# EDULEARN19

11TH INTERNATIONAL CONFERENCE ON EDUCATION AND NEW LEARNING TECHNOLOGIES

PALMA (SPAIN)
1ST - 3RD OF JULY, 2019

# CONFERENCE PROCEEDINGS

EDULEARN 19

# CONFERENCE PROCEEDINGS

**Published by**
IATED Academy
iated.org

**EDULEARN19 Proceedings**
11th International Conference on Education and New Learning Technologies
July 1st-3rd, 2019 — Palma, Mallorca, Spain

**Edited by**
L. Gómez Chova, A. López Martínez, I. Candel Torres
IATED Academy

ISBN: 978-84-09-12031-4
ISSN: 2340-1117
Depósito Legal: V-1702-2019

Book cover designed by
J.L. Bernat

All rights reserved. Copyright © 2019, IATED

The papers published in these proceedings reflect the views only of the authors. The publisher cannot be held responsible for the validity or use of the information therein contained.

# EDULEARN19 COMMITTEE AND ADVISORY BOARD

| | | | |
|---|---|---|---|
| ***Agustín López*** | SPAIN | ***Juanan Herrero*** | SPAIN |
| ***Alexander Mikroyannidis*** | UNITED KINGDOM | ***Keren Levy*** | ISRAEL |
| ***Amparo Girós*** | SPAIN | ***Linda Pospisilova*** | CZECH REPUBLIC |
| ***Ana Lucas*** | PORTUGAL | ***Lorena López*** | SPAIN |
| ***Ana Paula Lopes*** | PORTUGAL | ***Louise Robson*** | UNITED KINGDOM |
| ***Ana Tomás*** | SPAIN | ***Lucilla Crosta*** | UNITED KINGDOM |
| ***Anamarija Štefić*** | CROATIA | ***Luis Gómez Chova*** | SPAIN |
| ***Anastasios Economides*** | GREECE | ***Mª Jesús Suesta*** | SPAIN |
| ***Andre Blondin*** | CANADA | ***Manuel Costa*** | PORTUGAL |
| ***Andrew Youde*** | UNITED KINGDOM | ***Manuel Gericota*** | PORTUGAL |
| ***Anemona Peres*** | POLAND | ***Marco Arrigo*** | ITALY |
| ***Anna Aurora Battaglia*** | UNITED KINGDOM | ***Marek Jaszczur*** | POLAND |
| ***Antonio García*** | SPAIN | ***Margaret Ferrara*** | UNITED STATES |
| ***Beryl Pittman*** | UNITED STATES | ***Maria Porcel*** | SPAIN |
| ***Bettina Fuhrmann*** | AUSTRIA | ***Marion Milton*** | AUSTRALIA |
| ***Boza Tasic*** | CANADA | ***Martina Bode*** | UNITED STATES |
| ***Charanjit Kaur*** | AUSTRALIA | ***Mary Benedetti*** | UNITED STATES |
| ***Chelo González*** | SPAIN | ***Michelle Rosser-Majors*** | UNITED STATES |
| ***Chiew Hong Ng*** | SINGAPORE | ***Michiko Toyama*** | JAPAN |
| ***Craig Bartle*** | UNITED KINGDOM | ***Miguel Peiró*** | SPAIN |
| ***Cristina Muntean*** | IRELAND | ***Mohamed Zarouk*** | PORTUGAL |
| ***Cristina Sin*** | PORTUGAL | ***Nathalie Cazaux*** | IRELAND |
| ***Crystal Bickford*** | UNITED STATES | ***Nello Scarabottolo*** | ITALY |
| ***Danica Vidotto*** | CANADA | ***Norma Barrachina*** | SPAIN |
| ***David Martí*** | SPAIN | ***Patricia Gamboa*** | PORTUGAL |
| ***Dorian Cojocaru*** | ROMANIA | ***Peter Haber*** | AUSTRIA |
| ***Eladio Duque*** | SPAIN | ***Pietro Ragni*** | ITALY |
| ***Elena Savova*** | BULGARIA | ***Radel Ben-Av*** | ISRAEL |
| ***Gabriel-Miro Muntean*** | IRELAND | ***Rebecca Allen*** | UNITED STATES |
| ***Gemma Piercy*** | NEW ZEALAND | ***Riccardo Mazza*** | SWITZERLAND |
| ***Georgios Kouroupetroglou*** | GREECE | ***Rodica Silvia Stan*** | ROMANIA |
| ***Hanna-Riitta Kymäläinen*** | FINLAND | ***Sami Ammar*** | CANADA |
| ***Helen Gadegaard*** | DENMARK | ***Sergio Pérez*** | SPAIN |
| ***Helen Reddy*** | UNITED KINGDOM | ***Sofie Van Hoecke*** | BELGIUM |
| ***Ignacio Ballester*** | SPAIN | ***Soula Mitakidou*** | GREECE |
| ***Ignacio Candel*** | SPAIN | ***Stefano Menon*** | ITALY |
| ***Ilana Lavy*** | ISRAEL | ***Stéphanie Looser*** | SWITZERLAND |
| ***Iman Osta*** | LEBANON | ***Stewart Bibby*** | UNITED KINGDOM |
| ***Iván Martínez*** | SPAIN | ***Teemu Patala*** | FINLAND |
| ***Jana Bérešová*** | SLOVAKIA | ***Teresa Cardoso*** | PORTUGAL |
| ***Javier Domenech*** | SPAIN | ***Thomas Rachfall*** | GERMANY |
| ***Javier Martí*** | SPAIN | ***Trayan Iliev*** | BULGARIA |
| ***Jeroen Lievens*** | BELGIUM | ***Victor Fester*** | NEW ZEALAND |
| ***Joanna Lees*** | FRANCE | ***Wendy Gorton*** | UNITED STATES |
| ***Jose F. Cabeza*** | SPAIN | ***Xavier Lefranc*** | FRANCE |
| ***Jose Luis Bernat*** | SPAIN | ***Xema Pedrós*** | SPAIN |
| ***Josipa Matotek*** | CROATIA | ***Yazid Benchabane*** | UNITED ARAB EMIRATES |

# CONFERENCE SESSIONS

## ORAL SESSIONS, 1st July 2019

Massive Open Online Courses (MOOC)
Effective Pedagogical Practices
ICT & Digital Skills for Educators (1)
Foreign Language Learning
Vocational Education
Ethical Issues in Education
Design Thinking and Creativity
Quality Assurance and Accreditation
Health Sciences Education

Virtual Reality and 3D Experiences
Flipped Learning (1)
ICT & Digital Skills for Educators (2)
Language Learning Technologies
Informal Learning
Gender Lensing in Academia
Team Based Learning
Internationalization in Higher Education
Nursing Educational Experiences

Virtual Learning Experiences in Higher Education
m-Learning & Personal Learning Environments
Professional Development of Teachers (1)
English for Special Purposes
Up2U, Learning from Learners
Sustainability in Higher Education
Project and Problem Based Learning
Entrepreneurship Education
Programming and Coding Skills (1)

Learning Analytics
Flipped Learning (2)
Pre-service Teacher Experiences
Language Learning Experiences
Student Support in Higher Education
Active Learning in Engineering Education
Active Learning
University-Industry Cooperation
Programming and Coding Skills (2)

## POSTER SESSIONS, 1st July 2019

New Trends in Education and Research

Pedagogical Innovations and Educational Issues

## ORAL SESSIONS, 2nd July 2019

21st Century Skills
Serious Games & Game-Based Learning (1)
Educational Management
Student Support & Wellbeing
Intercultural Issues in Education
Secondary Education Experiences
ICT Skills and Digital Literacy
Research on Higher Education
Pedagogical Innovations in Education

Next Generation Classroom & Learning Space Design
Serious Games & Game-Based Learning (2)
Technology-Enhanced Learning (1)
Professional Development of Teachers (2)
Inclusive Education (1)
Primary Education Experiences
Digital Competences and Virtual Learning Experiences
Links between Education, Research and Innovation
Videos for Learning

Augmented and Virtual Reality
Serious Games & Game-Based Learning (3)
Technology-Enhanced Learning (2)
Professional Development of Teachers (3)
Teacher Training for Inclusive Education
Teacher Training in STEM
Digital Literacy
Curriculum Design
e-Learning Experiences (1)

e-Learning Platforms and Learning Management Systems
Gamification
Technology Enhanced Experiences in Special Education
Mathematics Education
Student Support & Inclusive Education
STEM Outreach Activities
e-Assessment
Work Based Learning
e-Learning Experiences (2)

New Trends in Learning Analytics
Blended Learning
Technology in Primary and Secondary Education
Business Education
Inclusive Education (2)
STEM Education
Assessment in Higher Education
Internships and Workplace Learning
e-Tutoring and Intelligent Tutoring Systems

## POSTER SESSIONS, 2nd July 2019

New Experiences in Education

Emerging Technologies in Education

## VIRTUAL SESSIONS

21st Century Skills
Academic Research Projects
Augmented Reality
Barriers to Learning
Blended Learning
Collaboration Projects and Networks
Computer Supported Collaboration
Curriculum Design and Development
Design Thinking and Creativity
Distance Learning
Diversity Issues, Women and Minorities
E-content Management and Development
e-Learning Projects and Experiences
Early Childhood and Preschool Education
Education and Globalization
Educational Management
Educational Software & Serious Games
Educational Trends and Best Practice Contributions
Emerging Technologies in Education
Enhancing Learning and the Undergraduate Experience
Ethical Issues in Education
Evaluation and Assessment of Student Learning
Flipped Learning
Game Based Learning
Higher and Further Education
ICT skills and Digital literacy
Impact of Education on Development
Language Learning Innovations
Leadership in Education
Learning and Teaching Methodologies
Learning by doing & Experiential Learning
Learning Management Systems (LMS)
Lifelong Learning
Links between Education and Research
Massive Open Online Courses (MOOCs)
Mobile and Tablet Technologies
Mobile Learning
Multicultural Education
New Experiences in Education
New Learning/Teaching Models
New projects and Innovations
New Trends in Education and Research
Organizational, Legal, Policy and Financial Issues
Pedagogical Innovations and Educational Issues
Pre-service and In-service Teacher Experiences
Primary and Secondary Education
Problem and Project-Based Learning
Quality Assurance and Accreditation
Research Methodologies
Special Education & Inclusive Learning
STEM in Education
Student Support in Education
Team-Based and Collaborative Learning
Technology-Enhanced Learning
The 2030 Agenda for Sustainable Development
The Bologna Declaration and ECTS Experiences
The Impact of Web Technologies on Education
Transferring Skills and Disciplines
Virtual Learning Environments (VLEs)
Virtual Reality and 3D Applications
Workplace Training and Employability Issues

# EDULEARN19 TABLE OF CONTENTS

**PRE-SERVICE TEACHERS' ATTITUDES TOWARD THE USE OF DIFFERENT MODES OF REPRESENTATION IN STATISTICS TEACHING AND LEARNING** 1
*S. Anastasiadou*

**INTERNAL REPRESENTATIONS TOWARD EXTERNAL REPRESENTATIONS: THE CASE OF STATISTICAL CONCEPTS** 6
*S. Anastasiadou*

**THE DEVELOPMENT OF THE COURSE EXPERIENCE QUESTIONNAIRE AND REVISED-STUDY PROCESS QUESTIONNAIRE FOR PART-TIME LEARNERS ON BLENDED, VOCATIONALLY RELEVANT, DEGREE PROGRAMMES** 10
*A. Youde*

**AXIOLOGICAL BACKGROUND OF VIETNAMESE STUDENTS ADAPTABILITY** 18
*S. Kudinov, S. Kudinov, I. Kudinova, H. Chi, S. Kardashova*

**GLOBAL EDUCATION CONNECTIONS AND STRATEGIES: DO THESE CONNECT, SHARE OR SEPARATE EDUCATIONAL SYSTEMS?** 26
*B. Barrett*

**THE SCIENTIST' EXPERIENCE IN PARTICIPATED SCIENCE COMMUNICATION** 32
*G. Mazzitelli, P. Bollafio, G. Burzachechi, I. Capra, G. Ciocca, A. Della Ceca, R. Giovanditti, C. Grasso, D. Maselli, G. Sanzone, F. Spagnoli, M. Tota*

**USING INTELLECTUAL CAPITAL MEASUREMENTS IN UNIVERSITIES TO ASSESS PERFORMANCE – EVIDENCE FROM THE ROMANIAN EDUCATION SYSTEM** 37
*C.R.G. Popescu*

**DEMONSTRATING HOW UNIVERSITIES EXTEND VALUE CREATION AND PERFORMANCE: CONVERGENCE BETWEEN INTELLECTUAL CAPITAL CONTRIBUTIONS AND RESEARCH QUALITY – A ROMANIAN COLLECTIVE INTELLIGENCE FRAMEWORK** 48
*C.R.G. Popescu*

**EXPLORING STUDENT PERCEPTIONS OF THE INFLUENCE OF ACTION LEARNING SETS, FOR LARGE LECTURE GROUPS, ON ENGAGEMENT WITH LEARNING** 59
*K. Williams*

**DEMOGRAPHY AS A DERIVATIVE OF EDUCATION – PUBLIC HEALTH ANALYSES FROM BULGARIA** 66
*D. Vankova*

**AN EXPLORATION OF THE POSSIBLE RELATIONSHIP BETWEEN REWARD AND RECOGNITION AND TEACHING EXCELLENCE IN HIGHER EDUCATION** 73
*M. Warnes*

**THE USE OF EDUTAINMENT TECHNOLOGY IN TEACHING ENGLISH AS A SECOND FOREIGN LANGUAGE TO FUTURE TEACHERS** 83
*A. Dubakov, J. Olar*

**CHALLENGES IN TEACHING THE DIFFERENCE BETWEEN PHYSICAL AND NUMERICAL INSTABILITY** 87
*F. Milano*

**JUPYTER NOTEBOOKS FOR COMPUTER-BASED LABORATORIES ON ELECTRICAL ENERGY SYSTEMS** 97
*G.M. Jónsdóttir, F. Milano*

**ON COURSE FOR YOUR MASTERS: AN EVALUATION OF AN OPEN ONLINE LEARNING PROGRAMME IN INFORMATION SKILLS USED BY POSTGRADUATE STUDENTS AT A LARGE AND COMPREHENSIVE UK UNIVERSITY** 107
*C. Pritchard, E. Newall, S. Speight, S. Tang, C. Gratton, C. Jones*

**THE SOCIAL AND PERSONALITY DIMENSION OF EDUCATIONAL EVALUATION** 114
*I. Szőköl, K. Horváth*

**STUDYING THE INFLUENCE OF THE BULGARIAN FOLK DANCES ON STUDENTS' OVERALL HEALTH** 120
*J. Videnova, S. Nikolova, D. Vankova*

**SIMULATED PATIENT TRAINING FOR HEALTH ASSESSMENT IN A HIGH-FIDELITY NURSING SIMULATION** 127
*H.B. Yuan*

**NATIONAL LABORATORIES IN THE ECONOMIC SOUTH: A CHANCE FOR HIGH QUALITY GRADUATE EDUCATION** 133
*J. Jiménez-Guzmán, J.C. Escalante, D. Vargas, R. Ramírez, A. Atzin, L. Munguía, J. Gómez-Martínez*

**DEVELOPMENT OF DUAL ENGINEERING PROGRAMS IN CAMBODIA, CHINA, INDIA AND RUSSIA** 141
*L. Jiménez Esteller, A. Molas, D. Boer, K. Krüger*

**CO-CREATION OF TRAINING ACTIVITIES IN RESPONSIBLE RESEARCH AND INNOVATION** 145
*L. Jiménez Esteller, A. Molas, D. Boer, K. Kruger*

**CZECH PRE- AND IN-SERVICE TEACHERS' ATTITUDES TOWARD ROMA STUDENTS** 150
*M. Benedetti*

**RESEARCH NETWORKS CHALLENGES IN A MEXICAN HIGHER EDUCATION INSTITUTION** 157
*R.A. Gomez Ortiz, H. Necoechea Mondragón, L. Rocha Lona*

**HIGHER EDUCATION - WHAT IS IT GOOD FOR? KNOWLEDGE OR EMPLOYABILITY** 166
*M. Crossan, P. Wolstencroft*

**TEACHING AND LEARNING THROUGH ADAPTIVE STRATEGIES – A CASE IN HIGHER EDUCATION** 170
*F. Soares, A.P. Lopes, M.P. Nunes*

**VISIONING FUTURES 2.0: STORYTELLING AS CREATIVE RESEARCH AND HOLISTIC EXPERIENCE-ORIENTED METHOD IN PRIMARY EDUCATION** 180
*S. Looser, I. Fischer, S. Mohr*

**EXISTENTIAL ANXIETY AND STUDENT WELL-BEING** 188
*S. MacMillan*

**RECRUITMENT POLICIES IN SPANISH UNIVERSITIES, A CASE STUDY: TEACHING AND RESEARCH QUALITY** 195
*B. Pascual-Fuster*

**MOTIVATIONAL PROJECTS FOR STUDENTS AT TRANSILVANIA UNIVERSITY OF BRASOV, ROMANIA** 201
*D. Munteanu, A. Nechifor*

**NEW PERSPECTIVE FOR EDUCATION: COGNITIVE AND RELATIONAL MEDIATION** 209
*M. Genis*

**DIGITAL ASSISTIVE TECHNOLOGIES FOR AGEING PEOPLE – LEARNING BARRIERS AND EDUCATIONAL APPROACHES** 210
*N. Helander, M. Weck, T. Meristö*

**WORK-INTEGRATED LEARNING AND EMPLOYABILITY. A DIFFERENT PERSPECTIVE ON WORK-INTEGRATED LEARNING** 215
*A. Ahmadi*

**DYSLEXIA AND TYPOGRAPHY: HOW TO IMPROVE EDUCATIONAL PUBLISHING FOR INCLUSIVE DESIGN – A CRITICAL REVIEW** 224
*L. Bollini*

**MENTORING IN EDUCATION. FEMALE ROLE MODELS IN ITALIAN DESIGN ACADEMIC CULTURE** 225
*L. Bollini*

**EXPLORING BLOOMS TAXONOMY FOR ASSESSING SKILLS AND VALUES AT A UNIVERSITY OF TECHNOLOGY** 235
*E.M. Chweu, A. Mji, S. Simelane-Mnisi*

**INFUSING INDIGENOUS KNOWLEDGE SYSTEMS (IKSS) IN TECHNOLOGY EDUCATION: A CASE OF FOOD PROCESSING AND PRESERVATION** 243
*J. Timire*

**FEMALE PRISONER AND PRISONS FOR WOMEN. A FEMINIST LEGAL CRITICAL VIEW ACCORDING TO AN EMPIRICAL-LEGAL DESCRIPTIVE ANALYSIS OF THE RIGHT TO FORMAL EDUCATION IN PRISON** 244
*D. Serra Castilhos, M. Ribeiro Henriques*

**UNDERGRADUATE STUDENT PREFERENCE OF MOBILE LEARNING FEATURES TO MAKE SENSE OF MATHEMATICS** 251
*C. Williams, J. Johnson*

**TEACHING THE ENGLISH FIRST ADDITIONAL LANGUAGE AS A LINGUA FRANCA TO CULTURALLY DIVERSE LEARNERS IN A SOUTH AFRICAN SCHOOL** 252
*M. Kepe, A.M. Linake*

**A ZERO WASTE INTERIOR ARCHITECTURE STUDIO PROJECT** 267
*D. Hasirci, Z. Edes, S. Anal*

**MATHEMATICAL COURSES ON CHILDREN'S UNIVERSITY AT FACULTY OF EDUCATION** 277
*L. Honzik, J. Frank*

**VAN GOGH'S "OLIVE TREE WITH YELLOW SKY AND SUN", MATHEMATICS AND ORIGAMI** 284
*M.L. Spreafico, E. Tramuns*

**SAVEIT: A SMART ARCHIVE FOR IT SENIOR PROJECTS** 294
*R. Alotaibi, R. Alufi, K. Alamoudi, R. Alghamdi, S. Sami, M. Almarie*

**THE METHODOLOGICAL DIGITAL COMPETENCE DEVELOPMENT IN CLASSROOM. PRESCHOOL AND PRIMARY TEACHERS' PERCEPTIONS: FACILITIES AND BARRIERS** 302
*N. Carrasco, M.A. Prats, E.S. Ojando, J. Simón*

**SHATTERING STUDENT PERCEPTIONS AND RESISTANCE: ADOPTING NEW NOVEL STUDENT-CENTERED LEARNING METHOD** 311
*L. Naamati-Schneider, A. Meirovich, N. Dolev*

**A CONCEPTUAL FRAMEWORK FOR EFFECTIVE TUTORS AND TUTORING WITHIN A BLENDED LEARNING CONTEXT** 317
*A. Youde*

**CROSS-CULTURAL EXCHANGE IN DESIGN EDUCATION BETWEEN JAPAN AND TURKEY** 324
*D. Hasirci, K. Yanagisawa*

**CREATING COMMUNITY IN ONLINE LEARNING: A CASE STUDY OF THE OPEN UNIVERSITY UK** 331
*J. Baxter*

**PROCESS MAPS FOR A RESEARCH GROUP IN MATERIALS SCIENCE AT THE UNIVERSITY OF THE BASQUE COUNTRY (UPV/EHU): TEN-YEAR EVOLUTION** 338
*G. Barandika, B. Bazán, M.K. Urtiaga, A. Davalillo*

**WHO IS THE BOSS? ACADEMIC AND LABOUR RESPONSIBILITIES IN THE CASE OF UNDERPERFORMING DOCTORAL CANDIDATES** 345
*G. Barandika*

**TEACHER PERCEPTION OF OBSTACLES AND OPPORTUNITIES IN THE INTEGRATION OF PROGRAMMING IN K-12 SETTINGS** 350
*N. Humble, P. Mozelius*

**EXPLORING BARRIERS TO THE DIGITALIZATION OF SCHOOLS: A MANAGERIAL BLAME-GAME WITH FOUR DIMENSIONS** 357
*L. Svensson, S.M. Babaheidari*

**INTENSIFICATION METHODS IN TEACHING A SECOND FOREIGN LANGUAGE** 358
*M. Kaskova, N. Chernova, O. Ustinova*

**DIDACTICS ENVIRONMENT AS A METHOD OF PROMOTING MOTIVATION** 368
*M. Kaskova, N. Chernova, O. Ustinova*

**ENGLISH LANGUAGE DEVELOPMENT OF LATINO STUDENTS IN A PRE-KINDERGARTEN PROGRAM** 375
*R. Green, M. Kouassi, B. McKie, J. Manswell Butty, G. Reed, N. Thompson*

**"DEAF INTERPRETER" – SCENARIO FOR TEACHING RUSSIAN-ENGLISH CONSECUTIVE INTERPRETATION IN A GAME WAY** 385
*Y. Alyunina*

**THE NEW CURRICULUM OF THE DESIGN COURSE OF THE SCHOOL OF ARCHITECTURE AND URBANISM AT THE UNIVERSITY OF SÃO PAULO, BRAZIL. FLEXIBILITY IN HIGHER EDUCATION AND INTEGRATION OF KNOWLEDGE** 392
*C. Aun Bertoldi, P. Lena Farias, D. Dantas*

**EMPLOYABILITY AND HIGHER EDUCATION: THE CASE STUDY OF ESTM MASTER'S DEGREE** 399
*A. Viana, S. Pais, A. Sousa, M. Schön*

**VOCATIONAL TEACHING: USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES BY STUDENTS IN THE CLASSROOM** 408
*A. Sousa*

**IMPROVING ABORIGINAL CARE TOGETHER - AN EDUCATIONAL INITIATIVE** 413
*M. Arnold-Chamney, J. Perry*

**MODULAR RUBRICS AS A BUILDING BLOCK OF CONSISTENT ASSESSMENT** 419
*J. Perry, M. Arnold-Chamney*

**MIND THE GAP – E-TRANSITIONING TO UNIVERSITY** 426
*K. Pond, M. Kinderkhedia*

**WHO WANTS TO BE A PERFECT ANALYST - A GAME-BASED LEARNING** 427
*P. Peres*

**USING QR CODES IN DENTAL PRACTICE** 434
*N. Kafadarova, S. Stoyanova-Petrova, N. Mileva, D. Stoyanova*

**HIGHER EDUCATION GOVERNANCE: THE HIDDEN AGENDA FOR CONFLICT OF INTEREST WITHIN AN EXTENDED MANAGEMENT COMMITTEE** 440
*J.S. Wessels, E. Sadler*

**MULTICULTURAL TEACHER EDUCATION: CRITICAL THINKING SKILLS FOR MIGRANTS AND REFUGEES** 441
*F. Ricci*

**THE STRUCTURE AND PATHS OF MALCOLM BALDRIGE NATIONAL QUALITY AWARD (MBNQA) DIMENSIONS APPLIED IN GREEK TERTIARY EDUCATION SYSTEM** 455
*S. Anastasiadou, E. Taraza*

**LEARNING ANALYTICS TO SUPPORT STUDY SUCCESS BASED ON A SMALL PRIVATE ONLINE COURSE** 464
*A.P. Lopes, F. Soares*

**SERVICE-LEARNING PROJECT IN KENYA: SOME SURPRISING RESULTS ON RESILIENCE AND EMOTIONAL INTELLIGENCE** 472
*M. Ciesielkiewicz, G. Nocito*

**THE IMPACT OF STRATEGIES-BASED INSTRUCTION ON EFL LEARNERS' SPEAKING PERFORMANCE** 478
*T. Zargaryan, A. Arakelyan*

**PROMOTING THE DEVELOPMENT OF A RESILIENT PERSONALITY IN A UNIVERSITY ENVIRONMENT THROUGH THE PRACTICE OF MINDFULNESS** 486
*L. Lackova, T. Kimplova, C. Pérez Dueñas, A. Reina Giménez*

**INTEGRATING WORKSHOP EXERCISES WITH CLASS BASED LEARNING IN AN EFFORT TO PROMOTE UNDERSTANDING** 493
*C. Broderick, E. Bates*

**A CULTURAL "JOURNEY": AMERICAN INDIAN & ALASKA NATIVE 11TH AND 12TH GRADE HIGH SCHOOL STUDENTS EXPERIENCE THE WORLD OF RESEARCH** 498
*C. Dodge-Francis*

**BLENDED LEARNING - INDIVIDUALIZED EDUCATION THAT INCLUDES ALL STUDENTS AND COMBINES PRINTED AND DIGITALIZED STUDY MATERIAL** 503
*S. Savvidou, A.L. Häggström*

**EXPLORING ACCESSIBILITY TO INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) AT DISADVANTAGED SECONDARY SCHOOLS IN GAUTENG PROVINCE- SOUTH AFRICA** 507
*G. Chisango, C. Lesame*

**HOW TO SELECT THE BEST APPLICANT FOR HEALTH PROFESSIONAL PROGRAMS?** 513
*O. Bart*

**SPELLING PERFORMANCE BY SPANISH PRIMARY STUDENTS USING ENGLISH AS A SECOND LANGUAGE: ANALYSIS OF THE MOST COMMON MISTAKES** 514
*S. Antropova, F. Colt, M. Lafita*

**THE AMITY EXPERIENCE: BENEFITS OF TEACHER TRAINING ABROAD** 523
*S. Antropova, F. Colt*

**PRE-SERVICE TEACHERS' PERCEPTIONS TOWARD LEADERSHIP REGARDING THE MBNQA MODEL** 533
*S. Anastasiadou, E. Taraza*

**EXPLORING THE COLLABORATIVE POTENTIAL OF TABLET DEVICES IN HOME AND SCHOOL SETTINGS** 544
*M. Peter, L. Morgan*

**EXPOSURE TO TRAUMATIC EVENTS AND PTSD AMONG UNDERGRADUATE STUDENTS IN A DEVELOPING COUNTRY: POTENTIAL IMPACT ON EDUCATIONAL ATTAINMENT** 545
*A. Padmanabhanunni*

**DYNAMICS OF REGULATION POLICY AND ARTIFICIAL INTELLIGENCES: REGULATING DISTANCE LEARNING AND UNIVERSITIES IN GREECE** 546
*G. Gantzias*

**DIGITAL GLOBALISATION OF KNOWLEDGE AND THE IMPACT ON HIGHER EDUCATION IN SOUTH ASIA** 547
*M. Rab, S. MacDonald, N. Riaz*

**CONSTRUCTION OF SCALE MODELS IN INDUSTRIAL DESIGN: THE IRRUPTION OF ADDITIVE MANUFACTURING. RUBRICS PROPOSAL FOR AN OBJECTIVE EVALUATION** 558
*F. Felip, J. Gual*

**PACKAGING DESIGN: LEARNING THROUGH FICTIONAL CASES OR REAL CASES? COMPARATIVE STUDY OF STUDENT PERFORMANCE OVER 8 ACADEMIC YEARS** 566
*F. Felip, J. Gual, M.L. García*

**CHALLENGE-BASED LEARNING AND GAME-BASED LEARNING TO IMPROVE MATHEMATICAL COMPETENCIES: AN ITALIAN CASE STUDY IN SECONDARY SCHOOL** 571
*R. Capone, M.R. Del Sorbo, A. Pisa, M. Trerotola*

**A COMPUTER-AIDED BLENDED LEARNING TOOLBOX TO REINFORCE NUMERICAL CONCEPTS FOR SCIENCE EDUCATION IN A FLIPPED-CLASSROOM ENVIRONMENT** 579
*J.S. Jeong, D. González-Gómez*

**PLAGIARISM SYNDROME – TOWARDS A COMMON UNDERSTANDING** 585
*T. Hungwe*

**THE EFFECT OF MUSIC ISLAND (COMPUTER PROGRAM) ON THE DEVELOPMENT OF MUSICAL ABILITIES IN SCHOOL MUSIC LESSONS** 589
*N. Szabó, M. Janurik, K. Józsa*

**GEOBRARY: DEVELOPMENT ON MOBILE DEVICES OF USEFUL TOOLS FOR GEOLOGY TEACHERS AND STUDENTS** 600
*E. Mayoral Alfaro, J.C. Fdez. Caliani, A.A. Santos, A. Campina López*

**VISUALIZATION METHOD OF EDUCATIONAL INFORMATION OF THE ENGLISH LANGUAGE GRAMMAR COMMUNICATIVE TEACHING IN A NON-LINGUISTIC UNIVERSITY** 609
*E. Chirkova, E. Chernovets, E. Zorina*

**STUDENT PERFORMANCE AND TEAM SELECTION: THE INFLUENCE OF SOCIAL CAPITAL AND MIGRATORY BACKGROUND** 614
*S. Schmucker, S. Häseler*

**WE ENERGY GAME: PROMOTING GAME-BASED LEARNING AS AN INNOVATIVE STRATEGY TO EDUCATE ON ENERGY TRANSITION** 625
*T. Ouariachi, F. Pierie, W.J.L. Elving*

**EXPERIENCES IN THE DEVELOPMENT OF A COMPUTER NETWORKING COURSE** 629
*M. Mollar, R. Chalmeta, S. Sanchez*

**INFORMATION SYSTEMS ANALYSIS AND DESIGN COURSE FOR COMPUTER ENGINEERING** 634
*R. Chalmeta, M. Mollar, S. Sanchez*

**LIFE MODELS OF STUDENTS IN EDUCATIONAL AND FAMILY SPHERE: THE INFLUENCE OF PARENT FAMILY** 639
*N. Moskvicheva, S. Kostromina, N. Grishina, E. Zinovieva*

**CAN THE SDGS HELP TO ESTABLISH RESEARCH-SCHOOL COLLABORATION?** 649
*K. Ulbrich, O. Schweiger, J. Settele*

**OPEN CONTENT DEVELOPMENT (OCD) IN THE PRACTICE OF TEACHERS' TRAINING** 650
*A. Benedek, G. Molnár*

**ESTABLISHMENT OF A HUB-IOT APPLIED IN BUILDING ACADEMIC COMMUNITIES** 656
*N. Beltran Alvarez, L.J. Ramirez Lopez, A. Rodríguez Garcia*

**THE DIGITALIZATION OF SOUTH AFRICAN HIGHER EDUCATION TO SUPPORT LEARNING: ARE STUDENTS FACING A DILEMMA?** 666
*M. Adane*

**DEVELOPMENT PROJECT IN THE CZECH REPUBLIC TO IMPROVE THE QUALITY OF PRE-SCHOOL EDUCATION** 674
*R. Wildova, J. Ronkova*

**FROM TERMOGRAF TO THERMONATOR: DESIGN AND DEVELOPMENT OF AN APP FOR E-LEARNING BASED ON PROBLEMS IN THE FIELD OF THERMAL ENGINEERING** 681
*A. Martínez-Gracia, T. Gómez, J. Pallarés, S. Usón, A. Del Amo, P. Lisbona, J. Uche, A.A. Bayod-Rújula, I. Arauzo, C. Cortés*

**DETERMINANTS OF UNIVERSITY-BUSINESS COOPERATION – A LUBLIN CASE STUDY** 687
*M. Jakubiak*

**THE SPECIFICS OF SCHOOL MANAGEMENT IN THE INSTITUTION AS ONE LEGAL ENTITY - CZECH EXAMPLE** 694
*B. Petrů Puhrová*

**SUSTAINABLE DEVELOPMENT AND PRO-ECOLOGICAL EDUCATION IN THE OPINION OF STUDENTS OF MANAGEMENT** 700
*M. Jakubiak, M. Cholewa-Wiktor, A. Sitko-Lutek*

**INFUSION OF SKILLS FOR UNDERGRADUATE SCHOLARSHIP INTO TEACHER EDUCATION: TWO CASE STUDIES IN NEW YORK AND FLORIDA** 706
*T. Szecsi, J. Szilagyi*

**CHALLENGES AND PROSPECTS IN COMPUTER SCIENCE CURRICULUM DEVELOPMENT- A CASE STUDY AT SEFAKO MAKGATHO HEALTH SCIENCES UNIVERSITY** 707
*T. Hungwe, S. Seeletse, T. Dandadzi*

**AFFECTIVE AND COMPETENCE ANALYSIS OF THE TEACHING/LEARNING OF SCIENCES IN PRIMARY SCHOOL FROM THE PERSPECTIVE OF THE TEACHER IN TRAINING** 714
*G. Martinez-Borreguero, M. Mateos-Nuñez, F.L. Naranjo-Correa*

**ANALYSIS OF THE EMOTIONS OF SECONDARY SCHOOL STUDENTS IN STEM AREAS** 724
*G. Martinez-Borreguero, M. Mateos-Nuñez, F.L. Naranjo-Correa*

**DEVELOPING AN ENTREPRENEURIAL COACHING CLINIC THROUGH A CO-CREATIVE STUDENT ENGAGING LEARNING PROCESS. CASE - ARCADA COACHING CLINIC** 734
*S. Fabricius, C. Tigerstedt, M. Klynhout, V. Strolys*

**A EUROPEAN EDUCATIONAL MATH PROJECT - COMPARATIVE NEEDS ANALYSIS IN PARTNER INSTITUTIONS** 742
*K. Brown, A. Uukkivi, F. Soares, A.P. Lopes, A. Cellmer, C. Feniser, C. Rebollar, C. Varela, E. Bravo, E. Safiulina, G. Kelly, J. Bilbao, J. Cymerman, M. Latõnina, O. García, O. Labanova, V. Bocanet*

**CREATING CONNECTIONS BETWEEN STUDY AREAS IN ONLINE PLATFORMS - ELEARNING: UCINET PRACTICAL APPLICATION** 750
*R.G. Chivu, I.C. Popa, O.E. Platon, G. Orzan, D.A. Stoica*

**HOW IN-CLASS ELECTRONIC COLLECTION OF STUDENT EVALUATIONS IS PROVIDING TEACHERS AND MANAGERS WITH BETTER INFORMATION FOR THE DEVELOPMENT OF TEACHING** 755
*N. Byrne, H. Cowley, S. Speight*

**EDU-ARCTIC COMPETITIONS AS AN EFFECTIVE WAY TO INCREASE STUDENTS' INTEREST IN STEM** 765
*A. Goździk, L. Mortensen, T. Juńczyk*

**CITIZEN SCIENCE INITIATIVE FOR SCHOOLS: EDU-ARCTIC MONITORING OF METEOROLOGICAL AND PHENOLOGICAL PARAMETERS** 776
*A. Goździk, P.E. Aspholm, H.K. Wam, T. Wawrzyniak, A. Wielgopolan*

**CLOSING THE LEAK: KEEPING LATE-DECIDING STUDENTS IN THE PIPELINE TO BIOMEDICAL RESEARCH CAREERS** 786
*M. Foroozesh, K. Morgan, T. Coston, C. Wilkins-Green, A. Billizon*

**EDUCATIONAL MODEL OF SOCIO-CULTURAL ENVIRONMENT IN MUSEUM PEDAGOGY** 792
*E. Polyudova, E. Olesina*

**CROSS-CULTURAL TRAINING PROGRAMS INTEGRATION WITHIN THE MODEL OF MULTICULTURAL PERSONALITY DEVELOPMENT** 798
*S. Suvorova, T. Khilchenko, L. Ponomareva, N. Gan, K. Obukhova*

**READING INTERNATIONAL CONTROVERSIES THROUGH POSTCOLONIAL AND FORENSIC PRINCIPLES** 804
*T. Anderson*

**BOOK CLUB WITHIN A BOOK CLUB: A REVOLUTIONARY USE OF LITERACY TO ENGAGE INCARCERATED YOUTH IN VIRTUAL TECHNOLOGY PROJECT** 811
*J. Kelly, L. Mitchell*

**A BURST OF CREATIVITY: THE TEACHER EFFICACY THAT PRESERVICE TEACHERS MAKE WHEN WORKING IN SERVICE LEARNING ENVIRONMENTS WITH LITERACY CONNECTIONS** 816
*L. Mitchell*

**EXPLORE THE EFFECTIVENESS OF THE TEACHING APPROACHES DURING ENGLISH COMPREHENSION LESSONS** 817
*A.M. Linake*

**HEALTHCARE STUDENTS AND ELECTRONIC PATIENT RECORDS: CUT, COPY AND PASTE?** 826
*K. Wilson, S. Pontefract*

**TRANSFERRING THE PLASTIC-FREE FORESTRY SCHOOL ENVIRONMENTAL EXPERIENCE TO THE CLASSROOM AS A COMPONENT OF ENVIRONMENTAL EDUCATION IN HIGHER EDUCATION: A CASE STUDY** 830
*J.V. López*

**APPLYING INSTRUCTIONAL TECHNOLOGY TO ACHIEVE BORDERLESS ONLINE EDUCATION** 836
*M. Milakovich*

**FLIPPED LEARNING IN A MARINE ENGINEERING SCHOOL. A SUCCESS STUDY** 844
*R. Pérez Fernández, D. Diaz, J.L. Morán, R. D'Amore, A. Villalba, T. Leo*

**ICT CURRICULA IN SCHOOLS IN THE UAE** 849
*N. Al-Qirim, Y. Alhamadi*

**ASSESSMENTS OF THE CIVIL ENGINEERING PROGRAM USING THE NEW ABET ACCREDITATION CRITERIA** 861
*A. Al-Harthy, M. Waris, A. Sana*

**THE FLIPPED CLASSROOM AS A VARIANT OF BLENDED LEARNING IN THE PROCESS OF MULTICULTURAL PERSONALITY DEVELOPMENT** 868
*T. Khilchenko, S. Suvorova, I. Blyasova*

**EFFECTIVE VIRTUAL TEAMWORK DEVELOPMENT IN HIGHER EDUCATION: A SYSTEMATIC LITERATURE REVIEW** 873
*A.I. Jony, E. Serradell-López*

**TEACHING STRATEGIES IN PREGRADUATE TEACHER TRAINING OF TECHNICAL SUBJECTS** 883
*P. Brečka, M. Valentová*

**EVALUATION OF TEACHING STRATEGIES FOR CRITICAL THINKING DEVELOPMENT IN THE SUBJECT OF TECHNOLOGY** 890
*M. Valentová, P. Brečka*

**LISTENING TO OUR BEST: MAKING WAY FOR PASSIONATE VETERAN TEACHERS TO MODEL AND LEAD EXCELLENCE IN EFFECTIVE TEACHING, LEARNING, AND ASSESSMENT** 896
*D. Meister, P. Prout*

**ABOUT ASSESSING THE LEARNING OF STUDENTS WITH DYSCALCULIA** 904
*M.I. Garcia-Planas, M.V. Garcia-Camba Vives*

**ENJOYABLE LEARNING OF PROGRAMMING VIA MUSIC** 912
*I. Lavy*

**PROPER PROGRAMMING STYLE - RIGHT FROM THE BEGINNING** 923
*I. Lavy, R. Rashkovits*

**AXIOLOGICAL ASPECTS OF ACADEMIC CHARISMA** 924
*M. Blašková, D. Hriníková*

**COMPARATIVE FINDINGS FROM DATA LITERACY SURVEY IN THREE BULGARIAN UNIVERSITIES** 932
*T. Todorova, M. Garvanova, M. Peteva, V. Avramova*

**BLENDED SOLUTIONS FOR TEACHING ENGLISH FOR SPECIFIC PURPOSES** 941
*E. Stankova*

**HOW CAN WE DEVELOP AND UTILIZE THE WORK PLACEMENT LEARNING AND SHARING THROUGH STUDENT'S PLACEMENT BLOGS AND PODCASTS?** 948
*C. Tigerstedt, S. Fabricius*

**TRANSLATIONAL BLOGGING: A BIDIRECTIONAL COMMUNICATION BETWEEN THE CLASS AND SOCIETY** 956
*A. Magnet, S. Fenoy, C. Hurtado, M.D. Ollero, E. Nistal, S. Angulo, R. Laguna, P. Jimenez, F. Llinares, M. Robas, A. Peña-Fernández, F. Izquierdo, C. Del Aguila, M.J. Pozuelo*

**"GETTING REAL" WITH ACTION RESEARCH IN TECHNOLOGY-MEDIATED TASK-BASED LANGUAGE TEACHING (TBLT): A PROPOSITION, A MAP AND THREE CASE STUDIES** 964
*J. Lievens*

**LECTURERS' ICT USE AT COLOMBIAN UNIVERSITIES** 971
*E. Melo, J. Llopis, J. Gasco, R. Gonzalez*

**EXPERIMENTAL LEARNING & REFLECTION: HOW IT PROMOTES COMPETENCE DEVELOPMENT IN BUSINESS EDUCATION** 977
*A. Perusso*

**INTEGRATED TECHNICAL/VOCATIONAL TRAINING IN SECONDARY SCHOOL: DEVELOPMENT OF AN INNOVATIVE CURRICULUM** 978
*F. Yamamoto*

**UNDERSTANDING THE AFFORDANCES AND CONSTRAINTS OF USING VIRTUAL REALITY IN DISTANCE LEARNING** 982
*L. Kizilkaya, D. Vince*

**THE EFFECT OF PRACTICAL WORK AND MOTIVATION ON STUDENTS' DESIRE TO STUDY STEM SUBJECTS** 990
*I.K. Vorsah Amponsah, D. Addo-Mensah, M. Anokye, R. Babah, I. Etsiwah*

**THE RELATIONSHIP BETWEEN PERSONALITY AND INTERNET ADDICTION AMONG PRE-SERVICE TEACHERS** 1000
*S. Dobešová Cakirpaloglu, J. Kvintová*

**OPTICAL SMOKE DETECTOR: AN APPROACH TO SEMICONDUCTORS FIELD FOR HIGH LEVEL EDUCATION STUDENTS** 1007
*S. Porcar-García, J. González-Cuadra, J.J. Mateu, P. Serna-Gallén, M. Fortuño-Morte, H. Beltrán-Mir, E. Cordoncillo*

**COST ACCOUNTING IN PUBLIC UNIVERSITIES IN POLAND AND THEIR INFORMATION NEEDS IN THIS FIELD – RESULTS OF OWN SURVEY RESEARCH** 1014
*D. Moskwa-Bęczkowska*

**E-DUCATION PLATFORM IN A CLASSROOM CONTEXT** 1023
*L. Dias, F. Soares, V. Carvalho, C. Leao*

**HOWULEARN AND OODIKONE AS TOOLS FOR ENHANCING LEARNING AND PROGRESS IN ACADEMIC STUDIES** 1033
*H.R. Kymäläinen, M. Luukkainen, I. Södervik*

**THE UNDERGRADUATES' UNDERSTANDING ABOUT TEACHING PRACTICES IN THE TECHNOTEACHING DISCIPLINE CONTEXT** 1038
*L. de Lima, R.C. Loureiro, G. Teles, B. Aguiar*

**BRIDGING THE GAP BETWEEN FEMALES OF COLOR IN GRADES 3-8 AND STEM: A HERMENEUTIC PHENOMENOLOGICAL STUDY** 1046
*V. Truong*

**BALANCED TEACHING: STRATEGICALLY MAXIMIZING EVERY MOMENT OF INSTRUCTION TO ENHANCE STUDENT LEARNING AND PERFORMANCE** 1047
*M. Kammer*

**NOMINAL GROUP TECHNIQUE GUIDING ACTION RESEARCH: ACCREDITATION OF SKILLS PROGRAMMES IN A COMMUNITY LEARNING CENTRE** 1054
*C. White, M. Makanatleng*

**MODERN RUSSIAN YOUTH IN THE INSTITUTIONAL SPACE OF HIGHER PROFESSIONAL EDUCATION** 1062
*V. Gnevasheva*

**SYNERGY OF VR AND 3D PRINTING: EMERGING TECHNOLOGIES FOR INNOVATIVE TEACHING IN MATHEMATICS AND MEDICINE** 1066
*B. Lazarevic*

**DOES COURSE DESIGN INCREASE OR DECREASE STUDENT STRESS? THE EXPLORATION OF CONTEXT AND STUDENT PERCEPTION OF LEARNING STRESS IN ONLINE AND TRADITIONAL LEARNING ENVIRONMENTS** 1067
*B. Lazarevic*

**SAN DIEGO STATE UNIVERSITY – GEORGIA: INTRODUCTION OF ACCREDITED AMERICAN STEM DEGREE PROGRAMS IN THE REPUBLIC OF GEORGIA** 1068
*H. Guven*

**CAN A SOLUTION BE FOUND USING INFORMATION AND COMMUNICATION TECHNOLOGY GADGETS IN HIGHER EDUCATION? A CASE OF A RURAL UNIVERSITY** 1079
*N. Marongwe, M. Mbodila, G. Chisango*

**FACTORS INFLUENCING STUDENT ENGAGEMENT IN HIGHER EDUCATION CONTEXT** 1089
*H.C. Nguyen*

**ACCREDITATION OF SKILLS PROGRAMMES THOUGH ACTION RESEARCH** 1097
*M. Makanatleng*

**OPEN AIR LESSONS – MYTH OR NOT…** 1098
*N. Nikolova, E. Stefanova*

**OVERCOMING THE BARRIERS IN TEACHER-PARENT COMMUNICATION** 1107
*E. Stefanova, N. Nikolova*

**DIFFERENTIATED INSTRUCTION AND ANTI-RACIST EDUCATION IN EFL LESSON PLANNING AND TEACHING. THE CASE STUDY OF ALICE WALKER'S "IN SEARCH OF OUR MOTHERS' GARDENS" IN AN EFL CLASSROOM** 1117
*C. Tziovara, S. Kaldi, V. Golfinopoulou*

**DIMENSIONS OF INTERPERSONAL TEACHERS' SKILLS IN SCHOOL ENVIRONMENT** 1126
*R. Petani, N. Krajinović*

**THE IMPACT OF STUDENT RESPONSE SYSTEM (SRS) IN ENHANCING NURSING STUDENTS' ENGAGEMENT IN A LECTURE-BASED ENVIRONMENT: A MIXED-METHOD STUDY** 1137
*S.L. Wong, S.Y. Yau, S.H. Yip*

**THE FOREST AND CLIMATE CHANGE: EXAMPLE OF APPLICATION IN OPEN SCIENCE SCHOOLING** 1144
*L. Mulero, M.D. Grau, I. Torra*

**THE AUXIN PROJECT THROUGH THE HERMENEUTIC LENS: DOES IT CONTRIBUTE TO THE VISION AND MISSION OF A CENTRE FOR TEACHING AND LEARNING?** 1154
*A. Jacobs*

**PHYSICALLY IMPOSSIBLE?** 1163
*D. Domenici, G. Mazzitelli*

**FOREIGN LANGUAGE SYLLABUS DESIGN IN MILITARY EDUCATION** 1167
*S. Jonakova, N. Mockova, F. Muto*

**THE EMBODIED COGNITION IN KINDERGARTEN: A PRE-WRITING EXPERIENCE WITH AN EMBODIED AND ANALOGICAL APPROACH** 1176
*M.R. De Simone*

**INTERDISCIPLINARY INTEGRATION AS A CONDITION FOR THE MODERNIZATION OF TEACHER EDUCATION** 1183
*O. Shirokova, T. Gainutdinova, M. Denisova*

**MULTIMEDIA TECHNOLOGIES AS A MEANS OF INTRODUCING GAME ELEMENTS IN THE PROCESS OF TEACHING MATHEMATICS** 1189
*M. Denisova, T. Gainutdinova, O. Shirokova*

**USING SIMULATIONS TO TRAIN TEACHER CANDIDATES** 1195
*R. Gentry*

**MINDFULNESS PRACTICES FOR TEACHERS** 1196
*R. Gentry*

**MOBILE ELECTRONIC LEARNING AND GAMIFICATION IN THE PRACTICES OF OPHTHALMIC OPTICS I** 1197
*J. Espinosa, B. Domenech, D. Mas, J. Perez, E. Perales, C. Hernández, C. Vázquez*

**USING THE SELF-EVALUATION AS A MOTIVATIONAL AND LEARNING TOOL** 1202
*E. Perales, V. Viqueira, B. Micó-Vicent, K. Huraibat, J. Espinosa, E. Chorro, J. Jordan, F.M. Martínez-Verdú*

**ASSESSMENT OF STUDENT LEARNING IN CAPSTONE PROJECT** 1207
*M. Zagar, S. Zilora, B. Mihaljevic*

**GROUP ASSIGNMENTS AND PEER ASSESSMENT IN ONLINE ACCOUNTING COURSES** 1212
*C. Fajardo*

**UNDERCLASS IN EDUCATIONAL CONTEXTS. OBSTACLES AND CHALLENGES** 1213
*A. Lizarazo*

**THE FREQUENCY OF PERSISTENT BABY REFLEXES WHICH INFLUENCE LEARNING SKILLS AMONG CHILDREN AGED 4 TO 8** 1217
*E. Sarlós*

**TRAINING OF INTERCULTURAL COMMUNICATION USING DIDACTIC RESOURCES OF VIRTUAL E-LEARNING ENVIRONMENT** 1224
*T. Skorikova, N. Romanova, E. Orlov*

**CHALLENGES FOR THE IMPLEMENTATION OF THE GDPR IN HIGHER EDUCATION INSTITUTIONS IN PORTUGAL** 1230
*N. Bessa Vilela*

**STUDENTS PROCESSES ON READING AND ACADEMIC WRITING AT CHILD PEDAGOGY CAREER** 1235
*E. Rubio, L. García, D. Díaz, F. Dueñas*

**REINFORCEMENT OF PYTHON LEARNING THROUGH A PROGRAMMING GYMKHANA** 1241
*B. Remeseiro, A.J. Díaz-Honrubia, G. Cebrián-Márquez, N. Rico, J.R. Villar*

**PREPARATION AND IMPLEMENTATION OF SAFETY CULTURE RESEARCH BY STUDENTS OF SECURITY MANAGEMENT** 1247
*M. Halaj, L. Hofreiter, R. Jankura*

**THE NEED FOR INCREASE OF STUDENT'S SAFETY AWARENESS AS A PREPARATION FOR THEIR PROFESSIONAL CAREER AFTER GRADUATION** 1256
*M. Halaj, R. Jankura*

**FINEXT 2019: LOOKING ON THE BRIGHT SIDE BY UNCOVERING THE WEAKNESSES** 1262
*G. Cebrián-Márquez, E. de Andrés, E. de la Cal, R. Mencía, B. Remeseiro, N. Rico, J.R. Villar, R. Zurita*

