Education and New Developments

2024

Volume 1

Edited by
Mafalda Carmo
BRIEF CONTENTS

Foreword v
Organizing and Scientific Committee vii
Sponsor xi
Keynote Lecture xiii
Index of Contents xv
This book contains the full text of papers and posters presented at the International Conference on Education and New Developments (END 2024), organized by the World Institute for Advanced Research and Science (WIARS).

Education is a fundamental right that accompanies us from the very beginning of our lives. It encompasses every experience we encounter, influencing and shaping our thoughts, emotions, and actions. Whether we engage in formal education within classrooms or learn from the world around us, the process of acquiring knowledge plays a vital role in our personal growth and development. It equips us with the tools to navigate the complexities of life, broadens our perspectives, and empowers us to make informed decisions. This International Conference seeks to provide some answers and explore the processes, actions, challenges and outcomes of learning, teaching and human development. Our goal is to offer a worldwide connection between teachers, students, researchers and lecturers, from a wide range of academic fields, interested in exploring and giving their contribution in educational issues.

We have brought together a diverse group of individuals with various backgrounds to contribute their unique perspectives and knowledge on Education. By including people from different nationalities and cultures, we aim to create a rich plethora of experiences that can broaden our understanding of human nature and behavior. The exchange of ideas and experiences among our participants helps to cultivate personal and academic development, providing a platform for the exploration of new insights and discoveries.

END 2024 received 729 submissions, from more than 50 different countries, reviewed by a double-blind process. Submissions were prepared to take form of Oral Presentations, Posters, Virtual Presentations and Workshops. The conference accepted for presentation 284 submissions (39% acceptance rate).

The conference also includes one Keynote presentation by Dr. Ipek Kocoglu, Kean University, USA. We would like to express our gratitude to our invitee.

This conference addressed different categories inside the Education area and papers are expected to fit broadly into one of the named themes and sub-themes. To develop the conference program, we have chosen four main broad-ranging categories, which also covers different interest areas:

- **In TEACHERS AND STUDENTS**: Teachers and Staff training and education; Educational quality and standards; *Curriculum* and Pedagogy; Vocational education and Counselling; Ubiquitous and lifelong learning; Training programs and professional guidance; Teaching and learning relationship; Student affairs (learning, experiences and diversity); Extra-curricular activities; Assessment and measurements in Education.

- **In PROJECTS AND TRENDS**: Pedagogic innovations; Challenges and transformations in Education; Technology in teaching and learning; Distance Education and eLearning; Global and sustainable developments for Education; New learning and teaching models; Multicultural and (inter)cultural communications; Inclusive and Special Education; Rural and indigenous Education; Educational projects.

- **In TEACHING AND LEARNING**: Critical, Thinking; Educational foundations; Research and development methodologies; Early childhood and Primary Education; Secondary Education; Higher Education; Science and technology Education; Literacy, languages and Linguistics (TESL/TEFL); Health Education; Religious Education; Sports Education.

- **In ORGANIZATIONAL ISSUES**: Educational policy and leadership; Human Resources development; Educational environment; Business, Administration, and Management in Education; Economics in Education; Institutional accreditations and rankings; International Education and Exchange programs; Equity, social justice and social change; Ethics and values; Organizational learning and change, Corporate Education.
The contributions were published across two volumes, and this is the Volume 1 of the book titled *Education and New Developments 2024*, that showcases the outcomes of dedicated research and developments undertaken by authors who are driven by their passion to enhance research methods that directly relate to teaching, learning, and the practical applications of education in the present day. Within its pages, you will find a diverse array of contributors and presenters who expand our perspectives by delving into various educational matters.

This first volume focuses on the main areas of TEACHERS AND STUDENTS and TEACHING AND LEARNING, being the contributions of the other two areas published in Volume 2.

We would like to express thanks to all the authors and participants, the members of the academic scientific committee, and of course, to our organizing and administration team for making and putting this conference together.

Hoping to continue the collaboration in the future.

Respectfully,

Mafalda Carmo  
World Institute for Advanced Research and Science (WIARS), Portugal  
*Conference and Program Chair*

Porto, Portugal, 15 - 17 June, 2024
ORGANIZING AND SCIENTIFIC COMMITTEE

Organizer
World Institute for Advanced Research and Science (WIARS)
www.wiars.org

Conference and Program Chair
Mafalda Carmo
World Institute for Advanced Research and Science (WIARS), Portugal

