

Education and New Developments

2024

Volume 2

Edited by
Mafalda Carmo

Edited by Mafalda Carmo, World Institute for Advanced Research and Science (WIARS), Portugal

Published by inScience Press, Rua Tomas Ribeiro, 45, 1º D, 1050-225 Lisboa, Portugal

Copyright © 2024 inScience Press

All rights are reserved. Permission is granted for personal and educational use only.

Commercial copying, hiring and lending is prohibited. The whole or part of this publication material cannot be reproduced, reprinted, translated, stored or transmitted, in any form or means, without the written permission of the publisher. The publisher and authors have taken care that the information and recommendations contained herein are accurate and compatible with the generally accepted standards at the time of publication.

The individual essays remain the intellectual properties of the contributors.

ISSN (electronic version): 2184-1489

ISSN (printed version): 2184-044X

ISBN: 978-989-35728-0-1

Legal Deposit: 428062/17

Printed in Lisbon, Portugal by GIMA - Gestão de Imagem Empresarial, Lda.

BRIEF CONTENTS

Foreword	v
Organizing and Scientific Committee	vii
Sponsor	xi
Keynote Lecture	xiii
Index of Contents	xv

FOREWORD

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 2 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 second volume focuses on the main areas of PROJECTS AND TRENDS and ORGANIZATIONAL ISSUES, being the contributions of the other two areas published in Volume 1.

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 Jebali, 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 Mackeldey, 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, Vytautas
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, Université du Québec 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 Vyortkina**, 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
- Evangelina 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 Branişte**, Dunărea de Jos University of Galati, Romania
- Gina Aurora Necula**, Dunărea de Jos University of Galati, Romania
- Gráinne Ní Dhomhnaill**, University College Dublin, Ireland
- Gyöngyi Bujdosó**, University of Debrecen, Hungary
- Hana Vančová**, Trnava 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
- Ilijana Cutura**, University of Kragujevac, Serbia
- Iлона Tandzegolskienė**, Vytautas Magnus University, Lithuania
- Ina Blau**, The Open University of Israel, Israel
- Ioana Letiția Șerban**, Babeş-Bolyai University, Romania
- Ioannis Makris**, State Special School / Directorate of Secondary Education West Athens, Greece
- Irena Petrusic**, University Adriatic, Montenegro
- Irine Pkhakadze**, A.T. Still University (ATSU) of Health Sciences, Georgia
- Janaina Cardoso**, Rio de Janeiro State University, Brazil
- Javier Casanoves-Boix**, International University of Valencia, Spain
- Jeannette Jones**, Texas Lutheran University, USA
- Jenni Sanguiliano Lonski**, Rollins College, USA
- Jitka Hloušková**, Independent Education Professional, Czech Republic
- Joana Romanowski**, Centro Universitario Internacional UNINTER, Brazil
- Joanna Paliszkievicz**, 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 Rio, University of Bologna, Italy

Leela Ramsook, Independent Researcher, Trinidad and Tobago

Lefkothea 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, Neogriegos 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

Malgorzata Cieciora, 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 Kubiato, 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 Srirakarn, 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 Tamaro, 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, Yildiz Technical University, Turkey

Sharon Jaggernaut, 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 Doncevova, 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 Linek, 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 of Concepcion, Chile