**AN INTERACTIVE MOOC IN A VIRTUAL WORLD** 1270
*E. Hoter, I. Nagar*

**PHYSICAL LITERACY OF URGENT HEALTH CARE STUDENTS AND ITS POSSIBLE IMPACT ON THE QUALITY OF THE RESCUER'S WORK** 1276
*Z. Balazsiova, M. Mankovecka*

**'WHO AM I, MR. STANISLAVSKI?' AN EXPLORATION OF STANISLAVSKI'S 'SYSTEM' OF TRAINING ACTORS IN REALIZING CHARACTERIZATION IN THE 1999 IRISH DRAMA CURRICULUM (PRIMARY LEVEL)** 1281
*H. Hallissey*

**BLENDING SCIENCE AND ART: AN EDUCATIONAL PERSPECTIVE** 1283
*N. Balkır, K. Saher, G. Mıhcı*

**ANALYSIS OF THE ACCURACY OF AN EARLY WARNING SYSTEM FOR LEARNERS AT-RISK: A CASE STUDY** 1289
*D. Baneres, A. Karadeniz, A.E. Guerrero-Roldán, M.E. Rodríguez-Gonzalez, M. Serra*

**THE FACTORS OF TEACHER CAREER SATISFACTION** 1298
*E. Stuopyte, A. Augustiniene*

**DESIGNING "BETTER" GLOBAL PURCHASING AND SUPPLY MANAGEMENT TEACHING PROGRAMMES BY UNDERSTANDING CROSS-CULTURAL CHALLENGES AND DIFFERENCES: THE BI-CONTINENTAL APPROACH EUROPE-ASIA** 1307
*B.M. Zunk, K. Stek, H. Schiele*

**QUALITY IN HIGHER EDUCATION IN PORTUGAL THE A3ES CERTIFYING ENTITY: ACCREDITATION OF IQAS AND INSTITUTIONAL ACCREDITATION AT ONE PORTUGUESE UNIVERSITY** 1312
*N. Jesus-Silva, A. Machado, J. Caramelo-Gomes*

**R-ADAPTATION OF THE COURSE "ECONOMETRIC METHODS IN ECONOMICS AND FINANCE"** 1318
*L. Escot, A. Pérez Alonso, J.E. Sandubete*

**INTEGRATION OF EDUCATIONAL AREAS AS A CONDITION FOR SUCCESSFUL ADAPTATION OF A CHILD TO SCHOOL** 1327
*S. Suvorova, T. Khilchenko, L. Ponomareva, N. Gan, K. Obukhova*

**DESIGNING A TRAINING PROGRAMME FOR STUDENTS IN AUDITING UNIVERSITY SOCIAL RESPONSIBILITY: A CASE STUDY** 1333
*A. Augustiniene, A. Daubariene*

**TRANSFORMING THE CURRICULUM ACROSS THE UNIVERSITY: POLICIES THAT PROMOTE TECHNOLOGY-ENHANCED PEDAGOGIES** 1338
*T. Griffin, L. Venaruzzo*

**EXECUTIVE SKILLS AND RISK BEHAVIOR OF ADOLESCENTS** 1345
*A. Juhásová, V. Gatial*

**ON THE IMPORTANCE OF ASSESSMENT ON FLIPPED LEARNING** 1352
*L. Descalço, P. Carvalho*

**PROJECT BASED LEARNING AS AN ADVANCED METHOD FOR ISS CREWS TRAINING** 1357
*S. Klinkov, S. Gusev*

**IMPROVING LEARNING OUTCOME USING THE NEWTON LOOP GAME: A SERIOUS GAME TARGETING ITERATION IN JAVA PROGRAMMING COURSE** 1362
*D. Zhao, A.E. Chis, N. Choudhary, E.G. Makri, G.M. Muntean, C.H. Muntean*

**STUDENT SELF-GRADING AT FIRST YEAR LEVEL IN HIGHER EDUCATION: A CASE STUDY** 1370
*S. Bharuthram*

**READING AND READERSHIP IN THE CZECH REPUBLIC AT THE ELEMENTARY SCHOOL FROM THE VIEW OF TEACHERS** 1371
*M. Fasnerová, D. Cibáková*

**INFLUENCE OF SEVERAL FACTORS IN THE ACADEMIC PERFORMANCE OF STUDENTS OF PHYSICS IN THEIR ACCESS TO THE UNIVERSITY** 1377
*M.B. Montero Rodriguez, M.C. Ramírez Gómez, M. Rico Varela, J. López Lago, R. Bouza Padín*

**ADAPTING LABORATORY SESSIONS IN ENGINEERING EDUCATION TO A GROWING NUMBER OF STUDENTS** 1384
*S. Verslype, J. Peuteman, J. Boydens, D. Pissoort*

**A GAMIFICATION PROPOSAL TO INTRODUCE STUDENTS TO GRAPHICAL ANALYSIS** 1394
*A. Sarasola, M. Huebra, A. Okariz*

**USING QR-CODES IN TEACHING ELECTRONICS – AN APPROACH TO INCREASE STUDENTS MOTIVATION** 1398
*S. Stoyanova-Petrova, N. Kafadarova, D. Stoyanova, N. Mileva*

**A COMPARABLE FOUNDATION FOR ITS RESEARCH LOOP AND SUBFIELDS** 1402
*N.T. Graf von Malotky, A. Martens*

**THE VALUE OF THE COURSE ASSIGNMENT IN TECHNOLOGICAL COURSES** 1410
*A.A. Bayod-Rújula, A. Martínez-Gracia*

**METHODS IN COMPUTER SCIENCE EDUCATION IN HIGH SCHOOLS** 1415
*A. De Vitis*

**SOCIAL ASSISTANCE TO THE ELDERLY** 1423
*Y. Raievska, L. Melnyk*

**PSYCHOLOGICAL AND PEDAGOGICAL SUPPORT OF MORAL EDUCATION IN JUNIOR HANDICAPPED CHILDREN** 1429
*O. Verzhykhovska, Y. Raievska, O. Bielova*

**STUDY ON KNOWING AND IDENTIFYING HUMAN RIGHTS** 1435
*I. Scheau*

**THE IMPORTANCE OF HUMAN RIGHTS FOR STUDENTS AND THE CLASSIFICATION OF HUMAN RIGHTS** 1439
*I. Scheau*

**STEM ACTIVITIES BASED ON EDUCATIONAL ROBOTICS, RECYCLABLE MATERIALS AND ARDUINO PROGRAMMING** 1443
*A. Xenakis, S. Brendas*

**PLANNING A STRATEGY TO IMPLEMENT THE UP2U ECOSYSTEM IN PORTUGAL** 1453
*A. Vieira de Castro, M. Cardoso, L. Faria, N. Morgado, D. Mota, N. Dias*

**AN ANALYSIS OF HOW ELEMENTARY SCHOOL PRE-SERVICE TEACHERS LEARN TO USE TECHNOLOGY** 1464
*R. Kay, R. Ruttenberg-Rozen*

**STUDENT TEACHER INTEGRATING IPAD IN PRESCHOOL SETTINGS – EXPLORING OPPORTUNITIES, DILEMMAS, CHALLENGES AND BOUNDARIES** 1469
*Y. Kesner Baruch*

**THE USEFULNESS OF DIGITAL TOOLS FOR WEB BASED BYOD FLIPPED INSTRUCTION: STUDENT PERCEPTIONS OF A POLLING TOOL; A CANVAS TOOL AND AN ANNOTATION TOOL** 1471
*S. Dianati*

**ENGAGING PHARMACY STUDENTS: EXPERIENCING VIRTUAL REALITY IN THE CLASSROOM AND CONNECTING GROUPS AND COMMUNITIES WHO NEED PHARMACOLOGICAL ADVICE WITH MOBILE APPS** 1472
*V. Lee, P. Hodgson*

**THE PREPARATION OF TEACHERS IN THE FIELD OF MULTIMEDIA EDUCATION** 1477
*L. Kostolanský, M. Šebo, V. Tomková*

**ENGAGEMENT FOR LEARNERS WITH MULTIPLE INTELLIGENCE USING LOCATION-BASED TECHNOLOGY** 1484
*S. Wan, P. Hodgson*

**USING MATHEMATICA IN INTERACTIVE GEOGRAPHY TEACHING** 1489
*P. Trencan, V. Kohout*

**BEST PRACTICES FOR ORGANIZATION AND QUALITY ASSESSMENT OF AN E-LEARNING TRAINING IN THE HIGHER EDUCATION SYSTEM** 1499
*V.B. Thati, S. Verslype, J. Peuteman, D. Vanoost, C. Pérez-Molina, M. Castro, M. Gericota, G. Andrieu, D. Pissoort, J. Boydens*

**MONITORING OF STUDENT PROGRESS AND EVALUATION IN THE SUBJECT "CHEMISTRY LABORATORY I"** 1509
*J. Albiol Chiva, J. Peris Vicente, S. Carda Broch, M. Esteve Amorós, D. Yusá Marco, M.T. Domenech Carbó, D. Bose, A. Durgbanshi, J. Esteve Romero*

**CREATING TEACHING AIDS AIMED AT DEVELOPING COMPUTATIONAL THINKING** 1515
*T. Havlásková, Z. Homanová, V. Gybas, L. Klubal, K. Kostolányová*

**CHANGING SCENARIO OF HIGHER EDUCATION OF CONVENTIONAL VERSUS PROFESSIONAL COURSES IN INDIA WITH SPECIAL REFERENCE TO UTTAR PRADESH, A STATE OF INDIA** 1522
*S. Sharma*

**TEACHING OF ARCHITECTURAL REHABILITATION IN A GLOBAL SENSE: PHYSICAL REHABILITATION AND SOCIAL AND URBAN REGENERATION** 1529
*C. Cornado, P. Garcia-Almirall, S. Vima*

**EVALUATION OF ONLINE EDUCATION AT THE POLISH-JAPANESE ACADEMY OF INFORMATION TECHNOLOGY** 1536
*J.P. Nowacki, A. Drabik, L. Banachowski*

**METALOGUE'S VIRTUAL AGENT FOR NEGOTIATION: ITS' EFFECTS ON LEARNING EXPERIENCE, METACOGNITIVE AND INDIVIDUAL-AND-COMMUNITY-LEVEL ATTITUDES PRE-AND-POST INTERACTION** 1542
*E.G. Makri, D. Koryzis, D. Spiliotopoulos, V. Svolopoulos*

**CNFM: INNOVATIVE SINGLE NATIONAL ENTRY-POINT FOR LIFELONG LEARNING IN MICROELECTRONICS** 1552
*B. Pradarelli, O. Bonnaud, P. Nouet, P. Benoit*

**THE IMPLICATIONS OF ITS RESEARCH ON CALL SOFTWARE** 1562
*L. Vawter, N.T. Graf von Malotky, A. Martens*

**A FRAMEWORK TO ENHANCE LEARNING EXPERIENCE IN FLIPPED CLASSROOM BASED ON STUDENT ACCOUNTABILITY TOWARDS ACTIVE PARTICIPATION** 1569
*A. Agarwal, V.R. Naidu, R. Al Mamari*

**A COLLABORATIVE STUDY EVALUATING THE PEDAGOGICAL VARIATION MODEL BY PRE-SERVICE TEACHER UNDERGRADUATES AT FEDERAL INSTITUTE (IFRS) BRAZIL: INSIGHTS TO PEDAGOGICAL LEADERSHIP IN LEARNING AND TEACHING** 1578
*M.S. Rogers, A. Grunewald Nichele*

**EDUCATION OF A CHILD WITH FETAL ALCOHOL SYNDROME (FAS) - A CHALLENGE FOR A TEACHER** 1589
*M. Banach, J. Matejek*

**ABOLISHING ZERO TOLERANCE POLICIES IN OUR EDUCATION SYSTEM: ALTERNATIVES TO REDUCING DELINQUENCY AMONG SPECIAL EDUCATION STUDENTS** 1596
*C. Barrow*

**ADAPTING TO HIGHER EDUCATION-ACADEMIC, SOCIAL, AND PERSONAL EXPECTATION OF EDUCATIONAL SCIENCES STUDENTS FOR UNIVERSITY TEACHERS** 1603
*K. Mets-Alunurm*

**INTEGRATING CODE REVIEW INTO HIGH SCHOOL PROGRAMMING PROJECTS** 1612
*Z. Kubincová, I. Csicsolová*

**3D PRINTING FOR COLLEGE CALCULUS AND PHYSICS COURSES** 1622
*M.L. Quezada-Batalla, R.D. Santiago-Acosta, A. Hernández-Medina, J. Gómez-Muñoz, E. Hernández-Cooper*

**ALTERNATIVE WAYS OF TEACHING PROGRAMMING OF LOWCOST CONTROL UNITS (ARDUINO)** 1627
*P. Kuna, M. Palaj, A. Hašková*

**GAMIFICATION IN EDUCATION AND ACTIVE METHODOLOGIES AT HIGHER EDUCATION** 1633
*A.P. Lopes, M. Soler, R. Caña, L. Cortés, M. Bentabol, A. Bentabol, M.M. Muñoz, A. Esteban, M.J. Luna*

**DIDACTIC MATERIALS SUPPORTING CAD/CAE SYSTEM TEACHING** 1641
*P. Kuna, M. Skačan, A. Hašková*

**COLLABORATIVE LEARNING FOR A LARGE COHORT OF STUDENTS: IS INFORMAL LEARNING SPACE A VIABLE OPTION?** 1648
*C.T. Chan*

**MEASURES FOR THE ACADEMIC STAFF'S MENTAL HEALTH STRENGTHENING UNDER INTERNATIONALIZATION** 1649
*I. Kotlyarova, I. Voloshina, G. Grevtseva, M. Balikaeva, N. Ankudinova*

**TOWARD OVERCOMING THE DISPROPORTION BETWEEN THE DEMAND FOR PROFESSIONALS AND THE PROVISION OF TRAINING IN CYBERSECURITY** 1656
*W. Dimitrov, K. Rasheva-Yordanova, O. Konstantinov, B. Bosakova, V. Angelova*

**PREPARING DOCTORAL STUDENTS FOR PEDAGOGICAL DESIGN** 1665
*I. Kotlyarova, G. Serikov, S. Vaulin, I. Shchurov*

**A CRITICAL REVIEW OF THE ORGANIZATION, METHODOLOGY AND ASSESSMENT IN THE FIRST-YEAR LABORATORY LECTURES OF SCIENCE AND ENGINEERING DEGREES AT THE UNIVERSITY OF THE BALEARIC ISLANDS (SPAIN)** 1670
*M.A. Jiménez, D. Moranta, J. Torrens, L. Ferrer, J.A. Jurado-Rivera, C. Palomino, A. Borràs, R. Santamarta, S. Tejada, A. Sureda, F. Masdeu, M.M. Bibiloni*

**THE IMPACT OF LONGITUDINAL STEM CAREERS INTRODUCING INTERVENTION ON STUDENTS´ CAREER ASPIRATIONS AND ON RELATING OCCUPATIONAL IMAGES** 1678
*T. Kotkas, J. Holbrook, M. Rannikmäe*

**EDUCATIONAL WORKSHOP ON GREEN CHEMISTRY FOR UNDERGRADUATE STUDENTS: APPLICATION OF ECO-SCALE TO ANALYTICAL METHODS** 1687
*I. de la Calle, I. Lavilla, C. Bendicho*

**FROM TINKERING TO THINKING: TINKERING AS SUPPORT FOR THE DEVELOPMENT OF CRITICAL AND CREATIVE THINKING** 1695
*A. Poce, F. Amenduni, M.R. Re, C. De Medio*

**STUDY ON STUDENT´S PREVIOUS BACKGROUND, INTEREST, INSIGHT, PREFERENCES AND SUCCESS RATE IN THE SUBJECT CHEMISTRY IN SEVERAL ENGINEERING DEGREES** 1704
*J. Albiol Chiva, J. Peris Vicente, M.J. Ruiz Ángel, M. Esteve Amorós, P. Esteve Amorós, E. Esteve Amorós, D. Kassuha, S. Carda Broch, J. Esteve Romero*

**MULTILINGUALISM AND INTERCULTURALISM AS PROFESSIONAL CAPITAL: THE MAKING OF A MODEL OF TEACHER EDUCATION IN PRIMARY SCHOOLS IN BORDER AREAS** 1709
*K. Pevec Semec*

**ANALYSIS OF ALGORITHMS FOR GENERATING TEST QUESTIONS IN E-TESTING SYSTEMS** 1714
*I. Kostadinova, K. Rasheva-Yordanova, M. Garvanova*

**APPLICATIONS OF CHIP-8, A VIRTUAL MACHINE FROM THE LATE SEVENTIES, IN CURRENT DEGREES IN COMPUTER ENGINEERING** 1720
*N. Cruz, M. Ruiz-Ferrández, J.L. Redondo, J. Álvarez, P. Ortigosa*

**UNDERSTANDING GROVER'S SEARCH ALGORITHM THROUGH A SIMPLE CASE OF STUDY** 1730
*F.J. Orts, G. Ortega, N. Cruz, G.E. Garzón*

**BUILDING IDENTITIES FOR EQUITY AND INCLUSION: AUTOBIOGRAPHIC METHODS FOR PEDAGOGICAL PURPOSES AND LIFELONG LEARNING** 1738
*G. Aleandri*

**SEMINARS IN SELECTED TOPICS IN ELECTROMAGNETIC FIELDS AND WAVES** 1748
*E. Macho Stadler, M.J. Elejalde García*

**COMPLEMENTARY PERSPECTIVES IN THE STUDY OF TEACHING CONCEPTIONS** 1756
*P. Bourgoin, D. Vlachopoulos*

**GAMIFICATION FOR SELF-DIRECTED LEARNING IN HIGHER EDUCATION** 1764
*S. Lindberg*

**DESIGNING A FLIPPED CLASSROOM IN AN INDUSTRIAL ENGINEERING MASTER SUBJECT** 1774
*J. Requies, L. Barrio, I. Agirre, E. Acha, K. Bizkarra*

**ASSIGNING REFERENCE LEVELS TO THE MEANINGS OF WORDS** 1780
*J. Bérešová*

**THE CONCEPT OF CORPORATE SOCIAL RESPONSIBILITY IN HIGHER EDUCATION. THE PERSPECTIVES OF THE STUDENTS** 1786
*D. Vlachopoulos, P. Bourgoin*

**ONLINE INTERACTION – A NEW SCALE OF THE COMMON EUROPEAN FRAMEWORK OF REFERENCE** 1794
*J. Bérešová*

**THE MULTIPLIER IMPACT OF EUROPEAN UNION FUNDING ON HIGHER EDUCATION AND RESEARCH IN THE PORTUGUESE REGIONS UNDER HORIZON 2020** 1799
*N. Jesus-Silva*

**EXPLORING LECTURERS' TECHNOLOGICAL KNOWLEDGE TOWARD THE TEACHING OF STUDENT TEACHERS IN THE SCHOOL OF EDUCATION** 1808
*S. Ngcapu, A. Mji, S. Simelane-Mnisi*

**INTEGRATING HANDS-ON ACTIVITIES TO ENHANCE STEM SUBJECTS IN TANZANIA PRIMARY EDUCATION** 1818
*J. Stephen, M. Ismail*

**SHARING BEST TEACHING PRACTICE: REFLECTION, COMMUNITY AND REPOSITORY** 1827
*H. Purchase, W. Anderson, S. Deeley, C. Reilly, M. Welsh*

**CONNECTING THE WORLDS OF MUSIC WITH A DIGITAL REPOSITORY FOR COLLABORATIVE RESEARCH, EDUCATION AND CONTENT DISSEMINATION** 1837
*H. Caixinha, S. Caixinha*

**ENHANCING LEARNING OF THINKING SKILLS: THE IMPACT OF PRIMARY SCHOOL YEAR EDUCATION** 1848
*M.A. Manassero-Mas, A. Vazquez-Alonso*

**NEW TECHNOLOGIES IN THE STUDY OF ARCHITECTURE: LEARNING BY MAKING VIRTUAL MODELS AND DIGITAL FABRICATION** 1855
*N. Araujo*

**THE PROBLEM OF INTERNATIONALIZATION AS A GLOBAL PROBLEM OF A RUSSIAN UNIVERSITY (THE EXAMPLE OF INTERNATIONAL ACTIVITY AT THE PHILOLOGY FACULTY OF THE PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA)** 1862
*E. Nedopekina, E. Remchukova, E. Mikheeva*

**ENHANCING EPISTEMIC LEARNING IN ELEMENTARY SCIENCE THROUGH A BLACK BOX GAME** 1868
*A. Vazquez-Alonso*

**CHATBOT FOR CONTINUOUS MOBILE LEARNING** 1878
*A. Vasilateanu, A.G. Turcus*

**THE EFFECTS OF FLIPPED LEARNING MODEL IN TEACHING ENGLISH GRAMMAR** 1882
*C. Seçilmişoğlu*

**FRUIT-BASED DRINKS LABEL SCANNING BY HIGH SCHOOL STUDENTS: AN IMPORTANT TOOL TO ENCOURAGE A CRITICAL CONSUMER PURCHASE** 1891
*L. Lipan, M. Cano-Lamadrid, R. Martínez, Á.A. Carbonell-Barrachina, E. García-García, D. López-Lluch*

**BUILDING PDO AND PGI AWARENESS AMONG HIGH SCHOOL STUDENTS IN ORDER TO IMPROVE THEIR DIET** 1898
*D. López Lluch, M. Cano-Lamadrid, L. Lipan, R. Martínez, E. García-García, Á.A. Carbonell-Barrachina*

**COMPARING THE USE OF WRITTEN AND VIDEO FEEDBACK IN PRE-SERVICE TEACHER EDUCATION: A CASE STUDY** 1907
*R. Kay, D. Petrarca, T. Bahula*

**A SOCIO-TECHNICAL NETWORK APPROACH TO SUSTAINABLE UNIVERSITY–COMMUNITY COLLABORATION FOR RESEARCH AND EDUCATION** 1915
*M. Nakamura*

**SCHOOLOGY: THE ADOPTION OF LEARNING MANAGEMENT PLATFORM IN THE ICT UNIVERSITY USING TECHNOLOGY ACCEPTANCE MODEL** 1924
*A. Ziraba, A. Kayode*

**MICRO-MODULAR DIGITAL LEARNING CONTENT DESIGN IN A CLOUD-BASED COLLABORATION ENVIRONMENT** 1931
*T. Patala, J. Vancell, A. Bruce*

**IMPROVING PROFESSIONAL PRACTICE THROUGH "LESSON STUDY"** 1940
*M. Hannah*

**EXPLORING INCLUSION AND DIVERSITY WITHIN UNDERGRADUATE TEACHER TRAINING PROGRAMMES IN ENGLAND** 1947
*C. Devarakonda, S. McGrath, D. Chaudhary*

**LISTENING-REACTING ABILITY AS ONE OF VITAL ACTIVITIES FOR TRAINING SPONTANEOUS COMMUNICATION SKILLS** 1957
*K. Makayev, G. Makayeva*

**DEBATING AND PUBLIC SPEAKING TRAINING FOR PRE-SERVICE TEACHERS: EXPERIENCES AND ADVANTAGES** 1963
*E. Miller*

**TEACHING CONFLICTUAL COMMUNICATIVE STRATEGIES OF AMERICAN POLITICAL DISCOURSE** 1968
*D. Khramchenko*

**INDUSTRIAL PROCESS CONTROL EDUCATION WITH A WASTEWATER TREATMENT PLANT** 1974
*E. Pérez, I. Tejado, F. Duque-Gruart, A. Gómez-Garrido, M. Rangel-Zambrano, F. Tirabassi*

**IRONY AS A TENDENCY OF MODERN BUSINESS ENGLISH: FUNCTIONAL-LINGUISTIC THEORY & TEACHING PRACTICE** 1983
*D. Khramchenko*

**DISCOVERING USER ACCEPTANCE OF BRING YOUR OWN DEVICE(BYOD) IN HIGHER EDUCATION** 1988
*G. Masilo, S. Simelane-Mnisi, A. Mji, I. Mokgobo*

**SHARING BEST PRACTICES AND CONSIDERATIONS ON INTERACTIVE TOOLS IN ENGINEERING EDUCATION** 1995
*I. Tejado, E. Pérez, I. González, P. Merchán*

**ENHANCING SELF EFFICACY AND GRIT: HOW EDUCATIONAL TEAMS CAN PROMOTE INNER STRENGTHS OF STUDENTS WITH DISABILITIES IN INCLUSIVE SCHOOLS** 2003
*E. Miller, E. Kass*

**CHALLENGES OF RE-CONNECTING ENTREPRENEURSHIP AND BUSINESS EDUCATION AT UNIVERSITIES (EVIDENCE FROM GEORGIA)** 2012
*I. Natsvlishvili, E. Kharaishvili*

**PROBLEMS OF TEACHING SCIENTIFIC STYLE TO FOREIGN GRADUATES AT THE PRE-UNIVERSITY TRAINING COURSE** 2022
*N. Bulaeva, D. Khramchenko, E. Pronina, A. Zhukova*

**TEACHING EFL LEARNERS TO TRANSLATE THE BRITISH PRESS: METHODOLOGY OF PROFOUND UNDERSTANDING** 2029
*Y. Akimtseva, D. Khramchenko, N. Bulaeva*

**INTERACTIVE METHODS FOR TRAINING CHILDREN FROM PRIMARY SCHOOL** 2034
*D. Dimitrova*

**GENERAL DATA PROTECTION REGULATION IMPLEMENTATION IN HIGHER EDUCATION INSTITUTIONS** 2040
*A. Šidlauskas, T. Limba*

**ANALYSIS OF THE CURRICULAR AND PEDAGOGICAL COMPONENT OF SIX BACHELOR'S DEGREES IN PHYSICAL EDUCATION, RECREATION, SPORT AND / OR RELATED HIGH QUALITY, IN FRONT OF THE TEACHING PERCEPTIONS** 2048
*J. García-Díaz, A. León, J. Santamaría-Rodríguez, N. Martínez, S. Sotomayor*

**THE EVOLUTION OF USAGE OF SMARTPHONE IN EDUCATION** 2052
*A. Vakil*

**IMPACT OF INTERNATIONAL EDUCATIONAL MIGRATION IN THE CONTEXT OF GLOBALIZATION OF HIGHER EDUCATION (CASE OF GEORGIA)** 2057
*E. Kharaishvili, I. Natsvlishvili*

**ARSNOVA.CARDS: HOW TO SUSTAINABLY PROMOTE MOBILE LEARNING WITH A FLASHCARD APP** 2067
*C. Adam, D. Kamutzki, K. Quibeldey-Cirkel*

**EXPLORING THE ABILITY OF WRITING SKILLS THROUGH THE EDMODO PLATFORM IN DISTANCE FOREIGN LANGUAGE LEARNING** 2078
*V. Vavaitis, C. Sofianopoulou*

**INVESTIGATING SECONDARY EDUCATION TEACHERS' TRAINING NEEDS** 2084
*A. Krypotou, C. Sofianopoulou*

**SOCIO-CULTURAL APPROACH IN TEACHING FOREIGN STUDENTS TO RUSSIAN-LANGUAGE BUSINESS COMMUNICATION: TRADITIONS AND INNOVATIONS** 2092
*N. Romanova, T. Skorikova, I. Amelina*

**INTERDISCIPLINARY LEARNING OBJECTIVE FOR SERVICE-LEARNING CURRICULA: NEUROBIOLOGICAL AND EVOLUTIONARY EXPLANATIONS OF HELPING OTHERS** 2100
*A.S. Rusu*

**PRACTICE-ORIENTED TRAINING AS A MECHANISM OF PROFESSIONAL EXPERIENCE DEVELOPMENT** 2107
*T. Rezer, E. Kuznetsova*

**FROM PEDAGOGICAL CONTENT KNOWLEDGE TO PEER CONTENT OBSERVATION** 2111
*M. Komar*

**DIAGNOSTIC EVALUATION AS A LEARNING PROCESS FOR BASIC ACROBATICS SKILLS** 2112
*M.A. Ávalos Ramos, L. Vega Ramírez*

**SUSTAINABILITY IN HIGHER EDUCATION: ALIGNING SUSTAINABLE DEVELOPMENT GOALS (SDGS) WITH CURRICULUM/CAMPUS/COMMUNITY** 2116
*L. Zizka*

**FACTORS AFFECTING STUDENT ENGAGEMENT: A MODEL OF HOW AND WHY STUDENTS LEARN** 2124
*H.C. Nguyen*

**THREE-DIMENSIONAL PROGRAM OF EDUCATIONAL INTERVENTION IN SCHOOLS IN DISADVANTAGED ENVIRONMENTS** 2130
*D. Mara*

**FROM HIGHER EDUCATION TO HIRE EDUCATION – THE CHALLENGES AND OPPORTUNITIES OF EDUCATING GEN-Z** 2135
*M. Komar*

**FROM CLASSROOMS TO LEARNING SPACES - EXPLORING NEW WAYS IN EDUCATION WITH THE BLENDED-LEARNING COURSE #TEACHING2030** 2142
*P. Hauptfeld*

**THE VR@SCHOOL PROJECT: REDEFINING THE TEACHING/LEARNING PROCESS** 2151
*A. Colibaba, I. Gheorghiu, O. Ursa, I. Croitoru, C. Antonita, A. Colibaba*

**DETECTION OF CONCEPTUAL AND OPERATIONAL ERRORS MADE BY STUDENTS TAKING AN INITIAL MATHEMATICAL ANALYSIS SUBJECT** 2156
*J.M. Sepulcre*

**CONSIDERATION ON CRITERIA AND EDUCATIONAL THEORY REGARDING THE INFORMATICS SOFTWARE ENGINEERING DISCIPLINE IN JAPAN** 2166
*C. Yoshida*

**PROBLEM-BASED LEARNING APPROACH IN THE SALESLABS PROJECT: EXPERIENCE OF REZEKNE ACADEMY OF TECHNOLOGIES** 2173
*D. Apele, S. Mezinska*

**THE USE OF VIRTUAL LEARNING ENVIRONMENT IN TEACHING LANGUAGE AND LITERATURE** 2182
*L. Kosareva*

**ANALYSIS OF EDUCATIONAL TRAJECTORIES OF RUSSIAN YOUTH** 2187
*O. Korzhova, T. Stuken, T. Lapina*

**USE OF AI IN THE CLASSROOM AND THE "ZERO-TECH" TEACHING METHOD** 2191
*M. Moiseenko*

**PRIMARY EDUCATION AND STEM PROJECTS: THE PRESENT OF THE CLASSROOMS LOOKING FORWARD THE FUTURE OF EDUCATION** 2197
*A. Vázquez García, L. Delgado Martín*

**DIGITAL RESOURCES IN THE EDUCATIONAL MODEL FOR BI- AND MULTILINGUAL EDUCATION OF YOUNG RUSSIAN LANGUAGE LEARNERS** 2207
*G. Sadykova, A. Vafina, A. Kayumova*

**THE MODEL OF UNIVERSITY TEACHERS AND STUDENTS' COOPERATION AND INTERACTION** 2213
*N. Kopylova*

**COOPERATIVE LEARNING IN FOREIGN LANGUAGE PRACTICAL CLASSES AT A NONLINGUISTIC HIGH SCHOOL** 2220
*N. Kopylova*

**AROUND THE WORLD OF BUSINESS ON 80 PAGES. HOW TO INTRODUCE STUDENTS TO THE BASIC CONCEPTS OF ECONOMICS AND BUSINESS** 2225
*B. Greimel-Fuhrmann*

**MEET-UP PILOT: AN INCLUSIVE PROGRAM FOR STUDENTS WITH AUTISM SPECTRUM DISORDER AT UPC** 2230
*M. Gràcia, S. Mampel, L. Montero, M. Vilalta, I. Josa*

**EXPERIENCES OF RESEARCH TRAINING IN CHILD PEDAGOGY. RESEARCH TRENDS IN A BACHELOR'S DEGREE IN CHILD PEDAGOGY IN COLOMBIA** 2238
*J. García-Díaz, J. Santamaría-Rodríguez, G. Flórez-Valencia, E. Álvarez-Cruz, N. Barreto-Salamanca*

**TEACHERS' TRAINING TO TRIGGER THE UNIVERSITY'S DIGITAL TRANSITION** 2246
*A.M. Berruecos Vila, I. Ochoa-Carrasco*

**DESIGNING EDUCATIONAL GAMES TO TEACH PHILOSOPHY: CASE STUDY** 2255
*E. Galanina, A. Vetushinskiy*

**UTILIZATION OF EDUCATIONAL HYBRID ROCKET IN AN OUTREACH PROGRAM** 2261
*A. Ishihara, M. Nakahara*

**RECONSTRUCTION OF THE CULTURAL PICTURE OF THE WORLD AS A WAY OF STRUCTURING THE CONTENT OF THE UNIVERSITY DISCIPLINE** 2268
*S. Mitasova, L. Stroy*

**A STUDY OF DERIVING USABILITY EVALUATION FACTORS ON VIRTUAL REALITY CONTENTS** 2272
*J. Lee, K.S. Nam*

**PUTTING PEDAGOGICAL WRITING THEORIES INTO PRACTICE USING ONLINE COLLABORATIVE TOOLS AND COMPUTER-MEDIATED COMMUNICATION** 2279
*G. Meredith*

**CAREER GUIDANCE OF SCHOOLCHILDREN IN THE FIELD OF SPACE EXPLORATION** 2284
*D. Ilyasov, A. Khokhlov, K. Burov, L. Naumenko*

**PROSPECTIVE TEACHERS' PREPAREDNESS TO DEVELOP MATHEMATICS LITERACY AS A PRECONDITION OF EFFECTIVE PRACTICE** 2294
*R. Dofková, Š. Chudý*

**TOWARD AN IMPROVED DUAL LEARNING AND LIFELONG LEARNING IN THE DEPARTMENT OF INDUSTRIAL ENGINEERING IN ZILINA** 2300
*B. Micieta, M. Krajcovic, V. Binasova*

**THE PHENOMENON OF TEXTING** 2309
*E. Dolzhich, S. Dmitrichenkova*

**SCHOOL LEADERS AND THE PURSUIT OF EFFECTIVENESS: ENVISIONING SCHOOLS THAT ENDURE CHANGE** 2314
*V. Msila*

**IDENTIFYING THE SECONDARY SCHOOL GRADUATES´ PREFERENCES FOR SELECTING THE UNIVERSITY AND EFFECTIVENESS OF SELECTED MARKETING TOOLS** 2321
*K. Holla, E. Sventekova*

**LIFE COACHING AS A REMEDY IN BUILDING TEACHERS' PSYCHOLOGICAL RESILIENCE AND WELL-BEING** 2327
*A. Galazka, J. Jarosz*

**VOCABULARY DRILLING: A GHOST OF THE PAST – OR A RENEWED OPPORTUNITY?** 2337
*B. Plomteux*

**THE EXPERIENCE OF THE UNIVERSITY OF LIBRARY STUDIES AND INFORMATION TECHNOLOGIES WITH THE EXPANSION OF THE UNIVERSITY EDUCATION IN THE SPHERE OF CULTURAL HERITAGE BY STUDYING LOCAL CULTURAL POLICIES** 2346
*M.S. Nikolova, S. Vasileva, S. Stancheva, V. Nikolova*

**TODAY'S STUDENTS DO (NOT) READ** 2349
*V. Miksikova*

**THE GDPR TRAINING PROGRAM FOR ROMANIAN PUBLIC INSTITUTIONS** 2356
*A.M. Udroiu*

**BOOKS AS A WAY OF FORMING ONE'S CHARACTER (CHARACTER EDUCATION AND LITERATURE)** 2362
*V. Miksikova*

**A NEW APPROACH FOR IMPLEMENTATION THE EU NIS DIRECTIVE IN ROMANIAN INSTITUTIONS – INFORMATION SECURITY MANAGER TRAINING PROGRAM** 2367
*A.M. Udroiu*

**MODELLING WORK-BASED PEDAGOGY FOR EXPANSIVE LEARNING** 2374
*E. Kuoppala*

**THE IMPLEMENTATION OF DIGITAL TOOLS IN TEACHING: A QUALITATIVE CASE STUDY AT A SWEDISH PRIMARY SCHOOL** 2382
*P. Josefsson, K.M. Jää-Aro, S. Lundmark, A. Mutvei Berrez*

**INCLUSION OF CHILDREN WITH ADHD IN PRESCHOOL MAINSTREAM EDUCATION FROM ROMANIA** 2388
*C.C. Pascariu*

**HOWEST EDHUB: THE INTERACTION BETWEEN DIDACTICS, LEARNING SPACE AND TECHNOLOGY** 2394
*B. Bonne, R. Dauwens, T. Verbeke*

**SPELLING AND GRAMMAR IN SECONDARY-SCHOOL PUPILS IN FLANDERS AND THE NETHERLANDS: CORRELATING KNOWLEDGE WITH ATTITUDE AND METACOGNITION** 2399
*F. Devos, P. Kygnée*

**THE COMPARISON OF COMENIA SCRIPT WITH THE ENGLISH VERSION OF WRITING** 2405
*H. Blažková*

**EXTERNALIZING AND INTERNALIZING PROBLEMS IN YOUNG SCHOOL - AGE PUPILS** 2410
*M. Popelková, E. Jurišová*

**AUTOMATIC AID SYSTEM TO ENHANCE THE READABILITY OF SCIENTIFIC PAPERS** 2416
*J. Ulisses, R. Díaz Redondo, A. Fernández Vilas*

**EXPLORING PUZZLE-BASED LEARNING FOR BUILDING EFFECTIVE AND MOTIVATIONAL MAZE VIDEO GAMES FOR EDUCATION** 2425
*A. Antonova, B. Bontchev*

**THE ACTIVITIES OF THE INSTITUT RAMON LLULL IN THE CONTEXT OF MULTICULTURAL COLLABORATION BETWEEN SPAIN AND RUSSIA** 2435
*M. Moseykina, Y. Moseykin, E. Kargovskaia, V. Kuznetsova*

**EVALUATION OF RUSSIAN LANGUAGE LEARNING MOBILE APPLICATIONS FOR YOUNG CHILDREN** 2443
*G. Sadykova, A. Kayumova, A. Vafina*

**MIXED REALITY AS NEW OPPORTUNITY IN THE PRESERVATION AND PROMOTION OF THE CULTURAL AND HISTORICAL HERITAGE** 2451
*I. Peteva, S. Denchev, I. Trenchev*

**PERSONALIZED LEARNING USING CLICKER APPLICATIONS IMPROVES ACADEMIC PERFORMANCE OF TOXICOLOGY STUDENTS** 2457
*P. Moyano, J. Del Pino, J.M. Garcia, M.T. Frejo, M. Lobo, J. Garcia, M.J. Anadon, F.J. Mourin, E. Sola, A. Pelayo*

**VIRTUAL REALITY LEARNING SYSTEM INCREASES MOTIVATION AND IMPROVES PERFORMANCE OF TOXICOLOGY STUDENTS** 2458
*P. Moyano, J. Del Pino, J.M. Garcia, M.T. Frejo, M. Lobo, J. Garcia, A. Pelayo, M.J. Anadon, E. Sola, F.J. Mourin*

**PRESCHOOL CHILDREN'S ABILITY TO TRANSFORM SPACE IN PLANE** 2459
*J. Prerovska, S. Pechouckova*

**SELECTED ASPECTS OF THE TEACHING PROCESS FROM THE PERSPECTIVE OF MEDICAL STUDENTS** 2466
*E. Kralova*

**MOTIVATION OF UNIVERSITY STUDENTS TO COMPLETE THEIR STUDIES SUCCESSFULLY** 2470
*J. Fedorková, I. Nekvapilová*

**CYBER CULTURE - MYTH OR REALITY. BUILDING CYBER SPACE SURVIVAL COMPETENCIES** 2480
*G. Zhablyanova, M. Pavlova, B. Tetevenska, K. Bosakova*

**A READING COMPREHENSION SURVEY AMONG HUNGARIAN SECONDARY GRAMMAR SCHOOL STUDENTS IN SLOVAKIA** 2486
*K. Kázmér*

**AUTOMATIC ASSESSMENT OF KNOWLEDGE FOR A LARGE NUMBER OF STUDENTS** 2495
*K. Moder*

**THE IMPORTANCE OF MATHEMATICS IN STEM EDUCATION** 2496
*M. Ben-Jacob*

**CREATING THE MOST EFFECTIVE TOOLS TO FLIP YOUR FOREIGN LANGUAGE CLASSROOM (TEACHING EXPERIENCE IN RUSSIAN AS A FOREIGN LANGUAGE)** 2501
*A. Al-Kaisi, O. Rudenko-Morgun, A. Akhangelskaya*

**TED TALKS AS A TOOL TO DEVELOP COMMUNICATIVE COMPETENCE IN EFL BACHELOR STUDENTS** 2512
*D. Matusovskiy, O. Lukoshus*

**INFLUENCE OF PRECARIZATION OF EMPLOYMENT OF SCIENTIFIC AND PEDAGOGICAL WORKERS ON THE PERSONNEL POTENTIAL OF REGIONAL UNIVERSITIES** 2519
*O. Korzhova, T. Lapina, T. Stuken*

**USE AND IMPACT OF WEB 2.0 IN HIGHER EDUCATION: ONLINE EDUCATION PLATFORMS** 2524
*E.C. Dittmar, D. López Jiménez*

**CHALLENGES IN THE CREATION OF AUDIOVISUAL CONTENT FOR A MOOC ABOUT POSTURAL AND TECHNOLOGICAL ADAPTATIONS IN PEDIATRICS** 2525
*R. Martín-Valero, R. Baeza Barragán, A. Ramos Villodres, J. Ventura Medina, M.C. Ruiz-Molinero, A.J. Salvador Ruiz, V. Pérez Cabezas, I. Carmona-Barrientos, J.A. Poblete-Flor, J.A. Moral Muñoz*

**PROGRAM ADVISORY BOARDS IN ENGINEERING EDUCATION – INDUSTRY REPRESENTATIVES AND THEIR CONTRIBUTIONS TO PROGRAM DEVELOPMENT** 2531
*S. Kullberg, D. Paulin*

**EVALUATION OF DIGITAL INFORMATION COLLECTIONS: ENSURING THE RELEVANCE OF LIBRARIES IN LEARNING AND TEACHING** 2536
*V. Harari*

**PERCEPTION OF STUDENTS, TEACHERS AND EMPLOYERS ABOUT COMPETITIVENESS AND INNOVATIVENESS IN VOCATIONAL EDUCATION AND TRAINING. THE EUROPEAN PROJECT "ICEVET"** 2542
*C. Tosto, G. Chiazzese, G. Fulantelli, D. Taibi, Ö. Devrim, H. Üzüm*

**MEASURING GENDER GAP AT THE UNIVERSITY** 2547
*T. Corejova, M. Rostasova, A. Rovnanova*

**LEARNING MANAGEMENT SYSTEMS: AN APPLICATION FOR COST ACCOUNTING TEACHING** 2553
*F. López-Arceiz, A. Bellostas, P. Rivera*

**FOSTERING RESPONSIBILITY-CENTERED LEARNING IN A SOFTWARE ENGINEERING COURSE WITH FLIPPED CLASSROOM** 2559
*D. Weyns, T. Weyns*

**TRIPLE HELIX MODEL OF INNOVATION: UNIVERSITY, INDUSTRY AND GOVERNMENT INTERACTIONS** 2570
*D. López Jiménez, E.C. Dittmar*

**VIOLATION OF THE COGNITIVE ACTIVITY OF JUNIOR SCHOOLCHILDREN WITH SYSTEMIC SPEECH DISORDERS** 2575
*N. Havrylova, O. Tkach, O. Havrylov*

**IMPROVING RETENTION & SUCCESS OF ONLINE LEARNERS VIA FRONT-END BEHAVIORAL ANALYTICS** 2583
*P. Roubides*

**PROCEDURE TO INTRODUCE THE CONCEPT OF THE DERIVATIVE FROM A MEANINGFUL LEARNING PERSPECTIVE** 2584
*J.M. Bergues, R. Casamayor, D. Acebes de la Arada*

**COMPREHENSIVE APPROACH IN THE VOCATIONAL TRAINING OF SPEECH THERAPISTS IN HIGHER EDUCATIONAL INSTITUTIONS OF UKRAINE** 2588
*N. Havrylova, O. Konstantyniv, O. Havrylov*

**AUDITORY SHORT-TERM MEMORY, VISUAL SEQUENTIAL MEMORY AND INDUCTIVE REASONING MATTER FOR ACADEMIC ACHIEVEMENT** 2595
*S. Du Plessis, D. Maree*

**AGE-RELATED DYNAMICS OF PLAY IN ELEMENTARY SCHOOLCHILDREN WITH INTELLECTUAL DISABILITIES** 2602
*S. Ilina, A. Zarin, M. Chebotova*

**THE STEAM CONFERENCE: AN EVENT TO PROMOTE YOUTH TO EXPLORE STEAM RELATED FIELDS AND POTENTIAL CAREERS** 2609
*M. Caplan*

**GENERAL EDUCATION OF CHILDREN WITH SEVERE AND MULTIPLE DEVELOPMENTAL DISORDERS IN RUSSIA: TEACHERS DEFINE MAJOR ISSUES** 2619
*I. Ilina, A. Zarin, L. Petrova*

**READINESS OF POLISH AND UKRAINIAN YOUTH TO BE EDUCATIONALLY INTEGRATED WITH DISABLED PEERS** 2625
*Z. Kazanowski*

**THE QUALITY OF LIFE OF YOUTH WITH VARIED SCALE HEARING IMPAIRMENT AS COMPARED WITH THE YOUTH HEARING PROPERLY – COMPARISON STUDY** 2631
*D. Al-Khamisy*

**POE ONLINE: A DATABASE OF ILLUSTRATED EDITIONS FOR TEACHING PURPOSES** 2639
*F. González Moreno, M. Rigal Aragón, B. González Moreno, A. Jaquero Esparcia, J.M. Correoso Rodenas, M.I. Jiménez González, R. Marín Ruiz*

**FAST-TRACKING THE TRACKERS: APPREHENDING AND COMPREHENDING ADVERTISING TRACKING PRACTICES IN EDTECH** 2646
*J. Bronfman, G. Kelly, J. Graham*

**QUESTIONNAIRE FOR FUNCTIONAL ASSESSMENT OF COMMUNICATION SKILLS OF STUDENTS WITH ASPERGER'S SYNDROME - PSYCHOMETRIC ASSESSMENT OF THE TOOL** 2656
*I. Konieczna, B. Marcinkowska, K. Smolinska*

**MODEL OF DIAGNOSIS AND SUPPORTING DEVELOPMENT OF COMMUNICATIVE COMPETENCE OF CHILDREN WITH ASPERGER SYNDROME** 2664
*I. Konieczna, B. Marcinkowska, K. Smolinska*

**DEVELOPING A FARM BUSINESS SIMULATION GAME TO ENHANCE UNDERGRADUATE RISK MANAGEMENT LEARNING** 2672
*E. Houk, J. Parsons, J. Hewlett*

**DEVELOPMENT FOR AN INTRODUCTORY ACTIVE LEARNING PROGRAM: UTILIZE A SHORT-TERM DESIGN PROJECT** 2673
*K. Takemata, A. Minamide, A. Kodaka*

**THE UNIVERSITY'S WEBSITE AS A CHANNEL FOR THE IMPACT OF SOFT POWER ON INTERNATIONAL STUDENTS FROM CENTRAL ASIAN COUNTRIES** 2679
*G. Savchuk, I. Britvina, V. Frants*

**BUILDING SOFT SKILLS OF STUDENTS AT A TECHNICAL UNIVERSITY** 2685
*E. Leontyeva, A. Bogdanova, S. Khachin*

**A SMARTPHONE-BASED AUGMENTED REALITY SYSTEM FOR UNIVERSITY PHYSICS COURSE** 2691
*Y. Daineko, M. Ipalakova, D. Tsoy, Y. Yelgondy, B. Zhandos, Z. Bolatov*

**COMPARISON OF PUBERTY KNOWLEDGE IN PRIMARY SCHOOL PUPILS IN THE CZECH REPUBLIC, CHINA, SPAIN AND SWEDEN** 2695
*M. Rašková, A. Vavrdová*

**PROMOTING OF THE GEOSPATIAL METHODS: INTRODUCTION INTO INTERNATIONAL EDUCATIONAL COURSES IN ENVIRONMENTAL PROTECTION AND DISASTER RISK MANAGEMENT** 2702
*A. Mansourian, P. Pilesjo, M. Runnstrom, R. Groth, J.G. Rocha, M. Santos, A. Vieira, M. Kavouras, M. Kokla, E. Tomai, E. Parseliunas, J. Suziedelyte-Visockiene, D. Popovas, R. Obuchovski, D. Slikas, J. Kozlovska, A. Buga, M. Matchanov, S. Avezov, M. Sultanov, D. Tilenova, R. Akmatov, E. Toktoraliev, G. Ergeshova, A. Nizamiev, R. Umaraliev, M. Bekaeva, S. Abdireimov, V. Statov*

**USING GAMIFICATION METHODS IN INFORMATION TECHNOLOGY EDUCATION** 2712
*S. Ivanov*

**THE ROLE OF SCHOOL BELONGING IN ACADEMIC AND PSYCHOLOGICAL ADJUSTMENT IN STUDENTS DURING HIGH SCHOOL** 2719
*G. Šeboková, M. Halamová, J. Uhlarikova*

**FROM MODEL B TO MICRO:BIT – TEACHING COMPUTER SCIENCE** 2725
*M. Ellis, G. Thompson, P. Haskell-Dowland*

**STRATEGY FOR CREATING AND MANAGING A UNIVERSITY IMAGE AS A KEY FACTOR IN ENHANCING LEARNERS CONFIDENCE IN THE EDUCATIONAL INSTITUTION** 2732
*M. Pavlova, I. Pavlova, S. Tsekova*

**THE ROLE OF PARENTS IN THE PROCESS OF TRANSITION OF CHILDREN FROM FAMILIES TO NURSERIES** 2736
*M. Miočić*

**TEACHERS' PERCEPTIONS ON SELF-DETERMINATION OF STUDENTS WITH VISION DISABILITY: THE ROLE OF SOCIAL ACCEPTANCE AND SELF-ACCEPTANCE** 2745
*V. Argyropoulos, P. Thymakis*

**ACTIVITY-BASED COSTING AS AN ALTERNATIVE FOR THE EXISTING COST ACCOUNTING IN PUBLIC UNIVERSITIES IN POLAND – THE AUTHOR'S CONCEPTION OF IMPLEMENTING THIS COST ACCOUNTING AT THE UNIVERSITY** 2754
*D. Moskwa-Bęczkowska*

**SELF-REGULATION AND SELF-ASSESSMENT OF THE COLLABORATIVE LEARNING COMPETENCE IN HIGHER EDUCATION FOR PRESERVICE TEACHERS** 2763
*M.J. Hernandez-Serrano, M. Fuentes Agustí, N. Morales Romo, G. Parra Nieto, I. Vicario Molina*

**DIGITAL IDENTITY IN YOUNGER STUDENTS. ETHICAL EDUCATION FOR MANAGING THE CONSTRUCTION OF A SELF** 2771
*A. B. González Larrea, M.J. Hernandez-Serrano, J.M. Muñoz Rodriguez*

**IMAGES OF THE MOODLE: SOCIAL REPRESENTATIONS OF HIGHER EDUCATION TEACHERS AND STUDENTS** 2776
*C. Martins, C. Morais, L. Moreira*

**DESIGN THINKING AS A RESEARCH-METHOD TO DELIMIT THE REQUIREMENTS OF AN INTERACTIVE ENVIRONMENT FOR LEARNING ENGLISH IN EARLY CHILDHOOD THROUGH AUGMENTED REALITY** 2784
*P. Harris*

**IMPROVEMENT OF CUSTOMER SERVICE SPECIALIST TRAINING DURING MERGER OF COMMERCIAL BANKS** 2794
*S. Blumberga, A. Belavska*

**THE POSITION OF PERSONS CARING FOR A FAMILY MEMBER WITH DISABILITIES AS A PREREQUISITE FOR SUCCESSFUL SUPPORT IN EDUCATION** 2800
*J. Michalík, I. Hrubešová, P. Jurkovičová, A. Silberová*

**WECHSLER INTELLIGENCE SCALE FOR CHILDREN AS A DIAGNOSTIC TOOL FOR SPECIFIC LEARNING DISORDERS** 2807
*M. Jančiarová, M. Popelková*