International Scientific Committee

Aaron R. Deris, Minnesota State University, USA
Adanela Musaraj, Indiana Tech, USA
Adel Jehali, Concordia University, Canada
Adrián Ponz Miranda, Zaragoza University, Spain
Ahmet Ok, Middle East Technical University, Turkey
Alan Singer, Hofstra University, USA
Ali Ahmad Al-Barakat, University of Sharjah, United Arab Emirates
Ana Conboy, College of Saint Benedict and Saint John’s University, USA
Ana-Maria Bercu, Alexandru Ioan Cuza University of Iasi, Romania
Anca Draghici, Politehnica University of Timisoara, Romania
Andis Klegeris, University of British Columbia Okanagan, Canada
Andrea Fiorucci, University of Salento, Italy
Andrea Hathazi, Babeş-Bolyai University, Romania
Andrei Nastas, Lower Danube University, Romania
Angela Piu, University of Valle d’Aosta, Italy
Anja María Mackeldy, Colegio Alemán Medellín / Universidad de Antioquia, Colombia
Anna Lazou, National & Kapodistrian University of Athens, Greece
Antoni Kolek, Kozminski University, Poland
Aphrodite Ktena, National and Kapodistrian University of Athens, Greece
Asta Vaitkeviciene, Vilnius University, Lithuania
Aurelija Dauksaite-Kolpakoviene, Vytautos Magnus University, Lithuania
Awelani Rambuda, Central University of Technology, South Africa
Ayse Esra Aslan, Istanbul University-Cerrahpasa, Turkey
Beatriz Carrasquer Álvarez, Zaragoza University, Spain
Begona Sampedro, University of Cordoba, Spain
Birgit Schmiedl, University College of Teacher Education Lower Austria, Austria
Borja Manzano Vázquez, University of Granada, Spain
Branka Zolak Poljašević, University of Banja Luka, Bosnia and Herzegovina
Cagla Atmaca, Pamukkale University, Turkey
Carla Massoud, Saint-Joseph University Beirut, France
Carolina Bodea Hategan, Babeş-Bolyai University, Romania
Caroline Akhras, Notre Dame University, Lebanon
Celina da Silva, York University, Canada
Cezar Scarlat, University “Politehnica” of Bucharest, Romania
Chantal Ouellet, Universite du Quebec a Montreal, Canada
Charalampos Karagiannidis, University of Thessaly, Greece
Chiara Uliana, University of Granada, Spain
Cory A. Bennett, Idaho State University, USA
Cristiana Pizarro Madureira, ESECS – Instituto Politécnico de Leiria, Portugal
Cristiano Luchetti, American University of Ras Al Khaimah, United Arab Emirates

Dale Kirby, Memorial University, Canada

Daniela Pasnicu, Spiru Haret University, Romania

David Aparisi, University of Alicante, Spain

David Nocar, Palacky University Olomouc, Czech Republic

Diana Maria Cismaru, National University of Political Studies and Public Administration (SNSPA Bucharest), Romania

Dijana Drandic, Juraj Dobrila University of Pula, Croatia

Dimitris Kilakos, National & Kapodistrian University of Athens (NKUA), Greece

Dina Vyoertkina, Florida State University, USA

Donata Puntil, Kings College London, United Kingdom

Dorina Anca Talas, Babeş-Bolyai University, Romania

Dorota Gawryluk, Bialystok University of Technology, Poland

Douglas Baleshta, Thompson Rivers University, Canada

Dunja Andic, University of Rijeka, Croatia

Ekaterine Pipia, International Black Sea University, Georgia

Elena Baguzina, Moscow State Institute of International Relations, Russian Federation

Elena García Guerrero, University of Granada, Spain

Emel Dikbas Torun, Pamukkale University, Turkey

Eva Trnová, Masaryk University, Czech Republic

Evelyna Bonifácio, Polytechnic Institute of Bragança, Portugal

Fabiana Rodrigues Leta, Universidade Federal Fluminense, Brazil

Fernando Martin Villena, Universitat Pompeu Fabra, Spain

Gabriella Velics, Eotvos Lorand University, Hungary

Georgiana Ciobotaru, Dunărea de Jos University of Galati, Romania

Gheorghe Braniște, Dunărea de Jos University of Galati, Romania

Gina Aurora Necula, Dunărea de Jos University of Galati, Romania

Gráinne Ni Dhomhnaill, University College Dublin, Ireland

Gyöngyi Bujdosó, University of Debrecen, Hungary

Hana Vančová, Trenava University, Slovakia

Héctor Tronchoni, Florida Universitaria in Catarroja, Spain

Helin Puksand, Tallinn University, Estonia

Henri Jacobs, Central University of Technology, Free State (CUT), South Africa

Iljana Cutura, University of Kragujevac, Serbia

Ilona Tandzegskienė, Vytautas Magnus University, Lithuania

Ina Blau, The Open University of Israel, Israel

Ioana Letiţia Ţerban, Babeş-Bolyai University, Romania

Ioannis Makris, State Special School / Directorate of Secondary Education West Athens, Greece