Vesna Dimitrova, Ss. Cyril and Methodius University in Skopje, Macedonia

Victor Fester, University of Waikato, New Zealand

Viorel Dorgan, Dunărea de Jos University of Galati, Romania

Wendy Setlalentoa, Central University of Technology, South Africa

Wiktor Bolkunow, Warsaw School of Economics, Poland

Xénia 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

Projects and Trends

The values and legal issues of authentic data sources in computer education and research	3
<i>Júlia Csernoch, & Mária Csernoch</i>	
Perspectives of learners in making schools more inclusive spaces	8
<i>Thabo Makhalemele, Rachel Rirhandzu Mayimele, & Pateka Pamella Jama</i>	
Evaluating the impact of project-based learning on the development of digital competences among high school students	13
<i>Borislava Kirilova</i>	
Math's and special teacher collaboration to improve students' math skills using the smart balance board	18
<i>Baiba Blomniece-Jurāne, & Rima Rieksta</i>	
Providing experiential learning opportunities in mechatronics: Teleoperated robotic workcell research and development	22
<i>Aleksandr Sergeev, Mark Kinney, Michael Masters, Scott Kuhl, Bester Mangisoni, & Vinh Nguyen</i>	
Large language models in the engineering workplace and associated curricular implications: An exploratory study	27
<i>Jeroen Lievens</i>	
Intercultural translation - Achieving dynamic equivalence in translating specific terms of material and spiritual culture	32
<i>Darinka Marolova, Ana Vitanova Ringaceva, Dragana Kuzmanovska, & Biljana Ivanova</i>	
Sustainable leadership and innovative learning environments	37
<i>Mervi Varhelahti, & Maarit Laiho</i>	
Autism spectrum disorders and AI: Applications and areas of promise	42
<i>Eva N. Patrikakou</i>	
Digital subject integration: History turned into graphics	47
<i>Mária Csernoch, & Júlia Csernoch</i>	
Nurturing equality and collaborative learning: A case study of student volunteers and coordinators' relationship dynamics	52
<i>Nadja Čekolj, & Bojana Čulum Ilić</i>	
The 'encounter' between posthumanism, technology and education	57
<i>Valerija Vendramin</i>	
Transformation of marketing and sales roles in B2B companies: Implications for higher education	61
<i>Andreas Zehetner, & Daniela Zehetner-Hirtenlehner</i>	
When quantity fosters quality: B-learning as a way to achieve the higher education purpose	66
<i>Maria Cadilhe, Ana I. Rodrigues, Constança Dias, & Marta Santos</i>	

Training and inclusion: The importance of preparation to use the Lego braille bricks kit in an inclusive classroom	71
<i>Elisa Tomoe Moriya Schlünzen, Cícera Aparecida Lima Malheiro, Daniela Jordão Garcia Perez, & Carmem Silvia de Souza Lima</i>	
What makes a good instructional video? Theoretical vs. empirical approach to understanding what students and teachers like about instructional videos	76
<i>Sissy Bücker, Hanna Höfer, & Gudrun Marci-Boehncke</i>	
The metaphor of the polyhedron: What do teachers think about the quality of education in Colombian rurality?	81
<i>Ruth Esperanza Quintero, & Carola Hernández</i>	
Ethics of generative AI use in higher education: A focus group study	86
<i>Shruthi Venkat</i>	
ChatGPT as tutor? A case study on competitive programming	91
<i>Juuso Ryttilahti, & Erno Lokkila</i>	
Is homeschooling detrimental to socioemotional development? An exploratory study with Spanish school-age children	96
<i>Marta Giménez-Dasí, Renata Sarmento-Henrique, & Laura Quintanilla</i>	
Artificial Intelligence revolutionizing online education	101
<i>Sasa Arsovski, Wee Chuen Tan, Sanja Spanja, & Graeme Britton</i>	
Better than before: Building on experiences regarding school to home engagement in a post Covid-19 pandemic world	106
<i>Kathy R. Fox</i>	
Navigating polycrisis: The role of school pedagogues in Croatia	111
<i>Ivana Miočić</i>	
Generative AI-chatbots in higher education: Challenges and opportunities in student motivation and authentic assessments	116
<i>Patricia Brockmann, & Heidi Schuhbauer</i>	
Adapting a business plan implementation as an instructional method	121
<i>Luis Rodrigo Valencia Pérez, Gibrán Aguilar Rangel, & Martín Vivanco Vargas</i>	
The mathematics that the sea conceals - Connections for the teaching of mathematics	125
<i>Sílvia Frade, Andreia Hall, & Sónia Pais</i>	
Collaborative networks of knowledge	130
<i>Raluca Gera, Mark Reith, D'Marie Bartolf, Simona Tick, & Akrati Saxena</i>	
International cooperation actions for the systematization of a sign language generator and publisher	135
<i>Klaus Schlünzen Junior, Cícera Aparecida Lima Malheiro, Mario Chacón Rivas, & José Roberto Barboza Junior</i>	
Art for everyone: Education to promote beauty in society	140
<i>Graeme Britton</i>	
Artificial Intelligence (AI) enhanced nexus learning approach as an example of student-centered learning	145
<i>Les M. Sztandera, & Katherine I. DiSantis</i>	

