

Vol. 15, No. 5, 2016

ISSN 1648-3898



JOURNAL
OF BALTIC
SCIENCE
EDUCATION

Journal of Baltic Science Education

ISSN 1648-3898



9 771648 389000

THE INTERNATIONAL JOURNAL OF THE SCIENTIFIC METHODOLOGICAL CENTRE "SCIENTIA EDUCOLOGICA"

Vol.15, No.5, 2016

ISSN 1648-3898

Journal of Baltic Science Education



JOURNAL
OF • BALTIC
SCIENCE
EDUCATION

The International Journal of the Scientific Methodical Center "Scientia Educologica"

Editorial Board

Editor-in-Chief

Prof., Dr. Vincentas Lamanauskas Siauliai University, Lithuania

Deputy Editor-in-Chief

Prof., Dr. Andris Broks University of Latvia, Latvia

Deputy Editor-in-Chief

Prof., Dr. Miia Rannikmäe University of Tartu, Estonia

Executive Secretary

Dr. Laima Railienė Scientific Methodical Center "Scientia Educologica", Lithuania

Editors:

Prof., Dr. Boris Aberšek University of Maribor, Slovenia
Prof., Dr. Agnaldo Arroio University of Sao Paulo, Brazil
Prof., Dr. Martin Bilek University of Hradec Králové, Czech Republic
Dr. Paolo Bussotti University of Udine, Italy
Dr. Bulent Cavas Dokuz Eylul University, Turkey
Prof., Dr. Hana Čtrnáctová Charles University, Czech Republic
Dr. Peter Demkanin Comenius University, Slovakia
Dr. André du Plessis Nelson Mandela Metropolitan University, South Africa
Prof., Dr. Jānis Gedrovcis Riga Teacher Training and Educational Management Academy, Latvia
Prof., Dr. Peter Heering University of Flensburg, Germany
Prof., Dr. Jack Holbrook University of Tartu, Estonia
Prof., Dr. Ryszard M. Janiuk Maria Curie Skłodowska University, Poland
Dr. Milan Kubiak University of Zilina, Slovakia
Dr. Todor Lakhvich Belarusian State Medical University, Republic of Belarus
Prof., Dr. Jari Lavonen University of Helsinki, Finland
Dr. Rita Makarskaitė-Petkevičienė Lithuanian University of Educational Sciences, Lithuania
Prof., Dr. Aadu Ott Göteborg University, Sweden
Dr. Paul Pace Malta University, Malta
Prof., Dr. Valfrids Paškevičs Daugavpils University, Latvia
Prof., Dr. Jongwon Park Chonnam National University, Korea
Dr. Raffaele Pisano Lille 1 Science and Technology University, France
Dr. Pavol Prokop Institute of Zoology, Bratislava, Slovakia
Dr. Alona Rauckienė-Michaelsson Lithuanian University of Educational Sciences, Lithuania
Prof., Dr. Heimo Saarikko Helsinki University, Finland
Dr. Uladzimir K. Slabin University of Oregon, USA
Prof., Dr. Borislav V. Toshev Sofia University, Bulgaria
Dr. Georgios Tsapralis University of Ioannina, Greece
Dr. Muhammet Usak Gazi University, Turkey

A scientific journal JBSE issued by the SMC *Scientia Educologica* in cooperation with *Scientia Socialis*, Lithuania, emphasizes theoretical, experimental and methodical studies in the field of science education. JBSE is an international academic journal. In order to maintain the high standards appropriate to such a journal, all contributions received are submitted for anonymous review by two experts, additionally to review by the Editor. The decision of the Editor on the acceptance of articles is final and no correspondence can be entered into on reasons for rejection of a submitted contribution.

Published since 2002

The journal is published bimonthly.
IF-0.226 (2010), 0.425 (2011), 0.444 (2012), 0.481 (2013),
0.448 (2014).
5-Year IF: 0.412.

Address:

Scientific Methodical Center "Scientia Educologica"
Donelaičio Street 29, LT-78115 Siauliai, Lithuania
E-mail: mail.jbse@gmail.com
Phone: +370 687 95668
Home page: <http://www.scientiasocialis.lt/jbse/>

ISSN 1648-3898

© Scientific Methodical Center „Scientia Educologica“, Lithuania,
The Associated Member of Lithuanian Scientific Society,
European Society for the History of Science (ESHS) and ICASE

The articles appearing in this journal are indexed/abstracted in British Education Index (<http://www.leeds.ac.uk/bei/bei.htm>), Copernicus Index (<http://journals.indexcopernicus.com>), The Asian Education Index (http://www.asian-education-index.com/sciences_index.php), EBSCO: Academic Search Premier (<http://search.ebscohost.com>), Social Scisearch (Thomson Reuters) (<http://science.thomsonreuters.com/index.html>), Journal Citation Reports / Social Sciences Edition (Thomson Reuters) (http://thomsonreuters.com/products_services/scientific/Journal_Citation_Reports), and SCOPUS (<http://www.scopus.com>)