Irena Petrusic, University Adriatic, Montenegro

Irene Pkhakadze, A.T. Still University (ATSU) of Health Sciences, Georgia

Janaína Cardoso, Rio de Janeiro State University, Brazil

Javier Casanoves-Boix, International University of Valencia, Spain

Jeannette Jones, Texas Lutheran University, USA

Jenni Sanguilliano Lonski, Rollins College, USA

Jitka Hlušková, Independent Education Professional, Czech Republic

Joana Romanowski, Centro Universitario Internacionnal UNINTER, Brazil

Joanna Paliszkiewicz, Warsaw University of Life Sciences, Poland

John Blake, University of Aizu, Japan

Jorge Viguri Cordero, University Jaume I, Spain

Juana M. Ortega Tudela, Universidad de Jaén, Spain

Jurgita Lenkauskaite, Vilnius University, Siauliai Academy, Lithuania
Kalliopi Trouli, University of Crete, Greece
Karel Němejc, Czech University of Life Sciences Prague, Czech Republic
Katerina Kabassi, Technological Educational Institute of the Ionian, Greece
Konstantinos Kalemis, National and Kapodistrian University of Athens / National Centre for Local Government and Public Administration, Hellenic Ministry of Education, Greece
Ladário da Silva, Universidade Federal Fluminense (UFF), Brazil
Laura Río, University of Bologna, Italy
Leela Ramsook, Independent Researcher, Trinidad and Tobago
Lefkothia Kartasidou, University of Macedonia, Greece
Lefkothea-Vasiliki Andreou, University of Ioannina, Greece
Leila Kajee, University of Johannesburg, South Africa
Les Sztandera, Thomas Jefferson University, USA
Lindokuhle Ubisi, University of South Africa, South Africa
Luis Gonzaga Roger Castillo, Universidad de Granada (UGR) / Centro de Estudios Bizantinos, Neorgiegos y Chipriotas, Spain
Magdolna Chrappán, University of Debrecen, Hungary
Maia Chkotua, International Black Sea University, Georgia
Maja Kerneza, University of Maribor, Slovenia
Maja Seric, University of Valencia, Spain
Małgorzata Cicciòra, Polish-Japanese Academy of Information Technology, Poland
Manfred Meyer, Westfälische Hochschule, Germany
Manhong Lai, The Chinese University of Hong Kong, China
Manuel Fernández-Alcántara, University of Alicante, Spain
Marcin Fojcik, Western Norway University of Applied Sciences, Norway
Maria Lopes de Azevedo, ESECS, Polytechnic Institute of Portalegre, Portugal
Maria Orfila, Rey Juan Carlos University, Spain
Maria Carme Boqué Torremorell, Ramon Llull University, Spain
María José Latorre, University of Granada, Spain
Marko Slavkovic, University of Kragujevac, Serbia
Marta Talavera, University of Valencia, Spain
Martina Kosturková, University of Presov, Slovakia
Marzena Wojcik-Augustyniak, University of Siedlce, Poland
Matthias Baume, Technical University of Munich, Germany
Maya Wizel, Middlebury College, USA / Kibbutzim College, Israel
Mayara de Carvalho Santos, Instituto Butantan, Brazil
Melissa Caspary, Georgia Gwinnett College, USA
Michail Kalogiannakis, University of Thessaly, Greece
Mike Green, University of Kent, United Kingdom
Milan Kubiatko, J. E. Purkyně University, Czech Republic
Mohammad Ahmad Abdeldayem, Zagazig University, Egypt
Monica Maier, Technical University of Cluj-Napoca, Romania
Monika Mladenovic, University of Split, Croatia
Mustafa Ozmusul, Harran University, Turkey
Napak-on Sritrakarn, ILSC & Greystone College, Australia
Natalia Casado, University King Juan Carlos, Spain
Natalie Lavoie, University of Quebec in Rimousk, Canada
Nicolás Ruiz-Robledillo, University of Alicante, Spain
Ognjen Pantelic, University of Belgrade, Serbia
Olga Dorul, Dunarea De Jos University of Galati, Romania
Omid Noroozi, Wageningen University & Research, Netherlands
Onur Ergünay, Izmir Democracy University, Turkey
Patrik Schulcz, Esade Business School (Ramon Llull University), Spain
Pavel Brebera, University of Pardubice, Czech Republic
Pavlina Rackova, University of Defence, Czech Republic
Pawel Topol, Adam Mickiewicz University in Poznan, Poland
Petros Kefalas, University of York Europe Campus, Greece
Raluca Trifu, UMF Iuliu Hatieganu from Cluj Napoca, Romania
Rasa Nedzinskaitė-Mačiūnienė, Vytautas Magnus University, Lithuania
Remigijus Bubnys, Kaunas University of Technology, Lithuania
Richard C. Kalunga, University of the District of Columbia, USA
Rosanna Tammaro, University of Salerno, Italy
Rút Lenková, University of Presov, Slovakia
Ryuichi Matsuba, Tokyo University of Technology, Japan
Sam Ramaila, University of Johannesburg, South Africa
Seppo Sirkemaa, University of Turku, Finland
Serhat Bahadir Kert, Yıldız Technical University, Turkey
Sharon Jaggernauth, The University of the West Indies, Trinidad & Tobago
Si Xiao, Columbia University, USA
Silvana Watson, Old Dominion University, USA
Silvânia Alves de Carvalho, Universidade Federal Fluminense, Brazil
Silvia Donevova, Comenius University in Bratislava, Slovakia
Simon Richir, Arts et Metiers (ENSAM), France
Simone Brasili, Univeristy of Camerino, Italy
Stamatis Papadakis, University of Crete, Greece
Stephanie Linck, ZBW – Leibniz Information Centre for Economics, Germany
Susan Scott, Lakehead University, Canada
Syed Ziaur Rahman, Majan University College, Oman
Tatjana Portnova, Russian Center of the University of Granada, Spain
Temenujka Zafirova Malcheva, Sofia University “st. Kliment Ohridski”, Bulgaria
Tena Velki, Josip Juraj Strossmayer University of Osijek, Croatia
Tricia Hudson Matthew, Metropolitan State University of Denver, USA
Valentina Vezzani, University of Madeira, Portugal
Vashti Singh, University of Guyana, Guyana
Vassilios Argyropoulos, University of Thessaly, Greece
Verónica Marín Díaz, University of Cordoba, Spain
Veronica Violant Holz, University of Barcelona, Spain
Verónica Yanez-Monje, Universidad de Concepcion, Chile
Vesna Dimitrova, Ss. Cyril and Methodius University in Skopje, Macedonia
Víctor Fester, University of Waikato, New Zealand
Viorel Dorgan, Dunărea de Jos University of Galati, Romania
Wendy Settalentoa, Central University of Technology, South Africa
Wiktor Bolkunow, Warsaw School of Economics, Poland
Xenia Liashuk, Trnava University, Slovakia
Zoltán Rónay, Eötvös Loránd University, Hungary
SPONSOR