Towards intercultural communicative competence: Zoom exchange between U.S. and French university students	149
<i>Ana Fonseca Conboy</i>	
Exploring flipped classroom and continuous assessment – A case study involving generation Z undergraduate tourism students	154
<i>Sónia Pais, Andreia Hall, & Ana Elisa Sousa</i>	
Ads and monetization diminish web experiences	159
<i>Ronald J. Glotzbach</i>	
Agile learning: Use of Eduscram in higher education	162
<i>Heidi Schuhbauer, Patricia Brockmann, & Sebastian Schötteler</i>	
Utilizing learning analytics in large online courses	167
<i>Erkki Kaila, Juuso Ryttilahti, & Erno Lokkila</i>	
SME responsibility and learning by developing pedagogy	172
<i>Suvi Sivén, & Taina Lintilä</i>	
Bridging the career readiness gap: Examining the promise of virtual internships	177
<i>Laura McNeill, & Mohammad Mohi Uddin</i>	
E-learning courses on sustainability: Tools, assessment and verification	179
<i>Marcin Fojcik, Anna Zaslona, & Gabriela Laskowska</i>	
Teacher wellbeing and retention: The impact of rapidly transforming learning and teaching with digital technologies	184
<i>Shaun Nykvist, Inger Langseth, & Christine Nykvist</i>	
S.T.E.A.M. and D.D.A.T.A.: A multisensory approach to music and development of skills among students with intellectual disabilities	189
<i>Ioannis Makris</i>	
Potential of haptic features in mobile learning: A case study based on a language learning app	194
<i>Sigrid Schefer-Wenzl, Igor Miladinovic, & Christina Muckenhumer</i>	
Ecodesign as a new possibility in teaching technical subjects in secondary schools	199
<i>Tetjana Tomášková, Daniel Duda, Jan Krotký, & Jarmila Honzíkova</i>	
Collaborative learning in computer science: A case study of cross-university interdisciplinary hackathons	204
<i>Heimo Hirner, Leon Freudenthaler, Bernhard Taufner, Sigrid Schefer-Wenzl, Igor Miladinovic, & Nikolaus Forgó</i>	
Mechanics and the human body: Hands on and simulation approach to measure deltoid force	209
<i>Hashini Mohottala, Joseph Lothamer, Dan Martin, & Agnieszka Machowski</i>	
Understanding the impact of intercultural project-based learning on students, staff and higher education institutions	214
<i>Manfred Meyer</i>	
Learner empowerment: The case for teachers deploying democratic leadership	219
<i>Sanjay K. Nanwani</i>	
Creativity in education: Bite-size video's impact on student engagement and satisfaction	224
<i>Hassiba Fadli</i>	