**BLENDED LEARNING: FROM THEORY TO TEACHING PRACTICES. A CASE STUDY OF USING FACEBOOK TO SUPPORT BLENDED LANGUAGE LEARNING** 2813
*V.T. Nguyen, T.H. Luu*

**COOPERATION BETWEEN SCHOOL (TEACHERS) AND PARENTS AS AN IMPORTANT FACTOR IN THE EDUCATION OF PUPILS WITH SPECIAL EDUCATIONAL NEEDS** 2824
*J. Michalík, I. Hrubešová, M. Růžička, P. Baslerová*

**TRENDS IN UNIVERSITY TEACHING IN PHYSICS: INTERACTION AND GAMIFICATION** 2831
*J.C. Jiménez-Sáez, S. Ramírez de la Piscina, M. Castellanos, P. Palacios*

**THE RELATIONSHIP BETWEEN MENTAL RESILIENCE AND STRESS: A FOCUS ON THE EXPERIENCE OF PARENTS OF CHILDREN WITH SPECIAL EDUCATIONAL NEEDS** 2837
*M. Pardali, D. Paraskeva, N. Tzaberis*

**PRACTICUM AND DEVELOPMENT OF PROFESSIONAL COMPETENCES. THE CASE OF BUSINESS STUDENTS** 2845
*M.T. Bartual-Figueras, P. Purroy-Sanchez, J. Turmo-Garuz*

**DESCRIPTIVE STUDY ON STUDENT ATTITUDES TOWARDS PREPARING AND CONDUCTING SEMINAR ACTIVITIES AT UNIVERSITY** 2851
*M.C. Florescu, L.N. Bochis*

**ILSA – AN INTEGRATED LEARNING STYLES ANALYTICS SYSTEM** 2857
*N. Zaric, S. Judel, R. Roepke, U. Schroeder*

**THE ROLE OF SCIENCE LEADERS IN THE CONTEMPORARY KNOWLEDGE SOCIETY** 2865
*S. Denchev, D. Stoyanova, K. Bosakova*

**WORKING MODEL FOR ESTABLISHMENT AND VALIDATION OF SUSTAINABLE LEADERSHIP IMAGE FOR INDIVIDUAL POSITIONING IN THE UNIVERSITY INFORMATION ENVIRONMENT THROUGH CORPORATE COMMUNICATIONS APPROACHES** 2869
*S. Denchev, I. Peteva, B. Tetevenska*

**A CASE STUDY OF A PROJECT BASED LEARNING ACTIVITY IMPLEMENTED IN A GEOTECHNICAL ENGINEERING COURSE** 2878
*M. Miranda, A. da Costa, J. Castro, A. Saiz-Linares*

**A FORMATIVE EXPERIENCE IN REALITY AUGMENTED WITH PHYSIOTHERAPY DEGREE STUDENTS** 2884
*V. Perez-Cabezas, R. Martin-Valero, C. Luque-Moreno, M.C. Ruiz-Molinero, A. Galan-Mercant, J.A. Moral-Muñoz, B.M. Nuñez-Moraleda*

**LEARNERS' COMMUNICATION TOOLS PREFERENCE -A COMPARISON BETWEEN INSTITUTIONAL LEARNING MANAGEMENT SYSTEMS AND INSTANT MESSAGING** 2889
*S. Zaaruka, M. Mosha*

**ONLINE SOFTWARE FOR ERASMUS+ IN EUROPEAN UNION** 2894
*J. Fabus, V. Fabusova, I. Kremenova, D. Tothova*

**NEWTON FAB LAB INITIATIVE: ATTRACTING K-12 EUROPEAN STUDENTS TO STEM EDUCATION THROUGH CURRICULUM-BASED FAB LABS** 2901
*M.A. Togou, C. Lorenzo, M. Maddi, G. Cornetta, G.M. Muntean*

**PRINCIPAL COMPONENT ANALYSIS AND BLOOM TAXONOMY TO PERSONALISE LEARNING** 2910
*D. Goštautaitė*

**DYNAMIC LEARNING STYLE MODELLING USING PROBABILISTIC BAYESIAN NETWORK** 2921
*D. Goštautaitė*

**GENDER DIFFERENCES IN ATTITUDES TOWARDS STATISTICS IN SOCIAL SCIENCE DEGREES** 2933
*F. Rejón-Guardia, G.A. Vich-I-Martorell, C. Juaneda, M. Cladera*

**MASTER PROGRAMS FOR INTERNATIONAL STUDENTS IN RUSSIA: BARRIERS AND CHALLENGES TO OVERCOME** 2942
*S. Shchelokova, N. Dugalich, M. Kupriyanova, O. Kadilina*

**T.O.MM. FOR ALL. TESSELLATION ORIGAMI MULTIMODULAR EXPERIENCE TO LEARN MATHS AND DEVELOP REPRESENTATION SKILLS** 2946
*M.L. Spreafico, U. Zich*

**THE CRAAP ANALYSIS AND BEYOND: MAKING INFORMATION LITERACY MEANINGFUL FOR UNDERGRADUATE RESEARCH WRITERS** 2955
*N. Cook*

**REASONS FOR OVERCONFIDENCE IN MATHEMATICS TASK PERFORMANCE OF FRESHMEN** 2956
*C. Eccius-Wellmann, P.S. Orenday, F. García*

**THE DEGREE COURSE IN PSYCHOLOGICAL SCIENCES AND TECHNIQUES OF SAPIENZA AND UNITELMA SAPIENZA UNIVERSITY OF ROME: TECHNOLOGY ENHANCED ACTIVE AND COLLABORATIVE LEARNING** 2958
*N. Sansone, D. Cesareni*

**COLLABORATIVE PEER FEEDBACK FOR CONTINUOUS PRODUCT IMPROVEMENT IN A HIGHER EDUCATION COURSE** 2962
*N. Sansone, D. Cesareni*

**APPLICATION OF PROJECT-BASED LEARNING IN AN ENGINEERING COURSE** 2966
*R. Alfaro-Pozo, J. Bautista-Valhondo*

**THE ROLE OF HIGHER EDUCATION IN INFLUENCING THE POLITICS OF THE MIDDLE EAST: A COMPARATIVE EXAMINATION OF THE RUSSIAN AND TURKISH HIGHER EDUCATION MODELS** 2967
*A. Kilani, M. Hawamdeh, A. Qteishat*

**REDEFINING TEACHING AND LEARNING VIA NEW INSTRUCTIONAL DESIGN TECHNOLOGIES** 2973
*P. Roubides*

**MOBILE ACCESS TO INFORMATION SERVICES AND RESOURCES: THE LIBRARY EXPERIENCE** 2974
*S. Denchev, I. Peteva, E. Tsvetkova*

**USE OF METHODOLOGIES ACTIVE IN THE TEACHING OF THE MASS AND ENERGY BALANCE DISCIPLINE** 2981
*E.J. Candido Moraes, J.A. Conti Silva, L.F. Figueiredo Faria, M.A. Motta Barreto, D. Sávio Giordani*

**BIBLIOGRAPHY OF THE BULGARIAN REVIVAL (1801-1878) AND INFORMATION RETRIEVAL SYSTEM TECHNOLOGIES** 2985
*V. Zagorov*

**AN ORIGAMI MODEL TO INVESTIGATE SQUARES: FROM GEOMETRY TO FRACTALS** 2990
*U. Zich*

**EDUCATION AND PUBLIC POLICIES FOR THE ELDERLY** 2999
*M.L. de Andrade Picanço Meleiro, E. P. de Medeiros Gil, S. A. Meleiro da Silva, I. Rodrigues Nascimento*

**SOFTWARE-ASSISTED LEARNING IN CHILDREN WITH ATTENTION DEFICIT HYPERACTIVITY DISORDER: A REVIEW** 3004
*F. Somma, A. Rega, A. Mennitto*

**IMPROVING STUDENTS' LEARNING EXPERIENCE IN A PROGRAMMING MODULE WITH MULTIMEDIA ASSISTED MATERIALS AND PROBLEM-BASED LEARNING** 3010
*S. Sharma, N. Choudhary, D. Zhao, C.H. Muntean, G.M. Muntean*

**ARE INDUSTRIAL DOCTORATES CAPABLE OF OVERCOMING SKILLS MISMATCH?** 3019
*O. Tavares, C. Sin, S. Cardoso, D. Soares*

**EDUCATION FOR A LIFE WITHOUT VIOLENCE IN THE ELDERLY** 3025
*M.L. de Andrade Picanço Meleiro, E. P. de Medeiros Gil, S. A. Meleiro da Silva, I. Rodrigues Nascimento*

**USABILITY EVALUATION CASE STUDY IN TECHNOLOGY ENHANCED LEARNING LARGE-SCALE PILOT IN PRIMARY SCHOOLS** 3029
*D. Bogusevschi, J. Playfoot, O. Finlayson, G.M. Muntean*

**STUDENT LEARNING IN BASIC IT COURSES. EVOLUTION AND IMPACT OF EDUCATIONAL 'BONUSES'** 3038
*A.B. Andreica*

**A PROJECT-BASED LEARNING PATHWAY IN A BLENDED LEARNING COURSE IN MOODLE** 3050
*M. Cronin, M. Caria*

**INJOY: INNOVATING THE JOY OF EATING FOR HEALTHY AGING. EIT HEALTH SUMMER SCHOOL** 3057
*D. Stracker, C. Andres-Lacueva*

**TO EMBRACE CAREER DECISION MAKING IN STEM EDUCATION** 3058
*N. Chelin, G. Matthiasdottir, Y. Serreau, L. Tudela, S. Rouvrais, K. Jordan*

**RELATION AMONG PEDAGOGY, SPACE AND TECHNOLOGY AND USERS. AN IMPLEMENTATION OF RADCLIFFE'S PST FRAMEWORK** 3067
*A.G. Manciaracina*

**WORKING EFFECTIVELY WITH OTHERS THROUGH GAME BASED LEARNING** 3074
*P. Martín-Hernández, J.L. Azkue-Beteta, M. Gil-Lacruz, A.I. Gil-Lacruz*

**VISUALIZATIONS IN PRIMARY EDUCATION. EFFECTS ON THE CONCEPTUAL UNDERSTANDING OF BASIC ASTRONOMY CONCEPTS FOR CHILDREN UP TO TEN YEARS OLD** 3080
*M. Kanellidou, Z. Zacharia*

**MULTIMEDIA AND FRIENDSHIP- FROM REALITY OR FICTION** 3085
*K. Nowak-Fabrykowski*

**SYMBOLIC ANALYSIS WITH MATLAB OF ELECTRICAL CIRCUITS CONSIDERING THE TWO-PORT NETWORK THEORY** 3089
*J.A. Martínez-Martínez, M. Cañas-Carretón*

**MULTIMODAL TEXTBOOK "I SPEAK RUSSIAN AS A RUSSIAN: RUSSIAN IDIOMS IN USE": STRUCTURAL AND CONTENT COMPONENTS** 3098
*E. Mikheeva, I. Kalinina, A. Fedorenkov*

**DOES GAMIFICATION ENHANCE TEAM WORK QUALITY AMONG HEALTH SCIENCES UNDERGRADUATES?** 3105
*P. Martín-Hernández, A.I. Gil-Lacruz, J.L. Azkue-Beteta, M. Gil-Lacruz*

**GAMIFICATION AND EDUCATION: A STUDY OF THE EFFECTS ON STUDENTS SITUATIONAL MOTIVATION** 3110
*R. Leitão, S. Turner, M. Maguire*

**THE REALIZATION OF THE TECHNOLOGY "PEDAGOGICAL PARTNERSHIPS OF PRE-SCHOOL AND PRIMARY STAGES OF EDUCATION"** 3119
*E. Kovshar*

**NEW KNOWLEDGE AND SKILLS TO SECOND GRADE SOCIAL AND HEALTH CARE TEACHERS WITH UPDATING TRAINING** 3126
*H. Hertell*

**MODERN SKILLS AND CONVERGENT ENVIRONMENT – SWOT ANALYSIS, TRENDS AND CHALLENGES IN VOCATIONAL EDUCATION AND TRAINING. A BULGARIAN EXPERIENCE** 3130
*R. Vasileva, I. Yankova, S. Stancheva*

**E-LEARNING PLATFORMS – NEW SOLUTION FOR CONTINUOUS TRAINING OF ADULTS** 3140
*T. Popa, O.S. Cupsa*

**VOLUNTEERING AIMED AT SOCIALIZATION OF STUDENTS WITH SEVERE AND MULTIPLE DEVELOPMENTAL DISORDERS UNDER THE CONDITIONS OF COOPERATION OF AN EDUCATIONAL INSTITUTION AND A PUBLIC ORGANIZATION** 3146
*N. Shumskaia, E. Gaidukevich*

**THE IMPORTANCE OF INDUSTRY STANDARDS IN TRAINING ACTIVITIES** 3151
*O.S. Cupsa, T. Popa*

**PERSONAL RESPONSE OF ADOLESCENTS WITH CEREBRAL PALSY TO A DEVELOPMENTAL DISORDER** 3157
*N. Shumskaia, E. Gaidukevich*

**THE VALUE OF NEWS PROGRAMME VIDEOS AS A TOOL IN THE ENGLISH LANGUAGE TEACHING** 3163
*E. Temyanikova, E. Stolyarova, M. Fedotova*

**EDUCATION WITHIN THE FRAMEWORK OF PREFIGURATIVE CULTURE: NEW RISKS AND NEW CHALLENGES** 3168
*N. Novikova, T. Cherkashina, N. Karapetyan*

**INTERNATIONAL STUDENT MOTIVATIONS AND SATISFACTION WITH THE STUDY ABROAD PROGRAM** 3175
*A. Mucsi, E. Malota, A. Török*

**CULTURE SHOCK AND SUBSEQUENT WORD OF MOUTH IN HIGHER EDUCATION** 3180
*A. Mucsi, E. Malota, A. Török*

**EXTENDING DIPSEIL PERFORMANCE SUPPORT SYSTEM BY INTEGRATING QUIZ MODULE FOR BETTER LEARNING RESULTS** 3185
*D. Stoyanova, N. Mileva, M. Milev*

**EXPLORING THE RELATIONSHIP BETWEEN INSTRUCTOR CREATED ONLINE VIDEO CHARACTERISTICS AND PEDAGOGY** 3190
*T. Malhotra, A. Mann, T. Avery, C. Brett*

**USING ERP SOFTWARE IN TEACHING TO UNDERSTAND AND IMPROVE INDUSTRIAL LOGISTICS** 3199
*L.G. Popescu, M. Inta*

**DIPSEIL QUIZ MODULE EFFICACY ON STUDENTS' LEARNING IN FUNDAMENTALS OF PROGRAMMING COURSE** 3209
*D. Stoyanova, N. Mileva, M. Milev*

**COMMUNICATION IS THE GOAL: BARRIERS, MYTHS, AND MISCONCEPTIONS IN THE TEACHING OF ESL/EFL PRONUNCIATION** 3213
*R. Allen, M. Benedetti*

**ENHANCING THE EMPLOYMENT CAPABILITY OF THE LABOR MARKET BY IMPROVING THE SKILLS AND PROFESSIONAL COMPETENCES OF THE LABOR AVAILABLE** 3214
*L.G. Popescu, M. Inta*

**INNOVATIVE METHODS EFFICIENCY IN OBSTETRICIANS-GYNECOLOGISTS' POSTGRADUATE EDUCATION** 3220
*V. Artyomenko, N. Shapoval, L. Mnih, A. Kozhukhar, Z. Chumak, N. Nastradina*

**A BEHAVIOURAL CAR-FOLLOWING MODEL AND SOLVING THE QUICK THINKING DRIVER MODEL** 3226
*Z. Malacká*

**UNIVERSITY PUBLIC HEALTH EDUCATION AT SAN JORGE UNIVERSITY THROUGH PARTICIPATION IN A REAL CAMPAIGN FOR THE PROMOTION AND PREVENTION OF INFECTIOUS DISEASES IN THE DOMINICAN REPUBLIC** 3231
*M.R. Pino-Otín, D. Ballestero, D. Flores, E. Langa, E. Terrado*

**A FRAMEWORK TO TEACH ERP SYSTEMS IN AN UNDERGRADUATE BUSINESS SCHOOL** 3236
*K. Leftheriotis, A. Triantafyllidis, E. Varouchas, G. Vranopoulos*

**RETHINKING THE ROLE OF SPECIAL EDUCATION WITHIN TEACHER EDUCATION PROGRAMS** 3246
*B. Pohl, J. Kelly*

**FOSTERING CREATIVITY VIA TECHNOSELF ENHANCED LEARNING WITH EMERGING TECHNOLOGIES** 3247
*L. Jin, K. Forrest*

**TRAINING STAFF TO SUPPORT SUCCESSFUL OUTCOMES FOR STUDENTS - AN AUSTRALIAN EDUCATION SUPPORT PROJECT** 3255
*S. Chevalier*

**DIDACTIC MATERIALS THROUGH ARDUINO SHIELDS TO STIMULATE PROGRAMMING MOTIVATION** 3265
*T.M. Santamaria, L. Montoya, S. Jacome, L. Benavides, V. González-Ruiz*

**EXPLORING FACTORS AFFECTING THE EMOTIONS OF MIDDLE SCHOOL STUDENTS TOWARD USING DIGITAL TEXTBOOKS** 3273
*S. Lee, E. Sung*

**USING BOOKS, TABLES AND LIVE GRAPHS TO ENHANCE INTERACTIVE NOTEBOOKS FOR HEAT TRANSFER COURSES** 3281
*R. Fernández-Flores, B. Hernández-Morales*

**SCHOOL DROPOUT: A CASE STUDY IN COLIMA, MEXICO** 3287
*P.J. Mayoral-Valdivia, E. Flores-Hernández, C.A. Magaña-Figueroa, R.M. Pelaez-Carmona*

**CHANGING SPACES: ACADEMIC STAFF'S PERCEPTIONS OF CONVENTIONAL AND IMAGINED LEARNING ENVIRONMENTS** 3293
*N. Sopromadze, N. Karodia, R. Butler, J. Rhodes, R. Prior, J. Stanley*

**CAREER GUIDANCE TECHNOLOGY OF BLUE-COLLAR PROFESSIONS FOR SCHOOLCHILDREN** 3294
*D. Ilyasov, N. Yarychev, N. Skripova, N. Korzhova*

**STUDENTS PERSPECTIVE TOWARDS CONSTRUCTIVE ALIGNMENT FOR TEACHING DELIVERY AND ASSESSMENT CONDUCTED IN SCIENCE COURSE** 3302
*Z.M. Zabidi, A.N. Alias, F.F. Ramli, T. Mohd, N.F. Mohamad Razi, N.B. Baharun*

**THE SCHOOL-UNIVERSITY-RESEARCH INTERACTION AS AN INSTRUMENT TO IMPROVE THE TRAINING OF STUDENTS BOTH IN HIGH SCHOOL AND UNIVERSITY** 3308
*D. Ballestero, M.R. Pino-Otín, E. Sánchez, E. Terrado, L. Sáez-Benito, J. Val*

**CULTURAL LITERACY EDUCATION IN LATVIA: CURRICULA REVIEW** 3313
*A. Romanovska*

**THE PERCEPTION OF DEATH AMONG PUPILS IN THE 6TH YEAR OF PRIMARY SCHOOL** 3322
*K. Šmakalová, J. Vala*

**METADISCIPLINARY ELECTIVE COURSES AS AN EFFECTIVE METHOD FOR THE IMPLEMENTATION OF THE EDUCATIONAL PROGRAM (ON THE EXAMPLE OF THE COURSE "SEMIOTIC CATEGORIES OF AN ARTISTIC POSTMODERN TEXT")** 3328
*P. Povalko*

**THE PERCEPTION OF WAR AMONG PUPILS IN THE 6TH YEAR OF PRIMARY SCHOOL** 3334
*K. Šmakalová, M. Mašát*

**EVALUATION OF VIRTUAL REALITY AND AUGMENTED REALITY FOR TEACHING THE LESSON OF GEOMETRIC SOLIDS TO PRIMARY SCHOOL CHILDREN** 3339
*E. Demitriadou, A. Lanitis*

**PROFESSIONAL DEVELOPMENT OF SCIENCE TEACHERS: A COMPARATIVE STUDY** 3344
*S. İnci, V. Kaya*

**METAPHORIC PERCEPTIONS OF PRE-SERVICE ENGLISH TEACHERS ON INTERCULTURAL EDUCATION** 3351
*S. Yıldız, S. İnci, K. Yıldız*

**PEDAGOGICAL IMPLICATIONS OF TRANSHUMAN AND POST-HUMANISTIC COGNITIONS ON MAN AND THE ROLE OF SCHOOL IN THE IMPLEMENTATION OF EDUCATIONAL VALUES** 3361
*S. Kakuk, R. Jukić*

**THE INFLUENCE OF THE LABOR MARKET ON EDUCATION: A COMPARATIVE STUDY BY PR-TRAINERS FROM THE UNIVERSITIES OF EUROPE, RUSSIA AND THE USA** 3372
*G. Savchuk, I. Britvina, A. Van Marsenille, O. Novoselova, V. Frants*

**LECTURER EVALUATIONS RESPONSE RATES – DREADED ADMIN RITUAL OR INFORMATIVE FEEDBACK?** 3380
*S.N. Basson, B.J. van Wyk, H. Van Der Watt*

**COMPETENCE PROFILE OF PURCHASING PROFESSIONALS IN AUSTRIA** 3388
*V. Koch*

**USING EVALUATIVE INDICATORS OF SCIENTIFIC JOURNALS TO IDENTIFY EMERGENT RESEARCH FRONTS IN SPECIAL EDUCATION** 3394
*A.M. Úbeda-Sánchez, A. Fernández-Cano, Z. Callejas*

**SOCIALIZATION ROLE OF SCHOOL AND HIDDEN CURRICULUM** 3404
*R. Jukić, S. Kakuk*

**THE EDUCATIONAL MATH BOARD GAME 3DM6** 3413
*M. Almeida, P. Barros, A. Breda, H. Resende, E. Rocha*

**INTEGRATING BRIEF MINDFULNESS EXERCISES IN VIRTUAL LEARNING ENVIRONMENTS TO SUPPORT STUDENT MENTAL HEALTH AND WELLBEING** 3421
*A. Coxon, K.R. Dyer, S. Mckenzie, J. Chung*

**MODERN TECHNOLOGIES IN TEACHING FOREIGN LANGUAGES TO STUDENTS OF THE DIGITAL GENERATION** 3428
*O. Anyushenkova, O. Digtyar, E. Zakirova, N. Fomina, L. Esina*

**A DIGITAL PUZZLE GAME FOR THE ELDERLY** 3435
*P. Barros, M. Almeida, A. Breda, E. Rocha*

**EDUCATIONAL COUNSELLING IN CZECH EDUCATIONAL SETTINGS FROM THE PERSPECTIVE OF PRIMARY SCHOOLS PUPILS** 3444
*P. Ambrožová, M. Kaliba*

**PEDAGOGICAL THEORIES FOR E-LEARNING ENGINEERING DEGREES BASED ON REMOTE LABORATORIES: THE E-LIVES APPROACH** 3451
*P. Ferreira, A. Fidalgo, M. Gericota*

**5G TECHNOLOGY AND ITS APPLICATION TO E-LEARNING** 3457
*A. Baratè, G. Haus, L.A. Ludovico, E. Pagani, N. Scarabottolo*

**UNIVERSITY EDUCATION IN THE COURSE OF MANAGEMENT STUDIES WITH REGARD TO THE EXPLOITATION OF SOCIAL MEDIA POTENTIAL** 3467
*M. Cholewa-Wiktor*

**TEACHING CHEMICAL BONDING THROUGH PROJECT-BASED LEARNING. II. WEIGHTING "KNOW HOW" AND "KNOW WHY" WITHIN THE PROJECTS** 3473
*A. Mosquera, L. Estevez, A. Peña-Gallego, S. Losada-Barreiro, C. Bravo-Díaz*

**REVISITING FLIPPED LEARNING FRAMEWORK – DISRUPTION AND CHANGES** 3479
*S. Sun, M. Smith*

**THEORY, INTERACTION, SIMULATIONS AND HANDS – ON EXPERIENCES: BLENDED LEARNING OF AN AUTOMATIC CONTROL COURSE** 3484
*A. Gonzalez-Buelga, I. Lazar*

**EFFECTIVENESS OF MODULAR PHYSICAL COMPUTING TOOLS ON LEARNING MOTIVATION** 3490
*C. Kim, G.W. Lim*

**EDUCATIONAL SOFTWARE TOOL FOR DIFFERENT WAVELET BASED METHODS: WAVDEC** 3495
*E. Dumić, L. Havaš, D. Srpak*

**KNOWLEDGE WITHIN TRANSITIONS: KNOWLEDGE TRANSFER MANAGEMENT WITHIN THE PRIMARY TO SECONDARY TRANSITIONAL STAGE** 3504
*K. Holland, S. Sun, A. Hosseinian-Far, N. Southwell, M. Smith*

**SCIENTIFIC METHOD CANVAS TO FOSTER SCIENTIFIC THINKING AND STEM VOCATIONS THROUGH VISUAL THINKING STRATEGIES** 3510
*C. Bravo-Díaz, S. Losada-Barreiro, C. Bravo-Fernández, C. Fernández-Bravo*

**PERUSALL INTEGRATION FRAMEWORK** 3516
*S. Sun, M. Smith*

**SOCIAL BELONGING AND INCLUSIVE PROGRAMME DELIVERY DESIGN FOR JOINT HONOURS** 3525
*S. Sun, M. Smith*

**INTEGRATIVE TEACHING STRATEGIES FOR THE DEVELOPMENT OF COMPETENCIES THAT ALLOW HEALTH PROFESSIONALS TO FORM PART OF MULTIDISCIPLINARY TEAMS IN THE CARE OF CHRONIC PATIENTS** 3530
*C. Gómez, N. Berenguer, C. Berzosa, D. Acebes de la Arada, M. Wozniak, A. Buesa, I. Arbonés, L. Sáez Benito*

**DIGITAL IMAGING IN THE TEACHING OF LABORATORY PRACTICES OF OPTICS II** 3537
*C. Vázquez, J. Pérez, J. Espinosa, B. Domenech, C. Hernández*

**VISIBILIZING INVISIBLE DISEASES: FACE CHAGAS DISEASE** 3544
*C. Gómez, I. Jimeno, L. De la Torre, M. Wozniak*

**IMPLEMENTATION OF OUTDOOR EDUCATION IN ROMANIAN EDUCATIONAL SYSTEM** 3545
*D.N. Isopescu, C.M. Diaconu, I.R. Baciu*

**SENIOR STUDENTS' STRATEGIES IN SOLVING PHYSICS PROBLEMS** 3553
*L. Reddy*

**IMPROVING STUDENT LEARNING MOTIVATION BY BLENDING ONLINE LEARNING WITH ONSITE LABORATORY COURSE: CASE STUDY OF DIAMOND GRADING COURSE** 3556
*A. Kiratisin*

**EXPLORING DIFFERENCES IN PREDICTORS OF ACADEMIC SUCCESS BETWEEN DIFFERENT GENERATIONS OF STUDENTS** 3565
*D. Oreški, G. Hajdin*

**SOCIAL EXCLUSION OF MOTHERS OF ADULTS WITH PROFOUND INTELLECTUAL DISABILITY. PERCEPTION OF THE QUALITATIVE RESEARCH IN POLAND** 3573
*D. Aksamit*

**SERVICE-LEARNING METHODOLOGY REINFORCES LONG-TERM SKILLS ACQUISITION** 3582
*D. Ortiz-Masià*

**HIERARCHICAL SYSTEM FOR EVALUATING TESTS IN AN E-LEARNING SYSTEM USING AN EXPERT SYSTEM** 3586
*B. Walek, V. Bradac, O. Pektor*

**ANXIETY SYMPTOMS IN PREGNANCY AND APPLIED PSYCHO-PHYSIOLOGY: A RESEARCH CONDUCTED ON A SAMPLE OF ITALIAN PREGNANT WOMEN** 3593
*M. Pellerone, M. Pistillo*

**LEARNERS WITH IMPAIRED COGNITIVE PERFORMANCE IN THE CONTEXT OF NATIVE LANGUAGE EDUCATION IN THE CZECH REPUBLIC** 3601
*E. Urbanovska, L. Hornikova, M. Ruzicka*

**SERVICE LEARNING METHODOLOGY REINFORCES THE ACQUISITION OF GENERAL AND SPECIFIC SKILLS** 3609
*D. Ortiz-Masià*

**TEACHER AND ASSISTANT TEACHER IN JOINT EDUCATION IN THE CZECH REPUBLIC** 3613
*M. Ruzicka, J. Stelzer, E. Urbanovska, P. Baslerová*

**THE RELATIONSHIP BETWEEN ADULT ATTACHMENT STYLE, HOMOPHOBIA AND ATTITUDES TOWARDS SAME-SEX COUPLES AS ADOPTIVE PARENTS: A RESERCH CONDUCTED ON A GROUP OF ITALIAN YOUNG ADULTS** 3619
*M. Pellerone*

**TEACHING STATISTICS USING TEAM-BASED POLLING** 3628
*C. Kaur, M. Raghavan*

**USING LEARNING MODULES TO RAISE STUDENTS SCIENCE-RELATED CAREER AWARENESS** 3629
*R. Soobard, T. Kotkas, K. Kask, A. Valdmann, M. Rannikmäe*

**PARENTAL ROLES AND ITS SUBJECTIVE CHANGES IN CHILDREN'S ENTRY TO KINDERGARTEN** 3638
*V. Pacholík*

**INFLUENCE OF EPISTEMIC KNOWLEDGE IN THE DEVELOPMENT OF SCIENTIFIC PRACTICES: THE EPIS-PRACT PROJECT** 3645
*B. Crujeiras-Pérez, L. Casas-Quiroga*

**A MODEL FOR INNOVATIVE, MULTI-COMPONENT, WEB-BASED PLATFORM FOR DEVELOPMENT, EXPLOITATION AND DISTRIBUTION OF INTERACTIVE E-LEARNING CONTENT AND KNOWLEDGE MANAGEMENT** 3651
*I. Blagoev*

**VIRTUAL PRE-UNDERGRADUATE COURSE TO REDUCE FIRST YEAR STUDENTS' DROP-OUT** 3659
*A. M. López, M. Abián, J. Delgado, P. Garrido, R. Igual, C. Medrano, I. Plaza*

**QUALITY CRITERIA FOR TEACHERS TO CHOOSE VIDEO TUTORIALS FOR DIFFERENT LEARNING SITUATIONS** 3669
*I. Ratnayake, R. Bruder, F. Johlke, N. Feldt-Caesar*

**EFFECTIVE FLEXIBLE EDUCATION CONCEPT: VIRTUAL EDUCATION ENVIRONMENT SUPPORT OF STUDENTS CREATIVITY, FLEXIBILITY, ACTIVITY** 3675
*P. Pavlasek, L. Hargas, D. Koniar, V. Pavlaskova, S. Simonova, P. Spanik, T. Urica, A. Prandova*

**DETERMINING THE ROLE OF MICRO-LEVEL STRATEGIES IN DEVELOPING STUDENT TEACHERS' COMPETENCE FOR EDUCATIONAL TECHNOLOGY USE** 3685
*P. Valli, S. Lähdesmäki, R. Valli*

**MODULAR EDUCATION MODEL: A PROCESS OF VIRTUAL ENVIRONMENT IMPLEMENTATION TO IMPROVE STUDENTS MOBILITY** 3696
*P. Pavlasek*

**SUCCESS FACTORS FOR LEARNING WITH BUSINESS SIMULATION GAMES – A LITERATURE REVIEW** 3706
*C. Aichinger, M. Docherty, D. Kronawettleitner, S. Mühlböck*

**REDUCTION OF THE GRADE OF UNCERTAINTY OF NURSING AND PHYSIOTHERAPY STUDENTS IN THE DEVELOPMENT OF THE FINAL PROJECT DEGREE AND MASTER'S THESIS** 3711
*C. Luque-Moreno, J.A. Moral-Muñoz, A. Galan-Mercant, G. González-Medina, I. Carmona-Barrientos, M.C. Ruiz-Molinero, V. Perez-Cabezas*

**DIGITAL NOTE-TAKING AND INCLUSIVE TEACHING: INTERVENTIONS TO SUPPORT UNIVERSAL DESIGN FOR LEARNING** 3715
*S. Belson*

**SCIENCE AND CINEMA: PHYSICS AND CHEMISTRY TEACHING IN SECONDARY SCHOOL THROUGH EVERYDAY IMAGES** 3720
*C. Moron, P. Saiz, D. Ferrandez, A. Moron*

**E-LEARNING MODEL FOR PERSONALISED ONLINE EDUCATION BASED ON DATA ANALYSIS AND COMPETENCE PROFILE** 3726
*G. Vassileva, V. Monov, I. Blagoev*

**MANAGERIAL COMPETENCIES IN THE 21ST CENTURY: A BIBLIOGRAPHIC REVIEW OF THE RESEARCH DOMAIN** 3733
*P. Gamarra, M. Girotto, L.A. Seguí*

**CREATION OF PROGRAMS FOR DEVIANT BEHAVIOR PREVENTION IN SECONDARY SCHOOLS WITH DIFFERENT SYSTEMS OF UPBRINGING IN BULGARIA AND RUSSIA** 3743
*V. Kovrov, G. Kozhukhar*

**EDUCATIONAL INTERVENTION FOR STUDENTS WITH ASD: EMOTION PRODUCTION AND RECOGNITION THROUGH THE BEE-BOT ROBOT** 3750
*E. Pérez, A. Gilabert, G. Lorenzo Lledó, A. Lorenzo, A. Lledó*

**STUDY OF SPATIAL ABILITIES IN HIGH-SCHOOL STUDENTS** 3759
*D. Ferrandez, I. Recalde, C. Moron, E. Yedra*

**CREATING A SAFE ENJOYABLE ENVIRONMENT FOR TEACHING AND LEARNING THROUGH THE USE OF RHYMES AND SONGS: AN INCLUSIVE PEDAGOGY PERSPECTIVE** 3766
*B. Mabasa-Manganyi*

**DETECTION AND PREVENTION OF SOCIAL MEDIA CYBERCRIME AMONG STUDENTS** 3773
*A. Lawal, N. Cavus*

**HOW TO ENSURE WORKING LIFE SKILLS IN HIGHER EDUCATION – PLANS IN A NEW HIGHER EDUCATION COMMUNITY IN TAMPERE, FINLAND** 3780
*S. Leinonen, E. Pajarre, S. Kivimäki*

**TAXONOMIES AND TECHNOLOGIES IN TRAINING (OF MATHEMATICS)** 3786
*T. Tonova, D. Petrova*

**EYE TRACKING THE BEHAVIOR OF LEARNERS WITH DIFFERENT LEVEL OF EXPERTISE IN A SIMULATION-BASED LEARNING ENVIRONMENT** 3794
*T. Karafyllidis, E. Hatzikraniotis, A. Molohidis*

**INNOVATIVE LEADERSHIP STRATEGIES AND SUSTAINABILITY OF SECONDARY EDUCATION IN CROSS RIVER STATE** 3803
*U. Mbon, N. Ukpong, E. Ekanem*

**EXPRESSION OF PARENTS' (CARERS') PEDAGOGICAL EDUCATION IN ACTIVITY PLANNING DOCUMENTS OF PRESCHOOL EDUCATIONAL INSTITUTIONS OF LITHUANIA** 3808
*S. Kovienė*

**CONCEPT AND IMPLEMENTATION OF A WEB BASED TOOL FOR THE DEVELOPMENT OF ONLINE GAMES FOR EARLY CHILDHOOD EDUCATORS** 3817
*B. Penz, J. Mäkiö*

**FIRST-CYCLE STUDENTS' REFLECTIONS IN THE ASPECT OF THE IMPROVEMENT OF THE ORGANIZATION OF PEDAGOGICAL PRACTICE** 3827
*S. Kovienė, A. Plaušinaitienė*

**TEACHERS' OWNERSHIP TOWARDS USING SOCIO-SCIENTIFIC ISSUES FOR AN ACTIVE INFORMED CITIZENRY** 3834
*T.B.M. Chowdhury, J. Holbrook, M. Rannikmäe*

**INSTITUTIONAL RE-STRUCTURING AND DELIVERY OF 21ST CENTURY UNIVERSITY EDUCATION IN CROSS RIVER STATE** 3841
*U. Mbon, G. Ukpabio*

**EDUCATIONAL BENEFITS, CHALLENGES, AND LESSONS LEARNED IN STARTING AND ADVISING A STUDENT VEHICLE DESIGN COMPETITION TEAM** 3846
*N. Sebastijanovic*

**DESIGN THINK AND EDUCATION TECHNOLOGY: HOW VISUAL DESIGN CONTRIBUTES TO LEARNING** 3847
*A. Kapoor, T. Avery, C. Brett*

**STUDENTS' ATTITUDE TOWARDS VIRTUAL LEARNING ENVIRONMENT IN HIGHER EDUCATION: INFORMATION LITERACY PERSPECTIVE** 3855
*E.A. Akanda, M. Islam, N. Hasan, K. Fatima, D. Begum*

**IMAGOLOGY OF RUSSIAN EDUCATIONAL PROGRAMS FOR ARMENIA AND GEORGIA IN THE MASS MEDIA. COMPARATIVE ANALYSIS** 3865
*E. Martynenko, N. Parkhitko, D. Kurmanova*

**RESEARCH ABOUT BOOKSTORES READING SPACE ACCORDING TO YOUNG PEOPLE EXPERIENCE** 3871
*P. Quarin, D.Q. Liu, K.S. Nam*

**INTEGRATION OF LEARNERS' SOCIO-CULTURAL EXPERIENCES IN LIFE SCIENCES CLASSROOMS: DO LEARNERS APPROVE?** 3878
*L. Mavuru, S. Ramaila*

**EDUCATIONAL BACKGROUND OF MIGRANTS OF FOREIGN ETHNICITIES AS A FACTOR OF THEIR INTEGRATION INTO THE HOST COMMUNITY** 3885
*I. Britvina, A. Britvin, E. Mogilchak*

**TEACHING REFLECTION AND REFRACTION LAWS TO THE UNGRADUATE STUDENTS OF THE PRIMARY EDUCATION** 3889
*A. Andrade, L. Caramelo, A. Soares*

**LEARNING COLOURS WITH COLOURED SHADOWS, LIGHT FILTERS AND RGB ART** 3896
*A. Andrade, A. Soares, L. Caramelo*

**POWER OF FEEDBACK – AGILE PROJECT LEARNING** 3904
*E. Švejdarová*

**VECTOR EQUATION OF A LINE: A SCRATCH APPLICATION** 3911
*C. Monteiro, P. Catarino, A. Soares, B. Fonseca*

**CROSS-INSTITUTION COLLABORATIONS FOR A FINAL YEAR PROJECT** 3915
*M. Serrano Segarra*

**MOBILE DEVELOPMENTS TO SUPPORT LEARNERS IN MAINSTREAM EDUCATION** 3921
*H. Boulton, D. Brown, M. Taheri, K. Isacker, A. Burton, N. Shopland*

**THREE CASE STUDIES ABOUT SCIENCE TEACHERS' SELF-DIRECTED PROFESSIONAL DEVELOPMENT TO IMPROVE STUDENTS' CAREER AWARENESS** 3928
*K. Kask, A. Laius*

**INTERNET ACCESS AND USE: GENDER DIFFERENCES IN A PORTUGUESE HIGHER EDUCATION INSTITUTION** 3935
*N.S. Morais, R. Raposo*

**THEORETICAL ASPECTS AND PROBLEMS OF THE RUSSIAN EDUCATIONAL SYSTEM MODERNIZATION** 3941
*E. Martynenko, N. Parkhitko, G. Kurmanova*

**SCRATCH: A STUDY WITH STUDENTS WITH LEARNING DIFFICULTIES** 3947
*R. Oliveira, B. Fonseca, P. Catarino, A. A. Soares*

**EDUCATE THE PUBLIC ADMINISTRATION IN THE USE OF NEW METHODOLOGIES** 3957
*F.M. Ugliotti, A. Osello*

**INCREASING STUDENT ENGAGEMENT WITH FORMATIVE ASSESSMENT THROUGH THE APPLICATION OF SCREEN CAST VIDEO FEEDBACK - A CASE STUDY IN ENGINEERING** 3962
*J. Ross, S. Lancastle*

**DEVISING A UNIQUE MODEL FOR SCIENCE OUTREACH PROGRAMMES WITH CRITICAL ENGAGEMENT FROM TEACHERS ACROSS THE 5-19 AGE RANGE** 3972
*V. Brennan, A. Mallaburn, L. Seton*

**RECENT TRENDS IN STRATEGIC HUMAN RESOURCE MANAGEMENT EDUCATION FROM THE PERSPECTIVE OF APPLIED POSITIVE PSYCHOLOGY** 3973
*M. Yüksel*

**IMPLEMENTING MULTIDISCIPLINARY CIRCULAR ECONOMY PILLS IN THE CLASSROOM TO FOSTER ENVIRONMENTAL SUSTAINABILITY** 3976
*S. Scarpellini, P. Portillo-Tarragona, M. Marco-Fondevila, L.M. Marín-Vinuesa, J. Valero-Gil, E.M. Llera-Sastresa, I. Zabalza-Bribián, F. Llena-Macarulla, J.A. Aranda-Usón*

**TO WHAT EXTENT CAN THE EXPERIENCE OF OUTDOOR LEARNING CONTEXTS PREVENT PERMANENT SCHOOL EXCLUSION FOR OLDER LEARNERS? A VISUAL ANALYSIS** 3985
*H. Knowler, I. Lazar, D. Cortese, J. Dillon*

**WHAT INFORMATION DO TOURISTS EXPECT TO HAVE ACCESS TO WHILE VISITING WORLD HERITAGE SITES?** 3993
*N. Cavalheiro, H. Rodrigues, L. Rodrigues*

**NEW TECHNOLOGIES FOR STIMULATION OF STUDENT ENGAGEMENT** 4000
*R. Fernández-Marín, A. Morales, M. González-Alriols, R. Llano-Ponte*

**QUESTIONING VYGOTSKY'S MORE COMPETENT PEER IN THE SCAFFOLDING RELATIONS** 4005
*S. Pereira, T. Ventura*

**A FLIPPED LEARNING EXPERIENCE IN EMBEDDED SYSTEMS IN MASTER DEGREES IN COMPUTER ENGINEERING** 4014
*J. Molleda, C. Gil*

**A MODEL TO PERSONALIZE EDUCATIONAL AND PLAYFUL ASPECTS IN SERIOUS GAMES** 4022
*P. Valentin, L. Capus*

**REVALIDATION OF THE ACADEMIC QUALITY OF LIFE QUESTIONNAIRE FOR STUDENTS ATTENDING PORTUGUESE POLYTECHNIC HIGHER EDUCATION INSTITUTIONS** 4030
*M. Ferreira, S. Campos, R. Guiné, J. Duarte, J.L. Abrantes, L. Cabral*

**FACTORS SHAPING TEACHERS' EXPERIENCES IN MANAGING TEACHING IN THE ERA OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) INTEGRATION ACROSS THE CURRICULUM** 4041
*B. Kafu-Quvane, V. Chikoko*

**HIGHER EDUCATION STUDENTS' CONSUMPTION HABITS AND LIFESTYLES** 4048
*P. Rodrigues, M. Ferreira, J. Bastos*

**TEACHING INNOVATION: OPINION AND ANALYSIS OF THE STUDENTS' ACADEMIC PERFORMANCE** 4049
*E. Ausó Monreal, J.V. García Velasco, V. Gómez Vicente, A. Angulo Jerez*

**C-EXTENDED: EXTENDING THE ERASMUS EXPERIENCE BEYOND MOBILITY** 4053
*M. Marchese, L. Angeli, M. Ilieva, Y. Huang, A. van de Ven, A. Pina Stranger, B. Palm, K. Fobelets*

**EDUCATIONAL INNOVATION: STUDY OF THE ATTENTION OF THE UNIVERSITY STUDENT IN THE CLASSROOM. USE OF THE KAHOOT** 4062
*E. Ausó Monreal, J.V. García Velasco, V. Gómez Vicente, A. Angulo Jerez*

**LEARNING ACTIVITIES DESIGN BASED ON THE CONCEPT OF LEARNING WITH TECHNOLOGIES** 4066
*F.A. Costa, J. Viana, T. Tréz, C. Gonçalves, E. Cruz, C. Pereira*

**LEARNING GEOLOGY FROM PLAY AND EXPERIENCE - A RESEARCH ACTION PROCESS FOR A GEOLOGY PROPOSAL IN THE LAB 0_6 SPACE** 4074
*G. Lemkow, C. Montiel, B. Mur*

**IMPACT OF THE UNIVERSITY ON THE CREATIVE THINKING OF STUDENTS AND THE CREATIVITY IN THE REGION** 4081
*T. Corejova, M. Rostasova, J. Ciba*

**A DAY AT THE MUSEUM. LABORATORY TEACHING IN THE MUSEUM OF ZOOLOGY AT THE UNIVERSITY OF PADUA FOR PRIMARY SCHOOL** 4089
*G. Palmieri, P. Irato, P. Nicolosi, G. Santovito*

**THE DIGITAL TRANSFORMATION ROADMAP IN ERASMUS MOBILITY APPLICATION PROCEDURES: TRANSFORMING PAPER-BASED WORKFLOWS INTO WEB-BASED INTEGRATED APPLICATIONS** 4098
*A. Cardoso, I. Seruca*

**DISCOVERING LIVING ORGANISMS: A DIDACTIC RESEARCH TO INTRODUCE BIOLOGY IN KINDERGARTEN** 4108
*F. Lui, P. Irato, G. Santovito*

**LANGUAGE LEARNING TOOL BASED ON AUGMENTED REALITY AND THE CONCEPT FOR IMITATING MENTAL ABILITY OF WORD ASSOCIATION (CIMAWA)** 4118
*H. Abu Rasheed, J. Zenkert, C. Weber, M. Dornhöfer, A. Klahold, M. Fathi*

**BUILDING COLLABORATIVE ONLINE COMMUNITIES THROUGH DIGITAL MOMENTS** 4126
*W. Barber, R. Kay*

**TYPOLOGY OF PUPILS' QUESTIONS ON THE FIRST LEVEL OF PRIMARY SCHOOL** 4133
*K. Smejkalova, H. Lukasova*

**AUGMENTED REALITY IN THE INTERVENTION OF STUDENTS WITH AUTISM SPECTRUM DISORDER THROUGH SCIENTIFIC PRODUCTION** 4137
*A. Gilabert, E. Pérez, A. Lorenzo, A. Lledó, G. Lorenzo Lledó*

**THE CONTRIBUTION OF HISTORY OF DESIGN FOR THE FASHION LEARNING** 4145
*C. Assis Peres Silva, G. Costa Pinheiro Monteiro*

**SOLVING NON-STANDARD TASKS AS AN EDUCATIONAL SITUATION IN MATHEMATICS EDUCATION** 4154
*M. Skultety*

**SCENARIOS OF CHOICE: USING SOFTWARE TO TEACH NARRATIVE DECISION MAKING** 4162
*D. Vampola*

**DIGITAL TECHNOLOGIES IN MATHEMATICS TEACHING AT PRIMARY SCHOOLS** 4168
*J. Hodanova, H. Hyksova, M. Skultety*

**ANALYZING THE EFFECTIVENESS OF USING ENHANCED ACTIVITIES WITH SIMULATION SOFTWARE IN A MOOC** 4173
*M. Morales Chan, M. De la Roca, R. Barchino Plata, A. Medina Merodio, H. Amado Salvatierra*

**INFORMATION TECHNOLOGY USAGE FOR TRAINING STUDENTS IN THE FIELD OF STATE AND MUNICIPAL MANAGEMENT** 4179
*T. Rezer*

**ETHICS EDUCATION IN THE SELECTED ARMED AND DEFENCE FORCES – COMPARATIVE STUDY** 4183
*Z. Mikulka, I. Nekvapilová, J. Fedorková*

**ASSESSMENT OF ENTREPRENEURIAL EDUCATION IN HIGHER EDUCATION INSTITUTIONS, USING HEINNOVATE** 4190
*T. Paiva, T. Felgueira, C. Alves*

**LEARNING OF CLINICAL OPTOMETRY IN A SOCIO-HEALTH CONTEXT** 4200
*C. Vázquez-Sánchez, L. Gigirey Prieto*

**A MODEL TO EVALUATE THE USE OF COMMUNICATION TECHNOLOGIES IN THE COMMUNICATION BETWEEN STUDENTS AND TEACHERS IN HIGHER EDUCATION** 4209
*H. Santos, J. Batista, R. Marques*

**ASSESSING TRANSVERSAL COMPETENCES OF NOVEL DEGREE OF GASTRONOMY AND CULINARY ARTS STUDENTS THROUGH THE TEACHING STAFF COORDINATION** 4217
*A. Valdés García, L. Vidal Martínez, M. Tormo Santamaria, S. Maestre Pérez, A. Beltrán Sanahuja*

**STUDENTS' TOURISM COMPETENCES IN INTERNSHIPS BY GEOGRAPHIC VARIABLES** 4226
*J. Sales-Zaguirre, R. Ferreras-Garcia, E. Serradell-López*

**IMPLICATIONS OF UNIVERSAL DESIGN FOR LEARNING INFUSED COLLABORATIVE LEARNING APPROACH ON STUDENT ENGAGEMENT AND LEARNING IN PRIMARY EDUCATION** 4231
*T. Afzal, A. Kiran, M. Sajjad, A. Khan*

**ADEC, A LEARNING BY DOING EXPERIMENTAL WORKSHOP ON NATURAL SCIENCES TO IMPROVE CAPABILITIES AND SCIENTIFIC SKILLS OF PRIMARY SCHOOL TEACHERS** 4240
*J. Donoso, L. Ferrer, V. Eim, C. Palomino, R. Casasnovas, J. Moreno, L. Mariño*

**A COLLABORATIVE TEACHING NETWORK AS AN OPPORTUNITY FOR DEVELOPING TRANSVERSAL ACTIVITIES IN ORDER TO IMPROVE STUDENT'S SKILLS** 4249
*A. Valdés García, L. Vidal Martínez, M. Tormo Santamaria, S. Maestre Pérez, A. Beltrán Sanahuja*

**LEARNING ABOUT THE DEVELOPMENT OF PREECLAMPSIA WITHIN VIRTUAL COMMUNITIES** 4258
*I. Marin, N. Goga*

**APPLICATION OF PUBLIC ADMINISTRATION MECHANISMS FOR THE DEVELOPMENT OF THE EDUCATIONAL POTENTIAL OF ELDERLY CITIZENS IN THE FOREIGN AND RUSSIAN EXPERIENCE** 4264
*L. Voronina, T. Rezer*

**ON HOW TO EMPOWER ARCHITECTURAL STUDENTS THROUGH THE USE OF IMMERSIVE TECHNOLOGIES** 4269
*C. Lorenzo, E. Lorenzo*

**PERFORMING ARTS AND LANGUAGE EDUCATION IN THE GLOBAL UNIVERSITY OF XXI CENTURY** 4275
*G. Zhukova, M. Ono*

**SCIENCE-CITIZENSHIP, TRAINING AND ENCOURAGEMENT OF VOLUNTEERING IN BRAZILIAN NATIONAL PARKS** 4281
*N.N. Rumenos, M.L. Spazziani*

**VISUALS VERSUS TEXTUAL ELEMENTS IN UNIVERSITY MATHEMATICS TEXTBOOKS** 4289
*N. Kulcsár*

**ENVIRONMENTAL EDUCATION AND ECOTOURISM: THE PERSPECTIVE OF VISITORS IN A BRAZILIAN NATIONAL PARK** 4295
*M.L. Spazziani, N.N. Rumenos, M.G. Mello, P.F.V. Felício*

**SOME ASPECTS OF READING AND ANALYZING THE LITERARY TEXTS IN TEACHING RUSSIAN AS A FOREIGN LANGUAGE** 4306
*O. Starostina, G. Chumakova, I. Galiulina*

**COMPETENCY IN NUGGETS FOR CYBER SECURITY TRAININGS** 4311
*E. Kovatcheva, W. Dimitrov, M. Koleva, I. Kostadinova, I. Getova*