http://www.wiars.org
KEYNOTE LECTURE

“REVOLUTIONIZING LEARNING: THE IMPACT OF ARTIFICIAL INTELLIGENCE ON EDUCATIONAL PARADIGMS”

Dr. Ipek Kocoglu
Kean University, USA

Abstract

The integration of Artificial Intelligence (AI) in education is revolutionizing traditional teaching methods and curriculum development by facilitating personalized and adaptive learning experiences. This research paper explores the transformative role of AI in enhancing educational paradigms by optimizing learning outcomes tailored to individual needs. Drawing from a range of studies, the paper examines the effectiveness and challenges of AI applications within various educational settings. Our findings indicate that AI significantly boosts educational performance by adapting content delivery to match individual learning styles and needs, thus reshaping educational strategies and personalizing the learning experience. Furthermore, AI-driven adaptive learning systems not only customize educational content but also streamline administrative tasks for educators, enhancing overall efficiency. However, this technological advancement also introduces challenges, including ethical concerns and privacy issues that necessitate thorough scrutiny and careful implementation. The paper emphasizes the importance of comprehensive teacher training and ongoing ethical evaluation to ensure responsible use of AI in education. Through a nuanced understanding of AI’s potential and limitations, this study provides actionable insights for educators and policymakers aiming to harness AI technologies to foster more dynamic and responsive educational environments.

Keywords: Artificial intelligence, adaptive learning, educational technology, curriculum development.

Biography

Dr. Ipek Kocoglu is an assistant professor of Strategy and Organization Theory in the Department of Management at Kean University. Following her doctoral studies in Management and Organization Theory, Dr. Kocoglu completed her post-doctoral research at Stevens Institute of Technology through a prestigious fellowship. She combined her background in industrial engineering and technology and innovation management to advance a framework that uses abductive research for new idea generation. Dr. Kocoglu’s research focuses on gender diversity and sustainability. She has published in top-tier journals listed in the Financial Times 50 including the Academy of Management Review, The Leadership Quarterly, Management Decision, International Journal of Production Research, and Engineering Management Journal. Her research addresses critical issues like the effect of social context on women leaders’ perceived competence, and the impact of extreme threats on organizational risk-taking. In her recent project Dr. Kocoglu develops a framework for digital sustainability solutions by leveraging Information Systems to mitigate the effects of climate change. Her contributions to academia have earned her numerous accolades, including the Excellence in Scholarship Award from Kean University and the Eschenbach Award for Best Paper from the American Society of Engineering Management. A recognized leader in open education, Dr. Kocoglu has been instrumental in pioneering the Open Education Resources (OER) conference at Kean University. She passionately advocates for using OER to close the educational equity gap for minorities and first-generation students. Dr. Kocoglu continues to inspire students in courses on entrepreneurship, organizational behavior, and strategic management. She is the author of a textbook on Organizational Theory and several influential book chapters on digital business models and strategies for developing digital government platforms. Beyond her academic achievements, Dr. Kocoglu serves as the Global Ambassador for inclusive research at the Diversity, Equity, and Inclusion Division of the Strategic Management Society. She is an active reviewer for esteemed journals, including Academy of Management Discoveries and Management Decision. Dr. Kocoglu’s research has garnered over a thousand citations and has been featured in popular media such as Psychology Today, underscoring their impact on both academic and public spheres.
### INDEX OF CONTENTS

