY Hayat HOKAYEM, Texas Christian University, USA Hui JIN, Educational Testing Service, USA Jing LIN, Beijing Normal University, CHINA Silvija MARKIC, University of Education Ludwigsburg,

Jan Alexis NIELSEN, University of Copenhagen, DENMARK Mariusz PANCZYK, Medical University of Warsaw, POLAND Milan KUBIATKO, Jan Evangelista Purkyně University, CZECH REPUCBLIC

Sarantos PSYCHARIS, School of Pedagogical and Technological Education, GREECE

Wan NG, University of Technology Sydney, AUSTRALIA Technology Education

Denise M. BRESSLER, University of Pennsylvania, USA M. Shane Tutwiler, University of Rhode Island, USA Tzu-Hua WANG, National Tsing Hua University, TAIWAN (R.O.C.)

Yi-Shun WANG, National Changhua University of Education,

Zacharia ZACHARIAS, University of Cyprus, CYPRUS

Assistant Editors

Jana FANCOVICOVA, University of Trnava, SLOVAKIA, E-mail: fankaj@gmail.com

Vanda JANSTOVA, Charles University, Prague, CZECH REPUBLIC.

 $\hbox{E-mail: } vanda.janstova@natur.cuni.cz\\$

Editorial Board Members

Mathematics Education

Lyn ENGLISH, Queensland University of Technology,

Uwe GELLERT, Freie Berlin University, GERMANY Anjum HALAI, Aga Khan University, PAKISTAN Gert KADUNZ, University of Klagenfurt, AUSTRIA Mailizar MAILIZAR, Syiah Kuala University, INDONESIA Charis VOUTSINA, University of Southampton, UNITED KINGDOM

Science Education

Fouad ABD-EL-KHALICK, University of Illinois at Urbana-Champaign, USA

Agustin ADÚRIZ-BRAVO, Universidad de Buenos Aires, ARGENTINA

Maria Pilar Jiménez ALEIXANDRE, Universidade de Santiago de Compostela, SPAIN

Michael ALLEN, Kingston University, UK

Kyriacos ATHANASIOU, National and Kapodistrian University of Athens, GREECE

Alipaşa AYAS, Bilkent Üniversitesi, TURKEY Nélio BIZZO, Universidade de São Paulo, BRAZIL Saouma BOUJAOUDE, American University of Beirut, LEBANON

Lynn A. BRYAN, Purdue University, USA Peter C. CORMAS, California University of Pennsylvania, USA Colleen T. DOWNS, University of KwaZulu-Natal, SOUTH

Jan H. VAN DRIEL, University of Melbourne, AUSTRALIA Ingo EILKS, University of Bremen, GERMANY Olle ESKILSSON, Kristianstad University, SWEDEN Anna Maria GRUGNETTI, University of Pavia, ITALY Gürol IRZIK, Sabanci Üniversitesi, TURKEY Marika KAPANADZE, Ilia State Univesity, GEORGIA Gregory J. KELLY, The Pennsylvania State University, USA Sarika KEWALRAMANI, Monash University, AUSTRALIA Vanessa KIND, Durham University, UK Vincentas LAMANAUSKAS, University of Siauliai, LITHUANIA Jari LAVONEN, University of Helsinki, FINLAND

Norman G. LEDERMAN, Illinois Institute of Technology, USA Rachel MAMLOK-NAAMAN, Weizmann Institute of Science, ISRAEL

Sonya N. MARTIN, Seoul National University, REPUBLIC OF KOREA

Mansoor NIAZ, Universidad de Oriente, VENEZUELA
Pernilla NILSSON, Halmstad University, SWEDEN
Rolf V. OLSEN, University of Oslo, NORWAY
Kamisah OSMAN, Universiti Kebangsaan Malaysia, MALAYSIA
Paul PACE, University of Malta, MALTA
Pavol PROKOP, Trnava University, SLOVAKIA
Sarantos PSYCHARIS, School of Pedagogical and
Technological Education - ASPETE, GREECE
Martin RUSEK, Charles University, CZECH REPUBLIC
Rohaida Mohd. SAAT, University of Malaya, MALAYSIA
Chieh-Jen SHIEH, Huaqiao University, CHINA
Kenneth TOBIN, The Graduate Center of CUNY, USA

Technology Education

Chin-Chung TSAI, National Chiao Tung University, TAIWAN Lung Hsiang WONG, Nanyang Technological University, SINGAPORE

EURASIA JOURNAL OF MATHEMATICS, SCIENCE AND TECHNOLOGY EDUCATION

The Eurasia Journal of Mathematics, Science and Technology Education (Abbrev. EURASIA J. Math., Sci Tech. Ed. or EJMSTE) is an English Open Access peer-reviewed journal publishing articles on all aspects of Mathematics, Science and Technology Education with ISSN: 1305-8223 (online) and 1305-8215 (print). The journal is published 12 times in a year, and strictly adheres to the principles of the peer review process.