**CULTURAL AND HISTORICAL HERITAGE IN VIRTUAL ENVIRONMENTS. CREATION OF VIRTUAL LEARNING COLLECTIONS** 4319
*S. Vasileva, M.S. Nikolova*

**THE IMPORTANCE OF COMPARATIVE ANALYSIS OF LINGUISTIC SYSTEMS IN TEACHING RUSSIAN AS A FOREIGN LANGUAGE** 4323
*G. Chumakova, O. Starostina, I. Galiulina*

**A PROPOSED PARADIGM OF TASK BREAKDOWN IN SOLVING PROBLEMS TO ENHANCE TEACHING AND LEARNING** 4328
*E. Glakpe*

**ELECTIVE COURSES IN A MIXED GROUP OF STUDENTS: TOWARDS INNOVATIVE TEACHING PRACTICES** 4337
*A. Vodyanitskaya, N. Beclemesheva, M. Fomina, V. Yaremenko*

**ROLE PLAYING AS A TOOL TO OVERCOME "EMOTIONAL BURNOUT" OF "SATORI GENERATION"** 4343
*N. Novikova, T. Cherkashina, E. Budanova*

**INTERCULTURAL EDUCATION ON THE WAY TO CROSS-CULTURAL PROSPECTS** 4348
*L. Borbotko, E. Vishnevskaya, E. Nersesova*

**COMPARATIVE STUDY OF SPANISH SCIENTIFIC PRODUCTION IN ICT AND INNOVATION IN HIGHER EDUCATION IN THREE SCIENTIFIC DISCIPLINES THROUGH THE WEB OF SCIENCE BETWEEN 2004-2018** 4353
*J. Haba-Osca, F. González-Sala, J. Osca-Lluch*

**DISTANT ASSESSMENT: PARTICIPATION, PROGRESS, ACHIEVEMENT** 4359
*L. Borbotko, E. Vishnevskaya, E. Nersesova*

**TOON BOOM – THE CONSEQUENCES: AN ANALYSIS OF FACTORS AFFECTING TALENT SHORTAGES IN THE IRISH ANIMATION INDUSTRY** 4366
*E. Mernagh, M. Jennings*

**WE CAN DO IT: MASS TRAINING UNDERGRADUATES IN LEARNING MANAGEMENT SYSTEM USAGE** 4375
*J. Klindžić, J. Lasić-Lazić, M. Banek-Zorica, M. Perković*

**APPLICATION OF FINANCIAL MANAGEMENT AND CONTROL IN INSTITUTIONS OF EDUCATION IN THE REPUBLIC OF SERBIA** 4382
*J. Eremic Djodjic, I. Bosnjak, S. Rakocevic, S. Popovic, O. Sedlak, Z. Ciric, A. Tomic*

**ASSESSING THE ENTRY COMPETENCES OF DATA SCIENCE MASTER PROGRAM POTENTIAL STUDENTS** 4389
*K. Rasheva-Yordanova, S. Toleva-Stoimenova, I. Kostadinova, D. Christozov, B. Nikolova*

**MATHEMATICAL MODELS OF LEARNING ANALYTICS FOR MASSIVE OPEN ONLINE COURSES** 4395
*E. Sinitsyn, A. Tolmachev, V. Larionova, A. Ovchinnikov*

**UNIVERSITIES AS PROMOTERS OF SUSTAINABLE DEVELOPMENT** 4405
*D. Popa, G.M. Moraru*

**THE APPLICATION OF ACTIVE METHODOLOGIES IN UNIVERSITY STUDIES: APPLICATION TO AN ENGINEERING DEGREE** 4410
*F. Sánchez, M.B. Etxebarria, E. Zarrabeitia*

**TEACHING PRE-TRANSLATION ANALYSIS OF THE ORIGINAL TEXT** 4418
*O. Suleimanova, A. Vodyanitskaya, N. Beclemesheva, M. Fomina*

**PREECLAMPSIA COUNSELING VIA CHATBOT FOR PREGNANT WOMEN** 4424
*I. Marin, N. Goga*

**COMPARISON OF TYPE OF THE MEDIA USED FOR TRANSFER AND CONTENT BEING READ AND USED IN HIGH SCHOOL ENVIRONMENT** 4428
*G. Sirovatka, V. Mićković*

**A COMPREHENSIVE MODEL FOR QUALITY EVALUATION OF DISTANCE LEARNING** 4433
*S. Gaftandzhieva, R. Doneva, G. Totkov*

**MEASURING AND MITIGATING RACIAL PREJUDICES BY MEANS OF SERIOUS VIDEO GAMES** 4443
*D. Vassileva*

**USE OF DIGITAL TECHNOLOGIES IN THE ANDEAN REGION** 4450
*E. Gallardo-Echenique, M. Bullen, J. Zottmann, M. Anchapuri*

**GETTING LOST IN TIME AND SPACE ' SITTING NOWHERE IN A CLASSROOM '** 4456
*N.C. Brutscher*

**CURRENT STATE OF VISUALIZATION OF MORPHOLOGICAL ELEMENTS OF THE ORBITAL CAVITY, WITH STATE-OF-THE-ART TECHNOLOGY, FOR TEACHING PURPOSES** 4462
*B. Framiñán Aparicio, J.A. Juanes Méndez, A. Framiñán de Miguel*

**CONNECTING WITH OUR STUDENTS: HOW TO PROMOTE A MORE CONSCIOUS TEACHING / LEARNING PROCESS** 4468
*E. García-Sánchez, C. Gil-Montoya, M.D. Gil-Montoya, R.Á. Pulido-Moyano, M.Á. Iniesta-Bonillo, C. Águila-Soto*

**APPLICATION OF PROMOTIONAL MARKETING ACTIVITIES TO INDUSTRIAL DRAWING COURSES IN ENGINEERING GRAPHICS** 4473
*C. Martin-Doñate, F. Lucena-Muñoz, L. Garcia-Cabrera, A. Mesa-Villar*

**IMPORTANCE OF LOGICAL-MATHEMATICAL ALGORITHMS IN SCHOOL MATHEMATICS** 4482
*D. Starja, N. Nikolova*

**APPLICATION OF A LEARNING MODEL BASED IN ENGINEERING PROJECTS TO THE FIELD OF INDUSTRIAL DRAWING** 4490
*C. Martin-Doñate, L.G. García-Cabrera, F. Lucena-Muñoz, J.M. Mercado-Colmenero*

**PSYCHOLOGICAL LITERACY FOR ALL: AN OVERVIEW OF THIS 'LITERACY' AND HOW IT IS RELEVANT FOR STUDENTS OF ALL DISCIPLINES** 4497
*J. Taylor*

**GIFTED AND TALENTED IN MATHEMATICS DO NOT ONLY NEED HARD WORK, BUT SMART WORK AS WELL** 4502
*D. Starja, N. Nikolova, B. Shyti*

**PERCEIVED EMPLOYABILITY OF COMPUTER SCIENCE GRADUATES: AN ACADEMIC PREDICAMENT** 4503
*S. Kalra*

**EXAMINING GRIT, GROWTH MINDSET, HARDINESS AND RESILIENCE IN ONLINE LEARNING ENVIRONMENTS: A REVIEW OF THE RESEARCH** 4510
*W. Barber, R. Kay, J. Harvey*

**PROMOTING EMPLOYABILITY OF GENERATION Z – THE CONTRIBUTION OF A MENTOR'S PROGRAM** 4517
*A.C. Rodrigues, A. Mesquita, P. Peres*

**INNOVATIVE METHOD OF TEACHING BASED ON POLYCODE TEXTS** 4524
*N. Novospasskaya, ZOU. Huajing, N. Perfilieva, O. Lazareva*

**ENHANCEMENT OF REFLECTIVE EXPERIENTIAL LEARNING VIA NEW TECHNOLOGIES** 4529
*A. Morales, R. Fernández-Marín, L. Sillero, I. Egües, M.A. Andrés*

**SENSE OF COHERENCE AND SOCIAL COMPARISON IN THE CLASSROOM: THE COMPARATIVE STUDY ON STUDENTS WITH AND WITHOUT DYSLEXIA** 4535
*U. Gosk, M. Dominiak-Kochanek, M. Rutkowska*

**SEARCHING FOR MEANING IN GRAMMAR SCHOOLING DEEP STRUCTURE** 4542
*D. Pochettino*

**EFFECTIVE TEACHING METHODS IN THE ACQUISITION OF VOCABULARY FOR SPECIFIC PURPOSES FOR STUDENTS AT NON-PHILOLOGICAL UNIVERSITIES** 4550
*A. Klimentova, K. Klimentova*

**ACTIONS IDENTIFIED BY PRE-SERVICE TEACHERS IN A DECISION-MAKING PROCESS RELATED TO NUCLEAR WASTE MANAGEMENT** 4555
*N. Díaz-Moreno, B. Crujeiras-Pérez, C. Martin-Gamez, A. Fernández-Oliveras*

**IS BAD CHOLESTEROL A REAL BIOMOLECULE?** 4560
*M.P. Ribate, B. Giner, L. Lomba, D. Flores, C.B. García*

**ACCESSIBLE AROMATHERAPY WORKSHOP** 4566
*C.B. García, V. López, F. Les, M.P. Ribate*

**FROM CONCEPTIONS TO PRACTICES OF PEDAGOGICAL DIFFERENTIATION IN BASIC EDUCATION** 4570
*A. Silva, C. Pereira*

**THE INFLUENCE OF EUROPEAN PUBLIC POLICIES ON SCIENCE, TECHNOLOGY AND INNOVATION ON THE DOMESTIC LEVEL** 4577
*M. Manatos, T. Carvalho, A. Queirós*

**TEACHING AND LEARNING IN A DESIGN COURSE: A CASE STUDY** 4584
*L. Selau, J. Linden, C. Duarte*

**FUNCTIONING OF ADULT SIBLINGS OF PEOPLE WITH INTELLECTUAL DISABILITY IN THE AREA OF PARTNER AND SOCIAL RELATIONSHIPS** 4592
*K. Kruś-Kubaszewska*

**A BUSINESS SCHOOL INSIDE A REGULAR CLASS** 4602
*A. Montero, J.L. Rodríguez-Sánchez, R. Gallego*

**VERBAL-ACOUSTIC DIFFERENTIATION IN PAIRS OF WORDS** 4610
*S. Grofčíková, M. Máčajová*

**EDUCATE TO INNOVATE: WORKING WITH TEACHERS TO DEVELOP INNOVATIVE AND SUSTAINABLE TECHNOLOGY ENHANCED LEARNING** 4618
*M. Pullen, C. Jones*

**RESEARCH OF ABILITY TO IDENTIFY THE FIRST SOUND IN THE WORD AS A PART OF PHONEMIC AWARENESS ASSESSMENT IN SLOVAK PRESCHOOL AGE CHILDREN** 4623
*M. Máčajová, S. Grofčíková*

**DESIGNING ENGAGING ONLINE ASSESSMENTS TO REDUCE CONTRACT CHEATING IN HIGHER EDUCATION** 4631
*C. Lawson*

**INITIATIVE AND SECOND LANGUAGE ACQUISITION IN LINGUISTICS AND NON-LINGUISTICS STUDENTS** 4635
*A. Krupnov, I. Novikova, N. Berisha, A. Novikov*

**TRANSNATIONAL COOPERATION ACTIVITIES UNDER ERASMUS+, THE CASE STUDY OF PORTUGAL** 4643
*T. Nogueiro, A. Esteves*

**MATHEMATICS AND MUSIC IN THE CLASSROOM** 4650
*A. Silva, A. Soares, P. Catarino, B. Fonseca*

**LEADERSHIP STYLE AS IT RELATES TO SCHOOL CLIMATE AND THE IMPACT ON STUDENT ACHIEVEMENT** 4661
*M. Dono-Koulouris, A. Martino*

**TEACHERS' REPRESENTATIONS ABOUT COMPUTATIONAL MATHEMATIC FROM A COMPLEXITY PERSPECTIVE IN MECHANICAL ENGINEERING CAREER** 4668
*M. Dádamo*

**ELEMENTS THAT MAY LIMIT OR PREVENT THE ACCEPTANCE OF ONLINE FINANCIAL SERVICES BY INTERNET USERS** 4677
*M.J. Araiza-Vazquez, J.F. Ramirez-Ramirez, M.E. Brosig-Rodriguez*

**ACCESSIBILITY ANALYSIS OF ELECTRONIC DOCUMENTS PUBLISHED IN EDUCATIONAL WEB PORTALS: THE ECUADORIAN CASE** 4686
*M. Campoverde-Molina, S. Luján-Mora, L. Valverde García*

**WEB ACCESSIBILITY IN THE WEB PORTALS OF THE EDUCATIONAL INSTITUTIONS OF ECUADOR. PRELIMINARY ANALYSIS** 4697
*M. Campoverde-Molina, S. Luján-Mora, L. Valverde García*

**A FLIPPED CLASSROOM IN LAW TEACHING** 4708
*M.J. Mimoso, M.R. Anjos*

**EMPLOYERS' PERCEPTIONS OF TECHNOLOGY COMPETENCY AND GRADUATES' READINESS: A MULTI-DISCIPLINARY, QUALITATIVE ANALYSIS IN THE SOUTHEASTERN UNITED STATES** 4713
*M. Maghiar, X. Song, C. Brown*

**DEVELOPMENT OF COMPETENCES IN NATURAL SCIENCES FROM THE INTEGRAL PROFESSIONAL TRAINING OF NATIONAL LEARNING SERVICES (SENA) IN COLOMBIA** 4721
*R.F. Quintana Arias, S. Castañeda Torres*

**COMPETENCE DEVELOPMENT IN CHEMICAL ENGINEERING** 4730
*R. Nava, D. Camacho, R.D. Santiago-Acosta*

**DISCERNMENT OF DIGITAL COMPETENCES IN STUDENTS OF A BUSINESS SCHOOL** 4737
*M.J. Araiza-Vazquez, E.Y. Pedraza-Sánchez*

**EXPANDING WORK PLACE LEARNING FOR ENABLING STUDENTS: AN INNOVATIVE AND SCALABLE SOLUTION FOR UNDERREPRESENTED STUDENTS AT AN AUSTRALIAN UNIVERSITY** 4748
*B. Price*

**SOCIAL PROFILE OF MODERN SCHOOLERS AS EDUCATIONAL RESOURCE FOR MUSEUM PEDAGOGY** 4758
*E. Polyudova, E. Olesina*

**IMPACT OF GLOBAL MEDICAL SERVICE TRIPS ON PHYSICIAN CAREERS OF MEDICAL STUDENTS OF HOST COUNTRY** 4763
*L. Ravago, C. Haddad, J. Haddad-Lacle, L. Bilello*

**EDUCOMMUNICATION THROUGH TRANSMEDIA: "FROM JUMPING TO JUMPING WE STOP VIOLENCE"** 4764
*C. Mier-Sanmartín, G. Coronel-Salas, G. Moreira-Aguirre*

**INTERCULTURAL EDUCATION IN THE EARLY YEARS** 4765
*L. Damovska, S. Calovska, C. Plavevska*

**A ROBOTICS WORKSHOP APPROACH FOR MOTIVATING MIDDLE SCHOOL SENIORS TO STUDY HIGH SCHOOL PHYSICS** 4766
*D. Saad, I. Verner*

**EDUCATIONAL TRENDS AND BEST PRACTICE CONTRIBUTIONS: "THE SOUNDTRACK OF MY LIFE" - VIDEO CLIPS CREATION IN HIGHER EDUCATION** 4774
*O. Geiger*

**SELF-ASSESSMENT EXPERIENCE IN FIRST YEAR NURSING STUDENTS** 4779
*M. Cavia-Saiz, M.D. Rivero-Perez, M. Ortega-Herás, I. Gómez-Bastida, M.L. Gonzalez-SanJosé, P. Muñiz*

**THE CHARACTERISTICS OF PROBLEM AND PROJECT-BASED LEARNING IN TEACHING A FOREIGN LANGUAGE AT A UNIVERSITY** 4784
*E. Dmitrieva, O. Dagbaeva, T. Evsikova, Z. Usmanova*

**EFFECTIVENESS OF THE FLIPPED CLASSROOM APPROACH IN HIGHER EDUCATION** 4789
*M.D. Rivero-Perez, M. Cavia-Saiz, I. Gómez-Bastida, M. Ortega-Heras, P. Muñiz, M.L. Gonzalez-SanJose*

**DEVELOPMENT OF NEW PROGRAMMING WITH STICKERS FOR ELEMENTARY SCHOOL PROGRAMMING EDUCATION** 4796
*A. Minamide, K. Takemata*

**INITIAL DIAGNOSIS ON THE PERCEPTION AND THE LEVEL OF APPROPRIATION IN THE USE OF M-LEARNING ENVIRONMENTS OF STUDENTS OF THE AUTONOMOUS UNIVERSITY OF BAJA CALIFORNIA SUR, MEXICO** 4801
*J.A. Sandoval-Bringas, M.A. Carreño-León, F.J. Álvarez-Rodriguez*

**THE CONCEPT OF SUSTAINABILITY AS A TOOL FOR CONTENT INNOVATION IN TEACHING BUSINESS ECONOMICS** 4808
*E. Ružinská*

**THE RELATIONSHIP OF MUSICAL PERCEPTION AND THE EXECUTIVE FUNCTION AMONG 7-YEAR-OLD CHILDREN** 4818
*M. Janurik, N. Szabó, K. Józsa*

**THE EFFECT OF MOBILE ACCESS ON LIBRARY SERVICES** 4827
*E. Tsvetkova*

**A FOREIGN LANGUAGE AS A TOOL OF INFORMAL LEARNING AND MULTICULTURAL EDUCATION** 4833
*E. Dmitrieva, T. Evsikova, I. Debeyssac*

**MOBILE TECHNOLOGY AS A POCKET EDUCATIONAL TOOL IN HIGHER EDUCATION** 4839
*A. Penichet-Tomás, J.M. Jiménez-Olmedo, S. Sebastiá-Amat, B. Pueo*

**MODERN LIBRARY IN THE EDUCATIONAL SPACE OF THE UNIVERSITY** 4844
*E. Savova, E. Tsvetkova*

**UNDERGRADUATE BACHELOR OF EDUCATION STUDENTS' EXPERIENCES ON THE IMPORTANCE OF ENGLISH LANGUAGE AND COMMUNICATION FOR EDUCATORS MODULE** 4849
*M.N. Mdledle*

**VIDEO-BASED REFLECTION IN THE ACQUISITION OF SKILLS AND COMPETENCIES** 4855
*V. Jelsbak, J. Henriksen, C.B. Jepsen*

**THE ROLE OF THE UNIVERSITIES IN CREATING INFORMATION LITERACY OF THE STUDENTS** 4866
*G. Zhablyanova, K. Bosakova, M. Pavlova, T. Petrova*

**PERCEPTIONS OF PRE-SERVICE KINDERGARTEN TEACHERS REGARDING A CODING EXPERIENCE IN A COURSE ABOUT COMPUTATIONAL THINKING** 4870
*K. Levy, I. Maor*

**FORMATIVE LEARNING EVALUATION AND IMPROVEMENT OF LEARNING DEVELOPMENT OF MOOC USERS LEARNING A CAD APPLICATION** 4874
*D. Lukac, A. Shahriari-Rad*

**BUILDING INFORMATION MODELING-ORIENTED EDUCATIONAL COURSES FOR A HETEROGENEOUS AUDIENCE** 4875
*A. Fonsati, M. Del Giudice, A. Osello, D. De Luca*

**THE RELATIONSHIP BETWEEN COPING STRATEGIES AND SCHOOL CLIMATE PERCEPTION AMONG SECONDARY SCHOOL TEACHERS** 4883
*S. Dobešová Cakirpaloglu, T. Čech, J. Kvintová*

**POPULAR CULTURE AS AN EXPLANATORY PATTERN IN THE PROCESS OF CLASSROOM STUDIES IN HIGHER EDUCATION** 4891
*V. Kim*

**COHERENT EDUCATIONAL METHODS IN FOREIGN LANGUAGES AND INTERCULTURAL COMMUNICATION TEACHING PRACTICES** 4895
*G. Zhukova, M. Zhukova, M. Ono*

**ONLINE PLATFORM FOR PROCESSING AND STORAGE OF INFORMATION IN THE FIELD OF MEDICINE: IMPROVING EDUCATION OF THE MEDICAL STUDENTS** 4899
*G. Georgieva-Tsaneva, M. Gospodinov, G. Bogdanova*

**SUSTAINABLE EDUCATION TECHNOLOGY DEVELOPMENT - A CASE STUDY OF SUSTAINABILITY OF EDUCATION** 4907
*J. Bolmsten*

**BUILDING MOTIVATION- AND VALUES-BASED ATTITUDE OF COLLEGE STUDENTS TOWARDS PROFESSIONAL SELF-DEVELOPMENT** 4914
*E. Sanina, N. Loktaeva, E. Mishina, V. Rodina, A. Taleeva*

**TRANSFERENCE OF NATIONAL RHETORICAL STRATEGIES AND ARGUMENTATION PATTERNS: EVIDENCE FROM AN ADVANCED ENGLISH CLASS OF L1 RUSSIAN SPEAKERS** 4919
*O. Blinova*

**CYBER SECURITY. ARE WE READY TO USE MODERN, AND MOBILE TECHNOLOGIES? IF WE DON'T TEACH THE STUDENTS HOW TO PROTECT THEIR PRIVACY AND PERSONAL INFORMATION, WHO WILL?** 4924
*J. Kucerik*

**COMPARISON OF USAGE AND EFFECTIVENESS OF METHODS FOR FURTHER EDUCATION** 4930
*I. Mikova, L. Komarkova, P. Pudil, V. Pribyl*

**INTEGRATED DESIGN LEARNING METHODS IN FASHION RETAIL DESIGN STUDIO** 4938
*V.M. Iannilli, A.V. Penati, A. Spagnoli*

**TOWARDS A CO-DESIGN APPROACH TO DIGITAL DEVICE FOR LEARNING** 4948
*R. Bour, L. Capus, N. Vallès-Parlangeau, C. Soule-Dupuy*

**MDM - MOBILE DEVICE MANAGEMENT FOR IPADS IN SCHOOLS** 4953
*J. Kucerik*

**UNVEILING TEACHER ADOPTION OF BLENDED LEARNING PROGRAMS: A MULTIFACTOR MODEL** 4957
*E. Bigne, A. Badenes-Rocha, C. Ruiz, L. Andreu*

**NO WALLS: AN ANALYSIS OF THE IMPACT OF TECHNOLOGY ON TEACHING PRACTICES AND ON THE TRANSFORMATION OF THE LEARNING SPACES** 4967
*J.R. de Oliveira Leo, M. Tareen*

**DEVELOPING HUMAN-LIKE ARTIFICIAL INTELLIGENCE: IDENTIFYING KEY PEDAGOGICAL PERSONALITY TRAITS** 4978
*M.I.S. Bmk, P. Gagnon, N. Zary*

**THE RELATION OF TEACHING DELIVERY TO KEY FEATURES OF STUDENT SATISFACTION** 4985
*R. Skyrius, J. Martinavicius, G. Rumsas*

**TELL US YOUR DIGITAL STORY** 4994
*B. Mannova, C. Preston, S. Younie*

**MOTIVATING LANGUAGE LEARNING THROUGH ONLINE RADIO** 5002
*E. Pérez-Femenía, M. Iglesias-García*

**A STUDY OF GRADUATES' SATISFACTION AND COMPETENCES ACQUIRED WITH AN OFFICIAL MASTER'S DEGREE AND THEIR ADJUSTMENT TO THE LABOUR MARKET** 5011
*A. Selaya Berodia, D. Seijo Martínez, M. Novo Pérez, R. Arce Fernández, F. Fariña Rivera*

**ORGANIZATION OF E-LEARNING MATHEMATICS AT THE UNIVERSITY** 5019
*M. Artyukhina, T. Erokhina, T. Voronko, A. Savadova, P. Cherkassky*

**EXPLORING HIGH SCHOOL STUDENTS' LEARNING EXPERIENCES IN CRITICAL THINKING THROUGH A DIGITAL ROLE PLAY GAME** 5024
*H.L. Chen, C.T. Wu*

**A GENDER-SENSITIVE STUDY OF LABOUR INTEGRATION IN A SAMPLE OF AN OFFICIAL MASTER'S DEGREE GRADUATES** 5025
*A. Selaya Berodia, M.J. Vázquez, F. Fariña Rivera*

**MEASURING ELEMENTS OF PSYCHOLOGICAL LITERACY IN STUDENTS: COMPARING GENDER, EDUCATIONAL LEVEL AND DISCIPLINE** 5033
*J. Taylor, S. Coady*

**COPYRIGHT PROTECTION OF PHOTOGRAPHIC INFORMATION IN COMPLIANCE WITH THE NEW REGULATIONS OF THE EUROPEAN UNION** 5040
*K. Planska-Simeonova*

**USING THE INNOVATIVE TEXTBOOK "RUSSIAN LITERATURE ON THE SCREEN" IN THE CLASSES OF RUSSIAN LANGUAGE FOR BILINGUAL STUDENTS** 5047
*A. Denisenko, M. Bereznyatskaya, I. Kalinina*

**THE FLIPPED CLASSROOM MODEL IN THE THERMAL ENGINES AND MACHINES AREA: ANALYSIS AND COMPARISON OF EXPERIENCES** 5052
*B. Peña, I. Zabalza-Bribián, S. Usón, E.M. Llera-Sastresa, M. Bailera*

**DEVELOPING NEW MODELS AND EDUCATIONAL APPROACHES SUPPORTING DIGITAL ENTREPRENEURSHIP WITHIN CULTURAL AND CREATIVE INDUSTRIES (CCI)** 5058
*P. Bertola, M. Mortati, A. Taverna*

**DIGITAL PORTALS IN LANGUAGE LEARNING ENCOURAGING STUDENT AUTONOMY** 5068
*L. Wallenius, T. Votkin, S. Sevón*

**PROVOKING SUCCESS: MOTIVATIONAL STRATEGIES IN TEACHING** 5075
*S. Tumskiy, K. Tkachenok*

**IMPACT OF DIGITAL CONTENT BASED UDL COMPLIANT LESSON PLAN ON STUDENTS LEARNING AND ENGAGEMENT** 5082
*N. Gerard, N. Athar, J. Nasir, H. Muhammad Abdullah, M. Waqas Mazhar, A. Khan*

**GROUP DYNAMICS TO IMPROVE TEAMWORK AND COLLABORATIVE COMPETENCIES IN CHEMISTRY STUDENTS** 5088
*C.J. Pelegrín, J.C. Martínez, A. Ortega, D. Torregrosa, V. Torregrosa, M. García, A. Juan, J.J. Villora, Y. Flores, M.C. Garrigós*

**GROUNDING L2 LEARNING IN SOCIAL PRACTICE THEORY: THE VIRGIL2 SERIOUS GAME** 5096
*A. Signa, S. Perna, M. La Rocca, M. Allegra, G. Città, V. Dal Grande, M. Gentile, D. La Guardia, S. Ottaviano*

**EARLY ALERT OF THE ACADEMICALLY AT-RISK ADULT LEARNER IN HIGHER EDUCATION** 5101
*Y.H. Lee, S. Chong, Y.W. Tang*

**SCIENTIFIC RESEARCH IN THE FIELD OF VISUAL COMPETENCY** 5110
*K. Mincheva, K. Planska-Simeonova*

**EDUCATION OF VICTIMS OF DOMESTIC VIOLENCE** 5118
*K. Šmejkalová, J. Šibor, P. Sládek*

**APPROPRIATE LEARNING APPROACHES AND TECHNOLOGIES FOR DISASTER PREPARATION OF THE POPULATION** 5123
*M. Titko, M. Jánošíková, V. Benedik, V. Moricová*

**DIGITAL INNOVATION FOR SOCIAL INCLUSION – AN EUROPEAN PERSPECTIVE ON ICT-BASED SECOND LANGUAGE LEARNING ACTIVITIES** 5129
*G. Cittù, M. Allegra, V. Dal Grande, M. Gentile, D. La Guardia, S. Ottaviano*

**DIGITAL SKILLS FROM SILENT TO ALPHA GENERATION: AN OVERVIEW** 5134
*E. Cirilli, P. Nicolini, L. Mandolini*

**INFORMAL LEARNING IN AN ONLINE CITIZEN SCIENCE COMMUNITY** 5144
*K. Ekman*

**TAKING THE TRADITIONAL RESEARCH PHD ONLINE** 5152
*T. Mazzuchi, S. Sarkani*

**"WE DON'T KNOW HOW TO WORK WITH THE MEDIA OR DEVELOP IT WITH STUDENTS": DISCOURSES AND FEARS FROM THE TEACHERS** 5153
*M.J. Brites*

**EMBODIED REASONING WITH DIGITAL TOOLS IN THE PRESCHOOL ECOLOGY: SCIENCE LEARNING BEYOND DIGITAL/ANALOGUE DICHOTOMIES** 5159
*R. Samuelsson*

**YOUTUBE AS A COMPLEMENTARY LEARNING TOOL TO SUPPORT THE STUDY IN THE FIELD OF THERMAL ENGINEERING** 5164
*I. Zabalza-Bribián, B. Peña, B. Zalba*

**TOOLBOX.ACADEMY: CODING & ARTIFICIAL INTELLIGENCE MADE EASY FOR KIDS, BIG DATA FOR EDUCATORS** 5173
*F. Vico, J. Masa, R. García*

**INTRODUCTION TO PROGRAMMING: PORTRAIT OF HIGHER EDUCATION IN COMPUTER SCIENCE IN PORTUGAL** 5179
*S. Sobral*

**A GUIDELINE FOR PROFESSIONAL COMMUNICATION STUDIES (BASED ON MARKETING DISCOURSE TEXT SOURCES)** 5186
*I. Guseinova, A. Levshits, D. Nakisbayev*

**CRITICAL THINKING IN THE CONTEXT OF ELT CLASSROOM: DEFINING THE NOTION AND DEVELOPING THE SKILL** 5191
*K. Tkachenok, S. Tumskiy*

**20 YEARS OF THE BOLOGNA DECLARATION – A LITERATURE REVIEW ON THE GLOBALISATION OF HIGHER EDUCATION REFORMS** 5196
*S. Diogo, A. Queirós, T. Carvalho, M. Manatos, D. Soares*

**AGILE METHODOLOGY SCRUM: REPORT OF AN EXPERIENCE IN THE FIRST CONTACT WITH PROGRAMMING LANGUAGES IN A UNIVERSITY COURSE OF COMPUTER SCIENCE** 5205
*S. Sobral*

**ARE THE RESULTS OF A BASIC DIAGNOSTIC ASSESSMENT A GOOD INDICATOR OF SUCCESS IN ACADEMIC EVALUATIONS? SPECIFIC CASE OF A STATISTICS INTRODUCTORY COURSE** 5211
*D. Cauchie, M. Bruyninckx, M. Bodart, L. Roinich*

**DEVELOPING MATHEMATICAL THINKING THROUGH EDUCATIONAL ACTIVITIES ON THE GEOBOARD** 5218
*M. Uhlířová*

**VOCATIONAL INTERESTS IN POLISH AND CZECH STUDENTS OF MANAGEMENT WITH REGARD TO GENDER** 5226
*D. Ochnik, I. Blažková*

**CULTURAL DIVERSITY AND SCHOOL INCLUSION: STRATEGIES OF TEACHERS IN BRIDGING CLASSES TO ENSURE EQUITABLE EDUCATION TO NEWCOMER PUPILS** 5232
*D. Cauchie, M. Bruyninckx, S. Salham*

**MATHEMATICAL LITERACY FROM THE POINT OF VIEW OF PRE-PRIMARY SCHOOL TEACHERS** 5240
*M. Uhlířová, D. Cibáková*

**TEACHING AND EVALUATION SOFTWARE TO SUPPORT AN ACCOUNTING HIGHER EDUCATION COURSE** 5247
*H. Costa Oliveira, A. Pereira, A. Vaz*

**BLENDED LEARNING: QUALITY FRAMEWORK FOR A PAN-EUROPEAN UNIVERSITIES NETWORK** 5254
*G. Guri, F. Renouard, G. Pisoni, M. Marchese, M. Vendel, A.R. Wetters*

**ENGLISH IN THE HEALTHCARE SETTING: THE USE OF WORDCLOUD AND QUIZLET WITH PSYCHOLOGICAL PATHOLOGIES** 5263
*B. Bellés-Fortuño, A.I. Martínez-Hernández*

**ESTABLISHING A PSYCHOSOCIAL PROFILE AND CORRELATES OF ACADEMIC PERFORMANCE AMONG SOUTH AFRICAN FIRST-GENERATION STUDENTS** 5272
*M. Pienaar, A. Padmanabhanunni, M. Smith*

**LEARNING ANALYTICS THROUGH THE DIGITAL FOOTPRINT: RESULTS FOR ENGINEERING THERMODYNAMICS SUBJECT** 5281
*M. Bailera, B. Peña, I. Zabalza-Bribián*

**ADDRESSING STEM GEEK CULTURE THROUGH PEER LEARNING** 5289
*I. Vasileiou, P. Haskell-Dowland*

**A BIOREACTOR IN VIRTUAL REALITY AND VIDEO GAMES TO ENHANCE THE LEARNING EXPERIENCE IN BIOPROCESS LABS** 5294
*S. Fisher, E. Polyak, X. Zhang*

**MOVING TO AN ATTENDANCE CONTROL SYSTEM. DOES IT MATTER?** 5304
*A. Asanov, R.P. Lopes, E. Faizova*

**EDUCATORS AND STUDENTS USE CLUES TO HELP IN MATHEMATICAL/STATISTICAL TESTS** 5312
*A. D'Arcy-Warmington*

**PROFESSIONAL SELF-CONCEPT OF THE DOCTORAL STUDENTS OF EDUCATION IN RELATION TO THEIR CRITICAL THINKING AS A FORMATIVE FACTOR** 5318
*I. Koribská, Š. Chudý, J. Kropáč*

**ASSESSING THE RELATIVE IMPORTANCE OF AN E-LEARNING SYSTEM'S USABILITY DESIGN CHARACTERISTICS BASED ON STUDENTS' PREFERENCES** 5325
*A. Alshehri, M. Rutter, S. Smith*

**BUSINESS SIMULATION DESIGN AND CONCEPTION: THE CASE OF THE SCHOOL OF ACCOUNTING AND ADMINISTRATION OF PORTO** 5326
*A. Pereira, A. Vaz, H. Costa Oliveira*

**INCLUSION OF STUDENTS WITH SPECIAL EDUCATIONAL NEEDS IN PRIMARY EDUCATION IN SAUDI ARABIA: STAKEHOLDERS PERSPECTIVES** 5327
*N. Alshalhoub*

**STUDENTS AND THEIR REQUIREMENTS - A SURVEY ABOUT USING E-LEARNING ELEMENTS IN PART-TIME STUDIES** 5331
*T. Rachfall, D. Förster-Trallo, E.E. Zimbelmann*

**STORYTELLING IN TEACHING DIGITAL TECHNOLOGY RELATED COURSES** 5338
*K. Tomičić-Pupek, M. Tomičić Furjan, I. Pihir*

**GLOBALIZATION AND THE PROBLEM OF FOREIGN STUDENTS' INTEGRATION AT A RUSSIAN UNIVERSITY** 5345
*A. Shutaleva, O. Tomyuk, M. Dyachkova, A. Novgorodtseva, E. Ivanova*

**THE INTERNATIONALISATION OF DOCTORAL RESEARCH IN PORTUGAL 1970-2016** 5356
*C. Sin, O. Tavares, D. Soares*

**EXPLORING THE ROLE OF MONTESSORI PEDAGOGY ON STUDENTS IN EARLY CHILDHOOD SCHOOLS WITH SAUDI ARABIA** 5362
*E. Madani*

**NEW HORIZONS IN MUSIC TECHNOLOGY PERFORMANCE EDUCATION** 5363
*R. McLennan, R. Sholer*

**RESILIENCE AS A PRECURSOR TO ACADEMIC SUCCESS** 5367
*B. Van Wyk, M. van Wyk, C. Jacobs*

**INCLUSION OF GENDER PERSPECTIVE IN SUBJECTS OF THE BACHELOR IN MECHANICAL ENGINEERING USING ACTIVE METHODOLOGIES FOR THE DEVELOPMENT OF CARE COMPETENCIES** 5371
*M.I. Tazo, A. Boyano, S. Etxebarria, A. Mesanza, A. Calleja*

**SONGBUD RECORDINGS – A STAFF-LED INCUBATOR OF STUDENT MUSICAL TALENT** 5376
*R. Sholer, R. McLennan*

**STUDENT'S PARTICIPATION IN THE DESIGN PROCESS: A STUDY ON USER EXPERIENCE OF AN EDUCATIONAL GAME-LIKE APPLICATION** 5381
*R. Leitão, M. Maguire, S. Turner*

**DEVELOPING AND REFLECTING TEAMWORK OF TEACHERS BY USING DIFFERENT TEACHING APPROACHES AND METHODS** 5391
*A. Polak*

**HOW ABOUT USING A METAPHOR FOR DESIGN THINKING AND CREATIVITY IN INTERIOR ARCHITECTURAL DESIGN STUDIO?** 5392
*E. Duzgun, H. Duzgun Bekdas*

**DEVELOPMENT AND ENHANCEMENT OF INCLUSION SERVICES AT HIGHER EDUCATION LEVEL** 5400
*I. Josa, C. Farré, I. Gálvez, D. Ferrer-Balas, M. Vilalta, L. Montero*

**IMPLEMENTATION OF DIGITAL TRANSFORMATION IN CURRICULA – INSIGHTS BASED ON ANALYZING LEADING UNIVERSITIES** 5413
*L. Hrustek, A. Kutnjak, M. Tomičić Furjan*

**TEACHER COMPETENCY IN RELATION TO OTHER TEACHER COMPETENCIES IN TEACHING GEOMETRY** 5421
*D. Mamiala, A. Mji, S. Simelane-Mnisi*

**EXPLORING UNDERGRADUATE STUDENTS USE OF A SKILLS DEVELOPMENT APP** 5429
*C. Paine Schofield, G. Brown, V. Nilsson, K. Thompson*

**A BOARD GAME AS A TEACHING TOOL IN A PEDAGOGICALLY PSYCHOLOGICAL PERSPECTIVE** 5437
*A. Strode*

**COORDINATION PROBLEMS IN ENGINEERING DEGREES** 5445
*M. Cortés-Reyes, C. Fernández-Gago, A. Diaz-Zayas, J.M. Rosas*

**BULGARIAN PARENTS' VIEWPOINTS ON DIGITAL DEVICES IN CHILD OF TODAY LIFE. RESEARCH OF CHILDREN'S HABITS OF DIGITAL TECHNOLOGY USAGE** 5450
*L. Parijkova*

**CREATION AND DEVELOPMENT OF BUSINESS THROUGH E-COMMERCE. ACTIVE LEARNING, INNOVATION AND ENTREPRENEURSHIP** 5458
*C. Berne-Manero, M. Marzo-Navarro*

**FEEDBACK-BASED CONTINUOUS IMPROVEMENT MEASURES ON THE USE OF SHORT MATHEMATICAL VIDEOS IN UNIVERSITY EDUCATION** 5465
*M.C. Bas, J.A. Silvestre-Cerdà, R. Sala, R. Meneu, T. Casasús, R. Benítez*

**FOCUS GROUP: A PRACTICAL APPLICATION IN CLASSROOM** 5470
*O. Martins, A. Coelho, J. Costa, T. Felgueira, A. Braga*

**OPPORTUNITIES FOR ACTIVE DESIGN IN SCHOOL ENVIRONMENT FOR PROMOTION OF PUPILS' PHYSICAL ACTIVITY** 5474
*A. Strode, A. Kaupužs*

**EVALUATING THE IMPACT OF FIELD READY: A NEW MODEL OF EMPLOYABILITY FOR STATE INSTITUTIONS IN THE DEVELOPING WORLD** 5483
*J. Playfoot, V. Baker*

**INTEGRATION OF IITU IN THE FIELD OF APPLICATION OF SPACE TECHNOLOGIES IN TELECOMMUNICATIONS** 5490
*A. Aytmagambetov, Y. Daineko, A. Kulakayeva, M. Ipalakova*

**THE BEHAVE APPLICATION: AN EVIDENCE-BASED TOOL TO MANAGE SOCIAL EMOTIONAL BEHAVIOURAL DIFFICULTIES** 5495
*G. Merlo, G. Chiazzese, A. Chifari, A. Mirisola, I. Giammusso, M. Sanches-Ferreira, S. Bilanin, C. McGee, N. Lo Savio, M. van Oort-Hall*

**THE IMPORTANCE AND DEVELOPMENT OF GENERIC COMPETENCIES IN THE BUSINESS MANAGEMENT CURRICULUM AT THE ESTONIAN ENTREPRENEURSHIP UNIVERSITY OF APPLIED SCIENCES** 5503
*P. Einpaul, T. Priestman, T. Õunapuu*

**BUILDING A NEW, ALTERNATIVE LEVEL OF PARTNERSHIP WITH PARENTS THROUGH INTERNET COMMUNICATIONS** 5511
*E. Ivanova, J. Doncheva*

**INTEGRATE INTERACTIVE ICT ON THE TOPIC 'WE LIVE HEALTHY' FROM THE SUBJECT 'AROUND THE WORLD'** 5517
*E. Ivanova, J. Doncheva*

**LEARNING TO LEARN: STRATEGIES OF THER FIRST-YEAR STUDENTS OF PHYSICAL ACTIVITY AND SPORTS** 5523
*L. Vega Ramírez, M.A. Ávalos Ramos, G. Merma*

**HOPE AND ZEST: WHY ARE THEY IMPORTANT FOR TEACHERS?** 5527
*P. Gradišek*

**DETERMINING THE RELEVANCE OF AUTOMATIZED FEEDBACK ON STUDENTS' E-TEST RESULTS IN SUPPORTING TEACHERS TO PROMOTE COMPONENTS OF SCIENTIFIC LITERACY IN THE CLASSROOM** 5528
*T. Rosin, K. Vaino, R. Soobard, M. Rannikmäe*

**RESEARCH OF THE CHALLENGES OF READING IN THE DIGITAL ERA** 5535
*L. Parijkova*

**THE PROBLEM-BASED LEARNING (PBL) APPLIED TO HIGHER PROFESSIONAL TRAINING COURSE** 5542
*A. Coelho, F. Costa, J. Costa, O. Martins*

**BWLEHRPOOL - A JOINTLY MANAGED AND FINANCED INTER-UNIVERSITY IT PROJECT** 5548
*J. Bauer, S. Rettberg, S. Ritter, C. Rößler, D. von Suchodoletz, J. Münchenberg*

**DEVELOPMENT OF A MOODLE-BASED PLATFORM TO AID IN THE LEARNING PROCESS OF CHEMICAL NOMENCLATURE** 5556
*E. Goikolea, U. Uria, S. Pérez-Yáñez, M.L. Carrillo, G. Beobide, J.L. Vicario, I. Ruiz de Larramendi, E. Reyes*

**TEACHING ADVANCED ANALYTICAL CHEMISTRY USING COST EFFECTIVE NANOMATERIALS: A PERSONAL EXPERIENCE** 5561
*J. González-Sálamo, D.A. Varela-Martínez, M.Á. González-Curbelo, J. Hernández-Borges*

**DEVELOPING A LEARNING MODEL THAT ADDRESSES THE REINFORCEMENT OF TEAMWORK AND INFORMATION MANAGEMENT COMPETENCIES OF UNDERGRADUATE BUSINESS STUDENTS** 5568
*A. de Andrés, M. Girotto, L.A. Seguí, A. Arisó, L. Chiaramonte, M.L. Marín*

**HOW TEACH MUSIC BY COMPETENCES: THE RINPAD APPLICATION** 5576
*J.L. Rodríguez-Sánchez, E.M. Mora-Valentín, M. Ortiz-de-Urbina-Criado*

**APPLICATION OF THE QUECHERS METHOD FOR PESTICIDE EXTRACTION FROM FRUITS AS A FINAL DEGREE PROJECT** 5584
*J. González-Sálamo, D.A. Varela-Martínez, M.Á. González-Curbelo, J. Hernández-Borges*

**USING PROBLEM TASKS TO DEVELOP THE PUPIL'S SKILLS IN HIGH SCHOOL MATHEMATICS** 5592
*K. Antoš*

**RAISING THE READINESS FOR USING DIGITAL TECHNOLOGIES IN TEACHING PROCESSES** 5601
*S. Križanić, L. Hrustek, K. Tomičić-Pupek*

**ARE THERE DIFFERENCES BETWEEN MANAGEMENT AND PHYSIOTHERAPY STUDENTS IN VOCATIONAL INTEREST WITH REGARD TO GENDER?** 5608
*D. Ochnik*

**CURRENTLY REQUIRED EDUCATION OF CRISIS MANAGEMENT PERSONNEL** 5614
*V. Moricová, M. Jánošíková, M. Titko*

**PERSPECTIVES OF TEACHING MATHEMATICS USING THE METHOD OF SOLVING PROBLEMS** 5623
*K. Antoš*

**AN ASSESSMENT OF EDUCATIONAL NEEDS OF EMPLOYEES IN ORGANIZATION** 5630
*S. Radovic, K. Bojović*

**"AHA - ADHD AUGMENTED" - PARTICIPANTS' CHARACTERISTICS** 5637
*C. Tosto, T. Hasegawa, G. Chiazzese, R. Treacy, G. Merlo, A. Chifari, E. Mangina*

**THE USE OF THE INSTAGRAM PLATFORM AND TEXT MESSENGERS IN THE CONTEXT OF CONTEMPORARY EDUCATION** 5646
*N. Mammadova, A. Pogrebnaya*

**HOW TO LEARN HAVING FUN: DRAG AND DROP QUESTIONS FOR BUILDING STRUCTURES** 5651
*A. Aznar, J.I. Hernando, J. Antuña, J. Ortiz*

**THE INTEGRATION OF FINANCIAL, ENVIRONMENTAL, SOCIAL AND GOVERNANCE RISKS IN FINANCIAL SUBJECTS IN UNIVERSITY TEACHING** 5657
*M.A. Fernández-Izquierdo, M.J. Muñoz-Torres, J.M. Rivera-Lirio, E. Escrig-Olmedo, I. Ferrero-Ferrero*

**ENGAGING LEARNERS THROUGH EMOTION IN ARTIFICIALLY INTELLIGENT ENVIRONMENTS** 5661
*T. Mehigan, I. Pitt*

**STRATEGIES USED BY TEACHERS TO SUPPORT LEARNING OF LOWER SECONDARY SCHOOL PUPILS FROM EDUCATIONAL TEXT RESOURCES** 5669
*I. Červenková, M. Vaclavik, Z. Sikorová*

**INCREASING KNOWLEDGE GAIN OF UNDERGRADUATE UNIVERSITY STUDENTS BY EMPLOYING ADAPTIVE MULTIMEDIA** 5679
*M. Maddi, T. Bi, M.A. Togou, G.M. Muntean*

**METACOGNITIVE AWARENESS AS THE BASIS OF LEARNER FORMATIVE ASSESSMENT IN DEVELOPING PLURILINGUAL COMPETENCE IN HIGHER EDUCATION** 5686
*N. Macianskiene, V. Bijeikiene*

**INDATA, ENVISIONING & PROTOTYPING INFORMED BY KNOWLEDGE. OPEN-ACCESS DATA PLATFORM TO SUPPORT DESIGN SCENARIOS** 5696
*I. Mariani, S. Parisi, P. Bolzan, M. Stepanovic, M. Invernizzi, L. Varisco*

**A QUANTITATIVE ANALYSIS OF STUDY ABROAD PROCESS EVALUATION** 5706
*K. Kotani, T. Yoshimi, M. Uchida*

**EDUCATIONAL AND PRACTICAL VIEW OF KNOWLEDGE, SKILLS AND EXPERIENCE NEEDED BY A CHIEF DIGITAL OFFICER** 5711
*A. Kutnjak, S. Križanić, I. Pihir*

**RESEARCH OF THE USE OF AUGMENTED REALITY TO DEVELOP THE ABILITY TO ESTIMATE IN STEM EDUCATION** 5719
*L. Korenova*

**THE RESEARCH OF THE PERCEPTION OF PICTURES EVOKING THE FACULTIES OF THE UNIVERSITY OF ŽILINA** 5725
*R. Madleňák, L. Madleňáková, S. Turská, R. Chinoracký, J. Kurotová, D. Hoštáková*

**INTERPRETIVE INVESTIGATION OF THE USE OF AUGMENTED REALITY IN FAMILY ENVIRONMENT WITHIN CHILDREN'S PLAY THROUGH THE OPTICS OF QUALITATIVE METHODOLOGY** 5733
*L. Korenova, D. Kostrub, P. Ostradicky*

**THE USE OF NARRATIVE AS A MEANS TO INVESTIGATE FIRST YEAR STUDENT IDENTITY CONSTRUCTION** 5742
*D. Lees, A. Van Zyl, S. Gravett*

**THE BASE SYSTEM: A SCHOOL-WIDE POSITIVE BEHAVIOUR SUPPORT TOOL TO FACILITATE EVIDENCE-BASED DIGITAL INTERVENTION PRACTICES** 5743
*E. Mariscalco, G. Merlo, G. Chiazzese, A. Chifari, S.L. Goei, E. Mangina, A. Mirisola, I. Giammusso, M. Sanches-Ferreira, P. Denaro, L. Seta*

**SIMULATION OF HONG KONG GREEN DECK WITH VIRTUAL REALITY FOR SUSTAINABILITY EDUCATION** 5751
*Y. Luo, C.H. Au, W.S.L. Fung*

**PEDAGOGICAL PRACTICES IN HIGHER EDUCATION: IMPROVING STUDENTS' COMPETENCES THROUGH CROSS-CURRICULAR PROBLEM-SOLVING ACTIVITIES** 5760
*A.R. Calvão, S. Ribeiro, A. Simões*

**THE HIGHER THE BETTER? ANALYSING SOCIAL MEDIA STRATEGIES IN PORTUGUESE UNIVERSITIES** 5770
*S. Santos, I. Amaral*

**TRAINING IN THE WORKPLACE: STUDENTS' PERCEPTION OF THE BENEFITS AND OBSTACLES DURING INTERNSHIPS** 5775
*S. Filipe, C. Amaral Santos, B. Barbosa*

**THE SELF-REGULATED LEARNING QUALITY ASSURANCE APPROACH TO DESIGNING MOOCS. INSIGHTS FROM THE OPEN VIRTUAL MOBILITY PROJECT** 5784
*G. Tur, I. Buchem, S. Urbina*

**PROJECT BASED LEARNING APPLIED TO BACHELOR'S DEGREE IN ENERGY ENGINEERING** 5794
*I. Marton, S. Gallardo, J.F. Villanueva, A. Sánchez, S. Carlos*

**UNIVERSITY- INDUSTRY COOPERATION AND FIRM'S KNOWLEDGE ABSORPTIVE CAPACITY NEXUS** 5799
*S. Gyamfi, J. Stejskal*

**NURTURING SUCCESS THROUGH PERSONALISED COMMUNICATION** 5806
*C. Kaur, T. Cui, J. Luu*

**APPLICATION OF REAL-TIME SIMULATION SYSTEM IN THE FRAMEWORK OF DIGITAL SIGNAL PROCESSING PRACTICE-COURSE** 5812
*A. Sotnikov, A. Proletarsky, V. Suzev, T. Kim*

**KEY ASPECTS TO THE DESIGN, DEVELOPMENT, DEPLOYMENT AND EVALUATION OF A FULLY DIGITISED UNDERGRADUATE PROGRAMME** 5821
*P. Gagnon, J. Carlstedt-Duke, N. Zary*

**PEER REVIEW SOFTWARE EVALUATION** 5831
*M. Petrov, D. Damyanov, A. Aleksieva-Petrova*

**DEVELOPING A FRAMEWORK TO MAP AND COMPARE IEM PROGRAMMES WORLDWIDE** 5841
*M. Chedid, L. Teixeira, M.J. Rosa*

**REPRESENTING SOLIDS AT LOWER SECONDARY SCHOOL** 5850
*B. Štaifová, M. Kašparová*

**MIXED REALITY ESCAPE ROOM VIDEO GAME TO PROMOTE LEARNING IN INDOOR ENVIRONMENTS** 5857
*A. Gómez-Cambronero, A. González-Pérez, I. Miralles, S. Casteleyn*