### ORAL PRESENTATIONS

**Teachers and Students**

<table>
<thead>
<tr>
<th>Presentation</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development of didactics and pedagogy in the Danish pedagogy program through craft activities</td>
<td>3</td>
</tr>
<tr>
<td>Astrid Margrehe Hestbech, &amp; Louise Hvitved Byskov</td>
<td></td>
</tr>
<tr>
<td>Pre-service teachers’ knowledge base for teaching mathematics: The development of syntactic and substantive knowledge</td>
<td>6</td>
</tr>
<tr>
<td>Natalia Karlsson, &amp; Wiggo Kilborn</td>
<td></td>
</tr>
<tr>
<td>Critical thinking in learning process of math in grades 5-6 in Latvia</td>
<td>11</td>
</tr>
<tr>
<td>Rima Rieksta</td>
<td></td>
</tr>
<tr>
<td>One won’t fit all: Designing a collaborative writing model to promote L2 writing for low-level learners</td>
<td>16</td>
</tr>
<tr>
<td>Ngan Leng Mak</td>
<td></td>
</tr>
<tr>
<td>Nurturing future educators: Exploring new frontiers of collaborative teacher training model</td>
<td>21</td>
</tr>
<tr>
<td>Noam Topelberg</td>
<td></td>
</tr>
<tr>
<td>Adopting ChatGPT technology approaches in professional music training – The TUT experience</td>
<td>26</td>
</tr>
<tr>
<td>Hua Hui Tseng</td>
<td></td>
</tr>
<tr>
<td>Future teachers’ knowledge, attitudes and practice regarding sustainable development goals</td>
<td>31</td>
</tr>
<tr>
<td>Alena Letina, &amp; Marina Diković</td>
<td></td>
</tr>
<tr>
<td>Imaging future sexuality educators: Attitudes and opinions of student teachers at Sapienza towards sexuality education</td>
<td>36</td>
</tr>
<tr>
<td>Valeria Bruno, Roberto Baiocco, &amp; Jessica Pistella</td>
<td></td>
</tr>
<tr>
<td>The training of the socio-pedagogical professional educator: An overview of the European context</td>
<td>41</td>
</tr>
<tr>
<td>Maria Grazia Rionero</td>
<td></td>
</tr>
<tr>
<td>Training the media-educational habitus: 21st century skills in digital didactic settings in teacher education</td>
<td>46</td>
</tr>
<tr>
<td>Gudrun Marci-Boehncke, &amp; Matthias O. Rath</td>
<td></td>
</tr>
<tr>
<td>The association between perceived discrimination profiles and career aspirations and expectations of high school students</td>
<td>51</td>
</tr>
<tr>
<td>Sabruna Dorceus</td>
<td></td>
</tr>
<tr>
<td>Drawing and writing about friendship as a way to support social inclusion in primary grades</td>
<td>56</td>
</tr>
<tr>
<td>Tiitu Tammemäe, Egle Hollman, Mari-Liis Lind, &amp; Helin Paksand</td>
<td></td>
</tr>
<tr>
<td>Teaching science through humanising pedagogies: The South African perspective</td>
<td>61</td>
</tr>
<tr>
<td>Tholani Tshuma</td>
<td></td>
</tr>
</tbody>
</table>
Qualitative framework: An approach to the evaluation of student’s written outputs
Imelda Braganza-Valera

Teaching fractions and the concept of inverse operations: Scientific concepts in pre-service teachers’ learning of mathematics for teaching purposes
Natalia Karlsson, & Wiggo Kilborn

Gender and students’ mathematical literacy abilities
Eleni Nolka, & Chryssa Sofianopoulou

Phonological-orthographic stimulation program for schoolchildren with learning difficulties
Lília Nascimento Bueno, & Simone Aparecida Capellini

Facilitating flexible learning experiences
Raluca Gera

Current and prevalent technologies in web curriculum
Ronald J. Glotzbach

Unlocking creativity: Knots and Sona drawings in mathematics teacher professional development
Andreia Hall, Ana Breda, Paula Carvalho, & Sónia Pais

Post-teaching observation feedback in the United Arab Emirates: College mentor and student-teacher perspectives
Sarah Hyde

Importance of facilitating cross-cultural online discussion
Tricia Hudson-Matthew, & Shawn Worthy

Peer mentoring in multidisciplinary final bachelor’s thesis of engineering studies
María González Alriols, Eneritz Onaindia, José David Nuñez, Isaac Barrio, Ainara Sánchez, & M. Mirari Antxustegi

On scoring competence
Magne V. Aarset, & Stig Ytterstad

The impact of a first-year orientation team-building event
John Smallwood, & Chris Allen

Guess who’s coming to dinner! The impact of (virtual) guest speakers in a business class: A student perspective
Ann Kirby, & Brian Turner

Perceptual-visual-motor skills and speed and legibility of handwriting in mixed subtype dyslexia
Natália dos Santos, Monique Herrera Cardoso, Ilaria D’Angelo, Noemi Bianco, Catia Giaconi, & Simone Aparecida Capellini

The contribution of a collaborative approach in understanding resistance factors when implementing change
Marie Brûlé, Chantal Viens, Julie Larochelle-Audet, Andréanne Gélinas-Proulx, & Laurie Carlson Berg

Increasing geometric literacy skills of future mathematics teachers through 3D printing activities in GeoGebra environment
Lilla Korenova, & Angelika Schmid
# Teaching and Learning