The impact of digital literacy developed during the pandemic on teachers’ post-pandemic beliefs <i>Janaina Cardoso</i>	228
Navigating the hybrid Ph.D. experience: New insights from student voices <i>Laura McNeill, Bernadette Beavers-Forrest, Margaret Rice, Angela Benson, & Stephen Abu</i>	233
Serious fun with maths: Games that engage and teach <i>Andreia Hall, Sónia Pais, Paola Morando, & Maria Luisa Sonia Spreafico</i>	236
Bridging play and inclusion: A qualitative investigation into accessibility challenges and innovations in board game design <i>Joana Barros, Carla Sousa, & Filipe Luz</i>	241
Learning videos from a student’s perspective <i>Bjarte Pollen, Joar Sande, Lars Kyte, Per Eilif Thorvaldsen, Sven-Olai Høyland, & Marcin Fojeik</i>	246
Digital technologies in active and self-directed learning <i>Ester Aflalo</i>	251
Metaverse education: Immersive VR exploration of mountain heritage and culture <i>Carlotta Bin, Margherita Cassis, & Anna Osello</i>	254
Unleashing personalized education using large language models in online collaborative settings <i>Jose Ochoa-Luna, & Manfred Meyer</i>	259
Language comprehension of first graders in inclusive classrooms – Survey and implications for teacher professionalization <i>Anne-Katrin Swoboda</i>	264
“Flipped communities before flipped classrooms”’: Context and content as barriers of flipped classroom approaches in South African universities <i>Thuthukani Dlamini</i>	269
 <u>Organizational Issues</u>	
Incrementa Atque Decrementa ... Managing the university research centres: Three cases and a common management issue <i>Cezar Scarlat</i>	274
What data and data tools are most necessary to make policy and programmatic decisions? <i>Dawn Thomas, Ricardo Covarrubias Carreño, & Keith Hollenkamp</i>	279
The open recruitment system for principals in Korea <i>Yueh-Chun Huang, & Ru-Jer Wang</i>	284
How to increase faculty skills for a new approach to transformative evaluation in universities <i>Laura Mion</i>	288
Facilis Descensus Averno or interactions of doctoral research projects with university’s other projects <i>Cezar Scarlat</i>	293

POSTERS

Projects and Trends

- Impacts of arts-based Ecopedagogy in sustainable residential food waste management** 301
Joseph Harding
- An innovative model for higher education** 304
Ivan Katrencik, & Monika Zatrochova
- VIBE – Virtual Reality in STEM education** 307
Joana Carrilho, Daniela Melo, Margarida Borges, Luis Midão, Matuz Andras, & Elisio Costa
- Assessing skills transfer from computer gaming to academic learning: An experimental design** 310
Björn Sjödén, & Michael Trotter
- Demonstration of time-symmetry breaking in a jet flow** 313
Daniel Duda, Tetjana Tomášková, Vitalii Yanovych, Jan Krotký, & Václav Uruba
- Life cycle assessment of a product from 3D printer as a new tool for school** 316
Tetjana Tomášková, Daniel Duda, Jan Krotký, & Jarmila Honzíkova
- Definitions matter! How one state is attempting to standardize data definitions** 319
Dawn Thomas, Kevin Dolan, & Keith Hollenkamp
- School experiences of a multilingual elementary student on the autism spectrum – A case study** 322
Christina Sophia Gilhuber
- Development of time management as generic competence in an engineering degree: First results** 325
Francisco David Trujillo-Aguilera, & Elidia Beatriz Blazquez-Parra
- Telerehabilitation: Current status from the perspective of two Erasmus+ projects** 328
Elena Taina Avramescu, & Mariya Hristova Monova-Zheleva
- Metaphonological stimulation, alphabet knowledge and vocabulary program (PEMAV) for preschoolers: Elaboration and pilot study** 331
Denise Corrêa Barreto Tirapelli, & Simone Aparecida Capellini
- Mobile information technologies as a key factor of modern learning policies** 334
Irena Peteva, Elisaveta Tsvetkova, & Stoyan Denchev
- Developing educational tools for effective teaching industrial robotics in two- and four-year degree institutions** 337
Mason Petersen, Prarthana Hedge, Ravi Thakur, Brendon Lakenen, & Aleksandr Sergejev
- Post-Covid-19 pandemic online education in Latin America: A systematic review of literature** 340
Salvador Antelmo Casanova-Valencia, Arcadio González-Samaniego, Marco Alberto Valenzo-Jiménez, & Bertha Molina-Quintana
- Challenges and opportunities in faculty training on active learning to deliver critical thinking for undergraduate biology students** 343
Marcos Nahmad, Marco Carballo-Ontiveros, & América Castañeda-Sortibrán