**IMPACT OF ONLINE COURSE DISCUSSION ON EDUCATION LEADERSHIP STUDENTS' REFLECTIONS** 5865
*A. Saleh*

**INVISIBLE STUDENT PARTICIPATION IN ONLINE COLLABORATIVE LEARNING: IMPLICATIONS FOR SCAFFOLDING AND ASSESSMENT** 5869
*A. Lazareva*

**ECONNECT - ENHANCING TRANS-NATIONAL LEARNING EXPERIENCE THROUGH THE USE OF INTERACTIVE VIDEOS** 5878
*P. Doyle, D. Lehwaldt, S. Hourican, M. Kelly, M. Glynn*

**INTERGENERATIONAL RADIO AT SCHOOL** 5879
*S. Santos, P. Sacadura, I. Amaral*

**GENDER SENSITIVITY AT UNIVERSITY: A COMPARATIVE APPROACH IN DIFFERENT ECONOMIC, SOCIAL AND POLITICAL CONTEXTS** 5884
*M. Carbonell-Esteller, G. Antuña-Martínez, M.T. Bartual-Figueras, G. Bonilla-Vélez, C. Borderias, M. Borrell, A. Carreras, J. Colomé, A. Escobar, P. Graziano, L. Jorba, P. Morad, J.M. Pujadas, M. Rodríguez, A. Sanz, J. Turmo-Garuz, A. Vives*

**CRITICAL THEORY OF TECHNOLOGY AND PARTICIPATORY DESIGN: IN SEARCH OF A CRITICAL DESIGN PERSPECTIVE IN THE CONSTRUCTION OF A DIGITAL INTERFACE FOR EDUCATION** 5890
*A.L. Oliveira do Amaral, D. França Vieira, M. Peixer Loio, F. Fernandes Soares Neto, T. Camata, V.L. Ferreira, R.Z. Cerny*

**DOES TEACHER'S EDUCATION AFFECT STUDENT PERFORMANCE?** 5899
*K. Murillo, E. Rocha, A. Freitas, C. Pardo*

**ATTITUDE TOWARD EDUCATIONAL VIDEO GAMES: THE ROLE OF ENGAGEMENT** 5909
*J. Martí-Parreño, E. Méndez-Ibáñez, M.J. Miquel-Romero*

**COGNITIVE FOUNDATIONS OF MATHEMATICS LEARNING IN DEAF STUDENTS: A SYSTEMATIC LITERATURE REVIEW** 5914
*L. Marcelino, C. Sousa, C. Costa*

**INDICATORS OF THE CONTRIBUTION OF UNIVERSITY LIFE IN THE PERSONAL, SOCIAL AND PROFESSIONAL DEVELOPMENT OF STUDENTS** 5924
*A.I. Tenjo Morales, A. Otálora Buitrago, C.A. Mutis Barreto*

**DEVELOPING SKILLS IN ENGINEERING CAPSTONE PROJECTS WITH LOW-COST MICROCONTROLLER SOLUTIONS: THE EPS@ISEP EXPERIENCE** 5930
*P. Ferreira, B. Malheiro, M. Silva, J. Justo, P. Guedes, A. Duarte, C. Ribeiro*

**LEARNING ENVIRONMENTS MEDIATED BY CHILDREN´S NARRATIVE TO STIMULATE TRANSITION FROM PRESCHOOL TO PRIMARY** 5934
*A.M. León Rodríguez*

**CHEMICAL ANALYSIS APPLIED TO THE INDUSTRY: A DEMONSTRATIVE EXPERIENCE TO PROMOTE THE INTEREST FOR CHEMICAL ENGINEERING** 5943
*R. Serrat, M. Delgado-Aguilar, Q. Tarrés, H. Oliver, M. Alcalà, P. Mutje*

**IMPROVING ORAL COMMUNICATION AND TEAMWORK SKILLS IN THE FIELD OF THERMAL ENGINEERING** 5948
*S. Usón, I. Zabalza-Bribián, B. Peña, I. Álvarez, E.M. Llera-Sastresa, A. Martínez-Gracia, J. Uche, M. Muñoz*

**ICT AND DEMOCRATIZATION OF EDUCATION IN RURAL CONTEXTS** 5952
*A. Pereira-García*

**STUDENTS' LEARNING AUTONOMY: A SYSTEMATIC LITERATURE REVIEW** 5958
*R.P. Lopes, C. Mesquita, L.A. de Góis, G. dos Santos Júnior*

**MEASURING MOOCS EFFECTIVENESS AS A WAY OF ENRICHING MOOCS DESIGNING** 5965
*P. Pekker*

**A CROSS BORDER PROJECT TO KNOW DIFFERENT WAYS TO EVALUATE COMPETENCES IN HIGHER EDUCATION** 5972
*M. Alcalà, J. Tresserras, L. Albó, F. Julián, X. Espinach*

**STUDENTS SUPPORT IN HIGHER EDUCATION: AN EXPERIENCE WITH MENTORS** 5977
*L. Escoda, J. Planella, J.J. Suñol*

**E-LEARNING RESOURCES FOR MIGRANTS AND REFUGEES: EXPERIENCE FROM FIELD TRIALS IN ITALY** 5983
*V. Damiani, G. Agrusti*

**FROM RESEARCH TO TEACHING. APPLYING PELTIER EFFECT-BASED TEST BENCH FOR EXPLAINING MAIN CONCEPTS OF THERMAL ENGINEERING** 5990
*S. Usón, J. Uche, A. Martínez-Gracia*

**BRIDGING THE GAP BETWEEN ART AND SCIENCE: AN INTERDISCIPLINARY APPROACH TO THE TEACHING OF MUSIC AND MATHEMATICS WITH PRE-SERVICE TEACHERS** 5991
*E. Martínez-Jiménez, F.J. Cuadrado-Méndez, P. Gómez-Rey*

**ACADEMIC PERFORMANCE AND EDUCATIONAL VIDEO GAMES: DOES GENDER MATTER?** 5999
*J. Martí-Parreño, M.J. Miquel-Romero, E. Méndez-Ibáñez*

**A STUDY OF LEARNING SATISFACTION WITH A MULTI-SENSORY MEDIA DELIVERY SYSTEM** 6004
*T. Bi, M. Maddi, F. Silva, G. Rozinaj, G. Muntean*

**DESIGN AND STUDENT PERFORMANCE ANALYSIS FROM A BLENDED/FLIPPED CLASSROOM INTRODUCTORY CHEMISTRY COURSE** 6010
*S. Sambasivan, D. Williams, C. Foley*

**DESIGN THINKING IN HIGHER EDUCATION** 6016
*E. Kovatcheva, J.A. Campos, J.L. Del Val Roman, G.P. Dimitrov, P. Petrova*

**CURRENT STATE OF DEVELOPMENT OF READING PRE-LITERACY IN KINDERGARTEN** 6021
*D. Cibáková, M. Uhlířová*

**HOW HANDHELD DEVICES TRANSFORM, AUGMENT AND REINFORCE UNIVERSITY STUDENT'S STUDY HABITS: EMERGING THEMES FROM A THREE-YEAR STUDY** 6028
*S. Cross*

**COMPARATIVE STUDY OF THE BULGARIAN OPEN ACCESS JOURNALS IN DOAJ FOR THE PERIOD 2002-2018** 6035
*T. Trencheva, S. Dimitrova*

**SOCIAL ANXIETY – AN INCREASING CHALLENGE FOR EDUCATORS** 6045
*T. Drange, N. Van Wyk*

**THE TESS-INDIA PROGRAMME: STIMULATING AND SUPPORTING NEW TEACHING PRACTICE AND EFFECTIVE OER USE AT SCALE** 6052
*S. Cross, F. Wolfenden, L. Adinolfi*

**PUPIL´S QUESTION IN RELATION TO TEACHER'S INSTRUCTION STRATEGY** 6055
*M. Pavelková*

**E-CONTENT – INTELLECTUAL PROPERTY ASPECTS** 6061
*S. Dimitrova*

**INTERTEXTUAL COMPETENCE: AN EXPERIMENTAL STUDY OF ADVANCED L1 RUSSIAN LEARNERS OF ENGLISH** 6066
*O. Blinova*

**MOVING LARGE LECTURES TO COLLABORATIVE LEARNING IN NEWLY DESIGNED CLASSROOMS** 6070
*M. Bode, J. Ross*

**A PROPOSAL OF AN EDUCATIONAL SUPPORT WEB SYSTEM AND SAMPLE PROBLEMS IN JAVA PROGRAMMING EXERCISES FOR OBJECT-ORIENTED DEVELOPMENT BY STEPWISE REFINEMENT** 6071
*R. Ishii, K. Tsuji, H. Tominaga*

**STUDENTS' NETWORKING AND ACADEMIC PERFORMANCE: AN ANALYSIS USING SOCIAL NETWORKS MEASURES** 6077
*A. Pelaez-Verdet, J. Garcia-Mestanza, M.J. Carrasco-Santos, E.I. Gonzalez-Guerrero*

**INTELLECTUAL PROPERTY MANAGEMENT IN DIGITIZATION AND DIGITAL PRESERVATION OF CULTURAL HERITAGE** 6082
*T. Trencheva, E. Zdravkova*

**VIDEOS FOR LEARNING PHYSICS: LABORATORY, YOUTUBE** 6088
*M. Soler, L. Escoda, J. Planella, J.J. Suñol*

**SMARTIFYING DESIGN ICONS: A WORKSHOP TO IMPROVE UX IN DESIGN PRODUCTS BY SMART MATERIAL INTEGRATION** 6092
*F. Papile, R. Santi, B. Del Curto*

**PARTICIPATORY DESIGN EVENTS TO REACTIVATE URBAN NEIGHBORHOODS: A SOCIAL-DRIVEN EXPERIMENTATION IN THE NOLO DISTRICT OF MILAN** 6102
*F. Vergani*

**DIGITAL MATURITY MODEL FOR BULGARIAN HIGHER EDUCATION INSTITUTIONS** 6111
*R. Doneva, S. Gaftandzhieva, G. Totkov*

**DEVELOPING ENGINEERING COMPETENCES APPLYING THE FACTORY LEARNING METHODOLOGY UNDER THE NEW TEC21 EDUCATIONAL MODEL** 6121
*D. Navarro-Durán, M.J. Ramírez-Cadena, J. Membrillo Hernandéz*

**TECHNOLOGY-ENHANCED LEARNING IN A TEACHER EDUCATION UNIVERSITY: DESIGN AND DEVELOPMENT OF INNOVATIVE ONLINE EXPERIMENTS AND RELATED COURSEWARE FOR STEM EDUCATION** 6127
*C.K. Chan, C.C. Cheang, D. Sun, K.M. Tsang, Y.Y. Yeung*

**NEW TECHNOLOGICAL TRENDS IN ENGLISH LANGUAGE LEARNING** 6134
*M. Goksu, N. Cavus*

**PRINTED AND DIGITAL TEACHING AND LEARNING RESOURCES USED BY LOWER SECONDARY SCHOOL PUPILS** 6140
*Z. Sikorova, M. Vaclavik, I. Cervenkova*

**PILOTS RESULTS: USAGE AND LESSON LEARNT WITHIN THE FIRST PILOTS IN EUROPE** 6148
*M. Grammatikou, D. Pantazatos, I. Barth, A. Corleto, N. Sansone, M. Zimniewicz*

**THE EXPERIENCE OF MASS EDUCATION OF UNIVERSITY TEACHERS IN NEW INFORMATION TECHNOLOGIES AND THE CREATION OF ELECTRONIC COURSES IN LMS MOODLE** 6154
*L. Apakina, E. Lotova*

**SOCIAL RESPONSIBILITY IN HIGHER EDUCATION INSTITUTIONS IN PORTUGAL: THE MISSING LINK BETWEEN EXPECTATIONS, PERCEPTIONS AND PRACTICES** 6159
*S. Gomes, M. Nogueira, F. Serra, A. Esgaio*

**EFFECTIVENESS OF TEACHING METHODS IN INVOLVING STUDENTS: PRACTICAL DIGITAL EXPERIENCES AND GAMIFICATION** 6169
*F. Diez*

**PERSONAL EXPERIENCE AND THE CONSTRUCTION OF KNOWLEDGE: THE CASE OF UNDERGRADUATE TOURISM MANAGEMENT STUDENTS** 6177
*L. Ochoa Siguencia, P. Halemba, D. Herman, Z. Gródek-Szostak*

**THE INCLUSION OF ROMA LITERATURE INTO SCHOOL ACTIVITIES IN HUNGARIAN IN SLOVAKIA** 6186
*Ž. Bárcziová, G. Tóthová*

**CROWDSOURCING SOLUTIONS FOR SUPPORTING COLLABORATIVE LEARNING: A CASE OF UNDERGRADUATE MANAGEMENT STUDENTS** 6192
*L. Ochoa Siguencia, A. Checinska-Kopiec*

**PROFESSIONAL DEVELOPMENT FOR SCHOOL LEADERS: A FOCUS ON SOFT AND DIGITAL SKILLS** 6200
*A. Makri, D. Vlachopoulos*

**THE INFLUENCE OF FOREIGN LANGUAGE TEACHERS' PECULIARITIES ON THEIR ICT-COMPETENCE TRAINING** 6210
*N. Yesenina*

**IMPROVING TEACHERS VISUAL PRESENTATIONS WITH SIMPLICITY, CLARITY AND BREVITY** 6218
*F. Ramos, D. Iskandaryan, A. Gomez-Cambronero*

**DEVELOPMENT PROSPECTS OF E-LEARNING MODULES AT PORTAL OF UNIVERSITIES** 6225
*D. Tothova, D. Orszaghova, R. Hornyak Greganova, J. Fabus*

**NUTRITIONAL EDUCATION: A TEACHING LEARNING SEQUENCE ABOUT CELIAC AND GLUTEN FOR PRIMARY SCHOOL CHILDREN** 6233
*M. López-Pérez, S. Piñeiro-Fernández, A. Lasa, M. Bustamante, O. Martínez, J. Miranda, I. Larretxi, E. Simón, I. Txurruka, V. Navarro*

**LEARNING BY DOING? THE CHALLENGE OF SUPERVISING INTERNATIONAL MASTER AND PHD STUDENTS** 6241
*B. Lopes, S. Diogo*

**TAKING THE NEXT STEP – INTERNSHIPS AND MENTORING TO PROMOTE THE TRANSITION OF YOUNG ADULTS INTO THE JOB MARKET: SAPIR ACADEMIC COLLEGE AS A CASE STUDY** 6248
*R. Miller*

**BACKGROUND AND CURRENT SITUATION OF LITERACY OF ROMA PEOPLE IN SLOVAKIA** 6254
*Ž. Bárcziová, G. Tóthová*

**THE IMPACT OF THE WILDLIFE NEWTON VIRTUAL REALITY APPLICATION AND VIRTUAL LAB ON KNOWLEDGE ACQUISITION IN STUDENTS WITH SPECIAL EDUCATIONAL NEEDS** 6260
*M. Bratu, D. Caraman, M. Garabet, I. Ghergulescu, C.H. Muntean*

**NUTRITIONAL EDUCATION: A GLUTEN-FREE COOKING WORKSHOP FOR FAMILIES** 6268
*S. Piñeiro-Fernández, M. López-Pérez, I. Larretxi, J. Miranda, E. Simón, A. Lasa, M. Bustamante, O. Martínez, V. Navarro, I. Txurruka*

**EXPLORING VIRTUAL REALITY TO IMPROVE ENGINEERING STUDENTS' SPATIAL ABILITIES. PILOT STUDY** 6275
*F. Alpiste Penalba, J. Torner Ribé, M.A. Brigos Hermida*

**A COMPLEX INSTRUMENT FOR MEASURING THE COMPONENTS OF GYMNASIUM STUDENTS' BIOLOGICAL LITERACY** 6285
*H. Semilarski, A. Laius*

**PRO EDUCATE PROGRAMME: EFFECTIVE PRACTICES TO PROMOTE EDUCATIONAL SUCCESS AND AVOID SCHOOL EARLY LEAVING** 6294
*B. Bellés-Fortuño, V. Garrido-Campos*

**INTRODUCTION TO INTERACTIVE COURSE NOTES IN EDBOOK** 6301
*B. Magnusson*

**THE USE OF THE PROBLEM TREE METHOD TO FIND AND SOLVE NEGATIVE SITUATIONS IN THE EDUCATIONAL SYSTEM** 6307
*D. Popa, G.M. Moraru*

**GRADE 8 AND 11 STUDENTS´ SCIENCE AND SCIENCE-RELATED CAREER PROFILES** 6312
*H. Semilarski, R. Soobard, J. Holbrook, M. Rannikmäe*

**APPLICATION OF TRIZ FOR DEVELOPMENT OF A SUSTAINABLE EDUCATION SYSTEM** 6320
*C. Cloete, J. Spies*

**TRADITIONS AND OPPORTUNITIES FOR BIBLIOTHERAPY IN BULGARIA** 6326
*S. Eftimova*

**EVALUATION OF THE QUALITY OF HIGHER EDUCATION STUDENTS BY EMPLOYERS: THE CASE OF THE TOURIST DESTINATION IN JARDINES DEL REY, CUBA** 6331
*D. García-Hurtado, R. Naranjo-Pérez, C. Devece*

**INSTITUTIONAL RESPONSES TO ENHANCE HUMAN CAPABILITIES THROUGH UNIVERSITY LIFE** 6336
*A.I. Tenjo Morales, A. Otálora-Buitrago, C.A. Mutis Barreto*

**LIBRARIES FOR THE FUTURE: THE ROLE OF THE LIBRARY MANAGER** 6340
*S. Eftimova*

**RELATION BETWEEN MOTIVATION, METACOGNITION AND COGNITIVE PERFORMANCE** 6345
*N. Lara, M.A. Pérez Nieto*

**USER-ORIENTED INTRODUCTION OF A DIGITAL LEARNING PLATFORM AT RWTH AACHEN UNIVERSITY: A FIELD REPORT OF FIRST-LEVEL SUPPORT** 6346
*S. Kubiak, S. Grzemski*

**INNOVATING IN STEM: A FOUR-PHASED LEARNING DYNAMICS IN PROBABILITY** 6356
*S. Belope-Nguema, M.A. Medina-Sánchez*

**CONTRIBUTION FROM THE BALANCED SCORECARD IMPLEMENTED AT THE UNIVERSITY OF CIEGO DE ÁVILA TO THE SUSTAINABLE DEVELOPMENT OF THE TERRITORY** 6363
*D. García-Hurtado, R. Naranjo-Pérez, C. Devece*

**HOW DO TEACHERS INTEGRATE DIGITAL MEDIA INTO PEDAGOGICAL ACTION AND PROFESSIONAL SELF-IMAGE?** 6369
*T. Vogel, G. Marci-Boehncke*

**INNOVATIVE ONLINE EXPERIMENTS FOR STEM EDUCATION IN CHINA: DESIGN AND DEVELOPMENT AND EVALUATION OF STUDENTS' LEARNING** 6377
*C. Xu, J.J. Wang, D. Sun, K.M. Tsang, Y.Y. Yeung*

**ALIGNMENT OF TECHNOLOGIES IN ACCOUNTING EDUCATION** 6378
*N. Rhodes*

**SHARED LEARNING DATA ALLOWING BLENDING OF A VARIETY OF TOOLS AND A CENTRAL POINT OF DATA COLLECTION** 6386
*S. Lariccia, G. Toffoli*

**SMART CITIES AND COMMUNITIES (SMACCS), AN ERASMUS MUNDUS JOINT MASTER DEGREE WITH PRELIMINARY FIRST YEAR PREPARATORY RESULTS TOWARDS A FUTURE SUCCESSFUL IMPLEMENTATION** 6395
*C. S. Ioakimidis*

**ACTIVE LEARNING IN ENGINEERING - MEXLE, AN OPEN SOURCE LAB-IN-A-BOX SYSTEM FOR STUDENTS IN ELECTRICAL ENGINEERING, ELECTRONICS, SIGNAL PROCESSING AND PROGRAMMING CLASSES** 6405
*G. Gruhler, T. Fischer, J.F. Kemadjou, L. Wildermuth*

**THE WORM HAS TO TASTE TO THE FISH, NOT TO THE ANGLER! THE STUDENT-CENTERED "SUSAN"-CONCEPT FOR LEARNING** 6411
*G. Gruhler, T. Fischer, L. Wildermuth, J.F. Kemadjou*

**EDUCATING THE EYE IN THE TEACHING OF THE ARCHITECTURAL PROJECT** 6421
*M.I. Alba Dorado*

**STRATEGIES OF SEDUCTION IN THE TEACHING OF THE ARCHITECTURE PROJECT** 6427
*M.I. Alba Dorado*

**THE READING COMPREHENSION OF HUNGARIAN MINORITY STUDENTS IN SECONDARY GRAMMAR SCHOOL IN SLOVAKIA** 6432
*K. Kázmér, I. Vančo*

**TEACHING QUALITY AND STUDENT SATISFACTION FEEDBACK SURVEY IN MICROBIOLOGY AT JESSENIUS FACULTY OF MEDICINE IN MARTIN** 6439
*V. Sadlonova, N. Malinovska, P. Pitlova*

**THE USE OF ART AND TECHNOLOGY IN EDUCATION** 6448
*M.R. Ripoll*

**AUTHENTIC GAMES AS A TOOL OF ORGANIZATION OF INFORMAL LANGUAGE EDUCATION AT JUNIOR SCHOOL AGE** 6453
*A. Dubakov, J. Olar*

**A CASE STUDY EXAMINING THE COST MEASUREMENTS IN PRODUCTION AND DELIVERY OF A SMALL PRIVATE ONLINE COURSE (SPOC) FOR TEACHING ADMINISTRATIVE STAFF TO ENGAGE WITH YOUNG PATIENTS** 6458
*E. Meinert, J. Eerens, C. Banks, J. Car*

**SPORT, DUAL CARRIERS AND EDUCATION: THE E-LEARNING WAY** 6467
*P. Bouquet, A. Molinari*

**SHOULD TEACHER OBSERVATIONS AND APPRAISALS BE DIRECTLY ALIGNED WITH WHAT YOU WANT TO SEE IN THE CLASSROOM…. OF COURSE THEY SHOULD! A BALANCED APPROACH TO TEACHER OBSERVATIONS AND APPRAISALS** 6474
*M. Kammer*

**PLAYING TOGETHER – THE CHALLENGE FOR PRESCHOOL TEACHERS** 6475
*A. Klimentova, S. Grofcikova, M. Macajova, T. Turzak, V. Kurincova, E. Mendelova*

**OERS FOR SECONDARY EDUCATION: A CHANCE FOR TEACHERS TO BROADEN THEIR HORIZONS** 6480
*M. Marchisio, S. Rabellino, M. Sacchet, D. Salusso*

**E-MENTORING, E-TUTORING, AND E-COACHING IN LEARNING ORGANIZATIONS** 6488
*S. Barnová, S. Krásna, G. Gabrhelová*

**LMS DATA COLLECTION, PROCESSING AND COMPLIANCE WITH EU GDPR** 6494
*A. Aleksieva-Petrova, I. Chenchev, M. Petrov*

**SYMMETRIC POLYNOMIALS AS ENRICHMENT OF HIGH SCHOOL MATHEMATICS TEACHING** 6502
*J. Vysoká*

**GOOGLE SCHOLAR: A NEW OR JUST ANOTHER TOOL TO BE USED ON FACULTY RECRUITMENT AND RESEARCH QUALITY ASSESSMENT?** 6506
*C. S. Ioakimidis, D. Savvidis*

**SCHOOLS, MUSEUMS, AND YOUNG AUDIENCES: UNDERSTANDING THE EDUCATIONAL ROLE OF MUSEUMS IN THE 21ST CENTURY USING CASE STUDIES FROM GERMANY AND INDIA** 6507
*H.H. Insaf*

**EXAMPLES OF INCLUSION OF MOTIVATIONAL TASKS IN MATHEMATICS TEACHING** 6515
*J. Vysoká*

**ENHANCING LEARNING EXPERIENCE OF CHILDREN WITH HEARING IMPAIRMENTS WHEN EXPOSED TO NEWTON SEALIFE VIRTUAL REALITY APPLICATION** 6519
*M. Bratu, D. Caraman, M. Garabet, I. Ghergulescu, C.H. Muntean*

**ASSESSMENT OF QUANTITATIVE AND AUTOMATED RUBRICS AS LEARNING TOOL IN ENGINEERING THERMODYNAMICS** 6527
*B. Peña, M. Bailera*

**FUTURE TEACHERS' CONCEPTIONS ON READING - A CASE STUDY** 6534
*D. Melão*

**E-LEARNING IN THE MIDDLE EAST AND NORTH AFRICA (MENA) REGION: REVIEW OF TRENDS FROM THE FIRST COMPREHENSIVE REGIONAL HANDBOOK** 6544
*A. Weber*

**ENHANCING GRADUATENESS AND EMPLOYABILITY IN ACCOUNTING STUDENTS THROUGH THE INTEGRATION OF INFORMATION AND COMMUNICATION** 6550
*N. Rhodes, R. Rhodes*

**EXPLORING STUDENT-CENTRICITY IN CURRICULUM DEVELOPMENT** 6559
*S. Taimela*

**THE STRENGTHENING OF VALUES AMONG THE STUDENTS OF THE ACCOUNTING FACULTY OF THE UNIVERSIDAD VERACRUZANA IN VERACRUZ AS A BASIS FOR THEIR INTEGRAL PROFESSIONAL TRAINING** 6564
*C.P. Garrido Vargas, H. Zizumbo Ramirez, M.E. Senties Santos, G. Ruiz Blanco, C. Ruiz Garrido, Z.L.A. Fernández Arrazola*

**UNIVERSITY MUSEUM AS A STRUCTURAL ELEMENT OF THE SOCIAL AND CULTURAL ENVIRONMENT OF THE UNIVERSITY** 6569
*I. Yurkin, S. Kalita, I. Lapshin*

**ASSESSMENT OF THE IMPACT SELECTED FACTORS HAVEN ON THE EXPECTATIONS OF FULL-TIME STUDENTS – A CASE STUDY** 6574
*E. Spigarska, E. Majerowska*

**IMPACT OF OPEN ENROLLMENT IN COURSE-BASED UNDERGRADUATE RESEARCH EXPERIENCES WITH AT-RISK STUDENT POPULATIONS** 6580
*L. Echegoyen, S. Aley, J. Garza, C. Ramos, S. Oviedo, G. Corral*

**INTRODUCING PORTABLE DIGITAL DEVICES INTO SCIENCE MUSEUM OUTREACH ACTIVITIES: HOW DIVERSE CAN IT BE?** 6589
*E. Reis, A. Colaço, C. Miguel, F. Dias, J. Oliveira, L. Gonçalves, M. Rodrigues, T. Gomes, C. Veiga-Pires*

**CITIZEN SEISMOLOGY IN THE CLASSROOM AND BEYOND** 6598
*D. Tataru, B. Zaharia, E. Nastase*

**STUDENT SUPPORT AND MOTIVATION: TUTORING, COACHING, AND SUPPORTING STUDENTS IN THE 21ST CENTURY** 6599
*O. Torian*

**COUNTERACTING ABUSE IN MEDICAL EDUCATION AND PRACTICE: LESSONS FROM LITERARY THEORIES OF HUMOR AND SATIRE** 6604
*A. Weber*

**LEARNING ABOUT STEAM THROUGH THE RESOLUTION OF REAL PROBLEMS AND THE INVOLVEMENT OF LOCAL STAKEHOLDERS** 6609
*I. Menchaca Sierra, P. Doran*

**PERSPECTIVES OF CURRICULAR FLEXIBILITY IN HIGHER EDUCATION INSTITUTIONS. CASE: FACULTY OF ACCOUNTING IN UNIVERSIDAD VERACRUZANA IN VERACRUZ** 6614
*H. Zizumbo Ramirez, C.P. Garrido Vargas, M.E. Senties Santos, M. Fragoso Terán, C. Ruiz Garrido, S. Flores Aguilar*

**THE RELATION BETWEEN ORTHOGRAPHY AND PRONUNCIATION VIEWED BY THE LEARNERS OF ENGLISH** 6621
*H. Vancova*

**INTEGRATED METHODOLOGY FOR THE DEVELOPMENT OF COMMUNICATION SKILLS OF MEDICAL POSTGRADUATES** 6626
*N. Olkhovik, A. Vozdvizhenskaya, E. Lipatova*

**ENTHUSED FOR ENGINEERING – A ROBOT COMPETITION TO PROMOTE STEM INTERESTS IN HIGH SCHOOL STUDENTS** 6634
*M. Spreng, M. Knopp, I. Heiser*

**NEW FOCUS FOR A NEW UNDERGRADUATE DEGREE PROGRAM: STRATEGIC COMMUNICATION** 6643
*B. Wiggins*

**ACCOUNTING TEACHING METHODS IN THE PROFESSIONAL ETHICS ASPECT – EXAMINATION OF HIGH-SCHOOL STUDENTS' OPINIONS** 6644
*E. Spigarska, G. Bucior*

**THE ROLE OF HEI BRANDS AS KEY DRIVERS FOR STUDENTS AND RECRUITERS' CHOICES IN A COMPETITIVE MARKETPLACE: EXPLORING BRAND ATTRIBUTES AS PERCEIVED BY STAKEHOLDERS (INSTITUTION, STUDENTS AND RECRUITERS)** 6651
*M. Noite, M. Nogueira*

**THE IMPORTANCE OF INNOVATION IN SLOVAKIA** 6661
*M. Drahošová, A. Šturmankin*

**SOFT SKILLS FOR A SUCCESSFUL CAREER: THE MODEL OF BRAIN GAMES** 6666
*I. Kacane, Z. Badins, A. Romanovska*

**ELECTROENCEPHALOGRAPHIC RESPONSE OF E-LEARNING TASKS ON A LEARNING MANAGEMENT SYSTEM: AN EMOTIONAL AND COGNITIVE APPROACH** 6675
*F. Rejón-Guardia, M.A. García-Sastre, M. Alemany-Hormaeche*

**ANALYSIS OF CONCEPTION IN PHYSICS IN TECHNICAL UNIVERSITIES** 6681
*P. Hockicko, G. Tarjanyiova*

**ENERGY INTELLIGENCE SCHOOL PROJECT IN COLLABORATION WITH THE COMMUNITY** 6687
*C. Jaume Tugores, I. Menchaca Sierra, M. Ramis Barceló*

**ANAPHORIC CONNECTIVE DATABASE** 6692
*K. Rysová, M. Rysová*

**E-LEARNING, PROFESSIONAL TRAINING, AND DIGITAL TOOLS: NEW OPPORTUNITIES FOR STUDENTS OF ALL AGES** 6701
*L. Kazantseva, P. Nicolini, E. Cirilli*

**UP TO UNIVERSITY PROJECT PILOT OUTCOMES FROM LITHUANIA: ANALYSIS OF GATHERED DATA AND LESSONS LEARNT** 6708
*G. Cibulskis, A. Urbaityte*

**IMPROVING STUDENTS' TPACK THROUGH LEARNING LABS: THE IMPLEMENTATION OF ICHEMLAB AND STEAM MAKERSPACE** 6718
*S. Lukas, W. Müller, J. Huwer, C. Drüke-Noe, I. Koppel, S. Rebholz, J. Stratmann, F. Theilmann, H. Weitzel*

**STUDY PROCESS VISUALIZATION IN MOODLE** 6727
*L. Ulmane-Ozolina, I. Magazeina, A. Jansone*

**THE GAME AS A NECESSARY COMPONENT OF E-LEARNING MATERIALS FOR CHILDREN** 6733
*A. Miftakhova, V. Yapparova*

**LESSON LEARNED FROM DESIGN, DEVELOPMENT AND LARGE SCALE IMPLEMENTATION OF EDUCATION TEACHER TRAINING OF AN OPEN SOURCE LMS, USING THIS LMS** 6737
*I. Papantoni, C. Pierrakeas, K. Dragogiannis*

**ANALYSIS OF APPLIED MOBILE TECHNOLOGIES IN UNIVERSITY MATH EDUCATION** 6744
*L. Korenova, T. Barot, R. Krpec, I. Veress-Bagyi*

**ANALYSIS OF THE MAIN WEAKNESSES OF UNIVERSITY STUDENTS REGARDING THE "EFFECTIVE ORAL COMMUNICATION" STUDENT OUTCOME** 6749
*M.C. Bas, M.J. Lerma-García, N. Matarredona-Desantes, R. Oltra Badenes, E. Pérez-Esteve, J.A. Silvestre-Cerdà*

**MULTICULTURAL EDUCATIONAL SPACE AS A FACTOR OF PSYCHOLOGICAL WELL-BEING IN INTERPERSONAL RELATIONS** 6755
*G. Kameneva, M. Rushina, Y. Anisimova*

**COHERENCE ERRORS IN LEARNERS' ESSAYS AND A POSSIBILITY OF THEIR IMPROVEMENT THROUGH EVALD (AUTOMATED EVALUATOR OF DISCOURSE)** 6761
*M. Rysová, K. Rysová, J. Mírovský, M. Novák*

**ENHANCING TEAM WORK QUALITY USING POSITIVE PSYCHOLOGY AND A SUPPORTING SMARTPHONE APPLICATION** 6769
*K. O'Sullivan, J. O'Mullane, D. O'Sullivan*

**INTERACTIVE AUDIOVISUAL RESOURCES OF MINIATURISED EXTRACTION TECHNIQUES IN CHEMISTRY DEGREE FOR PRACTICAL PURPOSES** 6777
*B. Socas Rodríguez, R. Rodríguez Ramos, Á. Santana Mayor, M.Á. Rodríguez Delgado*

**FACTORS INFLUENCING THE PLANNING OF TEACHING** 6783
*K. Papoušková, M. Telecký*

**MODELING THE EDUCATIONAL PATHS FOR FUTURE STAFF MEMBERS OF INDUSTRIAL ENTERPRISES ON THE BASIS OF LONG-TERM AND MEDIUM-TERM WORKFORCE PLANNING** 6789
*V. Andreev, J. Yeleneva, K. Yelenev, S. Chervenkova, E. Yeleneva*

**SCHOOL MILIEU AS A SOURCE OF PERCEIVED SOCIAL SUPPORT AND SELF-EVALUATION OF STUDENTS WITH DYSLEXIA** 6796
*U. Gosk, I. Kucharczyk*

**EDUCATION IN THE STATE LANGUAGE: PROBLEMS AND NECESSARY SOLUTIONS IN PRE-SCHOOL EDUCATION INSTITUTIONS** 6802
*D. Markus, T. Zirina, K. Markus*

**TOWARDS NEW EXPERIENCES FOR INTERNATIONAL COOPERATION: A MULTIDISCIPLINARY ICT AND BUSINESS INTERNATIONAL PROJECT** 6808
*I. Seruca, K. Suilen, L. Wijgergangs*

**INITIATION IN GREEN CHEMICAL PROCEDURES IN ANALYTICAL CHEMISTRY. A NEW APPROACH FOR PRACTICAL SUBJECT** 6815
*B. Socas Rodríguez, Á. Santana Mayor, R. Rodríguez Ramos, M.Á. Rodríguez Delgado*

**THE ROLE OF CONFIDENCE IN SUCCESSFUL PROFESSIONAL ACTIVITY OF TEACHERS** 6823
*M. Rushina, G. Kameneva*

**LEARNING PLATFORMS AND THEIR SIGNIFICANCE IN MODERN SOCIETY** 6830
*T. Misik, J. Stofkova, K. Repkova Stofkova*

**CREATING A SOCIAL COMMUNITY TO DIGITALLY ENGAGE UNPAID CAREGIVERS THROUGH ONLINE RESOURCES** 6837
*D. Hanna, K. Newman, Z. Wang, H. Wang*

**BUILDING INTERACTIVE NARRATIVES: CHARACTERS, STORIES AND IN-BETWEENS. EXPERIMENTATIONS AND CRITIQUE** 6844
*I. Mariani, M. Ciancia*

**STEM IN HIGHER EDUCATION: THE USE OF AN ADVANCED COMPUTING ENVIRONMENT TO DEVELOP FUNDAMENTAL SKILLS FOR UNIVERSITY CAREER AND THE WORLD OF WORK** 6854
*A. Barana, C. Fissore, M. Marchisio*

**FLIPPED CLASSROOM: TECHNOLOGICAL TEACHING AND LEARNING METHODOLOGY IN UNIVERSITY** 6864
*P. Santillán-Aguirre, V.C. Cadena-Vaca, D. Olmedo-Vizueta, R. Santos*

**E-ASSESSMENT TOOLS USED IN A B-LEARNING COURSE IN PHARMACEUTICAL SCIENCES POST-GRADUATE COURSE** 6873
*J. Marto, N. Oliveira, N. Pedro, H. Ribeiro*

**THE BUSINESS PROCESS MANAGEMENT IN UNIVERSITY ENVIRONMENT TO SUPPORT THE INNOVATIONS IN EDUCATION** 6878
*P. Balco, M. Drahosova, P. Linhardt, M. Gregus*

**E-LEARNING AS A SUPPORTIVE FORM OF EDUCATION AT UNIVERSITIES** 6879
*K. Repkova Stofkova, Z. Stofkova, P. Pitlova*

**INNOVATION INCUBATOR SCHOOLS: EXAMPLES OF GOOD PRACTICE** 6886
*I. Menchaca Sierra, M.L. Guenaga*

**STRENGTHENING THE LINKS BETWEEN RESEARCH AND EDUCATION THROUGH A STEM SUMMER SCHOOL PROGRAM** 6891
*D. Tataru, A. Popovici, B. Popovici, C. Mironov, M. Straticiuc*

**TEACHING PARASITE CULTURE THROUGH E-LEARNING INCORPORATING DIGITISED 2D AND 3D PARASITE IMAGES** 6892
*A. Peña-Fernández, S. Llorens, C. Hurtado, F. Izquierdo, M.J. Pozuelo, S. Fenoy, C. Young, M.D. Evans, M.D. Ollero, C. Del Aguila, A. Magnet*

**THE DRAMATIZATION IN THE CLASSROOM, IN A CONTEXT OF HIGHER EDUCATION, AS A RESOURCE TO PROMOTE SOCIAL, PSYCHOLOGICAL, EDUCATIONAL AND COMMUNICATIVE COMPETENCES IN THE STUDENTS** 6897
*L. Bruno, H. del Castillo*

**CHILDREN WITH DISABILITIES AS SOCIAL PARTNERS IN THE PERCEPTION OF KAZAKH PARENTS AND THEIR CHILDREN** 6901
*L. Butabayeva, E.M. Kulesza*

**EQUALDIGITALENT – FOSTERING ENTREPRENEURSHIP AND DIGITAL SKILLS UNDER DIVERSITY ASPECTS** 6908
*J. Kirch, B. Eisenbart*

**DEPLOYMENT OF TEACHING ACTIVITIES SUPPORTING STUDENTS´ CRITICAL THINKING AT UNIVERSITY OF ECONOMICS, PRAGUE** 6918
*E. Jarošová, H. Lorencová, T. Králová*

**LEARNING WHEREVER, WHENEVER: EDUCATION IN A SUITCASE** 6919
*A.H. Jonsdottir, J. Lentin, G. Stefansson*

**ENHANCING LISTENING COMPREHENSION AMONG UNDERGRADUATE STUDENTS OF UPPER-INTERMEDIATE LEVEL OF ENGLISH** 6926
*Y. Petrova*

**EDUCATIONAL SOFTWARE FOR THE INTERACTIVE STUDY OF DYNAMIC ABSORBERS** 6932
*A. Craifaleanu, C. Dragomirescu, I.G. Craifaleanu*

**LIFELONG LEARNING WITHOUT BORDERS** 6941
*S. Kalná, T. Hloušková, B. Hašková*

**SOCIAL AND PHILOSOPHICAL DIMENSIONS IN SCHOOL COUNSELOR TRAINING FOR PERSPECTIVE TAKING AND EMPATHIC UNDERSTANDING** 6947
*Y. Maman, M. Heim, J. Gardere, D. Sharir*

**GOING BLENDED IN INNOVATION AND DESIGN EDUCATION: BENEFITS, CHALLENGES, AND LESSONS LEARNED** 6954
*K. Chirumalla, Y. Eriksson, M. Bjelkemyr, J.A. Schaeffer*

**A PROFILE OF TEACHER QUALITY AND STUDENT PERFORMANCE IN BRAZIL'S BASIC EDUCATION** 6964
*J. Nunes Júnior, M. Calle Aguirre, G. Carvalho, M. Xavier Aguirre, B. Silva, W. Silva, A. Emiliano, V. Lima, W. Costa, A. Bezerra*

**DATA ANALYTICS EXPERIENCE: FINDING EQUILIBRIUM BETWEEN SURVEYS, EVALUATION AND MODELING** 6972
*O. Sladek, B. Kamrlova, T. Zeman*

**EXPANDING ONLINE TEACHING STRATEGIES THROUGH PSYCHOPEDAGOGICAL SUPPORT** 6981
*A. Caletti, G. Cruz, I. Ochoa-Carrasco*

**A PREPARED OR AN OPEN EMPLOYEE: ENTREPRENEURS' EXPECTATIONS FROM GRADUATES OF ACCOUNTING STUDIES – EVIDENCE FROM POLAND** 6990
*E. Spigarska, G. Bucior*

**ANALYSIS OF POSSIBILITIES AND KEY COMPETENCES OF LIFELONG LEARNING IN SELECTED ORGANIZATION** 6998
*P. Seemann, Z. Stofkova, V. Binasova*

**INDUCTIVE VS. DEDUCTIVE APPROACHES TO TEACH ENGLISH GRAMMAR TO ADULTS** 7007
*O. Ochoa, N. Hernández, N. de la Torre, S. Isabeles Flores*

**CLOUD TRAINING PLATFORMS TO CREATE NEW COMPETENCES FOR IT SERVICE MANAGEMENT** 7012
*G.P. Dimitrov, Z. Petrov*

**INCLUSIVE DIDACTICS AND DIGITAL MEDIATION: ENHANCEMENT OF COMPUTATIONAL AND CALCULATION SKILLS** 7019
*G. Antonini, A. Di Marco, L. Forlizzi, F. Graziosi, M.V. Isidori, G. Melideo*

**A LEARNING SYSTEM SUPPORTING ACTIVE LEARNING FOR CONTINUING EDUCATION IN SOFTWARE ENGINEERING** 7023
*N. Englisch, A. Heller, J. Tonndorf-Martini, W. Hardt*

**MANAGING E-LEARNING METADATA WITHIN TOOLBOX.ACADEMY: KNOWLEDGE ACQUISITION WITH BIG DATA ALGORITHMS AT THE STUDENT AND GROUP LEVELS** 7030
*F. Vico, M. Molina, D. Orden, F. Rivas-Ruiz, R. García, J. Masa*

**GAME-BASED TEACHING IN HISTORY – CASE STUDY IN BULGARIAN SCHOOLS** 7036
*V. Terzieva*

**DISCRIMINATION AND EXCLUSION OF PERSONS WITH AUTISM IN POLAND** 7045
*E. Mlynarczyk-Karabin*

**THIS HOUSE IS A FRIDGE! TRAINING SOCIAL COMMUNICATION SKILLS IN CHILDREN WITH NEURODEVELOPMENTAL DISORDERS THROUGH AN APP** 7050
*C. Andrés-Roqueta, R. Flores, A.B. Gorriz, K. Cuervo, A. Igualada, F. Ramos*

**A STUDY OF THE SCHOOL TRAJECTORY OF BASIC EDUCATION STUDENTS BY REGION IN BRAZIL** 7051
*A. Emiliano, M. Calle Aguirre, G. Carvalho, M. Xavier Aguirre, W. Silva, W. Costa, B. Silva, V. Lima, J. Nunes Júnior, A. Bezerra*

**TEACHING SUSTAINABLE ENERGY IN PRIMARY SCHOOL: A GLOBAL LEARNING APPROACH** 7059
*M. Carli, C. Luisetto, O. Pantano*

**THE ROLE OF NON-DIRECTIVE THERAPY IN AUTISM BASED ON EXAMPLE OF THE "GROWTH THROUGH PLAY SYSTEM"** 7069
*E. Mlynarczyk-Karabin*

**CODING SKILLS ARE ACQUIRED GENDER-INDEPENDENTLY IN THE K-12 SYSTEM: THE TOOLBOX.ACADEMY EXPERIENCE** 7076
*F. Vico, M. Molina, D. Orden, F. Rivas-Ruiz, R. García, J. Masa*

**PERSONALISATION IN EDUCATIONAL GAMES – A CASE STUDY** 7080
*V. Terzieva*

**TEMPORAL EVOLUTION OF THE QUALITY INDICATORS OF THE OCCUPATIONAL RISK PREVENTION MASTER IN THE MIGUEL HERNANDEZ UNIVERSITY (2012-2018)** 7091
*M.J. Prieto-Castelló, D. Marhuenda-Amorós, L. Pitaluga-Poveda, A. Cardona-Llorens*

**GUIDELINES AND FEEDBACK AS COMPONENTS OF A DIGITAL RESOURCE** 7096
*V. Yapparova, A. Miftakhova*

**EFFECT OF A VIDEO-BASED REFLECTION PROGRAM ON TEACHERS' PROFESSIONAL VISION, SELF-EFFICACY, AND STUDENTS' MOTIVATIONAL CLIMATE** 7101
*M. Cocca, J. Dimas Castro, F. Espino Verdugo, A. Cocca*

**A CODING CURRICULUM FOR K-12 EDUCATION: THE EVIDENCE-BASED APPROACH** 7102
*F. Vico, M. Molina, D. Orden, J. Ortiz, R. García, J. Masa*

**KNOWLEDGE AND CREATIVITY THROUGH AUDIOVISUAL PROJECTS** 7107
*M.R. Ripoll*

**ACTIVE ENGAGEMENT COURSE REDESIGN INTEGRATING DESIGN THINKING** 7111
*R. Abdellatif*

**GETTING UNIVERSITY STUDENTS TO FINISH WHAT THEY STARTED: DESIGN, TESTING AND ITERATION OF AN APP TO PROMOTE STUDENT RETENTION IN HIGHER EDUCATION** 7116
*A. Nakonechnyi, R. Allen*

**THE IMPACT OF MEDIA LITERACY ON THE INTENTION TO SHARE FAKE INFORMATION IN SOCIAL NETWORKS** 7123
*C. González-Cabrera, C. Ugalde, C. Figueroa, J. Pesántez*

**FINANCIAL EDUCATION IN HIGH SCHOOL, PRIMORDIAL FACT FOR BUSINESSMAN** 7132
*C.L. Serrano Junco, S.R. Quintero Rodriguez, R.I. Cruz Maldonado*

**THE ROLE OF THE TEACHER – THE SCHOOL METHODOLOGISTS FOR PREVENTION DEPENDENCES AND OTHER SOCIAL-PATHOLOGIC EFFECTS IN PRIMARY SCHOOL** 7136
*R. Božik*

**ACADEMIC MOTIVATION OF PUPILS IN REGULAR AND WALDORF SCHOOLS** 7137
*M. Buterin Mičić*

**ACADEMIC PROCRASTINATION AS A COPING STRATEGY OF WORKING ADULTS INVOLVED IN LIFELONG LEARNING** 7146
*S. Barnová, S. Krásna, G. Gabrhelová*

**UNDERGRADUATES DEVELOPING RESOURCES FOR LOST CROPS OF AFRICA** 7152
*C. Cullis*

**FINANCE HIGHER EDUCATION IN LATIN AMERICA** 7158
*C.L. Serrano Junco, S.R. Quintero Rodriguez, R.I. Cruz Maldonado*

**CONFIDENCE IN THE PERFORMANCE OF COGNITIVE TASKS IN THE INTERNATIONAL MATHEMATICAL KANGAROO COMPETITION FOR AMERICAN AND RUSSIAN PRIMARY AND MIDDLE SCHOOL GIRLS AGED 8-12** 7164
*S. Churbanova, M. Martynovsky*

**DIGITS GRASP DIGITS: NUMBERS ON YOUR FINGERTIPS** 7165
*R. Barrocas, M. Ninaus, K. Tsarava, C. Gawrilow, M. Lachmair, S. Roesch, K. Moeller*

**SMART LEARNING – AN EMERGING PEDAGOGICAL APPROACH** 7175
*P. Bonanno*

**ECONOMIC KNOWLEDGE AMONG PRIMARY SCHOOL STUDENTS – AN EXAMPLE OF TWO POLISH SCHOOLS IN THE GDAŃSK REGION** 7185
*M. Bucior, G. Bucior*

**THE HARSH REALITY OF HIGHER EDUCATION IN ITALY** 7192
*F. Cornali*

**AN APPROACH USING A LOW-CODE PLATFORM FOR RETRAINING PROFESSIONALS TO ICT** 7200
*J. Metrolho, R. Araújo, F. Ribeiro, N. Castela*

**WHAT DO TEACHERS WANT TO LEARN? EDUCATIONAL NEEDS OF THE POLISH SPECIAL EDUCATION TEACHERS** 7208
*M. Fila, K. Kruś-Kubaszewska*

**RELATIONSHIP BETWEEN PUPILS' PERCEPTION OF THE SCHOOL AS A CARING COMMUNITY, SCHOOL SATISFACTION AND SOME ASPECTS OF QUALITY OF SCHOOL LIFE** 7216
*M. Buterin Mičić*

**BUREAUCRATIC OR INSTRUCTIONAL LEADERS? AN OVERVIEW OF PORTUGUESE SCHOOL LEADERS' PERCEPTIONS ON AN AUTONOMY AND CURRICULUM FLEXIBILITY PROGRAM** 7224
*I. Cabral, J.M. Alves, D. Soares, C. Palmeirão*

**THE INITIAL DESIGN OF A LEARNING ANALYTIC TO IMPROVE COLLABORATIVE PROCESS IN A DIGITAL FORUM** 7231
*S. Niño, J.C. Castellanos-Ramirez, K. Parra*

**TRAINING EFFECTIVENESS AND USER EXPERIENCE OF EDUCATION TEACHER TRAINING OF AN OPEN SOURCE LMS USING THIS LMS** 7237
*I. Papantoni, C. Pierrakeas, K. Dragogiannis*

**DEVELOPING COLLABORATIVE INTERNATIONAL BIOTECHNOLOGY ENTREPRENEURSHIP PROGRAMS** 7244
*C. Cullis*

**AN ONTOLOGY TO BLEND TRIGONOMETRY AND ANALOGIES** 7248
*D. Tzoumpa, T. Karvounidis, C. Douligeris*

**APPLICATION OF AUGMENTED REALITY TECHNOLOGY FOR TEACHING INDUSTRIAL SPECIALTIES IN PRACTICE** 7256
*N. Voit, S. Kirillov, S. Bochkov, A. Elancev*

**THE FEAR OF TEACHER TRAINING STUDENTS TO LOSE THEIR MASKS: WHERE E-LEARNING REACHES ITS LIMITS** 7260
*H. Höfer-Lück, M. Delere, G. Marci-Boehncke*

**TOWARDS CRITICAL-REFLEXIVE AGENCY: INTRODUCING THE 2030 AGENDA THROUGH ENGAGED PEDAGOGY IN HIGHER EDUCATION** 7267
*J. Haba-Osca, F. González-Sala, R. Martínez-Carrasco*

**TRAINING THE EDUCATORS - CASE STUDY FROM THE MINISTRY OF INTERIOR, REPUBLIC OF CROATIA** 7273
*J. Klindžić, J. Lasić-Lazić, M. Banek-Zorica, M. Abramović*

**COMPUTER CODE FOR THE IN-CLASS STUDY OF THE EQUILIBRIUM OF A RIGID BODY SUBJECT TO CONSTRAINTS** 7278
*A. Craifaleanu, C. Dragomirescu, I.G. Craifaleanu*

**IMPACT ON THE STUDENTS LEARNING OF A TEACHING INNOVATION PROGRAM AT THE UNIVERSITY OF BARCELONA** 7284
*J.L. Medina, B. Jarauta, I. Calduch, G. Hervas*

**PROJECT GENIUS: AN EXPERIENCE ON INNOVATIVE INTERDISCIPLINARY CONTEXTUAL EDUCATION USING GAMES DEVELOPMENT** 7289
*J.C. Monteiro, J.C. Morais, N. Neves, H. Bollaert, P. Possemiers, D. O´Reilly*