<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Opening minds”: The impact of a culturally and linguistically immersive teaching experience for pre-service teachers</td>
<td>142</td>
</tr>
<tr>
<td>Cory A. Bennett, Wendy Ruchti, &amp; Mona Nelson</td>
<td></td>
</tr>
<tr>
<td>Socio-economic status and students’ mathematical literacy abilities</td>
<td>147</td>
</tr>
<tr>
<td>Eleni Nolka, &amp; Chryssa Sofianopoulou</td>
<td></td>
</tr>
<tr>
<td>Giving thanks is the key to transform things that happened into good things and positive emotions</td>
<td>151</td>
</tr>
<tr>
<td>Wei-Yu Liu</td>
<td></td>
</tr>
<tr>
<td>An empirical research to re-contextualise the idea of care in preschool education</td>
<td>156</td>
</tr>
<tr>
<td>Ilaria Mussini</td>
<td></td>
</tr>
<tr>
<td>Early marriage as a huge problem against education and career development</td>
<td>161</td>
</tr>
<tr>
<td>Melano Beridze, &amp; Nano Paichkoria</td>
<td></td>
</tr>
<tr>
<td>Generative Artificial Intelligence (AI) in education: A cross-national survey on university teachers’ perceptions on the use of ChatGPT</td>
<td>165</td>
</tr>
<tr>
<td>Kavita Karan, &amp; Wellars Bakina</td>
<td></td>
</tr>
<tr>
<td>Which is more difficult, listening or reading?</td>
<td>170</td>
</tr>
<tr>
<td>Helin Puksand, Tiitu Tammemäe, Kerli Haav, &amp; Elika Klettenberg</td>
<td></td>
</tr>
<tr>
<td>A digital tool to help work-oriented project studies in higher education institutions</td>
<td>175</td>
</tr>
<tr>
<td>Taina Lintilä, Tuija Marstio, &amp; Suvi Sivén</td>
<td></td>
</tr>
<tr>
<td>Integrating the arts into kindergarten curriculum: A case study with children in Croatia</td>
<td>180</td>
</tr>
<tr>
<td>Zlata Tomljenović, Aleksandra Smolić Batelić, &amp; Svetlana Novaković</td>
<td></td>
</tr>
<tr>
<td>Zoonym phraseological units as hate speech in youth vocabulary</td>
<td>185</td>
</tr>
<tr>
<td>Ana Vitanova Ringaceva, Darinka Marolova, Dragana Kuzmanovska, &amp; Biljana Ivanova</td>
<td></td>
</tr>
<tr>
<td>Vernacular and dominant literate practices in Latin American scientific literature</td>
<td>190</td>
</tr>
<tr>
<td>David Alberto Londoño-Vásquez, &amp; Alvaro Ramírez- Botero</td>
<td></td>
</tr>
<tr>
<td>Discovering statistical misconceptions as students create notes for tests!</td>
<td>195</td>
</tr>
<tr>
<td>Anne D’Arcy-Warmington</td>
<td></td>
</tr>
<tr>
<td>Effective Teams Workshop: A case study in higher education to teach teamwork competency</td>
<td>198</td>
</tr>
<tr>
<td>Liliana Maritza Melo Ramos, Carola Hernández, &amp; Marco Antonio Azuero Isaza</td>
<td></td>
</tr>
<tr>
<td>Games and calculus</td>
<td>203</td>
</tr>
<tr>
<td>Maria Paula Oliveira</td>
<td></td>
</tr>
<tr>
<td>A web and simple clicks to understand chemical concepts</td>
<td>208</td>
</tr>
<tr>
<td>Albert Poater</td>
<td></td>
</tr>
<tr>
<td>Interactive project-based teaching – Meeting the challenges of the coming generations of students</td>
<td>213</td>
</tr>
<tr>
<td>John Lindgren, &amp; Anna Isaksan</td>
<td></td>
</tr>
<tr>
<td>Co-constructing and evaluating an endocrine disruptor education program for teenagers in schools: The COPE-ADOS program</td>
<td>218</td>
</tr>
<tr>
<td>Véronique Regnier Danois, Laetitia Marcucci, Camille Lassalle, Clarisse Russias, &amp; Julien Masson</td>
<td></td>
</tr>
</tbody>
</table>
POSTERS

Teachers and Students

Factorial structure validation of the Entrepreneurship Qualities Questionnaire 2.0
Eric Yergeau, Mathieu Busque-Carrier, Marcelle Gingras, & Frédérique Lépine

Development of an assessment method for individual grading of a group project work
Göran Fafner, & Valentina Haralanova

Domain of cognitive-linguistic, reading and writing skills of Brazilian students in the initial literacy phase in the post-pandemic context
Caroline Fernandes Brasil, Stephany Schunemann, Patrícia Mendes Comassio, & Simone Aparecida Capellini

Exploring interactive online script creation as a novel assessment method in higher education
Tobias Baumeister, Sascha Hofmann, Thomas Kob, & Dietmar Fey

Perceptions of competencies among in-service socio-pedagogical professional educators: A nationwide exploratory survey
Maria Grazia Rionero, Patrizia Sposetti, & Giordana Szpunar

Assessment of numerical cognition in preschoolers: Pilot study to verify the applicability of the developed instrument
Silvia Cristina de Freitas Feldberg, Rita dos Santos de Carvalho Picinini, & Simone Aparecida Capellini

Project based learning in mechanical engineering education
Valentina Haralanova, Samir Khoshaba, & Göran Fafner

FLU-EM – Assessment of handwriting fluency: Development through criteria and agreement among judges
Monique Herrera Cardoso, Priscila Biaggi Alves de Alencar, & Simone Aparecida Capellini

The role of authentic experiences in foreign language learning: Road trips as a way to grasp the soul of a target language
Alexandra-Monica Toma

Teaching and Learning

Fostering critical thinking: Aligning assessment with educational expectations
Kathleen A. Siren

‘Get me involved and i will learn it’. Service-learning case of study at university
Tamara Robledo Carranza, & Jorge Martín Dominguez