Integrating innovative technologies and pedagogies in higher education: Enhancing problem-solving abilities	346
<i>Boguslawa Lightbody</i>	

Organizational Issues

Developing the early childhood participation data set	349
<i>Karla Andrew, Bryan Preston, & Kevin Dolan</i>	

Generative mechanism in school improvement – A process study	352
<i>Anna Katharina Jacobsson</i>	

Identifying knowledge gaps in managing premature children: A parental perspective study	355
<i>Ourania S. Kotsiou, Konstantinos I. Gourgoulialis, Livia Nagy Bonnard, Asta Speicyte Radzeviciene, Mandy Daly, Georgia Rapti, Dimitrios G. Raptis, Ioanna V. Papathanasiou, & Marie-Claude Esculier</i>	

VIRTUAL PRESENTATIONS

Projects and Trends

Framing family diversity in early years: An inquiry-based intervention on approaching same-sex parenting through picturebooks <i>Christina Kalaitzi</i>	361
Augmented reality glasses in class – Blessing or curse <i>Verena Schmuck, Teresa Spiess, & Christian Ploder</i>	366
Transformative family roles in child advocacy: Amplifying rights through awareness raising and capacity building in Lesotho <i>Sonia Mairos Ferreira, & Kimanzi Muthengi</i>	371
Exploring the applicability of the question-prompting chatbot in PBL: Practitioner insights on goal setting and reflection <i>Akiko Kai, Yuriko Ishida, & Ryuichi Matsuba</i>	376
How to develop scientific thinking in primary students by investigative environment <i>Caterina Bembich, & Valentina Bologna</i>	381
A synergetic design project to fortify the university-company collaboration <i>Xiaozhu Lin, & Matteo Oreste Ingaramo</i>	386
Pedagogical model for teaching sustainability in higher education: Engaging head, hands and heart <i>Jonna Käpylä, & Hannele Auvinen</i>	391
Learning traditional Hawaiian open-ocean navigation through immersive virtual reality storytelling <i>Dean Lodes</i>	396
Investigating students’ perspectives and attitudes towards mobile learning at a Nigerian university <i>Victoria Olubola Adeyele, & Ayodele Abosede Ogegbo</i>	401
Students 21st century skill challenges: Zimbabwean higher education <i>Doris Chasokela, & Charles S. Masoabi</i>	406
The role of interactive applications – Discussion about flexibility in modern learning environments <i>Seppo Johan Sirkemaa</i>	411
Machine learning prediction of academic performance of Latin American university students. A review <i>Dayana Barrera, Carlos Fresneda-Portillo, & Ana María Pacheco-Martínez</i>	415
Education as a path to cultural cohesion (historical aspects of the development of the Bulgarian diaspora in the Balkans) <i>Vanya Dobрева, Boriána Buzhashka, Stoyan Denchev, Ivanka Yankova, & Kamelia Nusheva</i>	420
Media and audio-visual technologies for teaching artistic creativity: A course for preschool and primary school teachers <i>Lorenzo Denicolai, & Giacomo Albert</i>	425
Nouvelles Cartes Portugaises: A gamified pedagogical approach to promote Portuguese cultural and visual heritage <i>Ana Catarina Silva, & Pedro Amado</i>	430