**CREATING AND IMPLEMENTING THE INTERNATIONAL KNOWLEDGE TRIANGLE FOR INCREASING QUALITY OF STUDY PROGRAMMES** 7296
*C. Nicolau*

**INTERDISCIPLINARITY IN AN INNOVATIVE TEACHERS' TRAINING PROGRAM AT THE UNIVERSITY OF BARCELONA: TEACHERS' PERCEPTIONS AND PROFESSIONAL DEVELOPMENT** 7300
*J.L. Medina, B. Jarauta, G. Hervas, I. Calduch*

**GRAPHIC INTERACTIVE ENVIRONMENTS AS TOOLS OF CONSERVATION, IDENTITY AND TRANSMISSION OF ANCESTRAL KNOWLEDGE FOR CHILDREN IN TUNGURAHUA** 7301
*D. Jordán, V.E. Santillán, P.A. Mayorga*

**EVOLUTION OF TEACHING QUALITY OF SUBJECTS PERCEIVED BY STUDENTS OF THE ONLINE OCCUPATIONAL RISK PREVENTION MASTER OF MIGUEL HERNANDEZ UNIVERSITY (2015-2018)** 7308
*M.J. Prieto-Castelló, D. Marhuenda-Amorós, L. Pitaluga-Poveda, A. Cardona-Llorens*

**VISITS AND VIDEOS OF CONSTRUCTION SITES AND FACILITIES AS A TEACHING TOOL IN INDUSTRIAL CONSTRUCTION SUBJECTS** 7312
*D. Carazo-Álvarez, D. Eliche-Quesada, R. Carpena-Morales, M.D. La Rubia*

**A TOOL TO ENHANCE THE UTILIZATION OF OER IN HIGHER EDUCATION** 7321
*L. Ali, U. Schroeder*

**LOCAL DEVELOPMENT AND PARTICIPATORY CARTOGRAPHY: RE-APPROPRIATION OF LOCAL OPEN DATA TO FOSTER LOCAL DEVELOPMENT** 7326
*F. Martínez de Carnero Calzada, S. Lariccia, M. Ramazzotti*

**THE 2019 STRIKE AND ITS IMPACT ON THE FUTURE OF THE MEXICAN UAM** 7327
*N. Dominguez-Vergara, R.S. Ruiz-Salvatierra, R.M. Dominguez-Perez*

**A PROPOSED FRAMEWORK FOR EFFECTIVE USAGE OF SOCIAL MEDIA IN HIGHER EDUCATION ESTABLISHMENTS** 7337
*R. Al Mamari, V.R. Naidu, A. Agarwal*

**EXPLORING THE LEARNING EXPERIENCES OF BUSINESS STUDENTS: THE CASE OF A VIRTUAL UNIVERSITY IN SPAIN** 7342
*L.M. Cerdá Suárez*

**UX LEARNING DESIGN IN NUGGET EDUCATION** 7350
*E. Kovatcheva, M. Koleva*

**TRAINEE TEACHERS' VISION ON OCCUPATIONAL SAFETY AND HEALTH: FROM PAST TRAINING TO FUTURE INTEGRATION IN EDUCATION** 7354
*A. Bikfalvi, D. Escobar, G. Gimenez, M. González, N. Mancebo, R. Vilà, E. Villar*

**AUTHORING INTERACTIVE CONTENT FOR BLENDED LEARNING IN SOCIAL SCIENCES** 7359
*A. Molnar, S. Onwu, D. Moon*

**RANKING THE BALANCED SCORECARD GOALS OF HIGHER EDUCATION INSTITUTIONS USING THE CENTRALITY MEASURES** 7366
*N. Kadoic, N. Begicevic Redep*

**A CONCEPTUAL EXPLORATION IN THE INTERSECTION OF CRAFTS, TECHNOLOGY AND ACADEMIA FOR SUSTAINABLE JOB AND SKILLS DEVELOPMENT IN THE 21TH CENTURY** 7374
*L. Angeli, M. Stoycheva, F. Fiore, A. Montresor, M. Marchese*

**IMPACT OF THE "COMUNICAT" METHODOLOGY ON THE IMPROVEMENT OF THE "EFFECTIVE ORAL COMMUNICATION" STUDENT OUTCOME OF THE STUDENTS OF THE MASTER IN FOOD SAFETY AND QUALITY MANAGEMENT** 7379
*E. Pérez-Esteve, J.A. Silvestre-Cerdà, M.C. Bas, M.J. Lerma-García, N. Matarredona-Desantes, R. Oltra-Badenes*

**FLIPPED LEARNING IN HIGHER EDUCATION: A CASE STUDY** 7384
*J. Palací, D. Palací-López, M.I. López Rodríguez*

**USE OF ELECTRONIC VOTING SYSTEMS VERSUS VIDEO: PERCEPTION OF PUPILS ACCORDING TO PROFILES** 7392
*M.I. López Rodríguez, D. Palací-López, J. Palací*

**SATISFACTION ANALYSIS OF "FOOD SAFETY AND QUALITY MANAGEMENT" MASTER DEGREE'S STUDENTS WITH THE "COMUNICAT" METHODOLOGY FOR THE ENHANCEMENT OF THE "EFFECTIVE ORAL COMMUNICATION" STUDENT OUTCOME** 7401
*R. Oltra-Badenes, É. Pérez-Esteve, J.A. Silvestre-Cerdà, M.C. Bas, M.J. Lerma-García, N. Matarredona-Desantes*

**CREATIVITY FEATURES IN LINGUISTICS STUDENTS WITH DIFFERENT LEVEL OF SECOND LANGUAGE ACQUISITION** 7407
*I. Novikova, N. Berisha, A. Novikov, D. Shlyakhta*

**USING OPEN EDUCATION VIDEO TO SUPPORT BUILDING CULTURAL AWARENESS IN THE ESL CLASSROOM AT UNIVERSITY LEVEL** 7415
*E. Antonova*

**VIDEO KILLED THE...THE DEVELOPMENT OF VIDEO-BASED CASE STUDIES FOR MORE PATIENT-CENTRED, AUTHENTIC ASSESSMENT OF POSTGRADUATE PHARMACY STUDENTS** 7419
*M. Flood, B. Ryan, A. Conroy, J. Strawbridge*

**STUDY OF THE ALGEBRAIC THINKING IN STUDENTS OF THE 2ND YEAR OF THE PORTUGUESE PRIMARY SCHOOL THROUGH REPETITION PATTERNS INVOLVING THE DENSITY OF LIQUIDS** 7420
*P. Afonso, D. Alveirinho, J. Carrilho, N. Santos*

**E-ASSESSMENT: TOOLS AND POSSIBILITIES FOR ELECTRONIC ASSESSMENT IN HIGHER EDUCATION** 7431
*P. Miranda, P. Isaias, S. Pifano*

**METHODS AND RESULTS OF TRAINING ECONOMICALLY TECHNICAL DRIVING IN MEXICO** 7439
*F.J. Garcia-Osorio, A. Maldonado-Susano, N. Dominguez-Vergara*

**EVOLUTION OF THE GENERAL QUALITY PERCEIVED BY STUDENTS OF THE OCCUPATIONAL RISK PREVENTION MASTER OF MIGUEL HERNANDEZ UNIVERSITY (2015-2018)** 7449
*A. Cardona-Llorens, D. Marhuenda-Amorós, L. Pitaluga-Poveda, M.J. Prieto-Castelló*

**PRACTICAL EXAMPLES OF ACTIVATING SPEAKING SKILLS DEVELOPED FOR ADVANCED UNIVERSITY STUDENTS** 7453
*S. Filipczuk-Rosińska*

**CLASSIFICATION SYSTEM FOR PREDICTING STUDENT FINAL GRADE IN AN INFORMATION SECURITY COURSE** 7460
*O. Batarfi*

**RAISING AWARENESS ABOUT INHERENT RESPONSIBILITY TO STRUCTURAL DESIGN THROUGH MULTIMEDIA ANALYSIS OF STRUCTURAL COLLAPSE** 7465
*D. Carazo-Álvarez, J.I. Jiménez-González, R. Carpena-Morales, J.D. Carazo-Álvarez*

**DESIGN FOR INCLUSION IN A LINGUISTICALLY AND CULTURALLY DIVERSE EUROPE: CHALLENGES IN THE DEVELOPMENT OF A VIRTUAL LEARNING ENVIRONMENT** 7472
*A. Mangiatordi, G. Pastori, V. Pagani, A.S. Sarcinelli, L. Menegola*

**LEARNING MOTIVATION OF YOUNG ADULTS IN EAST AFRICA IN AN ANTHROPOLOGICAL VIEW** 7482
*I. Tomory*

**SUCCEEDING AT MASTER'S LEVEL: USING FACEBOOK LIVE TO AID INTERNATIONAL STUDENTS' ACADEMIC SKILLS DEVELOPMENT** 7488
*W. Bailey, C. Reynolds, A. Szabo*

**DEVELOPING MENTAL MODELS THROUGH VISUALISATION TECHNIQUES: AN EXPERIMENTATION ON THE SOLAR SYSTEM IN PRIMARY SCHOOL** 7497
*M. Carli, C. Marognolli, O. Pantano*

**TEACHING IN DIGITAL SOCIETIES AS A TOPIC OF AN ETHICALLY INFORMED MEDIA PEDAGOGY** 7507
*M. Rath, M. Tannrath*

**THE ROLE OF TECHNOLOGY IN COMPETENCY-BASED TEACHING IN ENGINEERING CURRICULUM: AN EXPERIENCE IN BASIC SCIENCES** 7512
*E. Gago, A. Tinnirello, P. Szekieta, L. D'Alessandro*

**C# CALCULATOR APPLICATION AS A TOOL TO LEARN OBJECT ORIENTED PROGRAMMING** 7522
*E. Dumić, A. Bjelopera, S. Ružić*

**APPLIED MATHEMATICAL CONCEPTS THROUGH VISUALIZATION AND TECHNOLOGY TO ADDRESS COMPLEX GEOMETRIC STRUCTURES** 7532
*E.A. Gago, A. Tinnirello, P. Szekieta, M. Romero*

**DEVELOPMENT OF PROCESSES OF SEMANTIC READING AMONG STUDENTS. PRACTICAL RESEARCH OF THE PSYCHOPHYSIOLOGICAL COMPONENT** 7540
*A. Alekseeva, O. Lomtatidze, M. Smirnov*

**LANGUAGE LEARNING GAME APPLICATION: THE POTENTIALS FOR THE LANGUAGE CENTRE OF THE UNIVERSITY OF QUINTANA ROO, COZUMEL CAMPUS** 7546
*D. Collí Novelo*

**THE USE OF KAHOOT! AS A GAMIFICATION TOOL TO ENHANCE STUDENT ENGAGEMENT, LEARNING, FEEDBACK AND ASSESSMENT: A CASE STUDY** 7550
*H. Williams*

**EDUCATIONAL POVERTY AND ADOLESCENTS' LIFESTYLES IN USING INTERNET TECHNOLOGIES** 7551
*G. Fulantelli, C. La Mattina, G. Tumminelli*

**TEACHING WRITING TO CHILDREN: PRODUCT AND PROCESS APPROACH, A DUAL METHOD** 7560
*M. Abata, F. Cando, K. Toscano*

**PROTOTYPING SOCIAL PRACTICES IN THE MARTESANA DISTRICT: RESEARCH AND TEACHING EXPERIENCE THAT INVOLVE LOCAL COMMUNITIES** 7567
*L. Galluzzo, C. Mastrantoni, A. Borin, J. Jiang*

**USING TECHNOLOGY FOR STUDENT ACADEMIC SUPPORT AT THE UNIVERSITY OF KWAZULU NATAL, SOUTH AFRICA** 7575
*V. Paideya*

**PRIMARY SCHOOL TEACHERS PREPAREDNESS TO DEVELOP PUPILS' DIGITAL LITERACY IN TEACHING MATHEMATICS** 7580
*D. Nocar, R. Dofková, K. Pastor, J. Laitochová*

**DEVELOPMENT OF PUPILS' DIGITAL LITERACY IN TEACHING MATHEMATICS** 7585
*D. Nocar, R. Dofková, K. Bártek, T. Zdráhal*

**THE TYPES OF ERRORS IN THE SPEECH PRODUCTION OF PRESCHOOLERS ACQUIRING LATVIAN AS THE SECOND LANGUAGE IN AN INSTRUCTIONAL SETTING** 7589
*I. Tomme-Jukēvica*

**FEASIBILITY IN USING DE-IDENTIFIED PATIENT DATA TO ENRICH ARTIFICIAL APPLICATIONS IN MEDICAL EDUCATION** 7598
*G.K. Wijayarathna, N. Zary*

**DEVELOPMENT OF DIGITAL COMPETENCIES FOR PROFESSIONAL PERFORMANCE IN UNIVERSITY STUDENTS** 7605
*J. Cortés, S. García, J. Ortega, A. Torres, M. Zamorán*

**ENGAGING STUDENTS IN THE K – 12 DIGITAL CLASSROOM** 7610
*L. Carver, C. Todd*

**IS IT SAFE TO USE PEER ASSESSMENT OF INDIVIDUAL CONTRIBUTION LEVEL WHEN ASSESSING GROUP WORK?** 7614
*M.P. Garcia-Souto*

**INVESTIGATING NEW POSSIBILITIES FOR THE TEACHING OF CHEMISTRY ADOPTING DIGITAL TECHNOLOGIES** 7623
*A. Grunewald Nichele, K. Silva dos Santos Moraes, L. Zielinski do Canto*

**THE KEEPING IN SCHOOL SHAPE PROGRAM: HOW TO MAINTAIN SKILL PRACTICE OVER SCHOOL BREAKS** 7632
*C. van de Sande, K. Lock*

**CYBERPSYCHOLOGY REVISITED: CRITICAL ISSUES THAT IMPACT MENTAL HEALTH AND EDUCATIONAL ATTAINMENT IN COMMUNITIES OF COLOR** 7641
*R. Boss-Victoria, T. Jordan, A. Richardson, H. Aubrey, M. Johnson, E. Cameron, H. Swanson*

**EXPERIENCE IN THE USE OF A TOOL THAT IMPLEMENTS GAMIFICATION TECHNIQUES FOR TEACHING PROGRAMMING** 7645
*M.A. Carreño-León, J.A. Sandoval-Bringas, F.J. Álvarez-Rodriguez*

**WORKSHOP MULTISENSORIAL DESIGN: A DIDACTIC PROPOSAL FOR SYNESTHETIC APPROACHES** 7651
*C. Assis Peres Silva*

**THE SIMULATORS IN THE TEACHING OF PHARMACOLOGY** 7662
*A.M. Vázquez, G. Fernández Saavedra*

**DEVELOPMENT OF RESEARCH COMPETENCES OF UNDERGRADUATE STUDENTS WITH CIT SUPPORT** 7667
*M. Montero, J. Castro, N. Duarte*

**VERIFYING THE EFFECTIVENESS OF INTERVENTION IN PRE-SCHOOL CHILDREN AT RISK OF SPECIFIC LEARNING DISABILITIES** 7673
*P. Bendová, A. Karmanská*

**GAMING THE SYSTEM: TEACHING SOCIOECONOMIC INEQUITY THROUGH ROLEPLAYING AND DISCUSSION USING AN EDUCATIONAL BOARD GAME** 7681
*R. Harrison, S. Kumar*

**USE OF RECORDED LECTURES IN AN ANIMAL PHYSIOLOGY CLASS** 7691
*K.M. Yam*

**POWERPOINT EFFECTS AS DIDACTIC MATERIAL FOR TEACHING VOCABULARY IN ENGLISH AS SECOND LANGUAGE FOR YOUNG LEARNERS** 7697
*M.G. Arboleya Medina, P.J. Mayoral Valdivia*

**EFFECT OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN THE DEVELOPMENT OF READING AND WRITING SKILLS. EXPERIENCES IN BASIC AND SECONDARY EDUCATION IN COLOMBIA** 7704
*S. Zabala-Vargas, J. Parra-Valencia, R. Lizcano-Reyes, J. Zabala-Vargas, A. Lizcano-Dallos*

**COLLABORATIVE LEARNING AND TECHNOLOGIES IN HIGHER EDUCATION. CHARACTERISTICS, ADVANTAGES AND DISADVANTAGES FOR ITS IMPLEMENTATION** 7713
*A.R. Lizcano-Dallos, M. Vargas-Daza, J.W. Barbosa-Chacón*

**THE CURRICULAR HYBRIDIZATION. TEACHING ALTERNATIVES FOR DIGITAL ENVIRONMENTS** 7720
*K. Ordóñez, A. Cabrera, A. Suing*

**THE INCORPORATION OF APPLICATIONS AND VIDEOS TO THE TEACHING OF STATISTICS IN POSTGRADUATE STUDIES** 7730
*N. Aquino Llinares, M.B. Hernández Jiménez, M.P. Moreno Navarro, M.R. Rodríguez Griñolo, A.M. Sánchez Sánchez*

**EXPERIENCE ON USING OF MOBILE LEARNING FOR EFFECTIVE TEACHING FOREIGN LANGUAGES IN UNIVERSITY STUDIES** 7736
*D. Akhmed-Zaki, Y. Alimzhanov, Y. Tolenbekov*

**A STUDY ON THE LEVELS OF INSTITUTIONALIZATION OF HIGHER EDUCATION INSTITUTIONS' RANKINGS IN UNIVERSITY STRATEGIC PLANS** 7741
*J. Sarupiciute, G. Druteikiene*

**MAKING EDUCATION: EXPLORING DIGITAL FABRICATION POTENTIAL WITHIN FASHION DESIGN LEARNING PROCESS** 7747
*C. Di Lodovico*

**DESIGNING BOARD-GAMES FOR DEVELOPING PRE-SERVICE PRIMARY SCHOOL TEACHERS' MENTAL CALCULATION SKILLS** 7757
*I. Zsoldos-Marchis*

**TEACHING HOW TO READ 2D DRAWINGS USING VIRTUAL CONSTRUCTION** 7766
*J. Kang, J. Yeon*

**THE USE OF DIGITAL AND MOBILE TECHNOLOGIES IN PRE-PRIMARY EDUCATION** 7772
*L. Korenova, K. Kostolanyova, E. Gasparova, D. Liskova*

**DIGITAL ENHANCEMENT OF STUDENT-CENTRED LEARNING IN UNIVERSITIES** 7780
*D. Akhmed-Zaki, Y. Alimzhanov, N. Mussabayev*

**A WORKFLOW MANAGEMENT TOOL TO SUPPORT THE DEVELOPMENT OF OPEN LEARNING ANALYTICS APPLICATIONS** 7787
*F. Ammirata, G. Fulantelli, C. La Mattina, D. Taibi*

**LEARN ABOUT MASONRY ARCHES COLLAPSE WITH MODELS** 7794
*J. Antuña, A. Aznar, J.I. Hernando, F. Magdalena*

**IDEAS AND TEACHING STRATEGIES TO SOW SEEDS OF KNOWLEDGE, TO CULTIVATE IMAGINATION, AND BRING OUT STUDENTS SKILLS** 7801
*R. del Gaudio*

**DOCENDO DISCIMUS: THREE GENERATIONS OF STUDENTS AS PROMOTERS OF SCIENCE DISSEMINATION SHARE THEIR DEEP-ROOTED PASSION FOR BIOLOGY** 7802
*R. del Gaudio*

**EDUCATIONAL PECULIARITIES OF A RESEARCH SEMINAR: GROUP WORK WITH SOUND ANALYSIS SOFTWARE** 7808
*E. Budnik, E. Osipovskaya, V. Zarytovskaya*

**MINIMUM PEDAGOGICAL EDUCATION FOR UNIVERSITY TEACHERS** 7813
*I. Vlkova*

**A CLOUD-BASED ARCHITECTURE FOR A REGIONAL TRANS UNIVERSITY LEARNING MANAGEMENT SYSTEM COLLABORATION ON DIGITAL CONTENT DELIVERY ACROSS SOUTHERN AFRICA** 7819
*N.B.W. Mlitwa (Mlita), M. Simbarashe*

**TOWARDS A PROJECT-BASED LEARNING (PBL) APPROACH TO TECHNICAL SUBJECTS IN THE UNDERGRADUATE ELECTRICAL ENGINEERING CURRICULA AT THE RICHARDS BAY CAMPUS, UNIVERSITY OF ZULULAND, KZN-RSA** 7828
*N.B.W. Mlitwa (Mlita)*

**HYDROGEOCHEMICAL MODELING OF CONTAMINATED SOILS USING PHREEQC** 7836
*J.M. Paz-Garcia, R.M. Sanchez-Varo, P.D. Franco-Caballero, J.J. Fernandez-Valenzuela, M. Villen-Guzman*

**GHANA'S FREE SENIOR HIGH SCHOOL POLICY: EVIDENCE AND INSIGHT FROM DATA** 7837
*E. Tamanja, E. Pajibo*

**MODEL DESIGN STUDY WITH THREE DIMENSIONAL MODELING IN FINE ARTS EDUCATION** 7847
*A. Gumulcine, N. Coskun*

**EFFECTIVENESS OF MOBILE LEARNING APPLICATIONS - AN EYE-TRACKING CASE STUDY** 7851
*R.G. Chivu, I.C. Popa, G. Orzan, D.A. Stoica*

**CYBER SECURITY EMPLOYMENT POLICY AND WORKPLACE DEMAND IN THE U.S. GOVERNMENT** 7858
*D. Anderson, K. Reimers*

**KNOWLEDGE MANAGEMENT INITIATIVES: A METHODOLOGY FOR THE IMPLEMENTATION OF A KNOWLEDGE ACADEMY** 7867
*A.C. Almeida, L. Teixeira, M. Oliveira*

**CREATING COLLABORATIVE VIRTUAL REALITY SCENARIOS TO DEVELOP DIGITAL SKILLS** 7876
*M. Frydenberg, D. Andone*

**ASSESSMENT OF SATISFACTION OF THE STUDENTS OF THE SCHOOL OF DENTISTRY AFTER GRADUATION** 7877
*L. Roesch, F. Moreno, M. Mantilla, A.L. Mora, F. Roesch, A. Zapién, G. Capetillo, L. Tiburcio, S. Flores, T. Méndez*

**ASSESSMENT OF THE VIEWS OF THE PARENTS OF SECONDARY SCHOOL STUDENTS, REGARDING THE VISUAL ARTS COURSE, ON A SOCIOECONOMIC AND SOCIO-CULTURAL BASIS** 7884
*B. Sirin, A. Kıratlı*

**ERGOSIGN - NOVEL LEARNING APPROACH FOR ERGONOMIC PRINCIPLES FOR DESIGNERS WORKING IN THE UPHOLSTERY AND SLEEP SECTORS BY VIRTUAL REALITY** 7888
*J. Garrido, C. González, F. Melero, M. Silvestre*

**ELECTROTECHNICAL KITS AS ILLUSTRATIVE TRAINING AIDS IN UNDERGRADUATE ENGINEERING EDUCATION** 7889
*C. Serafin*

**GAMES FOR LEARNING ALGORITHMIC THINKING (GLAT) PROJECT: PERCEIVED FACTORS ACCOUNTING FOR TEACHER ACCEPTANCE AND USAGE OF A NEW LEARNING SCENARIOS DESIGN TOOL – THE LEPLANNER** 7898
*J.S. Quaicoe, M. Laanpere, K. Pata, N. Hoić-Božić, R. Rõbtšenkov*

**A NEW GAME-BASED APPROACH FOR THE CREATIVE LEARNING OF PROGRAMMING IN THE DIGITAL MEDIA AREA** 7907
*A. Coelho, L. Reis, J. Monteiro*

**MAKING PHILOSOPHICAL EDUCATION POPULAR IN THE GLOBAL SOUTH: EXAMINING BEL ARABI FALSAFA'S MODEL IN EGYPT** 7918
*Y. Hamouda*

**MOTIVATION FOR TEACHING: HYPOTHESIS FOR MODELING IN INCOMING TRAINING** 7924
*M.G. Simone*

**SCIENTIFIC KNOWLEDGE AND TECHNOLOGICAL KNOWLEDGE: IDENTIFICATION OF RELATIONS BASED ON PEDAGOGICAL ACTIVITIES WITH EDUCATIONAL ROBOTICS** 7928
*A.G. Schaeffer, J.A. Peres Angotti*

**INTERPRETING DECOLONIZED EDUCATION STITCH BY STITCH** 7937
*A. Vlok*

**THE TUTORING SYSTEM AND THE GRADUATION EFFICIENCY OF THE STUDENTS FROM THE ADMINISTRATION SCHOOL OF THE UNIVERSIDAD VERACRUZANA** 7942
*S. Flores Aguilar, G. Capetillo, L. Tiburcio, E. Torres, M. Mantilla, L. Roesch, H. Zizumbo*

**FLIPPED E-LEARNING SCENARIO FOR TEACHING MOBILE DEVELOPMENT** 7948
*A. Scerbakov, F. Kappe, N. Scerbakov, A. Schukin*

**SATISFACTION OF TEACHERS OF THE ON LINE OCCUPATIONAL RISK PREVENTION MASTER OF MIGUEL HERNANDEZ UNIVERSITY. COMPARATIVE BETWEEN 2015/2016 AND 2017/2018** 7954
*A. Cardona-Llorens, D. Marhuenda-Amorós, L. Pitaluga-Poveda, M.J. Prieto-Castelló*

**ACTIVE METHODOLOGY IN THE DIDACTIC TRAINING OF MASTERS AND DOCTORS: A DIFFERENTIATED PRACTICE FOR THE DEVELOPMENT OF TRANSVERSAL COMPETENCES** 7958
*M.A. Motta Barreto, E.J. Candido Moraes, D.S. Giordani*

**INTELLIGENT CURRICULUM ASSISTANT** 7964
*A. Scerbakov, F. Kappe, N. Scerbakov, V. Pack*

**BENEFITS IN CONDUCTING A PUBLIC OUTREACH PROGRAM FOR SPARKING STEM INTEREST IN FEMALE STUDENTS** 7968
*N.M.F. Oliveira, M.M. Silva, L.R. Santos, R.C. Piani, C.A. Martins, L.K. Teles, J.M. Bezerra*

**OPEN EDUCATIONAL RESOURCES – A MARKETING PERSPECTIVE** 7975
*M. Karapanos, A. Schneider, T. Wendeborn*

**SUPPORTING THESIS COURSES WITH THE USE OF IT PLATFORMS. THE CASE OF MCSU BUSINESS STUDENTS** 7980
*Ł. Wiechetek*

**SECOND YEAR BACCALAUREATE "CHEMISTRY" TEACHERS IN TWELVE EDUCATIONAL CENTERS OF BIZKAIA** 7990
*A. Ortuzar, M. Elizalde, M. Campos*

**AN APPLICATION TO AUTOMATE THE CONFIGURATION MANAGEMENT AND ASSESSMENT OF PRACTICALLY BASED LEARNING OUTCOMES IN COMPUTER NETWORKING** 7995
*N. Palmer, W. Earle, J. Batola, B. Almond*

**COMPARISON OF TOOLS TO EVALUATE THE QUALITY OF UNIVERSITY TEACHING** 8003
*A.M. Barbancho, I. Barbancho, L.J. Tardón, A. Peinado, J. Munilla, A. Ortiz, F.J. Mata*

**THE IMPACT OF GDPR IN THE HIGHER EDUCATION - THE CASE OF THE 1ST CYCLE OF STUDIES IN LAW** 8011
*M. Sousa, N. Bessa Vilela*

**THE PEER MENTORING TUTORIAL SYSTEM IN THE ORIENTATION STUDENT PROCESS AT HIGHER EDUCATION** 8015
*C. Calvo-Jurado*

**EXELEARNING INTERACTIVE RESOURCES IN LEARNING INTEGRATION APPLICATIONS IN ENGINEERING** 8020
*C. Calvo-Jurado*

**PRINCIPAL SUPPORT, PROFESSIONAL LEARNING COMMUNITY, AND TEACHER EXPECTATIONS** 8029
*J.H. Park, S. Byun*

**DESIGN OF LEARNING AND TEACHING SPACE FOR PROFESSIONAL GRADUATE DEGREE PROGRAM USING USER EXPERIENCE DESIGN** 8030
*A. Salmenbayeva, A. Aimbetova, G. Seksenbayeva, A. Turkyilmaz, Z. Pastuszak*

**EDUCATORS AND ACADEMICS IN SPECIALIZED SOCIAL NETWORKS. COMPARISON OF GOOGLE SCHOLAR AND RESEARCHGATE USAGE BY BUSINESS RESEARCHERS OF MCSU** 8039
*Ł. Wiechetek*

**THE MANIFESTATION OF TEACHING AND LEARNING ASSESSMENT IN THE STRATEGIC DOCUMENTS OF SECONDARY SCHOOLS** 8052
*A. Kazlauskiene, R. Gaucaite*

**COMPETENCY-BASED EDUCATION: AN ONLINE SCIENCE METHODS COURSE GROUNDED IN VARIATION THEORY OF LEARNING** 8059
*J. Ebenezer*

**GENIUS UP! AN EDUCATIONAL EXPERIENCE THROUGH SERIOUS VIDEO GAMES FOR THE LEARNING OF SCIENCE IN A LUDIC WAY** 8066
*F.J. Perales, F. Negre, L. Riera*

**PREPARING STUDENTS OF TECHNICAL UNIVERSITIES FOR PUBLIC SPEAKING** 8075
*S.R. Stan, D. Ficior, L. Holonec, H.D. Vlasin, V. Simonca*

**THE IMPACT OF MOTIVATION AND ATTITUDES ON FOREIGN LANGUAGE PROFICIENCY** 8079
*M. Cocca, A. Cocca*

**STUDY OF PRACTICE OF UNIVERSITY – ENTERPRISE COOPERATION (BASED ON TECHNOLOGICAL FACULTIES OF THE REGIONAL UNIVERSITIES OF GEORGIA)** 8080
*L. Davitadze*

**INTERVENTION PROJECT IN THE CLASSROOMS OF THE FACULTY OF LAW IN ORDER TO GUARANTEE THE ACQUISITION OF LEGAL BASIC COMPETENCES: THE FINAL DEGREE PROJECT AS AN EXCUSE AND INSTRUMENT** 8089
*I. Ordeñana Gezuraga, I. Suberbiola Garbizu*

**IMPROVING PROGRAMMING LEARNING WITH AUGMENTED REALITY AND GAMIFICATION** 8098
*H. Cwierz, F. Díaz-Barrancas, P.J. Pardo, J.I. Guisado, C. Ruiz-Palma*

**WORK WITH QUALITY FOR A QUALITY WORK IN HIGHER EDUCATION: ACADEMICS' PERCEPTIONS** 8102
*D. Dias*

**CHILDREN OF REFUGEES IN EDUCATION (CORE): A MASSIVE OPEN ONLINE COURSE (MOOC) PROVIDING ACCESS TO OER MATERIALS TO STRENGTHEN TRANSVERSAL SKILLS OF ADOLESCENT LEARNERS** 8108
*G. Turkawka, W. Weidinger, S. Boulos*

**HARNESSING VIRTUAL PLATFORMS TO PRIORITISE ORAL COMPETENCIES IN THE LANGUAGE LEARNING PROCESS** 8109
*U. Carthy*

**CLARIFYING THE EFFECTS OF DIGITALIZATION ON (HIGHER) EDUCATION** 8114
*Y. Sedelmaier, D. Landes*

**LEARNING SEQUENCE FOR THE FORCE CONCEPT AND ITS REPRESENTATION** 8122
*Y. Benítez, B. Arriaga, J.A. Medina*

**AWARENESS OF THE PROGRAMMING LANGUAGE PYTHON AMONG COMPUTER SCIENCE AND ELECTRONIC ENGINEERING STUDENTS FROM A PERUVIAN UNIVERSITY** 8129
*C. Sotomayor-Beltran*

**INVESTIGATING THE INTEGRATION OF IPAD AMONG MATHEMATICS TEACHERS IN A SECONDARY SCHOOL IN SAUDI ARABIA BASED ON TPACK MODEL** 8133
*B. Aldossry, V. Lally*

**MAKER EDUCATION AND 3D PRINTER TO ENHANCE LOGICAL AND ABSTRACTION SKILLS** 8139
*R. Capone, A. Esposito, M.G. Adesso, F.S. Tortoriello*

**A RUBRIC PROPOSAL TO EVALUATE SCIENTIFIC REPORTS IN THE SOCIAL WORK DEGREE** 8145
*S. Martínez-Molina*

**THE 'GLOBAL CLASSROOM': SUPPORTED DISTANCE LEARNING LESSONS FOR INTERCULTURAL LEARNING** 8149
*L. Silva de Mattos, A. Marunchak, R. Ragoonath, J. Bernard, K. Malik, S. Manzoor, I. Lau, D. Catur*

**DIVERSITY, INCLUSION, AND EDUCATION: CHALLENGES IN PERSPECTIVE** 8157
*M. Carvalho, H. Azevedo, C. Vale, H. Fonseca*

**LEADERSHIP FOR INCLUSION: PERSPECTIVES FROM PORTUGUESE SCHOOL PRINCIPALS** 8163
*M. Carvalho, H. Azevedo, C. Vale*

**INVESTIGATING THE RELATIONSHIP BETWEEN STUDENTS' ENGAGEMENT AND SOCIAL NETWORKS** 8168
*R. Faizi*

**QUALITY ASSURANCE OF DOCTORAL EDUCATION IN PORTUGAL: A RETROSPECTIVE OF THE FIRST ACCREDITATION CYCLE** 8173
*V.L. Miguéis, S. Cardoso, M.J. Rosa, J. Sarsfield Cabral*

**AN INVESTIGATION OF UNIVERSITY STUDENTS' PERCEPTIONS AND ACCEPTANCE OF MOBILE TECHNOLOGY USE IN LEARNING ENGLISH AS A SECOND LANGUAGE IN CHINA** 8182
*Y. Luo*

**MOBILE APPLICATIONS AS A MODERN MEANS OF LEARNING ENGLISH** 8192
*G. Ismagilova, N. Sigacheva, K. Makayev*

**USING SEMINARS FOR COMPARING ATTITUDES AND PERFORMANCE IN TRANSVERSAL SKILLS IN STUDENTS ACROSS EDUCATIVE LEVELS: SECONDARY AND HIGHER EDUCATION** 8197
*F. Martínez-Pastor, R. Pérez-Romero*

**ASPECTS OF COGNITIVE APPROACH IN TEACHING PROFESSIONAL ENGLISH FOR UNIVERSITY STUDENTS MAJORING IN ECONOMICS** 8198
*N. Nurieva, K. Inozemtseva*

**THE NEW LEARNING TECHNOLOGIES IN A HIGHER EDUCATION INSTITUTION AS AN ECOSYSTEM** 8204
*G. Nahas*

**A "COMPETENCE ATLAS" AS AN INSTRUMENT IN SOFTWARE ENGINEERING EDUCATION** 8213
*L. Henschel, K. Schulz*

**PILOT EXPERIENCE FOR THE CREATION OF A FOOD INNOVATION COMPETITION. SALINA INNOVA** 8223
*M.C. González, A. Morata, M.J. Callejo, W. Tesfaye, F. Palomero, I. Loira, C. Lopez, J.L. Bravo*

**EMOTIONAL AND ACADEMIC BURNOUT OF STUDENTS COMBINING EDUCATION AND WORK** 8227
*O. Koropets, A. Fedorova, I. Kacane*

**NETWORK FUNCTION VIRTUALIZATION AS A PART OF MODULAR VIRTUALIZED INFRASTRUCTURE IN LAB ENVIRONMENT** 8233
*V. Šac, L. Havaš, D. Srpak, E. Tomičić*

**EFFECTIVE AND AFFECTIVE VOCABULARY LEARNING THROUGH GAMES** 8241
*H. Suchankova*

**GENDER DIFFERENCE IN PERCEIVING ALGORITHMIC THINKING IN AN INTRODUCTORY PROGRAMMING COURSE** 8246
*S. Iqbal Malik, R. Mathew, R. Moufaq Tawafak, I. Khan*

**WORKERS AND POSTGRADUATE STUDENT PERCEPTIONS OF EMPLOYABILITY** 8255
*P. González-Navarro, R. Zurriaga-Llorens, L.I. Llinares-Insa*

**MOTIVATION AND ACTIVE JOB SEARCH BEHAVIOR IN YOUNG PEOPLE: GENDER DIFFERENCES** 8260
*L.I. Llinares-Insa, P. González-Navarro, R. Zurriaga-Llórens*

**COMPETITION BASED LEARNING APPLIED IN COMPUTER SCIENCE TEACHING: ALTERNATIVE OR COMPLEMENTARY?** 8267
*Z. Itahriouan, N. El Bahri, S. Brahim Behaouari, T. Hajji*

**TOWARDS REFLECTION AND ACTION ON THE DEVELOPMENT OF A HYBRID LEARNING MODEL TO PROMOTE THE ADOPTION OF MOBILE DEVICES IN SCHOOLS** 8274
*S. Achahod*

**TEACHING SUSTAINABILITY – AN APPROACH TO VALUE-INTEGRATIVE HIGHER EDUCATION IN CORRESPONDENCE WITH THE UN´S SUSTAINABILITY GOALS** 8280
*S. Krause-Steger, M. Roski*

**THREE-DIMENSIONAL COLLABORATIVE VIRTUAL ENVIRONMENTS FOR SUPPORTING B-LEARNING** 8288
*R.M. Reis*

**THE PORTA MOBILE APPLICATION TO DEVELOP FUNCTIONAL AND SCIENTIFIC SCHOOL LITERACY WITH CRITERIA OF ACCESSIBILITY AND AFFECTIVITY** 8294
*M. Rivera Lam*

**DESIGNING OF AUGMENTED REALITY TEACHING-LEARNING SEQUENCES TO PROMOTE THE ACCESSIBILITY AND VIZUALIZATION OF COMPLEX CONTENTS IN CHEMISTRY** 8299
*C. Merino Rubilar*

**AUGMENTED REALITY AS TOOL TO CREATE LEARNING RESOURCES THAT SUPPORT NON-CLASSROOM WORK OF PHYSIOTHERAPY STUDENTS PRIOR TO PRACTICAL EXAMS** 8304
*N. Romero-Franco, M.T. Arbós-Berenguer, E. Bosh-Donate, J.C. Fernández-Domínguez, I. Salinas-Bueno*

**ANALYSIS OF ACCESSIBILITY REQUIREMENTS FOR VIDEO PLAYERS ON E-LEARNING** 8310
*T. Acosta, J. Zambrano-Miranda, S. Luján-Mora*

**THE REALIZATION OF BLENDED LEARNING IN HIGHER EDUCATION IN THE CURRENT SOUTH AFRICA** 8320
*A. Vlok*

**ANALYSIS OF THE ACCESSIBILITY OF EDUCATIONAL VIDEOS IN MASSIVE OPEN ONLINE COURSES** 8321
*T. Acosta, J. Zambrano-Miranda, S. Luján-Mora*

**INNOVATIVE TRANSCRIBING FOR BLENDED EDUCATION: EXPLORING VOICE INTELLECT FOR HIGHER EDUCATION DELIVERY** 8332
*S. Sukunesan*

**STUDENTS' CRITICAL THINKING SKILLS IMPROVEMENT VIA ALGORITHMIC PROBLEMS SOLVING** 8333
*G. Atanasova*

**ROLE GAMES IN UNIVERSITY TEACHING AS AN INCLUSIVE METHODOLOGY** 8341
*P. Aparicio Martínez, G. Guzmán Díaz, A.J. Perea Moreno, G. Pedrós Pérez, M.P. Martínez Jiménez, M. Vaquero Abellán*

**PREPARING FOR EARTHQUAKES IN COASTAL TOURISM DESTINATIONS: THE CASE OF "TELEMACHUS" PROJECT** 8346
*A. Kourou, M. Panoutsopoulou*

**A GOOD APPLICATION OF ELEARNING IN HIGHER EDUCATION WITH EXAMPLES FROM SYSTEM CONTROL ENGINEERING** 8356
*E. Pop, G. Ilcea, L. Bogdanffy*

**DESIGN AND CREATION OF EVALUATION RUBRICS FROM GOOGLE APPS (WITH CORUBRICS): SELF-ASSESSMENT, CO-EVALUATION AND TEACHER ASSESSMENT IN HIGHER EDUCATION** 8364
*M.A. Prats, J. Simón, E.S. Ojando, N. Carrasco*

**THE PROBLEMATIC OF ENTRY IN PRACTICE FROM THE POINT OF VIEW OF STARTING AND STATE TEACHERS** 8372
*E. Smelova, R. Svanhalova, K. Vankova*

**MAXIMIZE THE LEARNING SUCCESS IN IT-SECURITY** 8379
*M. Fruhmann, K. Gebeshuber*

**APPROACHES TO THE INDUCTION OF E-LEARNING STUDENTS: LAYING THE PEDAGOGIC FOUNDATIONS FOR SUCCESSFUL RELATIONAL E-LEARNING** 8386
*H. Partington, J. Duckworth, D. Gurbutt*

**CITIZENS EDUCATION THROUGH PARTICIPATORY RESEARCH LEARNING: A KAUNAS PILOT STUDY** 8391
*R. Grazuleviciene, S. Andrusaityte, A. Dedele*

**A MULTIPHASE MIXED METHOD APPROACH TO ASSESS INTERNATIONALISATON OF HIGHER EDUCATION POLICIES** 8397
*L. Steynberg, J.P. Grundling, B. Liu, Y. Li*

**EFFECT OF NEW INFORMATION AND COMMUNICATION TECHNOLOGIES AS A TEACHING-LEARNING APPROACH ON STUDENT ATTENDANCE** 8407
*I. Usach, A. Nácher, J.E. Peris, R. Taléns-Visconti*

**PEDAGOGY OF MEMORY AND MENTAL TIME TRAVEL IN OLDER PERSONS** 8412
*M.C. Del Mastro, M.R. De Simone, P. Vittoria*

**DEVELOPING BUSINESS ENGLISH COMMUNICATION SKILLS AND INTERCULTURAL COMPETENCE: A STUDENT-CENTRED APPROACH** 8417
*A. Simões, S. Ribeiro, A.R. Calvão*

**TUTORING PROGRAM IN HIGHER EDUCATION: FEEDBACK FROM STUDENTS** 8426
*P. Catarino, A.P. Aires*

**TRANSMEDIA STORYTELLING AS COLLABORATIVE ENVIRONMENT AND AUTONOMOUS IN HIGHER EDUCATION** 8436
*S. Sánchez-Castillo, M.R. Mora-Llabata*

**DEVELOPMENT OF HYBRID LABORATORIES OF INDUSTRIAL SYSTEMS FOR INTERACTIVE LEARNING OF AUTOMATION AND CONTROL** 8442
*A. Torres, C. Jara, B. Seguí, G. García, J. Pomares*

**INCREASING ENGAGEMENT, ENHANCING COURSE KNOWLEDGE, AND FOSTERING STUDENT SUCCESS WITH VOLUNTEERISM** 8447
*M. Rippy*

**THE PARADOX OF ALGEBRAIC MEANING IN MATHEMATICS EDUCATION** 8448
*J. O'Keefe*

**INVESTIGATING EFFECTIVENESS OF COLLABORATIVE LEARNING ACTIVITIES IN A COMPUTING COURSE** 8453
*J.M. Bezerra*

**INCLUSIVE PHYSICAL EDUCATION: AN ANALYSIS OF THE PUBLIC SCHOOLS NETWORK IN A BRAZILIAN MUNICIPALITY** 8460
*A.M. Lima, G. Aparício*

**TECHNOLOGY RESOURCES FOR SOCIAL AND PSYCHOLOGICAL ASSESSMENT IN CHILDHOOD: EXPLORATORY STUDY OF "GPS4SUCCESS" APP FOR USE IN SCHOOL SETTINGS** 8461
*R. Barroso, D. Dias, D. Soares*

**EARLY IDENTIFICATION OF STUDENTS AT RISK OF SUCCESS/FAILURE IN PRIMARY EDUCATION: NEEDS, CHALLENGES AND GOALS OF A LONGITUDINAL ASSESSMENT** 8469
*D. Dias, D. Soares, R. Barroso*

**AN APPROACH TO UNIVERSITY SOCIAL RESPONSIBILITY AS FORERUNNER OF STUDENTS' SATISFACTION** 8477
*G. Santos, D. Dias, E. Justino, C. Marques*

**THE GAP BETWEEN REAL AND DESIRED STUDENTS: INSTITUTIONAL STRATEGIES TO MANAGE HETEROGENEITY IN AN ENGINEERING SCHOOL** 8486
*D. Dias, M. Sá, E. Justino*

**RADICAL UNIVERSITY ARRANGEMENTS TO CREATE ENTREPRENEURIAL UNIVERSITY** 8494
*B. Furht, R. Williams, O. Marques*

**PUBLIC-PRIVATE HIGHER EDUCATION INSTITUTION CHOICE: QUALITY OR CONVENIENCE?** 8502
*C. Sá, D. Dias*

**THE IMPACT OF SOCIAL AND EMOTIONAL DISCOURSE ON THE SHARED KNOWLEDGE CONSTRUCTION** 8511
*J.C. Castellanos-Ramírez, S. Niño*

**TRANSITION TO HIGHER EDUCATION AS A LIFE UPGRADE** 8518
*D. Dias, M. Sá, S. Gomes*

**THE IMPACT OF MUSIC-BASED LEARNING ON STUDENT ACHIEVEMENT** 8525
*M. Šerić*

**INTRODUCING TECHNOLOGIES IN THE AREA OF HIGHER EDUCATION WITH PURPOSE AND MEANING** 8530
*C. Frank, E. Del Valle, A. Frank*

**THE DEVELOPMENT OF VR EXPEDITIONS FOR PRIMARY SCHOOL LEARNING** 8535
*J. Walsh, F. Boyle, P. Moriarty, A. Locke, D. McMahon, S. Katamreddy, D. Riordan*

**INNOVATION OF LEARNING AND DEVELOPMENT FOR THE AGRITECH SECTOR USING GOOGLE TOUR CREATOR** 8541
*F. Boyle, J. Walsh, P. Moriarty, A. Locke, D. McMahon, S. Katamreddy, M. O' Grady, N. Trant, D. Riordan*

**EDUCATIONAL POTENTIAL OF SOURCES OF PERSONAL ORIGIN FOR THE STUDY OF MODERN HISTORY** 8547
*D. Maslov*

**EFFECTIVENESS ASSESSMENT OF ONLINE COURSES FOR FOREIGN LANGUAGE LEARNING IN THE RUSSIAN CONTEXT USING SWOT-ANALYSIS AND HOFSTEDE'S MODEL** 8552
*A. Makhmutova*

**HOW DOES FEEDBACK CONTRIBUTE TO STUDENT LEARNING? MASTER'S DEGREE STUDENTS' PERCEPTIONS OF THEIR COMPETENCY DEVELOPMENT** 8561
*M. Fernández-Ferrer, A. Espasa*

**EXPERT EVALUATION OF TRAINING INTERCULTURAL MEDIATORS IN THE SPHERE OF EDUCATION: SIBERIAN PERSPECTIVE** 8568
*O. Smolyaninova, V. Kolmakov*

**QUALITATIVE ANALYSIS OF STICKY FLOORS AND GLASS CEILINGS IN ACADEMIA** 8575
*A.R. Dobele, L. Farrell, A. Misra*

**SIGNIFICANCE OF TEACHER EDUCATION IN THE FIELD OF OCCUPATIONAL HEALTH AND SAFETY** 8576
*I. Tureková, J. Depešová*

**E-LEARNING: EDUCATION REGARDING CHEMICAL COMPOUNDS IN WASTE** 8585
*M. Feszterová*

**VIRTUAL REALITY APPLICATION IN PROBLEM-BASED LEARNING EXPERIENCE: PROBLEMS AND FINDINGS** 8594
*O. Shvetsova*

**HOW TO COMBINE FLIP-LEARNING AND PROBLEM-BASED LEARNING APPROACHES IN ONE CLASS: SIGNIFICANT TOOLS AND METHODS** 8602
*O. Shvetsova*

**PROGRAMMING CONTESTS FOR STUDENTS AND A TRAINING SYSTEM PROJECT** 8609
*G. Atanasova, P. Hristova*

**EVALUATION OF THE CURRENT LEARNING SITUATION OF UNIVERSITY STUDENTS WITH VISUAL AND HEARING SPECIAL NEEDS** 8614
*I. López-Áliaga, J. Diaz-Castro, M. Garcia-Burgos, M. Alférez, J.J. Ochoa, J. Moreno-Fernandez*

**ELABORATION OF TEACHING MATERIAL FOR STUDENTS WITH SPECIAL NEEDS** 8620
*J. Moreno-Fernandez, I. López-Aliaga, J.J. Ochoa, M. Alférez, M. Garcia-Burgos, J. Diaz-Castro*

**TEACHERS' PERCEPTION OF LEARNING SPACES** 8624
*M. López, G. Bautista, A. Escofet*

**COLLABORATIVE PROJECT-BASED LEARNING: AN EXPERIENCE** 8631
*V. González-Ruiz, G. Ortega, G.E. Garzón, N. Calvo-Cruz, J. Redondo, J. Salmerón, L. Casado, P. Ortigosa, C. Medina-López, J.J. Moreno, M. Ruiz-Ferrández, F.J. Orts, S. Puertas, T. Santamaría-López*

**TRANSFORMING WORRYING TO PRODUCTIVE RISK-TAKING: IMPLEMENTING ICT-CULTIVATED LEARNING (ICTC) IN INDONESIAN TEFL CLASSROOMS** 8636
*D. Suherdi*

**WEAVING PEARLS INTO NECKLACES: THE SIGNIFICANCE OF CONSTRUCTIVE ALIGNMENT IN EDUCATION QUALITY MANAGEMENT SYSTEMS** 8641
*D. Suherdi*

**SCIENTIFIC POSTERS TO PROMOTE COLLABORATIVE AND BILINGUAL LEARNING** 8647
*A.J. Perea Moreno, P. Aparicio Martínez, M.J. Aguilera Ureña, M.P. Martínez Jiménez, G. Pedrós Pérez, G. Guzmán Díaz*

**INSIGHTS ON E-LEARNING WITH MOODLE: A STUDY BASED ON STUDENT GENDER, AGE, AND NATIONALITY** 8653
*M. Šerić, P. Ruiz-Castell*

**(MIS)MATCHED PERCEPTIONS: GRADUATES AND EMPLOYERS' VIEWS ABOUT COMPETENCIES IN PROFESSIONAL ACTIVITIES** 8662
*S. Monteiro, L. Almeida, A. Garcia-Aracil*

**INCREASING DEMAND ON MASTER EDUCATION FOR DONATION AND TRANSPLANTATION: A 15-YEAR EXPERIENCE** 8667
*A. Coll, C. Ballesté, R. Valero, D. Paredes, F. Diekmann, T. Torregrosa, A. Navarro, R. Adàlia, J. Colmenero, A. Villamor, E. Oliver, M. Istrate, M. Manyalich*

**WHAT REALLY MATTERS TO OUR STUDENTS?** 8668
*M. Cladera*

**HUMANOID ASSISTANT ROBOTS IN TEACHING & LEARNING** 8673
*S. Zeaiter, P. Heinsch*

**EVALUATION OF THE IMPLEMENTATION OF THE STRATEGY OF PROBLEM-BASED LEARNING (PBL) IN DIGESTIVE SYSTEM PHYSIOLOGY TEACHING** 8684
*M. Muñoz Picos, A. Agis-Torres, A. Sánchez Pina, C. Contreras, A.C. Martínez, B. Climent, P. Recio, R. Raposo, S. Benedito, A. Garcia-Sacristán, L. Rivera, D. Prieto, M. Hernández, M.E. López-Oliva*

**BENEFITS AND BARRIERS TO THE USE OF CLOUD COMPUTING AND THEIR IMPORTANCE IN THE ASSESSMENT OF INDIVIDUAL USERS - STUDENTS OF THE WARSAW UNIVERSITY** 8691
*T. Parys*

**INTEGRATING THE USE OF INSTAGRAM IN TEACHING FOREIGN LANGUAGES TO NON-LINGUISTIC STUDENTS** 8700
*E. Maslova, M. Zarudnaya, D. Enygin, N. Kolomiytseva, I. Goncharova*