Adopting consensual behaviours: A lesson plan
Eleni Varlami, Konstantinos Papakostas, Petros Karampet, Petros Christakopoulos, & Lefkothea-Vasiliki Andreou

Behavioral rating scale for internalizing and externalizing problems in academic skills in Brazilian schoolchildren
Graziele Kerges-Alcantara, & Simone Aparecida Capellini
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>What do the learning diaries tell us about the language learning experience based on peer-teaching?</td>
<td>264</td>
</tr>
<tr>
<td>Maarika Teral, &amp; Raili Pool</td>
<td></td>
</tr>
<tr>
<td>How corpus linguistics can help promote health education: The case of schizophrenia</td>
<td>267</td>
</tr>
<tr>
<td>James Balfour</td>
<td></td>
</tr>
<tr>
<td>Good practices in teaching cognitive neuroscience to biology students in higher education</td>
<td>269</td>
</tr>
<tr>
<td>Eleftheria Katsarou, Angeliki Boulala, Petros Karampet, &amp; Lefkothea-Vasiliki Andreou</td>
<td></td>
</tr>
<tr>
<td>Health and social care placements in today’s changing work environments: A grounded theory study</td>
<td>272</td>
</tr>
<tr>
<td>Anna Fiorentino</td>
<td></td>
</tr>
<tr>
<td>Screening for difficulties in mathematical learning: Elaboration and pilot study</td>
<td>275</td>
</tr>
<tr>
<td>Rita dos Santos de Carvalho Picinini, Simone Aparecida Capellini, &amp; Giseli Donadon Germano</td>
<td></td>
</tr>
</tbody>
</table>
VIRTUAL PRESENTATIONS

**Teachers and Students**

Investigating the impact of Gamma-Tutor on the development of technological Pedagogical Content Knowledge in chemistry teaching for science teachers

*Muthandwa Chinamhora Sincuba, Sakiywaa Boateng, & Limkani Sincuba*

Emotional regulation – A training program for teachers

*Eva Vancu, & Zazana Hlinková*

Putting theory and practice together in preservice teacher training courses. Is it possible?

*Teresa Lewin, Dina Ben Yaish, Barbara Shapir, Sofia Ben-Yair, & Samar Aldinah*

Meeting students’ expectations: Cultural insights for enhanced educational program management

*Anastasios Athanasiadis*

Evaluation of learning outcomes in masters degree. The perception of the coordinators

*Joaquín-Lorenzo Burguera, María-del-Henar Pérez-Herrero, Marta Virgós-Sánchez, José Miguel Arias-Blanco, & Natalia Rodríguez-Muñiz*

Early detection of STEM skills during secondary education. A weak signals approach

*Florentina Alina Grigorescu (Pîrvu), & Cezar Scarlat*

Comparison of visual and phonological skills in dyslexia subtypes

*Giseli Donadon Germano, & Simone Aparecida Capellini*

Absence/presence in ‘green’ imaginings of Indian schoolscapes

*Tanaya Vyas*

Navigating the teachers’ and the subject’s identity: A case of social sciences

*Nokuthula Diborah Nkosi, Sheri Hamilton, & Valencia Tshinompheni Mabalane*

Custom-made course administration spreadsheets as an electronic gradebook alternative

*Brian G. Rubrecht*

Dramatic arts' role in sustaining impactful education for community development amid 4IR challenges: A teacher's perspective

*Limkani Sincuba*

Enhancing foreign language translation pedagogy through topology-imagery cognitive approaches

*Junwen Jia*

Faculty development for emergency online teaching and learning: A case study

*Ashley Salter, & Shelly Wyatt*

Expression of dialogue as an effective indicator of education quality in Lithuanian educational institutions

*Inesa Vietienė, & Zita Malcienė*

The contribution of self-efficacy, emotion management, and mental resilience to fostering the educational climate among teachers in schools from Arab society in Israel

*Sehrab Masri, & Nayif Awad*
Equity in the classroom for every child  
_Delia Robinson Richards_  
350

Exploring pedagogical practices: Integrating ICT tools in grade 10 life sciences education  
_Sam Ramaila_  
352

The role of the geography preservice teachers’ service-learning in the development of map literacy  
_Nokuthula Diborah Nkosi, & Memoona Mahomed_  
356

Exploring the existence of mathematics-sciences anxious-endemic equilibrium among pre-service physical sciences teachers: A pathway to building resilience among STEM students  
_Sakyiwaa Boateng_  
361

Career management skills for vulnerable youth. A career guidance and vocational training point of view  
_Natalia Rodríguez-Muñiz, Marta Virgós-Sánchez, María-del-Henar Pérez-Herrero, & Joaquín-Lorenzo Burguera_  
366

Pre-service teachers' understandings of how social values can be integrated in life sciences teaching and learning  
_Eyitayo Julius Ajayi, & Lydia Mavuru_  
371

Parent’s active role and specific involvement in child education: A South African teacher’s perspective  
_Limkani Sincuba, & Andrea Mqondiso Buka_  
376

Guiding first-year student teachers in the application of the skill of set induction in micro-teaching  
_Ndoyisile Moses Majola, & Paseka Patric Mollo_  
380

Stabilising the link between secondary and higher education through lifelong learning programmes  
_Vanya Dobreva, & Boriana Buzhashka_  
385