Educational equality and pedagogical technological transformation of rural South African secondary schools	435
<i>Andrea Mngondiso Buka, & Limkani Sincuba</i>	
Education, development and global citizenship: A proposal for transformation, an experience of (co)social responsibility in polytechnic higher education	440
<i>Marta Uva, Leonor Teixeira, Isabel Piscalho, & Susana Colaço</i>	
Fostering gender equality and inclusivity among Lesotho's youth and men: Lessons learnt and recommendations from UNICEF evaluations (2018-2023)	445
<i>Sonia Mairos Ferreira, & Kimanzi Muthengi</i>	
Shaping the teacher's role: Navigating diverse responses to digital transformation in Austrian middle schools	450
<i>Marina Müller, Teresa Spiess, & Christian Ploder</i>	
Comparative analysis of robotics and virtual reality in the enhancement of social skills in autistic students	454
<i>Gonzalo Lorenzo, Juan Antonio López-Núñez, José María Romero-Rodríguez, Ángel Rodríguez-Quevedo, María Teresa Bejarano-Franco, & Isabel Gómez Barreto</i>	
Navigating the provision of support to learners with special needs in rural mainstream schools: teachers' challenges	459
<i>Omphile Tshepo Cooperate Madiba, & Appolina Masunungure</i>	
Traitors, reality show turned instructional strategy	464
<i>Samantha F. Junkin</i>	
Development of intercultural literacy in higher educational institutions: Challenges and possibilities	468
<i>Rasa Poceviciene</i>	
Inclusive policies and practices in the field of continuing vocational education and training	473
<i>Denitsa Dimitrova, Ivanka Yankova, & Kamelia Nusheva</i>	
Analysis of long-term learning through gamification in engineering courses	478
<i>Salvador Bueno, Luis Pérez-Villarejo, Dolores Eliche-Quesada, M. Dolores La Rubia, Sergio Martínez-Martínez, Juan Miguel Romero-García, Inmaculada Romero-Pulido, & Angel Galán-Martín</i>	
Exploring preschool teachers' perspectives on the integration of technology-enhanced learning in basic science	483
<i>Victoria Olubola Adeyele</i>	
Examining pre-service teachers' use of coding and robotics during micro-lessons in the teaching of construction in technology through problem-based learning	488
<i>Patrick Thabo Makhubalo, Maglin Moodley, & Lydia Mavuru</i>	
A conceptual model for evaluating the effectiveness and quality of inclusive education, training and lifelong learning	493
<i>Kamelia Nusheva, Boryana Yankova-Hadzhieva, & Denitsa Dimitrova</i>	
Exploring the support needs of teachers in inclusive schools	498
<i>Matabe Rosa Modiba, & Appolonia Masunungure</i>	
Teaching affine functions: Evaluating the use of games with automatic feedback in GeoGebra	503
<i>Celina Aparecida Almeida Pereira Abar, & Thiago Novaes Silva</i>	

Challenge based learning and sustainability: Zero waste programme applied to the university	507
<i>Maite Ruiz-Roqueñi, & Lidia García-Zambrano</i>	
Physical therapist student preference of a program-specific YouTube channel for instructional videos	512
<i>Kristin Mende</i>	
Learning community schools in the Alentejo – Analysis of inclusive education practices	516
<i>Joana Silva, Maria José D. Martins, Amélia Marchão, Teresa Oliveira, Luís Tinoca, & Ana Paula Caetano</i>	
 <u>Organizational Issues</u>	
Mitigating the micro-political dimension of distributed leadership in educational leadership: An Ubuntu perspective	521
<i>Oluwasola Babatunde Sasere, & Martha Matashu</i>	
Relevance of students' mental health and wellbeing in higher education: A comparative case study	526
<i>Rasa Poceviciene, & Rainer Rubira García</i>	
Urban landscapes as third educator: The case of Palazzo Miccichè as an educational platform for co-learning in nature	531
<i>Chiara Cadoni, Ermes Invernizzi, & Florinda Saieva</i>	
Beyond traditional metrics: Rethinking human capital in school leadership through emotional intelligence	536
<i>Oluwasola Babatunde Sasere, & Martha Matashu</i>	

WORKSHOP

Organizational Issues

Free tools for using data to tell a story

543

Ricardo Covarrubias Carreño, Karla Andrew, Geoff Boise, & Bryan Preston

AUTHOR INDEX

547