**ENHANCING BUSINESS ENGLISH COURSE FOR MBA STUDENTS VIA USE OF ONLINE RESOURCES AND SOCIAL NETWORKS** 8705
*M. Zarudnaya, E. Maslova, D. Enygin, N. Kolomiytseva, I. Goncharova*

**INTRODUCTION OF A PRACTICAL LESSON FOR THE EVALUATION OF CAROTENOIDS IN FRUITS AND VEGETABLES FOR MASTER STUDENTS** 8710
*C. Guijarro-Real, M. Plazas, A. Rodríguez-Burruezo, J. Prohens, A. Fita*

**MENTAL CALCULATION STRATEGIES USED BY PRE-SERVICE PRIMARY SCHOOL TEACHERS** 8717
*T. Baranyai, E. Egri, A.E. Molnár, I. Zsoldos-Marchis*

**IMPROVING THE SPECIFIC COMPETENCES OF MASTER STUDENTS IN BREEDING SCIENCE: INTRODUCTION OF A PRACTICAL LESSON FOR ASSESSING BIOAVAILABILITY OF TARGET MOLECULES** 8725
*C. Guijarro-Real, J. Prohens, A. Rodríguez-Burruezo, A. Fita*

**SIGNIFICANCE OF FACE-TO-FACE LEARNING IN VOCATIONAL EDUCATION AND TRAINING** 8732
*I. Usach, R. Taléns-Visconti, J.E. Peris, A. Nácher, L. Ruano*

**TUTORING AND COACHING THE STUDENTS IN CLASS DURING THE FIRST 4 MONTHS AT THE UNIVERSITY** 8737
*M.M. Maruri, D. Merida, E. Legarra, I. Sotes, I. Basterrechea*

**HIGHER EDUCATION INSTITUTIONS TO PROMOTE A LIFELONG LEARNING STRATEGY** 8744
*J.A. Romero Del Castillo, A. De Haro García, D. Ortiz Boyer*

**TEACHING AND LEARNING ALGORITHMS WITH APPS** 8750
*O. Herden*

**USING A PROJECT BASED LEARNING EXPERIENCE TO IMPROVE SUSTAINABILITY WITHIN THE UNIVERSITY COMMUNITY** 8758
*M.M. Antxustegi, A. Ulazia, R. Palos, M. González Alriols, A. Campos Celador, A. Urresti*

**INTRODUCTION TO IMAGING TECHNOLOGIES AND APPS TO THE STUDENTS OF AGRONOMICAL SCIENCES DEGREE** 8766
*C. de Ollas, M. González-Guzmán, V. Arbona, A. Gómez-Cadenas, R.M. Pérez-Clemente*

**CULTURE IDENTITY, MUSEUM AND NEW TECHNOLOGIES: ENHANCING MUSEOLOGICAL LEARNING** 8770
*A. Chourdakis, J. Ieronimakis, M. Souka, M. Kounalakis*

**BECOMING A TIME-TRAVELLER: USING EXPANSIVE FRAMING TO PROMOTE TRANSFER OF LEARNING BETWEEN UNIVERSITY AND THE WORKPLACE** 8777
*G. Oliveira*

**KAHOOT APPLICATION AS A TOOL TO TRACK STUDENT ASSIMILATION OF BIOLOGY PRACTICAL COMPETENCES WITHIN THE DEGREE OF MEDICINE** 8778
*M. Gonzalez-Guzman, C. de Ollas, R. Perez-Clemente, A. Gomez-Cadenas, V. Arbona*

**THE CASE STUDY METHODOLOGY: A GUIDE FOR RESEARCH** 8783
*R.A. Alcívar Espín, K.B. Pinos León, J.D. Alcívar Espín*

**THE EMPIRICAL RESEARCH: FOUNDATIONS FOR THE CORRECT APPLICATION** 8784
*R.A. Alcívar Espín, J.D. Alcívar Espín*

**3D MAPPING UKRAINIAN DIGITAL EDUCATION** 8791
*O. Dziabenko, N. Morze*

**FLOW UNDER THREAT: LEARNINGS FROM PRINCIPAL PREPARATION AND MARGINALIZATION INFORMING A NEW CONCEPTUAL MODEL** 8799
*K. Beard*

**NEW TECHNOLOGIES TO ENHANCE THE EXPERIMENTAL LEARNING IN HEAT TRANSFER FOR CHEMICAL ENGINEERS** 8810
*M. Cortés-Reyes, F.J. García-Mateos, R. Ruiz-Rosas, J.M. Rosas*

**PRELIMINARY RESULTS OF THE IMPLEMENTATION OF THE DESIGN BASED LEARNING ON STRATEGY IN RURAL EDUCATION IN CHILE** 8818
*M. Palma, J. Alarcón, G. Hernández, L. Navarrete*

**ACCESSIBILITY, BIASES AND ETHICS IN CHATBOTS AND INTELLIGENT AGENTS FOR EDUCATION** 8824
*E. Gutiérrez Y Restrepo, M. Baldassarre, J. G. Boticario*

**EDUCATING VACCINATION COMPETENCE PROJECT (EDUVAC)** 8834
*C. Roure-Pujol, P. Galbany-Estragués, A. Ahokas, J.C. Casas-Baroy, D. Cavani, C. Gradellini, K. Grendova, E. Konstantinou, S. Lahti, M. Machajova, D. Mecugni, A. Nikula, X. Palomar-Aumatell, D. Perifanou, J. Prnova, M. Romero-Mas, H. Thomander, E. Sakellari*

**METHODS OF TEACHING RUSSIAN BASED ON THE CATEGORY OF QUANTITATIVENESS** 8839
*N. Novospasskaya, N. Bahand, N. Perfilieva, O. Lazareva*

**EDUCATE TO COMMUNICATE: ANALYSIS OF A MEDIA LITERACY EXPERIENCE IN THE SCHOOL CONTEXT** 8845
*D. Luna*

**A MULTIDISCIPLINARY APPROACH IN TEACHING CREATIVITY: WHAT DOES HIGHER EDUCATION GAIN BY IT?** 8852
*E. de Vries, H. Velthuijsen*

**CASE STUDY: EXPLORING EFFECTIVE REDESIGN TECHNIQUES TO COMBAT STUDENT ENGAGEMENT CHALLENGES IN ASYNCHRONOUS COURSE DESIGN** 8858
*M. Callison, C. Hagan, M. Palmer*

**ACTING ON ASSESSMENT: INCREASING AND SUPPORTING STUDENT SUCCESS THROUGH SCAFFOLDING** 8864
*M. Callison, C. Hagan, A. Fox, M. Palmer*

**ARE YOU PAYING ATTENTION? ASSESSING STUDENTS ATTENTION AND PARTICIPATION ON LEARNING MANAGEMENT SYSTEM** 8872
*N. Nowlan, O. Shafiq, A. Arya*

**FOR SYSTEMATIC DEVELOPMENT OF CONCEPTESTS FOR ACTIVE LEARNING** 8882
*M. Koretsky, S. Nolen, B. Self, C. Papadopoulos, J. Widmann, M. Prince, D. Dal Bello*

**EARNING OR LEARNING - THE DILEMMA FOR GENERATION Y** 8893
*A. Reissová, J. Šimsová*

**LEARNING BASED ON DESIGN AS A DIDACTIC AND PEDAGOGICAL STRATEGY FOR THE DEVELOPMENT OF PROFESSIONAL COMPETENCES** 8901
*L. Navarrete, M. Palma, G. Hernández, J. Alarcón*

**EFL TEACHERS BELIEFS ON CREATIVITY** 8906
*C.G. Alemán-Aguilar, M. Portillo-Vazquez, M. Cruz-Millán, A. García Del Valle, L. Aguilar-Santelises*

**CHARACTERIZATION OF ENGINEERING STUDENT PROFILES AT EUROPEAN INSTITUTIONS BY USING SPEET IT-TOOL** 8911
*R. Vilanova, J. Vicario, M. Prada, M. Barbu, M. Dominguez, M.J. Varanda, M. Podpora, U. Spagnolini, P. Alves, A. Paganoni*

**A NEW APPROACH TO EMPOWER THE BASICS OF REPRESENTATION SKILLS FOR PRODUCT DESIGN STUDENTS** 8921
*F. Brevi, F. Gaetani*

**THE IMPACT OF UNIVERSITY INDUSTRY COLLABORATION IN ENHANCING SUSTAINABLE BUSINESS ENVIRONMENT IN KOSOVO** 8927
*A. Bajraktari, A. Veseli, S. Hoxha*

**DEVELOPMENT OF 3D SOLID SHAPES IN AUGMENTED REALITY, AUGMO: A GAME-BASED LEARNING APPLICATION** 8928
*M. Kouzi, O. Shafiq*

**APPLICATION OF EDUCATIONAL DIALOGUE MODEL IN THE PROCESS OF SUPPORT RENDERED IN INCLUSIVE EDUCATION TO A LEARNER WITH HEARING DEFICIT** 8939
*D. Al-Khamisy, A. Dłużniewska*

**HIGHER EDUCATION RE-IMAGINED, TO SUPPORT TEACHERS AND STUDENTS. AN EXPLORATION OF AN INNOVATIVE, FIT FOR PURPOSE PEDAGOGY** 8950
*C. Mazzola*

**A GAMIFIED, BLOCKCHAIN BASED, LEARNING RECORD STORE AS A PERSONAL LEARNING ENVIRONMENT COULD OFFER A SOLUTION TO THE HUMAN RIGHT OF EDUCATION** 8961
*G. Turkawka*

**IMPLEMENTATION OF COMMUNICATIVE LANGUAGE TEACHING AND THE CHALLENGES THIS FACES IN THE PEDAGOGIC CULTURE OF SAUDI ARABIAN SCHOOLS** 8973
*A. Alharbi*

**EYE-TRACKING STUDENT'S BEHAVIOUR FOR E-LEARNING IMPROVEMENT** 8978
*J. Calado, E. Marcelino-Jesus, F. Ferreira, J. Sarraipa*

**DESIGN OF A MOBILE AUGMENTED REALITY GAME IN THE FRAMEWORK OF PROBLEM-BASED LEARNING** 8987
*M.C. Costa, A. Manso, J. Patrício*

**METAPHORS FOR LEARNING ABOUT INFORMATIVE COMPANIES** 8996
*A. Suing, K. Ordoñez, L. Carpio-Jiménez*

**INVESTIGATING THE EFFECT OF VOLUNTARY USE OF AN INTELLIGENT TUTORING SYSTEM ON STUDENTS' LEARNING** 9000
*A. Mitrovic, J. Holland*

**THE USE OF MOOT COURT METHODOLOGY AS AN INSTRUMENT OF TEAM BASED LEARNING IN THE LAW COURSE** 9008
*H. Santana, E. Araújo, E. Moresi, G. Caliman, C. Costa-Lobo*

**USE OF TECHNOLOGIES IN INTEGRATED MATHEMATICS AND PHYSICS LABORATORIES** 9016
*C. Aramo, F.S. Tortoriello, I. Veronesi*

**SELF-PROMOTION AND ACADEMIC BRANDING: CAREER PROGRESSION STRATEGY** 9034
*A.R. Dobele, E. Wastell*

**USE OF ICT FOR THE USE OF THE RESIDUAL VALUES IN ANOVA** 9035
*M. Pineda Becerril, O. García, A. Aguilar, F. León*

**DEVELOPMENT OF A STUDENT REFLECTION SUPPORT SYSTEM BY AUTOMATIC CLASSIFICATION OF SENTENCES OF REFLECTION ON LEARNING USING A CUSTOM MACHINE LEARNING MODEL** 9040
*K. Maruyama, Y. Morimoto*

**TEACHING OF THE PROOF OF THE HYPOTHESIS THROUGH A MULTIMEDIA BOOK IN THE PROBABILITY AND STATISTICS SUBJECTS TAUGHT IN THE FESC** 9050
*O. García, M. Pineda Becerril, A. Aguilar, F. León*

**INFLUENCE OF COMMUNICATIVE SITUATIONS ON COMMUNICATION MEANS ACQUISITION BY A NONSPEAKING CHILD** 9057
*E. Sheremetyeva, N. Trofimova, O. Kovaleva, I. Menendez Pidal*

**COMUNICARTE: A VIRTUAL REALITY GAME TO IMPROVE PUBLIC SPEAKING SKILLS** 9061
*M. El-Yamri, A. Romero-Hernandez, M. Gonzalez-Riojo, B. Manero*

**INSTITUTIONAL SELF-ASSESSMENT AS SUPPORT FOR THE DEFINITION OF A NEW E-LEARNING MODEL** 9067
*A. Justin Cerveira Kampff, M. Creutzberg, D.A. da Silva Melo, D. Conforto, M.J. Mentges*

**A PROJECT MANAGEMENT ACTIVITY FOR STUDENT TEAMS IN A COMPUTER SCIENCE UNDERGRADUATE CAPSTONE PROJECT COURSE: TASK PLANNING** 9072
*M. Scaturro Heil*

**TOWARDS AN APPROPRIATE CULTURAL CONTENT OF EFL TEXTBOOKS: THE CASE OF SAUDI SECONDARY SCHOOL EFL TEXTBOOKS** 9078
*M.R. Alrashidi*

**GENDER LENSING IN PRACTICE: A WEBPAGE ANALYSIS OF AUSTRALIAN HIGHER EDUCATION INSTITUTIONS** 9079
*U. De Silva Perera, L. Farrell, A.R. Dobele, A. Misra*

**REMOVING STICKY FLOORS IN ACADEMIA: A DIRECTORY OF BEST PRACTISE** 9080
*L. Farrell, A.R. Dobele, M. Duckham*

**USING HUMOR IN THE STEM CLASSROOM TO ENHANCE KNOWLEDGE TRANSFER** 9081
*P. Ludovice, D. MacNair*

**COMPREHENSIVE TRAINING OF STUDENTS WITH EXTRAORDINARY APTITUDES WITHIN THE FRAMEWORK OF THE SPECIAL EDUCATION PROGRAM IN MEXICO** 9090
*A. Corona, M. Cervantes, L. Sbitneva*

**DEVELOPMENT AND EVALUATION OF MODEL TO IMPROVE STUDENT TEACHERS' SKILLS IN DESIGNING LESSONS THAT INCLUDE ICT** 9097
*H. Takamura, K. Maruyama, T. Sato, Y. Morimoto*

**ASSESSMENT APPROACHES FOR EXPERIENTIAL LEARNING IN COMPUTING PROGRAMMES** 9106
*D. Lopez, M. Lopez*

**FIT FOR THE FUTURE - MODERNISATION OF MASTER CURRICULUM IN ICT FOR ENHANCING STUDENT EMPLOYABILITY IN BELARUS** 9116
*J. Mäkiö, S. Piashkun, J. Kowal, M. Paasivaara, E. Surkova*

**SHIFTING PERSPECTIVES OF TEACHER EDUCATION: THE CASE OF LITHUANIA** 9123
*J. Sarupiciute, G. Druteikiene*

**THE INTERCULTURAL COMPETENCE IN PROFESSIONAL TRAINING OF TRANSLATORS** 9127
*L. Satarova, O. Akimova, I. Kurmaeva, N. Deputatova, I. Abdulganeeva*

**PEER MENTORING PROGRAMME FOR INTERNATIONAL STUDENTS IN A COMPUTING POSTGRADUATE PROGRAMMES** 9132
*D. Lopez, M. Lopez, J. Sibley, S. Ikarath*

**STUDENTS' PREFERENCES AS TO PROGRAMMING LECTURE FORMATS: LIVE LECTURES WITH CLICKERS OR RECORDINGS** 9142
*M. Lepp, A. Margens, E. Tonisson*

**ESTIMATION OF USER INTERACTIVITY RESPONSIVENESS AND ALERTNESS BASED ON EYE BLINK -APPLICATION IN AN E-LEARNING ENVIRONMENT** 9150
*I. Bandara, F. Ioras*

**OPEN SCIENCE SCHOOLING – RETHINKING SCIENCE LEARNING** 9159
*C. Suero Montero, A. Baranowski, J. Gejel*

**PROS AND CONS OF AUGMENTED REALITY IN EDUCATION** 9165
*F. Galati, B. Bigliardi, A. Deiana, S. Filippelli, A. Petroni*

**SUPERVISING THE RESEARCH WORK OF STUDENTS OF LINGUISTICS MAJOR: CURRENT ISSUES AND PROSPECTS** 9169
*N. Bobyreva, N. Pomortseva, A. Zorina*

**SOCIAL NETWORKS AS EDUCATION TOOLS** 9176
*F. Galati, B. Bigliardi, A. Deiana, S. Filippelli, A. Petroni*

**EXPECTATIONS OF THE TRANSFORMATION OF POWER RELATIONSHIPS IN THE EDUCATIONAL PROCESS: FUTURE TEACHERS' VISION** 9181
*J. Lenkauskaitė, E. Masiliauskienė*

**A QUALITATIVE STUDY OF PRACTITIONER PERSPECTIVES ON THE DESIGN AND DEVELOPMENT OF EFFECTIVE GAME-BASED LEARNING SOLUTIONS** 9191
*L. Cunningham, O. Murphy*

**INTRODUCING METHODS OF HISTOLOGY IMAGE AND DATA ANALYSIS IN THE DEGREE OF BIOCHEMISTRY** 9200
*R.M. Sanchez-Varo, J.J. Ferzandez-Valenzuela, P.D. Franco-Caballero, J.M. Paz-Garcia, A. Gutierrez-Perez*

**BLENDED LEARNING APPLIED TO THE ARTIFICIAL INTELLIGENCE TRAINING** 9207
*M. Petrova*

**PERCEPTIONS ABOUT THE USE OF SPECIFIC PROFESSIONAL SOFTWARE IN THE PEDAGOGY DEGREE** 9214
*P.D. Franco-Caballero, J.M. Paz-Garcia, R.M. Sánchez-Varo, J.J. Fernandez-Valenzuela*

**MEANINGS ATTACHED TO LEARNING TO LEARN COMPETENCE BY LOWER SECONDARY SCHOOL STUDENTS: A DISSECTION AND COMPARISON WITH THE EU DEFINITION** 9218
*N. Bercu*

**NEW METHODS DEEPENING UNDERSTANDING OF STUDENTS' EXPERIENCES AND THEIR RELATION TO PHYSIOLOGICAL ALERTNESS VARIATIONS DURING LEARNING** 9219
*M. Silvennoinen, J. Mikkonen, M. Manu, A. Malinen, T. Parviainen, M. Vesisenaho*

**LEARNING INTEGRATED MANAGEMENT SYSTEMS BY ROLE-PLAYING A VIRTUAL COMPANY** 9229
*J.M. Paz-Garcia, M.M. Cerrillo-Gonzalez, C. Vereda-Alonso, M. Villen-Guzman*

**THE SIGNIFICANCE OF QUALITATIVE METHOD IN CHILDHOOD EDUCATION: FREE ESSAY APPLICATION TECHNIQUE IN THE CONTEXT OF CHILDREN'S LEISURE AND SELF-LEARNING CULTURES** 9234
*K. Rūdytė, R. Šiaučiulienė*

**GAME BASED LEARNING ON URBAN SUSTAINABILITY: THE "SUSTAIN" PROJECT** 9240
*J. Papathanasiou, S. Armenia, F. Barnabè, C. Carlini, N. Ciobanu, P. Digkoglou, L. Jarzabek, M. Kulakowska, A. Lanzuisi, M. Morfoulaki, G. Myrovali, C. Onofrei, A. Pompei, R. Scolozzi, G. Tsaples*

**ODISSEA PROJECT: INNOVATIVE EDUCATIONAL STRATEGIES IN CURRICULUM DEVELOPMENT ON ORGAN DONATION WITHIN SOUTH EAST ASIAN COUNTRIES** 9247
*P. Peralta, M. Istrate, M.P. Gómez, R. Valero, E. Vera, J. Perales, A. Coll, M. Manyalich*

**PREPARING MANAGEMENT SCIENCE STUDENTS FOR THE DIGITALIZATION ERA** 9249
*A. Dannecker, R. Telesko, H. Knechtli*

**THE INTEGRATION OF TEACHING RESOURCES IN THE CONTEXT OF THE SUPERVISED TEACHING PRACTICE IN PRESCHOOL EDUCATION** 9257
*A.P. Aires, J. Escola*

**H5P INTERACTIVE DIDACTIC TOOLS IN EDUCATION** 9266
*Z. Homanova, T. Havlaskova*

**GO-LAB ECOSYSTEM: USING ONLINE LABORATORIES IN A PRIMARY SCHOOL** 9276
*O. Dziabenko, O. Budnyk*

**COMPETENCES FOR SOCIAL INNOVATION: AN INTERNATIONAL EXPLORATORY STUDY** 9286
*M. Amorim, M. Ferreira Dias, M. Sarmento, M. Madaleno*

**DIGITAL INCLUSION OF SENIOR COLLECTIVES THROUGH PARTICIPATORY PROCESSES OF CO-CREATION OF DIGITAL TOOLS: DESIGN OF A MOOC** 9295
*L. Bueno-Sánchez, S. Martínez-Molina, S. Marqués de Almeida, J. Garcés-Ferrer, D. Pérez, M. Quílez*

**ANALYSING THE CAUSES OF THE GENDER GAP IN ENGINEERING DEGREES AND ACTIONS FOR A CHANGE** 9299
*R. Dominguez, A. Romero, M. Carrion, A. Gomez, R. Garcia-Contreras*

**NATIONAL ENGLISH LANGUAGE CONTEST: ENHANCING STUDENTS' CREATIVE WRITING COMPETENCE** 9308
*D. Sabirova, F. Shigapova, N. Pomortseva, T. Morozova*

**VALIDATION OF THE SOCIAL INNOVATION COMPETENCE ASSESSMENT INSTRUMENT: A FACTORIAL ANALYSIS** 9318
*M. Amorim, M. Ferreira Dias, M. Sarmento, M. Madaleno, D. Galego, L. Roldan*

**CONDITION OF EVALUATION SYSTEM OF SCHOOL ACHIEVEMENTS IN STUDENTS WITH SPECIAL EDUCATIONAL NEEDS IN KAZAKHSTAN** 9324
*A. Satova, A. Autayeva, E.M. Kulesza, L. Butabayeva, S. Bulabayeva*

**SETTING THE SUSTAINABLE DEVELOPMENT GOALS IN A UNIVERSITY ENVIRONMENT** 9326
*A. Romero, R. Dominguez, M. Carrion, A. Gomez, R. Garcia-Contreras*

**INVESTIGATION AND ANALYSIS OF ALGORITHMS FOR EVALUATING THE ACQUISITION OF KNOWLEDGE ON TEACHING STUDENTS AT THE HIGHER EDUCATION INSTITUTIONS** 9336
*I. Getova*

**IMMERSIVE DIDACTIC APPROACH: TEACHING WITH VIRTUAL REALITY AS INTEGRATED LEARNING ENVIRONMENTS** 9343
*A. Benassi, A. D'Alessio, M. Napolitano, R. Tammaro*

**CHEMISTRY SUBJECT IN THE BACCALAUREATE AS ADDRESSED BY FIRST YEAR CHEMISTRY GRADE STUDENTS** 9350
*A. Ortuzar, M. Elizalde, M. Campos*

**A NEW VIEW FOR THE TEACHING OF LIBRAS: A UNIVERSITY LISTENERS SECOND LANGUAGE** 9354
*S. Lopes Valentin, D. Grassi, J. Juliano, S. Almeida, C. Bortoloto, A. Guarinello*

**A SYSTEMATIC REVIEW AND ANALYSIS OF COMPUTER-SUPPORTED COLLABORATIVE ARGUMENTATION USING CITESPACE** 9361
*H. Yang, C.Y. Su, Y. Hu*

**UNDERSTANDING MOOCS LEARNERS: CULTURAL BACKGROUND AND MOTIVATION** 9369
*M. Milani, C. Moscardo, F. Cirulli*

**VISION BASED INTERACTION GAME FOR REVISING THE PERIODIC TABLE** 9376
*I. Ayed, A. Jaume-I-Capó, B. Moya-Alcover, F.J. Perales*

**CONCEPT BASED CURRICULA FOR 21ST CENTURY THIRD LEVEL EDUCATION** 9383
*G. O'Kelly*

**SIMULATION-BASED LEARNING FOR PROMOTING INTERPROFESSIONAL COLLABORATIVE PRACTICE IN GERONTOLOGICAL STUDENTS** 9384
*S.H.S. Lo, J.P.C. Chau, V.W.Y. Lee, A.Y.L. Lau*

**EUDONORGAN - TRAINING AND SOCIAL AWARENESS FOR INCREASING ORGAN DONATION IN THE EUROPEAN UNION AND NEIGHBOURING COUNTRIES** 9385
*M. Istrate, G. Páez, R. Valero, P. Peralta, E. Vera, C. Blanco, M. Manyalich, E. Consortium*

**EFFECTIVE COMMUNICATION IN PUBLIC SERVICES IN A DIVERSE LANGUAGE AND CULTURAL LANDSCAPE: A CHALLENGE FOR TEACHING AND TRAINING** 9386
*H. Asllani, J. Fisher*

**A REVIEW OF THE WORKING RELATIONSHIP BETWEEN ACADEMIC AND ADMINISTRATIVE STAFF AT THE UNIVERSITY OF SUNDERLAND WITH PARTICULAR REFERENCE TO COMMUNITIES OF PRACTICE** 9394
*D. Bell*

**3D CHATBOT IN HIGHER EDUCATION, HELPING STUDENTS WITH PROCRASTINATION AND STUDY PLANNING PROBLEMS** 9400
*K. Samyn*

**QUALITY OF INTERNAL ENVIRONMENT IN SCHOOL CLASSROOM AS FACTOR OF THE EFFECTIVENESS OF PRIMARY SCHOOL PUPIL´S EDUCATION** 9406
*V. Tomková, J. Depešová, I. Tureková, D. Vallo*

**FACTORS AFFECTING THE CHOICE OF SECONDARY SCHOOL IN SLOVAK REPUBLIC** 9414
*V. Tomková, L. Kostolanský*

**CULTIVATING EMPATHY FOR SYRIAN REFUGEE CHILDREN ON BEHALF OF TURKISH CLASSROOM TEACHERS** 9422
*M.E. Tuna, E. Karslı-Çalamak, A. Aracı Iyiaydın*

**AMBIVERT: A VIRTUAL PLATFORM FOR NETWORKING LABORATORIES** 9426
*P. Duarte, O. Santos, H. Marques*

**HOW TO ENHANCE THE ENROLLMENT AND RETENTION OF WOMEN IN STEM** 9437
*L. Pappalardo, L. Kemp, N. Ahmad*

**HOW MICROCREDENTIALS CAN FUTUREPROOF US AGAINST THE CHANGING REALITIES OF THE WORKPLACE** 9438
*K. Houchen*

**AN ANALYSIS OF THE RELATIONSHIP BETWEEN ACADEMIC MOTIVATION AND ACADEMIC ACHIEVEMENT IN UNIVERSITY STUDENTS** 9439
*L. Křeménková*

**TRANSPLANT PROCUREMENT MANAGEMENT: 25 YEARS OF INTERNATIONAL TRAINING PROGRAM IN ORGAN AND TISSUE DONATION** 9447
*C. Blanco, R. Valero, R. Adàlia, J.M. Domínguez, P. Peralta, C. Ballesté, E. Arredondo, M.P. Gómez, I. Roselló, G. Páez, M. Manyalich*

**SOCIAL SUPPORT AMONG UNIVERSITY STUDENTS** 9449
*E. Sedláková, L. Křeménková*

**THE ROLE OF YOUNG PEOPLE IN THE PROCESS OF IMPLEMENTATION OF NEW KNOWLEDGE IN PRACTICE** 9456
*D. Stoyanova*

**FACTORS INFLUENCING PUPILS PERFORMANCE IN EDUCATION** 9460
*M. Ažaltovičová, V. Tomková*

**ANALYSIS OF THE PERCEPTIONS OF GIFTED STUDENTS AND OTHER 7TH GRADERS ON FAIRY TALE HEROES/CHARACTERS** 9467
*D. Ünveren Kapanadze*

**ICT-MEDIATED INTRAPRENEURSHIP OUTLINE, THE ERASMUS+ INTRA-NET PROJECT** 9472
*A. Gallardo-Sanz, R. Esteller-Curto, P. Escuder-Mollon*

**STRATEGIES TO ENCOURAGE STUDENT PARTICIPATION IN SMALL GROUP SESSIONS** 9480
*E. Rilo Siso, S. García-Garabal, L. Segade, M. Domínguez-Pérez, O. Cabeza*

**EFFICIENT ENGINEERING DESIGN USING HUMOROUS IMPROVISATION** 9485
*P. Ludovice, L. Lefton*

**THE MEANING OF WORK FOR TUTORS IN DISTANCE EDUCATION** 9494
*Y. Neves, H.A. Irigaray, J. Liedke*

**DESIGNING OF STUDENT TUTORING ASSISTANCE FRAMEWORK USING MACHINE LEARNING TECHNOLOGY FOR TEACHERS** 9502
*S. Togawa, A. Kondo, K. Kanenishi*

**DIVE INTO BIOCHEMISTRY, AN APPROACH TO INCREASE INTEREST IN SCIENCE** 9507
*M. García-Teneche, J.M. Fernández Novell*

**ONLINE ACTIVITIES FOR ACQUIRING SOFT SKILLS AND TRANSVERSAL COMPETENCES IN ORGANISATIONS AND TEAMS; THE ERASMUS+ INTRA-NET PROJECT** 9514
*H. Saiz-Sanchez, P. Escuder-Mollon, S. Luna-Ojeda*

**HOW DOES ENGLISH LANGUAGE AFFECT TO THE ACADEMIC PERFORMANCE OF A SPANISH STUDENT IN THE SUBJECT OF PHYSICS?** 9519
*L. Segade, E. Rilo Siso, S. García-Garabal, M. Domínguez-Pérez, O. Cabeza*

**SELF-REGULATED STUDY SKILLS AMONG MALAYSIAN STUDENTS IN TRANSITION TO HIGHER EDUCATION** 9523
*J. Davies*

**INSIGHT OF AUTISM SCREENING, INTERVENTION AND ITS CORRELATION** 9531
*A.S. Shminan, S. Sharif, L.J. Choi, N. Fauzan*

**DESIGN PROPOSITIONS AND PROCESS STEPS FOR CURRICULUM DESIGN IN PROFESSIONAL HIGHER EDUCATION** 9541
*K. Baert, R. Stevens*

**USE OF TRADITIONAL CHILDREN'S PLAYS IN SOCIAL STUDIES COURSES** 9546
*H. Mertol, Ö. Çelikkol*

**INTRODUCING THE PRINCIPLES OF BIOMIMICRY AND USE OF BIOMATERIALS IN DESIGN EDUCATION** 9550
*M. Racine*

**ACADEMIC SELF-CONFIDENCE: STUDENTS PROGRESSING FROM FURTHER TO HIGHER EDUCATION** 9556
*A. Barlow, M. McCann*

**ASSESSMENT OF PROFESSIONAL COMPETENCE OF FUTURE TEACHERS OF LIFE SAFETY IN THE INTERIM ASSESSMENT USING WORLDSKILLS RUSSIA METHODS** 9564
*O. Bespyatykh, N. Koshkina*

**INCORPORATING 21ST CENTURY SKILLS INTO DUTCH SECONDARY SCHOOL MUSIC CURRICULUM** 9570
*D.W. Thompson II*

**ISSUES OF PROFESSIONAL IDENTITY IN AN EFL TEACHER EDUCATION PROGRAM IN COLOMBIA** 9580
*I. Zorro, J.C. Torres-Rocha, J.E. Bacca-Rozo*

**TEACHING AND LEARNING THROUGH VIDEOLESSONS: THEORIES AND METHODS** 9587
*M.A. Garito*

**METADESIGN & TREND RESEARCH AS OVERLAPPING AND CROSSING LAYERS. A DIDACTIC EXPERIMENTATION IN THE FIELD OF DESIGN** 9595
*M. Celi, A. Spagnoli*

**ONLINE & APP BASED LEARNING: MAKING INDIAN STUDENTS FUTURE READY** 9603
*D. Kapoor, R. Jain*

**THE NON-FORMAL ACADEMY EXPERIENCE: AN EXPLORATORY MODEL TO DEVELOP STUDENTS' COMPETENCES FOR WORKING IN INTERNATIONAL AND VIRTUAL TEAMS** 9612
*M. Amorim, M. Ferreira Dias, M. Rodrigues, J. Rainho, I. Dimas, J. Oliveira, E. Andrade*

**TYPOLOGY OF RELATIONAL COORDINATION MODEL IN HIGHER EDUCATION: THE CASE OF UNIVERSIDAD TECNICA ESTATAL DE QUEVEDO- ECUADOR** 9616
*C. De-Pablos-Heredero, E. Díaz-Ocampo, Y. Torres, C. Checa, C. Barba, A. García*

**STUDENT'S ACCUMULATED EXPERIENCE EFFECT IN THE ORGANIZATIONAL MODEL OF THE UNIVERSITY TECNICA ESTATAL DE QUEVEDO- ECUADOR** 9622
*C. De-Pablos-Heredero, E. Díaz-Ocampo, Y. Torres, C. Checa, C. Barba, A. García*

**ADVANTAGES OF BLENDED LEARNING APPLICATIONS WITH MODULAR ARCHITECTURE IN PRIMARY SCHOOLS IN SOUTHEASTERN MEXICO** 9627
*D. Vila-Rosado, A. Pacheco-Chuc, M. Esponda-Argüero, R. Rojas*

**THE WAY OF DETERMINING COMPETENCES OF A TEACHER AND ISSUES ON DEVELOPMENT OF PROFESSIONAL NECESSITIES IN GEORGIA** 9632
*M. Mikeladze, R. Shavadze*

**MULTIVARIATE ANALYSIS FOR OVERALL ASSESSMENT OF STUDENT LEARNING BASED ON SEVERAL INDIVIDUAL SCORES OBTAINED IN DIFFERENT ACTIVITIES** 9641
*M.S. Sánchez, M.C. Ortiz, L.A. Sarabia, S. Ruiz, O. Valencia*

**ADVISING STUDENTS AT SCALE: USING SINGLE-SOURCING TO ADVISE A LARGE COHORT OF POSTGRADUATE STUDENTS ON THEIR FINAL PROJECT** 9649
*A. Reppel*

**EXPLORING THE LEARNING AND TRAINING DIMENSION OF A DIGITAL PLATFORM FOR TERRITORY-BASED INNOVATION** 9654
*F. Ramos, L. Pedro, M. Almeida, P. Silva*

**ANALYSIS OF THE RESULTS OF PROGRAM FINANCING IN THE HIGHER EDUCATION SYSTEM OF GEORGIA AND IMPROVING TENDENCY OF ASSESSMENT INDICATORS** 9659
*G. Abuselidze, M. Mikeladze*

**A PERFORMANCE INDICATORS OF UNIVERSITY-INDUSTRY COLLABORATION** 9664
*L. Šereš, V. Pavlicevic, P. Tumbas, P. Matkovic, M. Maric*

**STUDENTS' TRAINING IN THE EVALUATION OF ORAL HYGIENE WITH MICROBIOLOGICAL TESTS** 9673
*I. Casado Gómez, J.F. Martín Morales, E. Descalzo Casado, P.T. Romero-Lastra, A.A. Domínguez Gordillo, B. Bravo González, C.M. Arías Macías, M.C. Sánchez Beltran, M.A. Llama Palacios, A. O´Connor de Oliva, M. Romero Martín*

**EMBRACING THE CONSUMERIZATION OF IT – BUSINESS INFORMATICS CURRICULUM (RE)DESIGN** 9680
*M. Sakal, L. Rakovic, L. Šereš, V. Vukovic*

**PERCEPTION OF THE USE OF THE SMARTPHONE IN CLASS AS A WAY OF MEASURING THE ATTITUDE TOWARDS THE STUDY** 9686
*D. Mejía, A. Franco-Crespo, F. Herrera, V. Ramos*

**THE ROLE OF THE TEACHER IN COLLABORATIVE WRITING PROJECTS** 9692
*A. Zanatta*

**TODAY PARENTS' PROFILE - EDUCATIONAL IMPLICATIONS (ROMANIAN POPULATION)** 9698
*C. Bucur, L.E. Ciolan, A. Petrescu*

**SCORING MODELS FOR PEER ASSESSMENT IN TEAM-BASED LEARNING PROJECTS** 9704
*P.H. Vossen*

**THE PARENTS' ROLE IN THE GENERAL COUNCIL OF PORTUGUESE SCHOOLS – EFFECTIVE PARTICIPATION OR MERE ORCHESTRATION OF REALITY?** 9714
*I. Cabral, J. Matias Alves, D. Soares, C. Palmeirão*

**STUDY OF EDUCATIONAL METHOD BY CONSIDERING SUSTAINABLE URBAN DEVELOPMENT** 9722
*A. Kondo, S. Togawa*

**LEARNING EUROPE TROUGH STUDYING AND DISCOVERING OPPORTUNITIES WITHIN THE FRAMEWORK OF ERASMUS+ PROGRAMME** 9728
*E. Murugova, S. Evtushenko, V. Demchenko, V. Grekova*

**APPLICATION OF BLOGS TO HOME ECONOMICS IN THE FIELD OF EDUCATION** 9736
*J. de Pablo Valenciano, J. Milán García, J.L. Ruiz Real*

**THE EDUCATIONAL POTENTIAL OF SOCIAL ADVERTISING IN THE TEACHING STYLISTICS TO THE STUDENTS OF LINGUISTIC UNIVERSITIES** 9740
*I. Balabanova, A. Seredina, F. Yarullina, N. Tikhonova*

**INNOVATION TOOLS APPLIED TO MASTER'S AND UNIVERSITY DEGREE COURSES AT THE UNIVERSITY OF ALMERIA (SPAIN)** 9744
*J. de Pablo Valenciano, J. Milán García, J. Uribe Toril, N. Rueda López*

**STUDENTS OF ACADEMY OF ART LEARN AND EXPLAIN THE CIRCULAR ECONOMY THROUGH CREATIVITY AND COMPUTER ART** 9752
*D. Rinaudo*

**EDUCATIONAL AND PRACTICAL POSSIBILITIES FOR THE DEVELOPMENT OF THE INTERCULTURAL COMMUNICATION OF HEALTH CARE TEAM MEMBERS** 9762
*A. Eidimtas, R. Brunevičiūtė, A. Blaževičienė*

**LEARNING HOW TO USE A QWERTY KEYBOARD WITH A GAME INTERFACE FOR CHILDREN: A USABILITY PRELIMINARY STUDY** 9769
*T. Rocha, R. Rodrigues Nunes, P. Martins, J. Barroso*

**SONGS' LYRICS AND CATCHY TUNES - EFFECTIVE TOOLS OF BUILDING VOCABULARY AND LEARNING GRAMMAR** 9775
*S. Popova*

**MTESTING IN THE ENGLISH FOR SPECIFIC PURPOSES CLASS** 9780
*I. Bocianu*

**TECHNOLOGY FOR ENGLISH FOR SPECIFIC PURPOSES: CREATING DATABASES** 9781
*I. Bocianu*

**MENTAL MAPS IN EDUCATIONAL PROCESS AND THEIR IMPACT ON PUPIL'S LEARNING PERFORMANCE** 9786
*R.Š. Koleňáková*

**FIRST RESULTS OF PHILOSOPHY FOR CHILDREN COURSE WITH UNIVERSITY STUDENTS IN SLOVAKIA – EVALUATIVE RESEARCH** 9795
*L. Kaliska, J. Kalisky*

**TRAIT EMOTIONAL INTELLIGENCE DEVELOPMENT POSSIBILITIES OF PRIMARY SCHOOL-AGED CHILDREN** 9801
*L. Kaliska*

**INSIGHTS INTO NEW GENERATION STUDENTS' VALUES** 9808
*R. Kriaučiūnienė*

**ENGINEERING EDUCATION FOR K-12 STUDENTS: STORYTELLING AND CURRICULUM FRAMEWORK FOSTERING ACTIVE LEARNING** 9814
*F. Campos*

**DATA EXPLOITATION IN INTEGRATED DEVELOPMENT ENVIRONMENTS USED IN COMPUTER SCIENCE TEACHING** 9820
*N. El Bahri, Z. Itahriouan, A. Abtoy, S. Brahim Behaouari*

**THE ROLE OF THE LITERATURE AND THE PHILOSOPHY EDUCATION IN THE DIGITAL WORLD AND THE VALIDATION OF THE CULTURAL IDENTITY THROUGH THE MEANS OF DISTANCE LEARNING PLATFORMS** 9827
*O. Kouzov*

**ADVERTISING TEXT IN THE SPACE OF UNIVERSITY LINGUISTIC EDUCATION** 9833
*I. Balabanova, T. Kalegina, N. Titova, M.S. Lukina*

**PRE–SERVICE TEACHERS´ EDUCATION: FIRST AID FOR CHEMICAL WASTE INTOXICATION** 9838
*M. Feszterová*

**RESILIENCE AS THE LEADER'S COMPETENCY** 9846
*T. Trnková, M. Marek*

**DIFFERENT METHODOLOGIES AT WORK: EXTRACTING SCENARIO'S MODELS FROM DIFFERENT PEDAGOGICAL EXPERIENCES WITHIN A MULTIFACETED ECOSYSTEM** 9853
*S. Lariccia, E. Shmueli, I. Barth, M. Montanari*

**ON THE IMPORTANCE OF MISCONCEPTIONS' DETECTION IN PRE-SERVICE TEACHERS** 9854
*D. Airado-Rodríguez, M. Campos, M.D. Víctor-Ortega, F. Cañada*

**COMMUNICATION IN DIGITAL PLATFORMS: A CASE STUDY OF PORTUGUESE AND SPANISH HIGHER EDUCATION STUDENTS** 9858
*J. Gonçalves, J. Brigas, F. Gonçalves*

**ENTREPRENEURIAL ORIENTATION IN ROMANIAN HIGHER EDUCATION** 9864
*D.M. Lina, A.M. Ionescu, M.V. Bedrule-Grigoruta*

**CULTURAL DIFFERENCES IN SPANISH SPEAKERS' BACKGROUND AS A TEACHING RESOURCE** 9873
*O. Palutina, A. Ismagilova, S. Pupyreva, J. González*

**FACEBOOK POSTS AND DESIGN PEDAGOGY: AN EGYPTIAN CASE STUDY OF SOCIAL MEDIA COMMUNICATION IN SUPPORT OF AN ARCHITECTURAL STUDIO** 9878
*R. Bakir, S. Alsaadani*

**ALTERNATIVE IDEAS ABOUT LIGHT IN ELEMENTARY EDUCATION PRE-SERVICE TEACHERS** 9888
*D. Airado-Rodríguez, A. Martín, M.A. Dávila, M.D. Víctor-Ortega, F. Cañada*

**DEVELOPMENT OF PRIMARY SCHOOL STUDENTS' MATHEMATICS ABILITIES BY USING OF DIFFERENT TEXTBOOKS** 9893
*N. Cibulskaitė*

**APPROACHES TO TRAINING OF PROFESSIONAL MILITARY PERSONNEL IN THE FIELD OF DIRECT LEADERSHIP** 9901
*M. Marek, T. Trnková*

**ROOT CAUSES OF THE MAIN DIFFICULTIES FOUND BY THE ENGINEERING DEGREE STUDENTS IN THE SUBJECT NUMERICAL METHODS** 9909
*F. Sánchez Lasheras, M.J. Fernández Gutiérrez*

**ADVISORY BOARDS AND THEIR KEY ROLE IN HIGHER EDUCATION: A REVIEW** 9915
*M. Vila Bonilla, H. Torrez Meruvia, S. Cruz Almanchel*

**SPECIALIZED TRAINING FOR THE SOIL AND WATER BIOENGINEERING SECTOR IN THE MEDITERRANEAN ENVIRONMENT. ECOMED PROJECT** 9916
*J.L. García, M. Gimenez, P. Sangalli, G. Tardío*

**STUDENT AND INSTRUCTOR PERSPECTIVES ON A CO-ASSESSMENT-BASED APPROACH TO MANAGEMENT EDUCATION** 9921
*M. Vila Bonilla, H. Torrez Meruvia, S. Cruz Almanchel*

**IMPROVING DIGITAL LITERACY IN PRIMARY EDUCATION** 9922
*R. Tammaro, I.S. Iannotta, C. Ferrantino*

**BRINGING RESEARCH TO THE FORE. LESSONS FROM DEVELOPING A GREATER RESEARCH CULTURE IN A STEM DEPARTMENT WITHIN A TEACHING-FOCUSED UNIVERSITY** 9928
*H. Shah, I. McDonald, M. Reed, S. Buckmaster*

**EHEALTH EUROCAMPUS: AN INNOVATIVE EDUCATIONAL FRAMEWORK TO TRAIN QUALIFIED PROFESSIONALS IN THE EMERGING EHEALTH SECTOR** 9938
*Y. Gonzalez-Cid, C. Guerrero, J. Lobo, A. Tarbal, R. Picking, N. Castell, S. Abdelaziz, B. Voegel, X. Tous, C. Pattichis, B. Rigaud*

**THE CONTRIBUTION OF THE PSYCHOMOTOR DOMAIN TO THE LEARNING OF READING AND WRITING** 9948
*C. Ribeiro, A.P. Couceiro-Figueira, J. Santos, A.C. Ferreira de Almeida, S. Campos*

**TEACHING PHYSICS THROUGH CODING** 9954
*S. Arabasi*

**THE POTENTIAL IMPACT OF MASSIVE OPEN ONLINE COURSES ON TECHNOLOGY EDUCATION AND GLOBALIZATION** 9959
*P. Chin*

**COMPMATH 2018 - THE SEVENTH STUDENT OLYMPIAD IN COMPUTER MATHEMATICS** 9964
*S. Kapralov, S. Bouyuklieva, P. Kopanov*

**IS SUSTAINABLE ENTREPRENEURSHIP A LEARNING COMPETENCE?: VISION FROM HIGH EDUCATION ORGANIZATION** 9971
*C. Aviles, A. Rodriguez-Olalla, J. Garcia-Alfonso, A. Chinchilla, M. Gimenez*

**CRITICAL THINKING IN THE PROGRAM OF MORAL EDUCATION IN SLOVAKIA** 9972
*J. Kalisky*

**THE IMPORTANCE OF EMOTIONAL COMPETENCIES IN THE LEADERSHIP OF THE SCHOOL** 9979
*C. Ribeiro, S. Campos, M.L. Coelho, A.P. Couceiro-Figueira, A.C. Ferreira de Almeida*

**STUDENT TEACHERS' PERSPECTIVE ON EMOTIONS AND RELATIONSHIPS IN EDUCATION – CROATIAN CONTEXT** 9983
*S. Simel Pranjic*

**A CONCEPTUAL EXERCISE TO ENHANCE STUDENT UNDERSTANDING IN PHYSICS: A CASE STUDY IN INTRODUCTORY PHYSICS** 9993
*H. Al-Taani*

**LIVE LECTURE SCREENCAST RECORDING: A PROPOSAL TO SIMPLIFY THE TASKS ASSOCIATED WITH CONTENT PRODUCTION FOR VIDEO-TEACHING** 9997
*J.M. Vargas, C. de Trazegnies, E. Liger, I. Alados, J.M. Peula, J.C. Sanchez, M. Gomez, D. Camacho*

**INCREASING STUDENT ENGAGEMENT VIA A TECH BAN IN THE CLASSROOM** 10005
*G. Amor*

**HOW TO EXPAND THE SCOPE OF YOUR LECTURE USING KAHOOT? CONTEXTUALIZING ECONOMIC TERMINOLOGY IN THE SUBJECT OF MACROECONOMICS** 10006
*P.J. Moreno, A. Andrades, M.A. Martínez, M.M. Muñoz Leonisio, S. Ruiz, M.R. Marín, J. Ruiz Chico*

**ASSESSING A B-LEARNING TEACHING APPROACH AND STUDENTS' LEARNING PREFERENCES IN HIGHER EDUCATION** 10007
*T. Cardoso, F. Pestana, J. Pina*

**THE CHALLENGES OF HIGHER EDUCATION IN LATIN AMERICA TOWARDS THE KNOWLEDGE ECONOMY** 10013
*A. Franco-Crespo, V. Ramos, F. Herrera, H. Chávez*

**FACILITATING EN/COUNTERS WITH RACISM AND ABLEISM THROUGH TECHNICAL ASSISTANCE IN PUBLIC SCHOOLS** 10023
*K. Thorius*

**REFRESHING POPULAR SCIENCE THROUGH MOLECULAR CUISINE** 10024
*M. García-Teneche, J.M. Fernández Novell*

**INTERRELATION BETWEEN THE UNIVERSITY'S SOCIAL RESPONSIBILITY AND SUSTAINABILITY** 10030
*O.A. Burukina, N. Lyasnikov, M. Dudin, E. Frolova*

**UNIVERSITY GOODWILL AND ITS VALUATION** 10040
*O.A. Burukina, N. Lyasnikov, M. Dudin, E. Frolova*

**MARKETING TRENDS IN HIGHER EDUCATION: UNIVERSITIES' TOOLBOX** 10050
*S. Karpova, O.A. Burukina*

**UNIVERSITIES' INTERNATIONALIZATION MANAGEMENT: STATE-OF-THE-ART IN ATTRACTING FOREIGN STUDENTS** 10052
*O.A. Burukina, S,V,. Karpova, A.N. Lebedev, N.S. Sarahanova*

**THE EFFECTIVENESS OF USING TECHNOLOGY ON STUDENTS' CONFIDENCE IN MATHEMATICS** 10053
*B. Awaji, V. Lally, R. Mancy*

**TOWARD THE PERTINENCE OF OUR TEACHING PRACTICE IN GEOMETRY ACCORDING TO NEW MATH REVOLUTION** 10057
*L. Sbitneva, N. Moreno-Martínez, R. Angulo-Villanueva*

**AXIOLOGY OF TOURISM AS A BASIS OF PROFESSIONAL EDUCATION FOR TOURISM INDUSTRY** 10065
*O.A. Burukina, G.N. Kutepova*

**AXIOLOGICAL HORIZONS OF CONTEMPORARY HIGHER EDUCATION** 10067
*O.A. Burukina, G.N. Kutepova, A.N. Lebedev, V. N. Subbotin*

**PEDAGOGICAL ETHICS FOR THE FORMATION OF HAPPY STUDENTS** 10068
*T. Koshmanova, T. Ravchyna*

**21ST CENTURY TRANSMEDIA STORYTELLING: EXPERIENCING NARRATIVE TRANSPORTATION** 10073
*L.F. Dal Pian, M.C. Dal Pian, M. Dal Pian*

**EDUCATING ON CIRCULAR ECONOMY AND DIY MATERIALS: HOW TO INTRODUCE THESE CONCEPTS IN PRIMARY SCHOOL STUDENTS?** 10083
*J. Alarcón, M. Palma, L. Navarrete, G. Hernández, A. Llorens*

**THE REFORM OF HIGHER EDUCATION POLICY WITHIN THE FRAMEWORK OF POST-NEOLIBERAL GOVERNMENTS. THE ECUADORIAN CASE: A COMPLEX RELATIONSHIP BETWEEN THE ACADEMIC COMMUNITY AND THE GOVERNMENT** 10089
*F. Herrera, V. Ramos, A. Franco-Crespo*

**WRITING TO LEARN: FROM STORIES WRITTEN BY CHILDREN TO MATHEMATICAL CONTENTS** 10098
*H. Campos, S. Oliveira*

**POETIC MATHEMATICS - A PROPOSAL FOR LEARNING MATHEMATICS** 10108
*H. Campos, D. Saraiva*

**TO EMBED OR NOT TO EMBED UNDERGRADUATE ACADEMIC WRITING SKILLS - THAT IS THE QUESTION: AN INTRADISCIPLINARY APPROACH** 10116
*S. McCotter*

**A MIND MAP: THE TOOL OF COGNITION** 10121
*A. Kireeva*

**INFORMATION AND COMMUNICATION TECHNOLOGIES PRACTICES AND ENVIRONMENT ACCORDING TO UNDERGRADUATE STUDENTS VOICES AT UNIVERSIDAD IBEROAMERICANA, MEXICO CITY** 10126
*A. Rivera-Aguilera, M.C. Herrera-Solís, S. Carrillo Moreno*