Facing the future: VET skills for today and tomorrow  
_Denitsa Dimitrova, & Kamelia Nusheva_  
389

Impact of physical activity on the health status and quality of life of children and school adolescents  
_Snezana Stavreva Veselinovska, Sonja Petrovska, & Despina Sivevska_  
394

The study of English listening problems of Thai EFL university students  
_Waraporn Khampool_  
399

Learning through peer assessment: Student perceptions before and after participation  
_Jonna Käpylä_  
404

Inclusive education and training during a pandemic and beyond - The new normal (identifying good practices)  
_Kamelia Nusheva, & Boryana Yankova-Hadzhieva_  
409

Teachers’ views on infusing IK into chemistry teaching at the junior secondary of Omusati region  
_Tomas Asino, Kgomotsego Samuel, & Washington Dudu_  
414

Reminiscing training and special needs children  
_Giulia Amorotti, Laura Guidotti, & Paola Corsano_  
419
Life sciences teachers’ understandings of integration of indigenous knowledge when teaching biodiversity of plants
Khetha Xolani Makhunga, & Lydia Mavuru

Teacher’s views on challenges with the fostering of self-regulated learning skills and support from school management teams
Keneilwe Agbenyegah, & Bernadette Geduld

Leveraging ICT tools for teaching and learning in the domain of physical sciences
Sam Ramaila

Transforming the learning environment through interactive pedagogies
Lydia Mavuru

Exploring the ontological boundary of metacognitive awareness of pre-service educators
Matthews Makunye, Divan Jagals, & Julialet Rens

Specific competencies of student teachers: Identification of professional educational needs
Lucija Tomac, Renata Čepić, & Petra Pejić Popak

Teaching and Learning

Collaborative mathematical problem-solving with children: An illustration of shared and self-regulation in initial teacher training
Isabel Piscalho, & Susana Colaço

The nature of learning tasks from perspective of children from marginalised Roma communities
Mária Hušlová Orságová, Katarína Vančíková, & Marián Trnka

The method for interpersonal communication enhancement and fostering of resilience and emotional regulation
Eva Vancu

Exploring factors beyond phonological instruction in primary education
Laura Hernández Sobrino, Eva Gutierrez-Sigut, & Virginia González Santamaría

Journey to global competence: Teaching through a sustainable development goals lens
Chaonan Xu

Adapting the values engaged, educative evaluation framework to the evaluation of a community-based program
Nuria Jaumot-Pascual

Considering automatic feedback in assessment for math learning
Celina Aparecida Almeida Pereira Abar, José Manuel Dos Santos Dos Santos, & Marcio Vieira de Almeida

Working with pre-service teachers: Developing mathematics and science resilience while addressing maths and science anxiety levels in South African schools
Sakyiwaa Boateng

Understanding the learning space, a reflection on blended learning in higher education: A bibliometric analysis
Thoko Poppy Mahlangu
Reflecting on new public-school teachers’ practices in the pandemic in Brazil
Izumi Nozaki, & Eliseu Pichitelli

Level of physical activity among university students
Rút Lenková, Gabriela Škrečková, & Eva Lukáčová

Teaching and learning practices in higher education institutions: Where has the theory gone?
Gaby Probst, & Laura Zizka

Simulation modeling of a production system
Chavdar Kostadinov, & Ivanka Peeva

The contribution of the picture book as an educational tool to prevent child abuse
Mariline Rodrigues, Cátia Vidinhas, & Ana Catarina Silva

The current state of financial literacy among graduating students in connection with the effects of crises
Anton Lisnik, Piotr Mazur, Miroslav Warhol, Milan Majerník, & Martina Kuperová

A problem-based learning approach to introduce the enzyme inhibitors blind screening to undergraduate biochemistry students
Melissa García Caballero, Aurelio Moya García, José Antonio Torres Vargas, & Ana Rodríguez Quesada

Enhancing deep comprehension in high school students through the use of graphic organisers
Maria Vittoria Battaglia, Ilaria Stragapede, & Alessandro Franceschini

Phonetics and audio-visual help to improve and strengthen the pronunciation of the English language
Bertha Molina-Quintana, Marco Alberto Valenzo-Jiménez, Salvador Antelmo Casanova-Valencia, & Arcadio González-Samaniego

Skills development at the school subject of modern Greek language through debate
Foteini Tsaliagkou, & Katerina Kasimatis

Primary school teachers’ training needs to meet the challenges of 21st century science education
Monica Tombolato

Effect of belief adherence and argumentation on belief flexibility during childhood, adolescence and young adulthood
Marie Bousquet, Roger Fontaine, & Valerie Pennequin

An analysis of generative artificial intelligence tools usage to adapt and enrich software development courses
Branko Mihaljević, Aleksander Radovan, & Martin Žagar

Analyzing drug compositions in a problem-based learning experiment to stimulate undergraduate students’ autonomy
Ana González Moreno, Luisa M. Cabalín Robles, Antonio Heredia Bayona, & Ana Rodríguez Quesada

Pedagogical power of story-telling in high education to develop critical thinking
Lela Abdushelishvili
WORKSHOPS

Teaching and Learning

Effects of critical thinking in literature education 569
Gepco de Jong

AUTHOR INDEX 573