

Vol. 18, No. 1, 2019

ISSN 1648-3898 /Print/, ISSN 2538-7138 /Online/



JOURNAL  
OF BALTIC  
SCIENCE  
EDUCATION

# Journal of Baltic Science Education

ISSN 1648-3898



9 771648 389000

THE INTERNATIONAL JOURNAL OF THE SCIENTIA SOCIALIS Ltd. & SMC "SCIENTIA EDUCOLOGICA"

Vol.18, No.1, 2019

ISSN 1648-3898 /Print/

ISSN 2538-7138 /Online/

# Journal of Baltic Science Education



JOURNAL  
OF • BALTIC  
SCIENCE  
EDUCATION

The International Journal of the Scientia Socialis Ltd., & SMC "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      SMC "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      Charles University, Czech Republic  
Dr. Paolo Bussotti      University of Udine, Italy  
Prof., Dr. Hana Čtrnáctová      Charles University, Czech Republic  
Dr. Peter Demkanin      Comenius University, Slovakia  
Dr. André du Plessis      Nelson Mandela University, South Africa  
Prof., Dr. Jack Holbrook      University of Tartu, Estonia  
Prof., Dr. Ryszard M. Janiuk      Maria Curie Skłodowska University, Poland  
Dr. Milan Kubiátko      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      Vilnius University, Lithuania  
Prof., Dr. Aadu Ott      Göteborg University, Sweden  
Prof., Dr. Paul Pace      Malta University, Malta  
Prof., Dr. Valfrids Paškevičs      Daugavpils University, Latvia  
Prof., Dr. Jongwon Park      Chonnam National University, Korea  
Prof., Dr. Raffaele Pisano      Lille 3 University, France  
Prof., Dr. Pavol Prokop      Trnava University, Slovakia  
Prof., Dr. Konstantinos Ravanis      University of Patras, Greece  
Dr. Alona Rauckienė-Michaelsson      Klaipėda University, Lithuania  
Dr. Dušica Rodić      University of Novi Sad, Serbia  
Prof., Dr. Heimo Saarikko      Helsinki University, Finland  
Dr. Hae-Ae Seo      Pusan National University, Korea  
Dr. Uladzimir K. Slabin      University of Oregon, USA  
Prof., Dr. Borislav V. Toshev      Sofia University, Bulgaria  
Dr. Georgios Tsaparlis      University of Ioannina, Greece  
Dr. Muhammet Usak      Science and Medical Education Research Center, Turkey

A scientific journal JBSE issued by the *Scientia Socialis Ltd.*, in cooperation with SMC *Scientia Educologica*, 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: 0.638 (2017)

H Index: 10 (2016)

SJR: 0.326 (2017)

ICDS: 10.7 (2017)

ICV: 143.26 (2015)

### Address:

Scientia Socialis, Ltd.

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** (Print)

**ISSN 2538-7138** (Online)

© Scientia Socialis Ltd., Lithuania, 2018

*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](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](http://thomsonreuters.com/products_services/scientific/Journal_Citation_Reports)), and SCOPUS (<http://www.scopus.com>)*