**TUTORING EXPERIENCE IN AN INFORMATION LITERACY ONLINE COURSE FOR TEACHERS AT BIBLIOTECA FRANCISCO XAVIER CLAVIGERO, IBERO MÉXICO** 10133
*A. Rivera-Aguilera, G. Vergara-Mendoza*

**COLLABORATING WITH DELAY - A DESIGN EFFORT DEALING WITH LATENCY AND JITTER IN A REALTIME COLLABORATIVE SYSTEM** 10134
*S. Nilsson*

**DESIGN BASED-LEARNING: RETHINKING INTERACTION BETWEEN TEACHING AND LEARNING IN THE RURAL PRIMARY EDUCATION CONTEXT** 10139
*J. Alarcón, G. Hernández, M. Palma, L. Navarrete, A. Llorens*

**DEVELOPMENT OF AN INTELLIGENT TUTORING SYSTEM OF GENERALIZED SUPPORT FOR DIFFERENTIATED LEARNING** 10145
*A.L. Franzoni Velázquez, J. Navarro Perales, F. Cervantes Pérez*

**A CASE STUDY IN STEM EDUCATION FOR LEARNERS WITH SPECIAL EDUCATION NEEDS** 10152
*I. Ghergulescu, A.N. Moldovan, M. Bratu, C.H. Muntean, G.M. Muntean*

**ASSESSING LINGUISTIC PERFORMANCE OF CHILDREN ACQUIRING SECOND LANGUAGE (LATVIAN) IN PRESCHOOL EDUCATION** 10158
*I. Tomme-Jukēvica*

**TEACHING FOR A SUSTAINABLE AWARENESS, CASE STUDY** 10159
*A. Llorens, J. Alarcón, C. Di Bartolo*

**EDUCATE IN SPACES DESIGNED TO LEARN: PRIMARY EDUCATION CASE** 10166
*A. Llorens, J. Alarcón, C. Di Bartolo*

**"I WISH I'D KNOWN THAT BEFORE I STARTED!" A PROPOSED MODEL FOR CAPTURING AND SHARING EXPERIENCES TO SUPPORT STUDENT ENGAGEMENT, WELLBEING AND RETENTION THROUGHOUT THE FIRST YEAR AND BEYOND** 10172
*H. Williams*

**BIG ACADEMIC OPEN COURSE BASE ON CLOUD COMPUTING** 10173
*H. Pablo Leyva, R.B. Silva-López, I.I. Méndez Gurrola*

**PERCEPTION OF THE STUDENTS OF THE BAOC MODALITY: NUMERICAL METHODS IN ENGINEERING COURSE** 10179
*H. Pablo Leyva, R.B. Silva-López, I.I. Méndez Gurrola*

**POSSIBILITIES OF MOBILE LEARNING IN RURAL CONTEXTS** 10184
*J. Zambrano, T. Orrego, E. Ramirez*

**ICT-SUPPORTED EFL INSTRUCTION IN ACADEMIC WRITING FOR RESEARCH IN EDUCATION** 10194
*R. Castillo*

**DESIGN THINKING IN PROGRAMMING LABS** 10201
*M. Djordjevic*

**ALL THE FUN AT THE FAIR: THE ONLINE CAROUSEL - 200 POSTGRADUATE STUDENTS IN 10 MONTHS: A LEADERSHIP PERSPECTIVE** 10202
*S. McCotter*

**USING SERVICE DESIGN IN TEACHING AND LEARNING SUPPORT SERVICES DEVELOPMENT: CASE TEACHING SERVICE POINT AND STUDENT ANALYTICS DASHBOARD** 10209
*M. Torkkeli, J. Lallimo*

**HISTORICAL ARCHITECTURE IN SEISMIC AREAS: MULTILEVEL APPROACH FOR VULNERABILITY ASSESSMENT** 10215
*F. Maroldi, M. Colombo, F. Dell'arciprete, F. Vanerio*

**REUSE DESIGN IN HISTORICAL CONTEXT: THE HUTONG AREAS IN BEIJING** 10226
*F. Maroldi, M. Lunati, M. Moretti, G. Pelucchi*

**ASSESSMENT OF THE CURRENT SITUATION OF STEAM NON-FORMAL EDUCATION AND FUTURE NEEDS: THE CONTEXT OF THE OPINIONS OF STUDENTS ATTENDING THE 5TH–10TH FORMS** 10236
*R. Bilbokaitė, V. Šlekienė, I. Bilbokaitė-Skiauterienė*

**MATH TEACHER'S VIEW ON INTEGRATING COMPUTERS IN THE CLASSROOM** 10244
*E. Wasserman, E. Berger*

**IN PURSUIT OF EXCEPTIONAL QUALITY OF STUDIES: THE ASPECT OF PERFECTION OF MASTER'S STUDY PROGRAMMES** 10249
*R. Bilbokaitė, I. Bilbokaitė-Skiauterienė*

**DEVELOPMENT OF DIGICULTURE EDUCATIONAL PROGRAM FOR DIGITAL SKILLS TRAINING FOR ADULTS IN CREATIVE INDUSTRIES** 10255
*D. Andone*

**THE SIMS: A STUDY OF MACHINIMA'S PRODUCTIONS WITHIN EDUCATIONAL USE** 10256
*K. Schiavon*

**ASSESSING STUDENTS' DIGITAL LITERACY WITH INTERACTIVE COMPUTER-BASED TASKS CREATED IN GOOGLE APPS SCRIPT** 10265
*L. Siiman, M. Mäeots*

**SOME ACCESSIBILITY PROBLEMS OF EDUCATIONAL TECHNOLOGIES FOR PEOPLE WITH DISABILITIES** 10272
*G. Bogdanova, S. Kapralov, N. Sabev*

**SELF-EDUCATION ON THE WEB: STUDY ON RELATIONS AMONG NON-FORMAL ONLINE LEARNING, VALUE OF EDUCATION AND PROFESSIONAL ORIENTATION** 10279
*J. Pospíšil, H. Pospíšilová, L. Trochtová*

**USING A MULTI-STAKEHOLDER SCENARIO TO IMPROVE THE INTEGRATION OF SUSTAINABILITY INTO AN ENGINEERING DESIGN COURSE** 10287
*S. Motavas*

**DYNAMIC SCAFFOLDING, ASSESSMENT, AND GAMIFICATION USING UNICORDERNOTEBOOK™** 10292
*T. Iliev*

**WHAT DO STUDENTS' FLIPPED LEARNING EXPERIENCES ADVISE FOR FLIPPED TEACHING? FINDINGS OF A CASE STUDY AND IMPLICATIONS FOR FLIPPED TEACHING** 10293
*M. Engel*

**DIFFICULTIES IN LEARNING THERMODYNAMICS, THAT HAVE THEIR ORIGIN IN THE SUBJECT MATTER** 10301
*H. Aguilar, M. Del Moral, M. Jurado, P. Medina-Mora, G. Muñoz, F. Núñez, C. Pérez*

**WORK-INTEGRATED LEARNING IN AGRICULTURAL MANAGEMENT EDUCATION IN SOUTH AFRICA: AN ESSENTIAL COMPONENT FOR WORK-READINESS AND EMPLOYABILITY IN THE AGRICULTURAL VALUE CHAIN** 10306
*J. Jordaan*

**EFFECTS IN SELF-PERCEPTION AND RELATIONSHIPS AFTER A BRIEF EXPERIENCE OF ROLE-PLAYING GAME WITH 7TH GRADE STUDENTS** 10307
*A. Sousinha, A.C. Ferreira de Almeida*

**THE IMPACT OF LEARNING SCENARIOS AND DIGITAL EDUCATIONAL CONTENT IN TEACHING CHEMISTRY AT INCLUSIVE SCHOOL IN CROATIA** 10315
*Z. Stančić, K. Matejčić*

**ETHICAL AND MORAL ASPECTS OF THE COMMUNIST EDUCATION AND THEIR REFLECTION IN THE HISTORY ROMANIAN** 10324
*C. Alexandrache*

**IMPROVING ONLINE COURSE DESIGN USING QUALITY MATTERS STANDARDS** 10331
*A. Chekour*

**APPLICATION OF BLOOM'S TAXONOMY IN DEVELOPING GAMIFICATION MECHANISMS AND DYNAMICS FOR CASES BASED LEARNING IN MEDICAL EDUCATION** 10332
*A. Nagarajan, A. Sen*

**BUILDING A BETTER WORLD FOR ALL CHILDREN: TOOLKIT FOR SOCIAL INCLUSION OF MIGRANT OR REFUGEE STUDENTS IN SCHOOLS - OUTPUT OF THE INTERNATIONAL PROJECT "LEND A HAND"** 10339
*A.C. Ferreira de Almeida, C. Ribeiro, A.P. Couceiro-Figueira, A. Di Fabio, E. Er, L. Palazzeschi, F. Şahin, K. Yenel*

**INCLUSIVE DESIGN AS THE CENTER OF THE LEARNING PROCESS** 10347
*P. Fuentes-Durá, M. Puyuelo Cazorla, M. Val Fiel*

**EXPLORING THE USES OF BLOGS AND WIKIS AS TEACHING AND LEARNING TOOLS IN MATHEMATICS: FINDINGS AND IMPLICATIONS** 10356
*R. Zein*

**IMPLICATION AND APPLICATION OF CLOUD COMPUTING IN THE SAUDI HIGHER EDUCATIONAL SECTOR** 10364
*E. Chikhaoui*

**THE FAILURE STRATEGY OF LEARNING IN ACCOUNTING, FINANCE AND LAW** 10370
*R. Abreu, L. Segura, J. Legcevic*

**DIGITAL LITERACY: ASSESSING PERCEIVED DIFFERENCES AMONG COMPUTING STUDENTS FROM TWO NEARBY UNIVERSITIES** 10378
*L.J. Calloway, J. Walker, S. O'Callaghan, M. Binbasioglu, C. Dwyer, R. Elson*

**EFFECTIVE USE OF INTERACTIVE VIDEOS AS AN EDUCATIONAL TOOL IN HIGHER EDUCATION – AN ASIAN CONTEXT** 10379
*E. Tan Ti-Shen, A. Sen*

**INTERSUBJECTIVITY IN RESEARCH ON THE EXAMPLE OF FORENSIC SCIENCES METHODS** 10386
*M. Nawrocka, M. Buszkiewicz*

**TEACHING METHODS OUTSIDE THE CLASSROOM: STUDENT´S EXPERIENCE** 10391
*M.V. Biezma, P. Linhardt, C. Berlanga*

**THE CHALLENGES OF TEACHING FOREIGN POST-GRADUATES IN RUSSIAN UNIVERSITIES** 10396
*M. Kunovski, M. Bragina, G. Myers*

**MODEL OF INTERETHNIC INTERACTION: THE STRUCTURE AND CONTENT IN CASE OF AN INTERNATIONALLY ORIENTED UNIVERSITY** 10401
*N. Pomortseva, M. Kunovski*

**DESIGN OF RESOURCES FOR AN INFORMAL LEARNING** 10406
*M. Puyuelo Cazorla, P. Fuentes-Durá, J.L. Higón Calvet*

**TEACHING CALCULUS OF COMPLEX VARIABLES WITH MATHEMATICA** 10412
*R.D. Santiago-Acosta, E.M. Hernández Cooper*

**«MOTHER'S SCHOOL» AS THE FORM OF PREPARE PARENTS OF INFANT CHILDREN FOR KINDERGARTEN** 10419
*M. Zaboeva, N. Andreeva*

**COMPUTERIZED VISUALIZATION AS A PROMOTOR OF COGNITIVE AND LINGUISTIC DEVELOPMENT: WHAT CAN WE LEARN FROM THE CASE OF A DEAF BOY** 10423
*P. Miller*

**MECHANISM FOR DEVELOPING SCIENTIFIC CONCEPTS** 10424
*A.E. Barbosa de Oliveira Baptista, R.F. Lourenço Rodrigues*

**PERSONALIZATION OF E-LEARNING BY USING OF LEARNING PROCESSES WITH BRANCHING** 10432
*D. Domazet, N. Gavrilović*

**"BAXTER" INDUSTRIAL ROBOT ONLINE CONTROL** 10443
*Y. Yordanov, O. Nakov, V. Mladenov*

**EDUCATING CITIZENS FOR IMPLEMENTING THE STRATEGY OF CORPORATE SOCIAL RESPONSIBILITY FOR SUSTAINABLE REGIONAL DEVELOPMENT: THE CASE STUDY** 10449
*V. Jarmusevica, D. Ilisko, J. Badjanova, V. Jukšs, M. Petrova*

**EFFECTS OF TIME MANAGEMENT ON THE PASS RATE OF UNDERGRADUATE AND POSTGRADUATE OFFICE MANAGEMENT AND TECHNOLOGY STUDENTS** 10455
*K. Ngwane, A. Sikhakhane*

**INVESTIGATING ACADEMIC STAFF TURNOVER AND ITS IMPACT AT COASTAL KZN TVET COLLEGE** 10461
*K. Ngwane, S. Khanyase, L. Gumbi*

**COMPUTER-MEDIATED INTERVENTION: CAN COGNITIVE FLEXIBILITY OF AUTISTIC CHILDREN BE IMPROVED?** 10466
*S. Eden*

**BUILDING AND PROGRAMING ROBOTS – A GROUP ACTIVITY FOR ENHANCED LEARNING OF UNDERGRADUATE GENERAL PHYSICS** 10470
*N. Seetala, J. Jno-Baptiste*

**TEACHER EDUCATORS: FACILITATING TRANSFER OF TRAINING** 10485
*L. McDonald*

**DESIGNING AN ETHICS COURSE IN A BOLOGNA ENGINEERING MASTER** 10497
*J. Figueiredo*

**ADAPTING MOODLE RESOURCES FOR DEVELOPING EFFICIENT READING SKILLS IN ENGLISH AS A FOREIGN LANGUAGE CONTEXT** 10504
*A. Makhmutova*

**THE RENAISSANCE OF THE RUSSIAN EDUCATION STRATEGY IN THE MIDDLE EAST** 10514
*A. Kilani, N. Durgham, A. Malakhovsky*

**NARRATIVE COMPETENCE IN PRETENSE PLAY AND STORIES** 10518
*R. Glaubman, H. Glaubman*

**THE UP2 UNIVERSITY PROJECT AT PHYSISCOPE** 10519
*S. Lariccia, M. Boselli, E. Bocchi*

**DEVELOPING A FRAMEWORK FOR EDUCATORS' DATA LITERACY IN THE EUROPEAN CONTEXT: PROPOSAL, IMPLICATIONS AND DEBATE** 10520
*J.E. Raffaghelli*

**THE PROBLEMS OF DISTANCE LEARNING EDUCATION WHILE TEACHING FOREIGN LANGUAGES AT THE NON-LINGUISTIC HIGHER SCHOOL** 10531
*O. Digtyar, N. Fomina, O. Anyushenkova, L. Esina, E. Zakirova*

**ENHANCING SCIENCE LEARNING THROUGH ART: HIGHLIGHTING NEW COMMONALITIES FOR STEAM** 10536
*M.A. Vázquez-Manassero, M.A. Manassero-Mas, A. Vazquez-Alonso*

**IMPROVING THE STUDENTS' SELF-EFFICACY BELIEFS TOWARD LEARNING SCIENCE THROUGH A FLIPPED TEACHING MODEL** 10544
*J.S. Jeong, D. González-Gómez*

**HAPPY STUDENTS, HAPPY LEARNERS** 10549
*A. Bhargava*

**MULTIPLE INTELLIGENCES, MULTIPLE EFFECTS: A COLIMA CASE STUDY** 10550
*Y. Nepomuceno Olea, M. Rubio Chiu, P.J. Mayoral Valdivia*

**HIGHER SCHOOL CURRICULUM AS A STARTING POINT IN ACQUIRING COMPETENCE IN WORKING WITH GIFTED CHILDREN AND PUPILS** 10554
*V. Valjan Vukić*

**PARENTS' SUPPORT IN PARTICIPATING IN ORGANIZED LEISURE TIME ACTIVITIES** 10559
*V. Valjan Vukić*

**THE EFFECT OF TEACHING PROSODIC STRESS PATTERNS ON LISTENING COMPREHENSION OF ADULT EFL LEARNERS** 10566
*M. Joze Tajareh*

**ACCESSING RELIABLE INFORMATION: AN INFORMATION PORTAL ON ARCHIVAL RECORDS FOR TRAINING BA STUDENTS IN ARCHIVAL AND DOCUMENTARY STUDIES SPECIALTY** 10572
*H. Atanasov*

**EDUCATION OF CHILDREN WITH PROFOUND AND MULTIPLE INTELLECTUAL DISABILITIES AND THE REQUIREMENTS TOWARDS SPECIAL EDUCATION TEACHERS IN POLAND** 10580
*D. Aksamit*

**A STUDY TO INVESTIGATE THE EFFECT OF PROBLEM BASED LEARNING AND HISTORY OF SCIENCE APPROACH ON CREATIVE THINKING OF TURKISH PRESERVICE SCIENCE TEACHERS** 10588
*N. Dogan, A. Vázquez-Alonso, M. Manassero-Mas*

**TRANSLANGUAGING IN THE CULTURALLY DIVERSE CLASSROOMS OF A SOUTH AFRICAN SCHOOL: TOWARDS IMPROVING ACADEMIC SUCCESS AND LITERACY COMPETENCIES, A PARADIGM SHIFT TO TRANSLINGUALISM?** 10589
*M. Kepe, A.M. Linake*

**GOING PRO IN FINNISH - MAKING PROFESSIONAL FINNISH DIGITALLY AVAILABLE FOR ADVANCED ACADEMIC LEARNERS** 10602
*T. Möttönen, J. Piirainen*

**THE INFLUENCE OF USABILITY ATTRIBUTES ON STUDENTS' USE OF LEARNING MANAGEMENT SYSTEMS: A THEORETICAL FRAMEWORK** 10608
*S. Binyamin, M. Rutter, S. Smith, A. Alshehri*

**'A CUSTOMER COMES WITH A PROBLEM…' A PRACTICAL APPROACH TO PROJECT CLASSES** 10620
*A. Ryfa*

**IMPACT OF BUSINESS ENVIRONMENT INSTITUTIONS ON EFFECTIVE ENTREPRENEURIAL EDUCATION** 10625
*Z. Gródek-Szostak, L. Ochoa Siguencia, D. Kajrunajtys*

**THE POSTER AS A FORM OF ACTIVE PARTICIPATION OF STUDENTS IN THE SCIENTIFIC MOVEMENT** 10630
*Z. Gródek-Szostak*

**TECHNOLOGY INTEGRATION IN TVET COLLEGES IN A SEMI-URBAN AREA** 10634
*R. Naidoo, T. Dawuwa*

**USING A WHATSAPP MODEL TO SUPPORT QUALITY ASSURANCE SUBJECT LEARNERS IN AN ENGINEERING DEPARTMENT AT AN OPEN DISTANCE UNIVERSITY** 10642
*R. Naidoo, K. Ramdass*

**AN ESP APPROACH TO TEACHING NURSING NOTE WRITING TO UNIVERSITY NURSING STUDENTS** 10643
*H.C. Tai*

**THE INTRODUCTION OF APPROACHES OF EXTREME PEDAGOGY INTO THE PROFESSIONAL IDENTITY BUILDING OF A TEACHER IN A HIGHER EDUCATIONAL ESTABLISHMENT** 10644
*A. Kirillova, E. Gnatyshina, N. Uvarina, A. Savchenkov, N. Pakhtusova, A. Kirillov*

**ANNIHILATION OF CASTE SYSTEM IS A MUST TO MAKE INDIA STRONG AND SECULAR** 10648
*S. Sharma*

**THE E-LEARNING REVOLUTION - PERSONALIZED LEARNING PATHS ON NEO LMS** 10653
*J. Rufo*

**VIDEO PUBLISHING: THE LONG-OVERDUE MODERNIZATION OF SCIENTIFIC RESEARCH AND EDUCATION** 10654
*T. Franco Toledo*

**THE GROWING ROLE OF TECHNOLOGY IN DEVELOPING STUDENT WRITING SKILLS** 10659
*C. Banks*

**UNFOLDING DEEPER LEARNING: DESIGNING EDUCATION FOR TOMORROW (AND TODAY)** 10660
*W. Rankin*

**EDUCATION: A MANIFESTO FOR CHANGE** 10661
*R. Gerver*

**SAUDI STUDENTS' ATTITUDE TOWARD USING SOCIAL MEDIA TECHNOLOGIES AS A SUPPORTIVE TOOL IN ENGLISH LANGUAGE LEARNING** 10662
*S. Alqarni, V. Lally, M. Houston*

**EDUCATION OF CHILDREN IN THE CONTEXT OF ECONOMIC SOCIALIZATION** 10668
*S. Lemrová, J. Kvintová*

# DIGITAL SKILLS FROM SILENT TO ALPHA GENERATION: AN OVERVIEW

**E. Cirilli[1], P. Nicolini[1], L. Mandolini[2]**

*[1]University of Macerata (ITALY)*
*[2]MAC Srl (ITALY)*

## Abstract

In recent years, the rapid technological development has completely changed the ways in which people interact and communicate with each other. The new modes of communication allow individuals to interact at high speed and to establish contemporary and instantaneous relationships with more people. This is possible thanks to the technological supports that today, very often, mediate the social interaction between two or more people. Technological development has involved all ages from Silent Generation to Alpha Generation. In this article we want to analyze how the various generations perceive the technological development and how they evaluate the interaction with technologies, after having analyzed the different intrinsic characteristics that identify each person within the generation: the historical period in which they were born, behavior, values, education, job, current situation.

The research stems from a question: How do the various generations perceive human-technology interaction? This research question has generated two more questions: do the features of each generation affect the respective perception? Do the digital skills possessed by each generation change perception? Attempts have been made to solve these questions through a literature review within Google Scholar from 2005 to 2019 using the combined search's terms different generations, technology, human-technology interaction and digital skills.

Knowing the digital skills of each generation and the modes of their interaction with technologies allows us to plan interventions, products, concrete actions favouring the centrality of the subject and his/her life's quality.

Keywords: Human-technology interaction, Digital skills, Digital literacy, Technological interaction, Cohorts.

## 1 INTRODUCTION

Technological development has changed the ways in which people interact, communicate and exchange information with others. The new modes of communication allow people to interact at high speed and to establish simultaneous and instantaneous connections with many people. Such fast multi-interactions are possible thanks to the technologies that take on the role of relational mediator. New ways of interaction are involving and conditioning the entire life cycle, from the elderly to the infant, and are requesting new skills to the entire population that allow to get an appropriate and conscious use of the technologies: in Italy the 73.7% of families accesses internet via a device directly from home [1]. The new skills that people should have nowadays are part of digital skills: transversal and necessary skills that allow individuals to choose communication technologies to search and analyze data and information, to distinguish reliable information from those that need deepening, control and verification and to interact with different subjects in the world.

The Italian Ministry of Education, University and Research is overseeing numerous projects whose objective is the acquisition of these new skills, within Italian schools [2]. According to Calvani [3], the interaction between human mind and technological mediators can have a double outcome, positive or negative. The author underlines that in the situation where the technology repeatedly replaces the human being or where people makes excessive and unconscious use of it, even if an immediate satisfaction of the needs is obtained, there is the risk of impoverishing the person and the same interactions, contributing to the interruption of reflection. Instead, in the event that the person has full and conscious control over the technology by mastering the digital skills, it assumes the role of facilitator. This role allows people to maintain distant relationships with other individuals, to have instant feedback on the health status of family members, to be able to communicate simultaneously with more than two people, to be able to enhance and generalize social skills,... A facilitator who can improve the quality of life of the overall population. The centrality of people therefore plays a very important role, since there are many factors that influence the conscious and functional interaction with the various technologies:

the age of the people, their cultural level, the purpose of using the technological mediator, the type of device,... [4], [5] Several researchers have divided the population into groups of generation cohorts on the birth year and have tried to bring out the characteristics that unite people within these groups. The most current categorization was carried out by the scientists Botteri and Cremonesi [6], who believe that there are 6 generations. Each of them has different ways in relating to the world and therefore they will perceive this technological development differently.

In this paper it has been decided to carry out a review in literature that initially aims to analyze the studies on the definitions and methods of digital skills' evaluation, and the most recent and significant classifications of the generation, in relation to the generational profiles in which the researchers have included people. Finally, the articles that make the perception of the various generations with respect to this technological development and whether it's influenced by the generational profile and the skills possessed have been studied. It has been decided to carry out this research because it's believed that: the sharing of theoretical knowledge allows a job among different professionals; knowing the perception of people allows to promote the centrality of the subject and his/her quality of life both in the design of psycho-pedagogical interventions and in the creation of products in the corporate field.

## 2 METHODOLOGY

Between January and March 2019 it's been conducted a research at national and international level on the topic "generations and technologies" that arises from a question: How do the various generations perceive human-technology interaction? This question has generated two more questions: do the features of each generation affect the respective perception? Do the digital skills possessed by each generation change perception?

These questions were attempted to respond through a literature review in the Google Scholar database by choosing two key words: "different generations" and "digital skills" that could allow a preliminary research to be carried out in order to better define the research field and bring out the underlying theories. Subsequently, free terms were chosen: "technology" and "human interaction", to be combined with the key words through the Boolean operators AND and IN in order to carry out a complete and relevant research on the topic. Furthermore, the criteria of exclusion and inclusion have been developed for the publications: the search was carried out excluding languages other than Italian and English, excluding content published before 2005 and excluding items not available free of charge. On the contrary, in the preliminary research were included: the minimum 4 generation classification and comparison, the presence of common indicators for each generation for "different generations"; the definition, the dimensions and the competence assessment model for "Digital skills". As for the combined analysis of keywords and free terms: the presence of studies that had analyzed the interaction between generations and technologies and digital skills. After this initial phase of shared research design, the publications in the Google Scholar database that didn't meet the exclusion criteria for both keywords and combined terms were discarded. Then the abstracts have been analyzed and the publications that did not take into account the inclusion criteria have been eliminated. Subsequently the complete texts of the remaining publications have been read and a further selection was made. And for the accepted studies, the contents and the points of correlation and non-correlation of the data have been analyzed in the light of our topic and the research question.

## 3 RESULTS

The selection, carried out according on the criteria of inclusion and exclusion criteria, the analysis of the contents and the correlation of the data present in the publications, has led to the inclusion of 20 articles. These articles have been divided according to keywords and combinations of them with free terms, in this way: n° 2 publications for the "digital skills" (Table 1), n° 4 for the "different generation" (Table 2) and for the phase of the combination we consider more inclusive n° 14 (Table 3).

*Table 1. Literature Review for "digital skills"*

| Authors | Title | Year of publication |
|---|---|---|
| A. Calvani, A. Fini, & M. Ranieri | Evaluate digital competence. Theoretical models and application tools. | 2009 |
| S. Carretero, R. Vuorikari & Y. Punie | DigComp 2.1: The Digital Competence Framework for Citizens with eight proficiency levels and examples of use. | 2017 |

*Table 2. Literature Review for "different generations"*

| Authors | Title | Year of publication |
|---|---|---|
| S. B. Berkup | Working with generations X and Y in generation Z period: Management of different generations in business life | 2014 |
| T. Hernaus & N. Pološki Vokic | Work design for different generational cohorts: Determining common and idiosyncratic job characteristics. | 2014 |
| D. Velički, V. Velički | Characteristics and particularities of educating the net-generation | 2015 |
| T. Botteri, G. Cremonesi | Millennials e oltre! Nuove generazioni e paradigmi manageriali. | 2019 |

*Table 3. Literature Review for combined analysis*

| Authors | Title | Year of publication |
|---|---|---|
| B. Goldenberg | The consumer of the future | 2005 |
| D. Oblinger, J. Oblinger | It is age or IT: First steps towards understanding the net generation | 2005 |
| E. Risi | Vecchie generazioni e nuovi media | 2007 |
| J.M. Twenge | Generational changes and their impact in the classroom: Teaching generation me. | 2009 |
| E. Behrstock-Sherrate & J. Coggshall | Realizing the promise of Generation | 2010 |
| M. Rogers | Technology and baby boomers | 2010 |
| M. Madden, A. Lenhart, M. Duggan, S. Cortesi & U. Gasser | Teens and Technology 2013 | 2013 |
| M. Kubiato | The comparison of different age groups on the attitudes and use of ICT | 2013 |
| M. Van Volkom, J.C. Stapley, & J. Malter | Use and perception of technology: Sex and generational differences in a community sample | 2013 |
| A. Kiser, R. Washington | The Information Gap amongst the Generations and the Implications for Organizations | 2015 |
| D. Velički, V. Velički | Characteristics and particularities of educating the net-generation | 2015 |
| S. Pieroni | Evoluzione Tecnologica: Generazioni a confronto. | 2017 |
| R. Iannone, R. Gurashi, I. Iannuzzi, M. Sessa | The smart home in the mind and in the practice of digital natives | 2018 |
| P. Gallina | La mente liquida: come le macchine condizionano, modificano o potenziano il cervello. | 2019 |

From the analysis of all the publications it emerges first and foremost that digital skills represent a necessary skill both at a cultural and working level. The multidimensionality of this competence requires a shared and common theoretical dimension that different professionals must have in the technological field and related digital skills. In this regard it's believed that the two most complete theories are those of the scholars Calvani A., Fini A., Ranieri M. [7] and those of Carretero, Vuorikari, Punie [8]. The first group of researchers believes that digital competence is the ability to know how to explore and deal with new technological situations in a flexible way, in knowing how to analyze selectively and critically evaluate data and information, in knowing how to make use of the technological potential for the representation and solution of problems and for the shared and collaborative construction of knowledge, maintaining an awareness of personal responsibility, of the boundary between oneself and others and respect for mutual rights / duties. Calvani, Fini and Ranieri tend to divide these skills into 4 different dimensions: technological dimension, the basic notions in the choice of technologies in a flexible way; cognitive dimension, access, evaluation and critical selection of data; ethical dimension, the ethical and correct use of technologies; integrated dimension, the creation of knowledge thanks to the use of technology. The second contribution concerning these

digital skills is DigComp 2.0 / 2.1 prepared by Carretero, Vuorikari, Punie [8]. Even for these authors, having digital skills appears as a continuum ranging from the acquisition of instrumental skills to the development of strategic skills, which allow the person to know how to distinguish the stable frame of reference from those that are more volatile or customizable components. Their model tends synthetically to bring out 5 different dimensions of competences: literacy on information and data; communication and collaboration; content creation; safety; problem solving. Both contributions have included the ways in which these skills can be evaluated and a scale of mastery of the dimensions of competence. It's in fact believed that knowing how to identify the current development area of the person and his / her already possessed competences allows us to design inclusive paths and products that promote the potential development of the human being in these technological competences favoring his quality of life and its centrality [9]. In line with this statement, we have chosen to focus attention on the various generations that are present and socially active, initially going to analyze their most current classification in literature and then their intergenerational comparison on the basis of items shared by several authors. Regarding the classification of these generations, Botteri and Cremonesi scholars [6] believe that today there are 6 generations: Silent Generation or Traditionals (born 1925-1945), Baby Boomers (born 1946-1964), Generation X o Busters (born 1965-1980), Generation Y or Millennials (born 1981-1997), Generation Z or Digital Natives or Founders (born 1997-2010) and Alpha Generation or Screenagers or Net-generation (born after 2010). From the publications of SB Berkup [10], T. Hernaus and N. Pološki Vokic [11], D. Velički and V. Velički [12], T. Botteri and G. Cremonesi [6] showed that each generation has been analyzed first of all on the basis of age and subsequently of some characteristics: historical period, personal characteristics, ethics and values, work preferences, today (Table 4).

*Table 4. Differences between generational cohorts*

| Generation | Historical period | Personal characteristics | Etics and Values | Work preferences | Today |
|---|---|---|---|---|---|
| Silent Generation or Traditionals | Great Depression and World War II | -Want to feel needed<br>-Strive for financial security<br>-"Waste not want not" attitude (Conservatism)<br>-Simplicity, Patriotic, Patience,<br>-High inter/intra-personal skills | -Traditional family values<br>-Understands the nobility of sacrifice for the common good<br>-Loyal to employers and expect the same in return | -Enjoy flexible arrangements so they can work on their own schedule<br>-Believe promotions, raises, and recognition should come from job tenure<br>-Measure work ethic on timeliness, productivity, and not drawing attention<br>-Men typically worked while women stayed home to raise children | -Wealthiest generation<br>- Majority are retirees |
| Baby Boomers | - Civil rights movement,<br>feminist movement, Environment movement<br>- Cold War<br>- murder of JFK, Robert Kennedy and Martin Luther King<br>- first man on the moon<br>- Vietnam War<br>- Protest and sit-in, Watergate<br>- Nixon's resignation | - Assertive, casual, ambitious, individualist, experimentalist, independent<br>- Optimists, but distrust of the government<br>- Promotion of social causes | - Strong orientation towards work, career and political and civil commitment<br>- Respect for family and religion | - "Workaholic", they hold positions of prestige, they have high incomes and great capacity to save<br>- professionalism is measured in hours worked and little in productivity<br>- Team worker with co-workers<br>- Medium-high education | - generation with more people<br>- economically launched group<br>- "Empty Nesters" |

| | | | | | |
|---|---|---|---|---|---|
| Generation X or Busters | - HIV disease<br>- End of Cold War and Vietnam's War<br>- Watergate<br>- Nixon's resignation<br>- Computer and MTV<br>- Fall of the Berlin wall<br>-Reaganism | - ambitious, self-sufficient, pursuing personal development, organized and multi-tasking, open to dialogue, tolerant towards differences, flexibles but realistic, and rejecting the rules<br>- defined as "nothingers", but they need to control their lives | - Seek stability<br>- a spirit of adaptation and responsibility<br>- distrust in institutions, it's believed in people and not in the family<br>- children must be self-sufficient | - informal and friendly<br>- freedom and work flexibility<br>- place where you can always learn<br>- more quality, less quantity<br>- communication regardless of position or title | - presence of single parents |
| Generation Y or Millennials | - Technological development<br>- Oklahoma bombing<br>- OJ Simpson case<br>- Death of Princess Diana<br>- Y2K<br>- Terrorism<br>- suine flu | - the "mummy's boys" leave home late in life<br>- concentrated on the present, hyper-connected, receptive and multitasking and possessing profound technological knowledge<br>- have a visual approach rather than a textual one<br>- accept diversity and work together<br>- achieving goals in a short time and with people helping them<br>- ambitious, optimistic, impatient, entrepreneurial, individualistic, informali<br>- short attention and immediate gratification<br>- be unique | - attentive to the image<br>- they buy not to have, but to be<br>- everyone wins! | - Accustomed to insecurity<br>- the job is not aimed at salary, but they prefer to be remembered and make a difference<br>- curious and open to new things<br>- work is an opportunity to learn<br>- work to live, rather than live to work | - |
| Generation Z or Digital Natives o Founders | - 11 September 2011<br>- Great recession<br>- Terrorism<br>- suine flu<br>- hurricane Katrina<br>- iPod and Facebook<br>- World Wide Web | - innovative choice<br>- highly connected to communicate<br>- immediate information (status on FB and/or Twitter) and little concern for privacy except for money<br>- immediate and quick gratification<br>- independent<br>- they suffer from the fear of being excluded | - value to the family and to the elderly, but they challenge the traditional roles<br>- unstable couple relations | - education and training through the use of social media<br>- no team worker, but they will be very self-critical, they will process information at light speed thanks to cunning<br>- turning passion into work | - multiracial<br>- they will have to resolve the environmental, social and economic deterioration |

| | | | | | |
|---|---|---|---|---|---|
| Generation Alpha o Screenagers o Net-generation | today | - they pass the evolutionary stages<br>- the most experienced in technology<br>- they know perfectly how to use technology<br>- possible dependence on the screens<br>- time spent on devices is greater than social time<br>- virtual friendships<br>- feeling of loneliness, despite the hyper-connection | - | - longer students and independent adults later | - look after their parents for a longer period of time<br>- particularly demanding consumers<br>- particularly unfaithful customers |

Sources: [10], [11], [12], [6]

Finally, from the analysis of the publications included in the combination of the keywords between them and with the free terms connected by the Boolean operators, the digital competences possessed by the people of the generations have emerged and their interaction with technology above all for the use of computer, smartphone, web, social media, ... As for the Silent Generation, a study conducted by Pieroni [13] reveals that 26.4% say they know how to use computers, 87% the smartphone. Risi [14] points out that the members of this generation perceive these technologies as useful and consider them an opportunity to promote social and relational life. The researcher adds that the use of the smartphone is limited to sending SMS or phone calls to 18% of respondents. Instead, according to the scholar Risi, the percentage of people who use PCs in life is higher and a large part of them have had to use it for work reasons. Regarding web browsing, despite an initial interest, they did not recognize its usefulness. Furthermore, from the analysis of the study it emerges that most of the people of this generation have approached the use of technologies through the study of books or training courses. The generation of Baby Boomers, on the other hand, presents greater digital skills, 53% know how to use smartphones also to access the Internet and 75% use Facebook (FB) via computer and / or tablet [15]. According to the analysis of the study carried out by Rogers M. [16] the Baby Boomers are a generation that is not at all uncomfortable with the new technology, although the perception of its use is less positive compared to young people [17]. In fact, they tend to be influenced more by online advertising than by traditional advertising, even if for purchases they prefer to put more trust in the advice of trusted people rather than testimonials on the web. The third generation is the Generation X or Busters, which have favored the development of the Web, from Google to Yahoo. They have a good knowledge of the computer, the tablet, the smartphone, ... The people of this generation tend to prefer Google as a source of information, to evaluate the quality of the products through the judgments of the communities, to use it for internet banking and for shopping. They prefer to disconnect after using various technologies [18]. Technology does not play a central role in their lives. The next generation is the Generation Y or Millennials which define the smartphone and the tablet as their compass, this device must guarantee a 24 h connection. From the studies analyzed by Twenge [19] the people of this generation spend 76% of their daily time on the internet on a mobile device every day and are able to read a lot of information quickly and use 3 screens (computers, smartphones and tablets) simultaneously. Their interaction with technology started very early, around 7 years old, as Goldenberg [20] and Kiser and Washington [21] claim, the people of this generation were born with computers in hand; for this reason their use has built a digital lifestyle: being active on the web, leaving reviews, sharing photos and videos, owning blogs. This generation uses technology to watch videos, train and learn about both education and work, be connected on social media, online games and music [22]. Members of this generation prefer to interact with other people through chats, such as Snapchat, rather than emails, of lower reply responsiveness [23]. According to the study by Kiser and Washington [21], it's the generation that first prefers to use a technological mediator in relating to other people. The penultimate generation is the Z or Digital Natives or Founders who have digital skills far superior to the Millenials. Digital Natives are multi-tasking and can use 5 screens at a time (TV, mobile

phone, laptop computer, desktop computer, tablet). On average, the first approach to a technological device takes place as early as 7 years old, at 9 they get their first smartphone, tablet or personal PC up to adolescence, during which 75% have a smartphone, 79% a music device, 80% own game console, ... This generation is the first to interact with technology since childhood and in parallel with increasing age, the number of hours spent online is growing. Whatsapp and Instagram are the most used apps in the age group up to 13 years old, while Facebook is more widespread among adults. The guys of this generation don't like to be traced and are jealous of their privacy, they communicate quickly through symbols (emoji, emoticons, stickers), photos and videos [24]. Finally, the most recent generation is the Alpha Generation or Screenages or Net-Generation. They are immersed in technology even before their birth, to the point of learning to turn on a smartphone, share photos and watch videos before learning to talk and walk. They prefer the use of tablets and smartphones. For the scholars Velički and Velički [11] this generation tends to prefer: quick reception of information, fast reactions, quick responses to stimuli, multitasking capabilities, ability to receive visual images and to link visual and spatial dimensions, obtaining information through hyperlinks rather than linearly, they are always online, inductive detection, willingness to try new things, prefer games, fantastical worlds, bets and interactivity with rapid feedback mechanisms, attention management, ability to quickly change topics but also the freedom of deciding which topics they will give their attention to. The market is very attentive to the demands of this generation so as to promote, specifically for this age group, the creation and sale of technological accessories (ipad BUDDIBOX) and numerous apps (ABCmouse). Finally, there are numerous influencer children and youngsters like Laerta, who already has more than 526,000 followers on her Instagram account after 4 years; Charli and Ashlee, 7 and 10 years old, from the Charlis CharlisCraftyKitchen kitchen channel have over 800,000 subscribers and an average of 29 million monthly views [25].

## 4 CONCLUSIONS

In this paper, thanks to the literature review, it has been shown how the various generations perceive the interaction as human-technologies and it emerged how the various digital skills possessed and the characteristics inherent in the different generations influence this perception and their relative use of the various technologies. Analysing the results transcribed within this paper, the importance of digital skills in national and international territory emerges, given that they are considered to be transversal skills and indispensable for personal development. Nowadays it's urgent an appropriate definition of digital competences and a shared method of assessing them among the various professionals working with technology both at theoretical and practical level. It was necessary to include within this paper the most complete studies on digital skills in order to respond to this theoretical-methodological emergency, given that in this field of investigation, multi-disciplinary work is fundamental. In the wake of what has just been written, some studies have been included in the research carried out thanks to the second keyword, which attempt to create generation profiles within which the various people can be inserted. Also in this case it's useful to have a classification because knowing the macro-characteristics allows us to promote the centrality of the human being and improve the quality of life. From the same studies it emerges that people change over time in relation to the period in which they were born, to the values, to the concepts of work. These differences greatly influence how social development is approached and in this case technological development. Knowing the characteristics of different generations allows us to understand the ways in which they perceive and react to these developments. From the analysis of the various studies, summarized in Table 4, these differences are clear: the conservative, patriotic Silent Generation, strongly anchored to family values and centered on job satisfaction, on sacrifice for the common good, on the centrality of man (the man works, while the woman stays at home to look after the children), then moves on to the Baby Boomers who despite being born a few years later tend to be much more ambitious, individualistic and independent of their predecessors. They are "Workaholics", professionalism is measured by the amount of work hours and not by productivity. This last attitude is very different from Generation X or Busters, which tend instead to prefer quality over quantity of work; they also appear to be more unstable both in work and in the family as they pursue personal development, rejecting the rules and trying to gain control of their lives. The perceived instability experienced by this generation turns into insecurity for Generation Y or Millennials, who prefer to be centred on the present, they are more curious and open to new things, they see work as fun and they want to stand out from others. They are the first generation that tends not to deepen their choices and to request immediate gratification. In the wake of this generation follows the Generation Z or Digital Natives or Founders, who want to turn their passion into a job, they too seek immediate gratification and they are highly connected despite suffering the fear of being excluded. They are independent, self-critical and suffer from social instability in couple relationships.

Finally, we come to the analysis of the studies carried out with Alpha Generation or Screenagers or Net-generation, which pass all the evolutionary stages, spend more time on devices than social and / or family time. Adult independence will be considerably delayed due to the many years they will be studying. They have a greater sense of solitude despite the hyper-internet connection compared to the previous generation. Some scholars, regarding this generation, speak of a possible dependence of the screens.

Being aware of the publications that have tried to define and provide a way to evaluate digital skills and those that have written generation profiles has allowed us to have a shared theoretical basis to analyze the studies that tend to bring out the perception of each generation regarding technological development. In the part of analysis of the articles that have allowed to see the perception in this generation-technology interaction, the scarcity of studies carried out on the various typologies of technologies has limited the result. Most articles tend to analyze the perception and methods of use by the various generations with regards to computers, smartphones, the web and social media. From all the publications analyzed it emerges that technological development and its use are seen in a positive way: all generations agree on the usefulness and on the fact that it favors social life and relationships. What they change from generation to generation are the purpose and approach to this technological mediator: the Silent Generation sees it as a substitute for other objects, landline-smartphones, paper and pen-computers and have approached them for reasons working, in old age and through the study of books or courses; baby boomers know and use more devices than the previous generation and the aim is to search for items online without buying them. They approached these technologies to stay in touch with family and friends of long standing, especially if they were far away; the generation Y or Busters have favored the creation of the Web and for this reason they tend to browse the Web, in addition to the numerous devices, to obtain news and information on the objects. The technology for them represents an aid to everyday life, without centralizing one's life around it. The latter concept is instead different for the following generations: Generation Y or Millennials, Generation z or Digital Natives or Founders and Alpha Generation or Screenagers or Net-generation. They are organizing their lives with and thanks to technology: it's noted that as the age decreases, the number of connection hours for the generations increases, the age at which use begins and the management of the same technologies in multitasking. Studies have shown that in all three generations the use of devices and internet connection is necessary and central in life.

In addition to the theoretical aspect, as far as digital skills and generational profiles are concerned, thanks to this paper we have tried to give a meaningful overview of how the interaction between the various generations of technologies is perceived and from the studies analyzed the remarkable influence exerted stands out, from the skills possessed and the characteristics of each generation. The potential of this paper is the presence of various professionals who have participated in the research precisely for the purpose of having shared lines that will be declined according to the corporate and training environment. It's believed that knowing the perception of each generation regarding technologies allows to vary the ways in which to present training courses towards the use of new technologies and / or the creation of technological products: for Silent Generation the use of modalities is preferred paper or courses in presence, which is different for the three strongly connected generations where the use of social media or digital information is more successful. It's believed that this research represents a starting point and that it would be useful for greater completeness to analyze the perception of the various generations for other technologies, such as Domotics, the Internet of Things, Robotics, ... Finally it would be interesting to expand the studies to include other languages in addition to Italian and English, in order to study whether the perception emerged from this paper corresponds with the new results, or whether points of discontinuity emerge.

## REFERENCES


[1] ISTAT, Cittadini, imprese e ICT, Accessed 6 Febrary, 2019. Retrieved from https://www.istat.it/it/files//2019/01/Report-ICT-cittadini-e-imprese_2018_PC.pdf

[2] MIUR, Piano Nazionale Scuola Digitale, Accessed 11 March, 2019. Retrieved from http://www.istruzione.it/scuola_digitale/allegati/Materiali/pnsd-layout-30.10-WEB.pdf

[3] A. Calvani, Tecnologie, scuola, processi cognitivi. Per una ecologia dell'apprendere. Milano: Franco Angeli, 2006.

[4] K. Dobransky and E. Hargittai, "The disability divide on internet access and use" in *Information, Communication and Society*, vol. 9, n. 3, pp. 313-331, 2006.

[5] M. Richardson and Z.T. Weave, “Getting on: older new Zelanders’ perceptions of computing” in *New Media and Society*, vol. 7, n. 2, pp. 219- 245, 2005.

[6] T. Botteri, G. Cremonesi, Millennials e oltre!: Nuove generazioni e paradigmi manageriali. Milano: Franco Angeli, 2019.

[7] A. Calvani, A. Fini and M. Ranieri M., “Valutare la competenza digitale. Modelli teorici e strumenti applicativi” in *Italian Journal of Educational Technology*, vol. 17, no 3, pp. 39-46, 2009.

[8] S. Carretero, R. Vuorikari and Y. Punie, DigComp 2.1: The Digital Competence Framework for Citizens with eight proficiency levels and examples of use, *Publications Office of the European Union*, 2017. Retrieved from http://publications.jrc.ec.europa.eu/repository/bitstream/JRC106281/web-digcomp2.1pdf_(online).pdf

[9] Lev S. Vygotskij, Pensiero e linguaggio. Ricerche psicologiche. Italy: Laterza, 2008.

[10] S. B. Berkup, S. B., "Working with generations X and Y in generation Z period: Management of different generations in business life” in *Mediterranean Journal of Social Sciences*, vol. *5*, no 19, pp. 218-229, 2014.

[11] T. Hernaus and N. Pološki Vokic, “Work design for different generational cohorts: Determining common and idiosyncratic job characteristics” in *Journal of Organizational Change Management*, vol. 27, no 4, pp. 615-641, 2014.

[12] D. Velički, V. Velički, “Characteristics and particularities of educating the net-generation” in *The 2015 WEI International Academic Conference Proceedings*, pp. 109-120, 2015.

[13] S. Pieroni, “Evoluzione Tecnologica: Generazioni a confronto”, *@SCRITTURE DI RETE*, 2017. Retrieved from https://scritturedirete.wordpress.com/2017/12/30/%F0%9F%85%94voluzione-%F0%9F%85%A3ecnologica-generazioni-a-confronto/

[14] E. Risi, *Vecchie generazioni e nuovi media.* Milan: University of Bologna, 2007.

[15] M. Madden, A. Lenhart, M. Duggan, S. Cortesi and U. Gasser, Teens and Technology 2013, Pew Research Center Internet & Technology, 13 March, 2013. Retrieved from https://www.pewinternet.org/2013/03/13/teens-and-technology-2013/

[16] M. Rogers, “Technology and baby boomers” in *World Future Review*, vol. 2, no 3, pp. 54-59, 2010.

[17] M. Van Volkom, J.C. Stapley and J. Malter, (2013), “Use and perception of technology: Sex and generational differences in a community sample” in *Educational Gerontology*, vol. 39, no 10, pp. 729–740, 2013.

[18] E. Behrstock-Sherratee and J. Coggshall J., “Realizing the promise of Generation Y”, in *Educational Leadership*, vol. 67, no 8, pp. 28–34, 2010.

[19] J.M. Twenge, “Generational changes and their impact in the classroom: Teaching generation me” in *Medical Education*, vol. 43, no 5, pp. 398–405, 2009.

[20] B. Goldenberg, “The consumer of the future” in *Customer Relationship Manager*, vol. 25, no 4, pp. 22, 2005.

[21] A. Kiser and R. Washington, “The Information Gap amongst the Generations and the Implications for Organizations” in *International Journal of Digital Literacy and Digital Competence*, vol. 6, no 2, pp. 36-63, 2015.

[22] D. Oblinger and J. Oblinger, “It is age or IT: First steps towards understanding the net generation” in *Educating the Net Generation* (D. Oblinger and J. Oblinger: eds), pp. 1.1-1.5 Washington, DC: Educause, 2005. [E-Reader Version]. Retrieved from https://digitalcommons.brockport.edu/bookshelf/272/?utm_source=digitalcommons.brockport.edu%2Fbookshelf%2F272&utm_medium=PDF&utm_campaign=PDFCoverPages

[23] M. Kubiato, “The comparison of different age groups on the attitudes and use of ICT” *in Educational Sciences: Theory and Practice*, vol. 13, no 2, pp. 1263–1272, 2013.

[24] R. Iannone, R. Gurashi, I. Iannuzzi, M. Sessa, “The smart home in the mind and in the practice of digital natives. The case of “Sapienza” University” in Storiadelmondo, no 86, 15 June 2018. Retrieved from http://www.storiadelmondo.com/86/sapienza.home.pdf

[25] LaptopOutlet Blog, Meet generation alpha: the screenagers, Accessed 03 March, 2019, Retrieved from https://www.laptopoutletblog.co.uk/tech-news/meet-generation-alpha-the-screenagers/

[26] A. Calvani, A. Fini and M. Ranieri, La competenza digitale nella scuola. Trento: Erickson, 2010.

[27] D. Conti, C. Carla and S. Di Nuovo, “Robot, tell me a tale!: A Social Robot as tool for Teachers in Kindergarten” in *Interaction Studies*, vol. 20, no 2, pp. 1-16, 2019.

[28] P. Gallina, La mente liquida. Come le macchine condizionano, modificano o potenziano il cervello. Bari: DEDALO, 2019.

[29] T. Holton T., Fraser B., 2015, *Generation Z and Technology. Constructing Tomorrow's Boundary Spanners*, Defence Research and Development Canada.

[30] A. Nijholt, Breaking fresh ground in human–media interaction research, *Frontiers in ICT*, 04 November 2014. Retrieved from https://www.frontiersin.org/articles/10.3389/fict.2014.00004/full

[31] K. Richardson, M. Coeckelbergh, K. Wakunuma, E. Billing, T. Ziemke, P. Gomez and T. Belpaeme, “Robot Enhanced Therapy for Children with Autism (DREAM): A Social Model of Autism” in *IEEE TEchnology and SocIETy MagazInE*, vol. 37, no 1, pp. 30-39, 2018.

[32] J. Westdorp, Factors influencing the baby boomers’ intention to use domotics to live independently for longer, *University of Twente*, 2015. Retrieved from https://essay.utwente.nl/68608/1/Westdorp%20Jeroen%20-s%200175749%20scriptie.pdf