EURASIA Journal of Mathematics, Science and Technology Education encourages submissions from all authors throughout the world. Manuscripts are judged by two experts solely on the basis of their contribution of original data, ideas and their presentation. All manuscripts must comply with Manuscript Preparation Guidelines. Submitted manuscripts must not have been published, accepted for publication or be under consideration elsewhere.

Submissions: EJMSTE has a fully online review system. This system offers authors the convenience of submitting their manuscripts via **EditorialPark**. Please send your manuscripts an MS Word attachment to the editors via the following address: https://www.editorialpark.com/ejmste/

Eurasia Journal of Mathematics, Science and Technology Education (EJMSTE) is a monthly journal published online 12 times annually in January, February, March, April, May, June, July, August, September, October, November, and December.

EJMSTE is indexed and/or abstracted in ROAD, EdNA Online Database, Education Research Index, ERIC, ERIH, Genamics JournalSeek, Google Scholar, Higher Education Teaching and Learning Journals, Higher Education Research Data Collection, MathDi, PsycINFO, SCOPUS (Elsevier), TOC Premier Database, Ulrich's Periodicals Directory, ZDB - Zeitschriftendatenbank.

Publication of any material submitted by authors does not necessarily mean that the journal, publisher, editors, or any of the editorial board members endorse or suggest the content. Publishing decisions are based and given only on scholarly evaluations. Apart from that, decisions and responsibility for adopting or using partly or in whole any of the methods, ideas or the like presented in EJMSTE pages solely depends on the readers' own judgment.

Published by: MODESTUM LIMITED

Publication Office: 1 Windrush Road, Hilton, Derbyshire DE65 5LB, United Kingdom

Phone: +44 (0) 208 936 7681

Email: publications@modestum.co.uk Publisher: https://modestum.co.uk Journal Web: https://www.ejmste.com Twitter: https://twitter.com/ejmste

Facebook: https://www.facebook.com/ejmste

© 2005-2020. All rights reserved by Modestum Limited. Copyright for Open Access Content is Retained by Authors. Also, authors continue to hold the copyrights of their own papers by acknowledging that their papers are originally published in the EURASIA J Math, Sci & Tech Ed. Hence, articles published are licensed under a "Creative Commons Attribution 4.0 International License."

ISSN: 1305-8215 (Print), 1305-8223 (Online)

VOLUME 16 ISSUE 8 CONTENTS (AUGUST 2020)

Physics Teachers' Views and Practices on the Assessment of Students' Practical Work Skills Nicholas Zezekwa, Nkopodi Nkopodi https://doi.org/10.29333/ejmste/8289	em1865
Science Teachers' Perceptions of Personal Science Efficacy Beliefs and Science Teaching in Saudi Arabia, Pakistan, and the United Arab Emirates Sadia Shaukat, Venkat Rao Vishnumolakala, Amani K. Hamdan Alghamdi https://doi.org/10.29333/ejmste/8290	em1866
Comparing Models of Problem and Project-Based Learning (PBL) Courses and Student Engagement in Civil Engineering in Qatar Khalid Kamal Naji, Usama Ebead, Abdulla Khalid Al-Ali, Xiangyun Du https://doi.org/10.29333/ejmste/8291	em1867
A Systematic Review on Mathematical Language Learning Using PRISMA in Scopus Database Rosmawati Mohamed, Munirah Ghazali, Mohd Ali Samsudin https://doi.org/10.29333/ejmste/8300	em1868
Factors Influencing the Creation of a Positive Climate in Natural Science Lessons from the Perspective of Pupils Helena Grecmanová, Dalibor Gonda, Eva Urbanovská, Vlasta Cabanová https://doi.org/10.29333/ejmste/8301	em1869
Pre-service Teachers' Secondary School Experiences in Learning Geometry and their Confidence to Teach it Fidèle Niyukuri, Joachim Nzotungicimpaye, Claudien Ntahomvukiye https://doi.org/10.29333/ejmste/8334	em1871



